So to discover virtue, one must penetrate down to life’s very roots, down to energy’s primary biochemical reactions or time’s basic rhythms. . . . In the metabolism’s heat or the élan vital’s surging, with the heart’s elementary beating . . . it is from here that courage leaps, a total and warm forgetting of self toward the world, others, the neighbor and objects.
—Michel Serres

The Folly of Fatafat Weight Loss

In a windowless room at a medical conference in Mumbai about therapies for obesity, a woman named Neha narrated the surgery that had reduced her stomach size, reconfigured her intestinal tract, and resulted in rapid weight loss.¹ Her first slide showed a picture of a woman in a red salwar kameez, wearing a flat expression in front of a modest home in a Mumbai suburb. She laughed quietly at the picture of herself on the projection screen, which she did not expect the audience of doctors to recognize because it depicted a “fat and unhappy” person before the surgery. “I was so overweight, at one point I realized that I had to do something extraordinary . . . I had to work at some miracles myself,” she explained. Neha underwent laparoscopic gastric bypass surgery because, as she put it, “I needed a miracle in my life to give me new life.” Her friends and family were puzzled about this miracle, especially those who did not know about the surgery. They thought she might have used some fatafat (quick, shortcut) method for weight loss. But Neha knew better: such methods as celebrity diets or self-help books rarely imparted lasting results. She was tired of wasting money on these fatafat schemes suffused with the
assumption of instrumental willpower: if you try harder, then you’ll do
better. Neha didn’t think her self needed this kind of cruel “help” because
the source of her new life—her metabolism—could not be pinned down
so easily.

What different routes are possible when one has hit a biomedical
brick wall? When the body doesn’t listen to the will of the will, what can be
done? In India, these questions are filtering in from the margins in relation
to a more central story about the growing prevalence of the “metabolic
diseases” of obesity and diabetes. As public health officials estimate that
urban Indians are becoming increasingly overweight, popular debates
and scientific literature alike have mobilized critiques of urban middle-
class consumerism through concepts such as “globesity,” “affluenza,” and
“diseases of prosperity.” It is difficult to parse trends from such emergent
epidemiologies, because of the complexities of regional variation, social
class, caste, and undernutrition as correlates to nutritional status.2 Also
complicating matters are the similar risks and symptoms ultimately named
type II diabetes and/or obesity, “diabesity,” and “metabolic syndrome,”
both in shared conversation and in clinical treatment. In this space of
uncertainty, grappling with the problem has become what anthropologist
Jean Comaroff had termed a “medicament”—a mash-up of claims by pub-
lic health officials, pharmaceutical companies, insurance companies, and
health activists over a health issue’s genealogy and comparative urgency.3
This medicament has taken shape as a national alarm, as India is said to
lead the world with the greatest number of diabetics, and there is concern
that the associations between obesity and diabetes through metabolic
syndrome portend a cascade of chronic diseases.

The backdrop for this alarm over the metabolic body is in actuality
a set of several alarms sounding at once, some heard better than others,
about pervasive malnutrition (especially of children and mothers) and
about enduring patterns of infectious diseases, such as tuberculosis and
malaria, that accompany so-called diseases of prosperity, like diabetes and
cancer (although these “rich” diseases absolutely affect poorer popula-
tions). Obesity is most often cast by press coverage within and outside of
India as a problem of the urban middle classes, such that the metabolic
body fits with relative ease into portrayals of an urban middle-class fantasy
of consumption with no side effects. In one sense, then, the rapid emer-
gence of metabolic disorders can be—and is, in many accounts—legible
only as irony, materialized as the underbelly of middle-class accumulation.
However, this material-discursive mapping of malady to social class is far
more complex, as several Indian researchers point out. Early states of child-
hood malnutrition, for instance, can manifest as obesity in later life even
with little change in social class.4 Here, malnutrition as both under- and
overnutrition puts the metabolic body at the center of survival politics.
Scaled to the nation, what emerges in terms of bodily demands are metabolic calculations whereby some bodies have yet to build up the resources for change, or may never do so, and others are deemed to have an excess that can be leveraged for the individual and collective better. In the context of mass-scale chronic disease, then, at stake in the metabolic body are questions about a will to change in relation to individual and national longevity. Metabolic subjectivity is one site of such potential to change and thus proves to be a site of powers invested in adding in, subtracting out, and grappling with the remainder of substances absorbed into bodies and environments. These powers create and sustain nonlinear arrangements of effort and embodiment.

Guided by beliefs that diets and medication are not always tenable long-term therapies, a growing number of experts have proposed a set of surgical procedures as a therapy and even a possible cure for metabolic disease. Scientists often locate the metabolism along what is called the gut-brain axis, which refers to the connections between the central nervous system (centered in the brain) and the enteric nervous system (rooted in the gastrointestinal organs). While consumptive willpower grounds prescriptions for lifestyle changes, like diet and exercise, metabolic surgery poses a contrasting pathway to change. Surgeons cut, rearrange, and stitch up the gut in order to recalibrate the gut-brain axis itself, such that postsurgical patients are less hungry, have more balanced digestive hormonal regulation, experience normalized insulin responses, and lose weight rapidly. Aided by surgery, the body takes over and becomes its own instrument of therapy from the inside out. Postsurgery, a person could enjoy loosened ties to the diets and medication that led nowhere and could instead invest intimate attachments elsewhere. Using the metabolism as the anchor to ties elsewhere, metabolic surgery opens a material-discursive space in which the will to regulate gives intentionality its bodily moorings.

The interactions detailed here, with Neha and others, emerge out of a long-term ethnographic project about the relations that bodies and environments have to food in urban India, based on studying eating in a lower-class neighborhood, the diagnosis and treatment of metabolic disorders in clinics and hospitals, and the commercialization of food through its marketing. This article draws on the fieldwork’s clinical aspects, tracing how persons in metabolic surgery are treatable not as the embodiment of failed willpower but, rather, as metabolic persons open to surgery’s power of arrangement. Here, willpower shuttles across a porous interchange between the body’s interior and the world of objects outside it. If a pathological body’s metabolism grows too strong and lies out of step with a person’s will to change, the only way forward is to reconcile the two through a surgical intervention on a set of attachments to life. Metabolic attachments thus offer a frame of effort and effect different from one in which subjects...
are self-evident fleshy bubbles emptied of willpower or are persons who cannot escape overdetermined material dependencies. Neha, to whose story I will return, articulated what the surgery ultimately delivered beyond weight loss: *badalte rishte*, a shift in arrangements. It is through such rearrangements that the metabolism is a site of contemporary willpower.

**Metabolic Persons, Metabolic Promises**

“Life doesn’t merely move and change, it exchanges,” writes Michel Serres. For Serres, exchange occurs “by means of the metabolism, and the diverse transactions with the environment.” Metabolic persons attest to the visceral porosity of the body in this exchange. They announce forces of courage, love, fear, and desire cascading through the body’s energetic channels, even as a medical diagnosis has consolidated that body as a singular success or failure. Serres insists that “all power must, in every circumstance, stop short of the body’s integrity.” Although at times indistinguishable, the dynamic intimacies between the metabolism and willpower form the porous thresholds of power outlining a new, presumably healthier life. Designating the metabolism as an operative site could shift the terrain of desire and disease by stabilizing the turbulence of progress and retrogress, success and failure, and therapy and folly. To work metabolically, “something extraordinary” must be done, as Neha put it. That extraordinary work lies in the metabolism’s willful attachments.

Historian Hannah Landecker explains how in contemporary bioscience, the metabolism is understood to be distributed in the body, meaning that it is a highly complex biological system that operates at multiple scales of proteins, cells, hormones, tissue, organs, and neural connections. The sciences of metabolism share a curious intersecting point with recent developments in science and technology studies, such as philosopher Annemarie Mol’s study of diabetes, in which she asserts that “staying in metabolic balance does not depend on central control and a forceful will, but on dispersed coordination, inside and beyond the skin.” Mol’s broader work explores questions of ontological dispersion and the necessary acts of coordination required to consolidate a singular medical object (in Mol’s term, “enactments”). In my observations of metabolic surgery, it seemed that surgeons and patients would certainly agree with Mol’s claims about dispersed coordination. They also reminded me that a centralized, individualized, forceful will was precisely what was at stake in metabolic surgery, because it was deeply connected to notions of effort, however successful or failed. Distribution of power was what had gone awry because a person’s metabolism gripped the body too strongly and was out of sync with the will. To rebalance the scales, metabolic surgery turned a person into
the instrument of her own healing and proved that the metabolism was a crucial matrix of therapy, attachment, and transformative potential. The solution to excessive metabolic force was an intervention that in many senses tried to diminish its dispersion. Dispersion had its limits.

In urban India, those who undergo metabolic surgery almost always have already tried diet and lifestyle changes to lose weight. In their view, and from the perspective of surgeons and a growing media obsession with the procedure, excessively fat and sick bodies cannot be further disciplined by the efforts of medicalized subjectivity alone. This struck me at first as a compelling contrast to dominant public health and popular discourses, which asserted that pathological fatness was a failure of the will—how a person could not, despite her best efforts, lose weight by controlling food, diet, exercise, and even medication. But in the context of metabolic surgery, the dominant claim that obesity results from a failure of the will becomes perversely correct, because the procedure’s advocates attest to the ways in which it is the metabolism that steers the body toward pathological fatness. A person could be metabolic inasmuch as she relied on diets for change, but should the kilos not come off, she was still considered a failure in matters of willpower. Failure as a touchstone of the medicalization of fat has its own problems, of course, inasmuch as failure resides not in fat people but in the very stigmatization of fat, and in the systems of capitalism that emphasize consumption and then blame individuals for consuming excessively and improperly. Failure as a focal point also risks ignoring the patterns of labor and rest from it, and the corresponding metabolic patterns of sleep and activity that inflect how signals in bodies turn into relative states of disease and health. This metabolically embodied dimension of exhaustion, however, should not be taken as universal. Nor can the surgery’s broader political economy be taken for granted in relation to these terms of labor and capital, as the procedure differentially treats persons as workers: some as slicers, some as the sliced; some as helpers, some as the helped; and often as persons in-between given that care distributes across persons and expertise. Thus, the surgery reflects a site where local biologies of metabolic illness take shape in close relation to the embodiment of varying degrees and definitions of success.14

What forms does the will take in this context? The enduring ties between intentionality and the metabolism’s potential for change make the surgery different from simply a surgery that creates willpower. Rather, surgery creates the possibility for the will to become meaningful. Metabolic surgery normalizes the metabolism and makes it possible to speak of the will again, after willpower has been deemed moot. As such, the “new me” promised through surgery depends not so much on a consolidated, medicalized subject as on a metabolic, porous one. I refer to this porous subject as a metabolic person, in sickness and in health. Porosity is the condition
of possibility relating deindividualized bodies, objects, and environments.\textsuperscript{15} The infinitive form \textit{to metabolize} in this context addresses how the self and the world interrelate across multiple matters of concern.\textsuperscript{16} Philosopher Peter Sloterdijk’s thinking is compelling in this light, when he asks: “Should we not precisely understand the strongest subject as the most successful metabolic agent—the person who makes the least secret of his hollowness, penetrability, and mediality? Should not the most decentered individual accordingly be understood as potentially the most powerful?”\textsuperscript{17} Sloterdijk is concerned with what he calls “consubjective intimacy,” the porosity that allows for decentered relationality between the subjective, intimate interior and the exterior world. Rather than medicine or even surgery writ large, it is metabolic strength that realizes willful life. Metabolic surgery makes this strong porosity both the linchpin and the rationale for its intervention. If the metabolism is a consubjective solution to a consubjective problem, to borrow from Sloterdijk’s framing, then a question arises as to whether medical intervention is prior to the will. The surgery reconfigures guts and appetites, but so too does it rearrange the conditions for intentionality directed toward a differently regulated life. Under conditions of a normally metabolic body, a metric for the will becomes possible.

Taking a cue from Sloterdijk’s appeal to thinking about porosity, we may ask how a life is lived metabolically, how techniques emerge to reform such a life, and ultimately, what persists as strength even after subjects have been deemed as failures. Metabolic surgery mobilized the potential of a slimmer, more manageable body via an intervention on a dispersed force, but the actual results of the surgery materialized unevenly for surgery patients. Dispersal, in other words, was far from even, and the will came under scrutiny postsurgery as intensely as it had before. Many patients described their transformed postsurgical lives as indefinitely medicalized through compulsory medications and nutritional supplements. \textit{Adherence} became the watchword.\textsuperscript{18} They had turned to metabolic surgery as a last-ditch alternative to dietary therapies but nonetheless became tied to regimens of vitamins and pills required to sustain the surgery’s effects. Metabolic surgery ultimately reconnected patients to medicalized daily routines even as they hoped to be released from them.

\textbf{The Invisible Stomach}

I was initially skeptical of the reach of the surgery beyond Mumbai’s elite and was surprised to learn that its patients spanned the city’s fluid social, educational, and economic ranks. Whenever I asked friends and neighbors about the surgery, their fingers would tap the back-page ads of daily newspapers that implored the overweight reader to try “stapling” surgery or to think of weight loss surgery as a good investment that could
sidestep the costly complications of obesity. “Save rupees tomorrow by losing weight today!” the text below pictures of enormous bellies would announce, connecting surgical action to costly futures individually and in epidemic aggregate. This conclusion was consonant with popular media discourses about the surgery: narratives about risk of death from bungled operations gradually gave way to narratives about the inevitability of death without the surgery. The growing numbers of procedures troubled some medical ethicists, some of whom felt that “surgery should be the last option” for patients, that the procedure is “over-simplified” to patients, and that in the worst cases, surgeons glossed over the procedure’s complications and enduring effects.19

Metabolic was also a term that patterned difference in relation to socially classed forms of health care and consultation. The insertion of metabolism into vernacular languages other than English was relatively uncommon in the lower-middle-class enclave in which my fieldwork took place, compared with invocations of whole-body speed or slowness usually indexed by reference to the body’s insides: “Things can slow down inside” was a common refrain when I would ask neighbors about relations between food and bodies. When I accompanied them to clinics, a nutritionist might name this a metabolic matter but still engage my neighbor—now a patient—in terms of a body grown big and sick because it functioned too slowly. This is in itself a particular articulation of metabolism through speed and hydraulics, but I want to be careful not to simply index this as “local” or “Indian,” given the quite ubiquitous understandings of the metabolism as a matter of speed.20

The first time I observed a “public awareness session” to educate potential surgical patients, we began with a moment of silence. One week had passed since the terror attacks in Mumbai on 26 November 2008, and Dr. Prakash, the surgeon hosting the information session, asked that we stand to remember the event, the victims, and the survivors. The dimmed lights and buzz of the slide projector buffered the audience of sixty in this downtown hospital auditorium from the cleanup and investigative efforts unfolding barely five hundred meters away. Dr. Prakash’s presentation, titled “Obesity and Diabetes: Lifetime Diseases? A Public Awareness Session on Obesity and Diabetes Surgery,” introduced another national threat after the momentary memorial for the lives lost in the attacks. Over the next hour, he outlined the severity and possible reasons for obesity and diabetes in India, and the various treatments available since their introduction to India in the early 1990s. His diagrams, statistics, and before/after photos of the obese turned slim divided the authorized from the rumored. Like all surgeons I met, Dr. Prakash made it clear at the public seminars that no surgery is free of risk and that surgery was neither an easy nor immediate replacement for medical therapies like insulin for patients with
type II diabetes. Rather, he emphasized, “the risk is in the disease,” and he framed the long-term risks of metabolic disease as commensurate with its surgical treatment. He described the variety of procedures for metabolic surgery, using animated slides and diagrams to show different options for laparoscopic, minimally invasive techniques.

The first procedure was the gastric band, where the surgeon fixes an adjustable band around the upper part of the stomach, separating it into a smaller and a larger pouch. This restricts the amount of food the patient can eat. It has relatively minor complications, he said, and is also good for diabetics: up to 50 percent of diabetics who opt for this procedure have resolution of their diabetes postsurgery. The second laparoscopic option was sleeve gastrectomy, which he described as “very popular” in India because it can result in a 70 percent resolution rate for diabetics. In this procedure, the surgeon will reduce the stomach to 15 percent or less of its original size by removing a section along its curve and then stapling the cut edges together to create a smaller pouch. And lastly, there was the gastric bypass, which reduces the size of the stomach pouch like in sleeve gastrectomy but goes an additional step to create a shortcut from this smaller pouch to the lower reaches of the small intestine, effectively “bypassing” the upper lengths of the small intestine. When surgeons change the pace and amount of food that passes through the relevant intestinal passages, they can effectively change hormonal dynamics to dampen appetite and to regulate elevated blood sugar levels that occur after eating. Some Indian physicians have suggested that long-term pharmaceutical treatments are untenable because of their harsh side effects, further building the case for surgery as an acceptable intervention.

Inasmuch as surgery confers particular forms of agency, operations also call into question notions of standardized bodies, the uneven circulation of individuated body parts, ethics, and faith, and the cultivated expertise of surgeons themselves. These varied stakes suffused the room as Dr. Prakash opened the floor to questions and hands shot up across the audience. Most questions addressed the cost of the procedure, which he explained could range from 100,000 rupees ($2,100) for the traditional open (i.e., nonlaparoscopic) forms of surgery to 500,000 rupees ($10,500) for the laparoscopic-only procedures. He asserted that money should not be an obstacle to getting needed treatment and introduced a patient of his sitting on the dais, a middle-age woman in a green sari. He described her as coming from an “average Maharashtrian family,” meaning an urban low-income group. Her story called forth tenuous economic circumstances. She worked as a domestic servant and was so overweight that she had problems doing the dishes for her employer and for her own family, nor could she squat on the toilet. Her husband was a night watchman (chowkidar). They had little money. The will to save was there, in step with the will for bodily
change. They asked their extended family for help and through donations were able to afford the surgery because Dr. Prakash performed it as part of a training session for other surgeons, which allowed him to discount the price by half. Dr. Prakash emphasized that this woman never overate. Her weight just crept up over time. “Ninety percent of our patients have strong control,” Dr. Prakash remarked of her case. “They never eat ice cream . . . they eat just two chapattis with their meals, and yet they still gain weight.” Dr. Prakash asserted that the metabolism held its grip over patients and that only by loosening that grip via metabolic intervention could the body right itself again.

Metabolic surgery training sessions are increasingly common and often entail live demonstrations. More than mere continuing education, they (such is the hope) populate the landscape of surgery with more trained surgeons than the untrained ones to whom, it is feared, persons who cannot afford the surgery might turn. The first training I attended took place in a hotel ballroom, where the stage was anchored by a banner-sized photo of a man with a bulging belly trying to fit a measuring tape around himself. Two wall-sized projection screens flanking the dais came to life, transporting the audience into the gut of a patient. First, a camera view outside the body showed white-gloved hands that palpated a stomach, marking places to insert the scope. Then we saw what the laparoscopic camera saw: the liver, the yellowish intestines, the surgeon’s drill bit poking through a layer of white fat. The surgeon, a visiting American named Dr. Pitt, was in the operating room of a high-end corporate hospital in Mumbai, live-screening his procedure to the surgeons (and anthropologist) sitting several kilometers away in the hotel. The two spaces were connected by live video and audio so the surgeons at the training could ask questions and make comments as he performed the procedure in the operating room. The surgery was the staging ground for teaching Indian surgeons the procedure, for corporations to market products associated with the surgery and its recovery process, and for the surgeons themselves to reflect on the potentials of changing the metabolism by operating on the gut.

Dr. Pitt asked an Indian surgical assistant to give the patient’s history: “Twenty-nine-year-old girl, 167 kilograms, body mass index 51, strong history of family diabetes on both sides, no meds. This will demonstrate sleeve gastrectomy and how to prevent a second surgery.” This procedure entailed removing a large portion of the patient’s stomach and reducing its size so that only small amounts of food could be eaten and digested. Dr. Pitt showed the camera his tools and their hand placement: a liver retractor, spread out like three fingers, and an endoscope. The liver had some abnormal features, he said as the camera view switched to the inside of the patient’s body cavity. The retractor entered the picture, lifted the liver, and a pair of two-prong tongs pulled up the tissue underneath. He used
an ultrasonic scalpel ("the harmonic"), which he maneuvered in between two pinched nodes; its brand name was visible in the close-up view of the endoscope. After the tongs clamped down, the harmonic dissected tissue with a muted humming sound. Small puffs of aerosolized matter sprayed out as the tool cauterized open edges of the cut into the stomach. Dr. Pitt was firm but friendly in his instructions to the surgical team. When he finished the gastrectomy, he pulled the dissected stomach section out of the tubes, guiding it with retractors. An assistant fixed the outside camera onto a metal container on a side table, showing the stomach remnant, red and floppy. As assistants in the hospital across town sutured the girl’s incisions exactly one hour after beginning the procedure, participants in the hotel meeting room wandered outside, where food, pharmaceutical, and medical technology companies had set up booths. Food companies shared samples of nutrient shakes and vitamin-enhanced snacks especially suited for post-op patients. Some medical device booths had surgery instruments set up in front of pieces of raw chicken so surgeons could get a simulated feel for the procedure. Another booth played prerecorded surgeries and animated demonstrations featuring the company’s instruments on small TVs: the metabolism, commodified across the human body’s bounds.

Creating a Therapy Inside

Some surgeons felt the corporatization of the surgery was a small price to pay for what it offered their patients in terms of a long-term therapy. One surgeon I shadowed, Dr. Karke, learned the metabolic surgical procedures because her own mother had died from complications of diabetes. Her caseload averaged eighty patients a day (which I witnessed repeatedly during twelve-hour shifts), and her patients were not always of the middle class or elite but often were taxi drivers, domestic workers, and food hawkers. I also observed several cases where Dr. Karke was “fixing” a previous surgery—her patients in this circumstance had opted for less-expensive procedures from surgeons whom Dr. Karke thought took shortcuts of their own. The result was a surgical remainder that evoked economies of credentialing and possible exploitation.

For Dr. Karke, the benefits of the surgery far exceeded those of weight loss or the reversal of diabetes. “There is a huge difference in quality of life,” she said. “Absolutely huge. People cry because their fertility gets better, their medications go down, depression is out, fatigue is out. [Patients] tell me, ‘Doctor, I could fit in my car today. Doctor, I could buy clothes today. I was ashamed before the surgery.’” When I asked Dr. Karke about the claims that the surgery was a cure for obesity and diabetes, she reminded me, “The science doesn’t claim that the surgery cures diabetes. It claims that it improves it.” This improvement could actually
release patients from another stronghold: that of endless pharmaceutical treatment. Dr. Karke explained that this was possible because the surgery ultimately works “from within.” “If you need a new valve in your heart, they replace the valve, and if you need a new rotator cuff they replace the rotator cuff, but what if you need a new metabolism?” she asked. “That is the beauty of metabolic surgery. We change the control mechanisms from within. [We create] an in situ feedback mechanism which gets established after the operation, which medication from outside cannot do. It is a continued medical therapy from inside your body. You’re creating a bodily therapy inside.” For Dr. Karke, surgery was not a singular event but, rather, a continuous one, such that the body’s intimacies among hormones, food stimulation, and control would ultimately rebalance themselves.

This theme of control from within structured many of the patient interactions I observed in Dr. Karke’s practice. For example, one patient in her early thirties named Aditi came into the office accompanied by her parents for her one-week postsurgical follow-up. Aditi tossed a notebook onto the table: “My list of complaints.” Penciled neatly in the lines of the book were “cramps,” “body heat,” “lethargy,” and “back pain.” Dr. Karke was concerned that Aditi was not taking in the required 3.5 liters of liquids each day. Aditi, who worked at a bank, came to the surgery by way of a sudden bout of pneumonia. “The doctors told me that they were seeing me slip away,” she explained to me. To treat her pneumonia, her doctors prescribed steroids and appetite stimulants, and between the two drugs, she gained weight rapidly. Despite dieting and Ayurvedic treatments, she continued to gain weight. Her neighborhood doctor recommended that she consider metabolic surgery. “I wanted to come back to my own body,” she said, so she waited a year and researched the procedure. She spoke with people who had undergone the surgery. “I love you for this.”

Not all stories were ones of love and triumph. One of Dr. Karke’s patients was a man in his late fifties, who still “had bad numbers” even six months after the surgery. He was not a man of means. He confessed to eating mostly rice and dal, which was not giving him enough nutrition. He also was drinking liquids along with his meal—another no-no. “This is wrong,” Dr. Karke declared. “Your system can’t take this.” Mixing of solids and liquids could cause a patient to vomit, and nutritional deficiency could have systemic ill effects. She brought her intern over and had the
man repeat his dietary intake. Dr. Karke asked the intern what should be the course of action, to which the intern replied: change the diet. “No,” Dr. Karke corrected him. She turned to the patient: “The long-term outcome depends on you.” The metabolic person facing her across the desk was his own instrument of change. The new, reattached metabolism’s relationship to the will would work continuously, but there was a lingering responsibility. Dispersal and porosity could only go so far, and at times like these flipped back into the frame of the medicalized individual, whose body orchestrated therapy. Control was indeed happening from within, metabolically. And yet, the porosity of the body could sometimes be realized only through individuated stories of tenuous success.

**Medicinal Atyachaar**

In recalling the developments over the course of her life that led up to her surgery, Neha expressed conflicted sentiments. Now thirty, being heavy was a more recent change; up until the end of high school she was skinny. She started putting on weight then and “moved into a sedentary lifestyle.” She described herself as extremely studious and as spending lots of time with her books, and it was during study times that her mother pampered her with food: “Before I could realize it, I was obese. I was putting on six or seven kilograms a year.” She noted that from an early age she was fixated on eating. “Normal people eat to live,” she said. “But superobese people live to eat. I still love to eat food, but it’s a matter of internal control.” Looks had never been a priority for her. But a doctor’s visit confirmed that she had a thyroid problem, and so she “passed the buck” of her weight onto the thyroid problem. Eventually she joined a gym, buying the most expensive membership she could afford, but it didn’t work. She entered into a destructive cycle: she was happy once she would lose weight, but she associated happiness with food, and then she would indulge. “Food is the best reward I learned,” she said, “but it left emotional cobwebs,” meaning that food made such strong impressions on her sense of self that she couldn’t see where one ended and the other began.

With no success at the gym or with dieting, she felt time slipping through her fingers and tried other approaches to losing weight. She went to a health farm in Pune, famous for “scientific” Ayurvedic approaches to weight loss and body purification. She wanted “to deal with obesity as a disease” rather than as an aesthetic issue. But it didn’t work. She became depressed and felt distant from her family and their support, so she ran away from the health farm and came back to Mumbai. She tried diets endorsed by celebrities. She tried corporate weight loss programs. “Luckily, I was married already,” she said. She didn’t have to worry about finding a husband, unlike her overweight cousin, for whom the family still
can’t find a match. Trying to lose weight became a dead end for Neha: “I decided to live with this body for the rest of my life. I gave up. I became fatalistic. I closed out relationships, distanced myself from anyone who would give me suggestions about how to lose weight.”

Then a trusted friend and a cousin both mentioned that they knew patients who had undergone gastric bypass surgery. Neha decided “it was God’s design” that these two reminders came at the same time from two people whom she trusted deeply. She also learned about the surgery from online obesity surgery bulletin boards, where you can post a profile and communicate with potential and past patients. She thought seriously about it: “I thought, maybe you can buy life.” She wanted it done in December, before New Year’s, because she didn’t want an obese body in the coming year, and after visiting several surgeons she settled on Dr. Prakash. The timing was very meaningful to her: “It’s a cliché, and my husband jokes about it, but it is a birth, a miracle. I don’t know how else to describe it. I can just feel a new body.” Since the surgery, she has lost nearly sixty kilograms and is working toward losing more by her birthday. Her digestion and breathing have improved. “I met this friend called adipose, but now I’m making space for new friends. Before, it was me and my fat, and my other friend, food.” But now more porous, she made room for other people and was planning a weekend trip with girlfriends for no particular reason except to get out of the city. Before the surgery, she would only have come home to her husband after work.

However, the medicines she must take following the surgery are extensive. She called her daily routine “medicinal atyachaar,” meaning tyranny or torture by medicine. It is atyachaar, she explained, because she has to take nutritional supplement pills throughout the day and always has to think, “Did I pack my medicines?” Moreover, the torture comes in the constant reminder that she’s medicating herself: “I try to say to myself, it’s not medicine, it’s nutritional supplements.” Supplements enhance a new metabolism rather than remediate a sick one. In this frame, cure relies on enrichment of the new rather than reparation of the old. Enrichment describes well how Neha has refined her everyday life in a future-forward sense in surgery’s aftermath. Monitoring the medications, going to the gym, and keeping track of food now take up all of her time. She keeps a diary, which has several check boxes that she evaluates every evening: swim, gym, diet, medicines, and protein shake. Prior to the surgery, she had “a complaining body, an achy body. It was an ill body. But I’ve become active now. My body has become lighter.” The trade-off, however, is the “medicinal atyachaar,” which she emphasized again: “My whole day works around my medicines. . . . I’ve had to come to terms with the fact that I’ll be taking these supplements for life.” But the tyranny of pills was the trade-off for seeing her new body in the mirror as a result of the surgery.
She had few complaints about the procedure, although she found it difficult to wear certain kinds of clothes to show off her body, because of sagging skin left in some places after the weight loss. She thought her body would tone up, but she was coming to terms with the possibility that it wouldn’t. She wanted cosmetic surgery to take care of it but explained, “I come from a middle-class family, I can’t afford that.” She had already spent a large sum of money on the metabolic surgery procedure itself.

An unexpected outcome of the surgery was that it reconnected Neha to her spirituality. She described herself as a religious and spiritual person but one who had tough times maintaining faith because of the psychological challenges of being obese. But she had faith in her doctor, faith in her husband’s support, and faith in her body to cooperate with the surgery. One of our several meetings occurred in the middle of Navratri, a nine-day period of fasting and reflection for Hindus. As a child, she would have only liquids during Navratri, choosing to forgo solid food as part of her fast. As she grew older, she either would avoid fasting entirely or would fast because she saw it as an opportunity to crash diet. But the surgery connected her elsewhere. She took out a small plastic container from her purse and showed me the handful of dried fruits and nuts she had been eating during the day as her version of fasting. But she was also looking forward to Dussehra, the tenth day that concludes Navratri’s nine days of fasting. She could indulge then. Her friend was fasting, too, so she had a fasting buddy, and they would break the fast on Dussehra together. This would be Neha’s first indulgence in her new body.

Neha’s example shows the capacity for intimacies to be crafted between a willful self, a sick body, and an operation to fix both via the metabolism. Her words to describe her body moved from a register of distance wrought by heaviness to one of closeness that emerged with a sense of being light. It was heaviness that erected walls between her body and her family and friends—and had it not been for her husband, she would have been walled off from finding love and security in marriage as well. Her surgery has helped her to unbrick those walls. One reading of Neha’s narrative might be as a story of rebirth, in which she emphasizes miraculous genesis and the pursuit of life goals otherwise forestalled by obesity. Surgery in this frame incorporates subjects who are not remedied as much as they are renewed through a metabolic intervention. The narrative of renewed will, crafted through a language of “fixing” and “rebirth,” points to a failure by overweight people to achieve health in their first bodily incarnation.

Such a reading, however, risks missing how much Neha emphasized the atyachaar, or the torture, of the surgery’s aftermath amidst this rebirth. Our interviews in Mumbai unfolded as atyachaar gained more traction in the city’s parlance, perhaps due in part to the Bollywood film Dev D, whose sound track includes a song called “Emotional Atyachaar.” The
hero in this 2009 adaptation of the 1917 Bengali novel *Devdas* experiences emotional torture amidst unrequited love and alcohol addiction.\(^{24}\) In 2009, “Emotional Atyachaar” leapt from song title to urban argot to reflect a conflicted inner state with tinges of addiction, even becoming the title of a television program show that unearths romantic infidelity and helps its cast members (and, presumably, its viewers) avoid future emotional *atyachaar* should they suspect a cheating partner. *Atyachaar* describes tyranny’s chronic presence and the tenuous attempts to dispel it, rather than a singular act of vertical power from a vague overseer. *Atyachaar* works as a remainder, a residue—one cannot simply add or take away food from bodies in metabolic times and circumstances without something left over. As for the will, it was speakable again, but it came with several attachments. Neha looked to metabolic surgery to be let off the hook, and she was, but she was hung on another lifelong hook in the process: the *atyachaar* that now outlined her attempt to disentangle a world in which willpower was still inextricably tied to weight.

### A Shift in Arrangements

In his writings about illness and cure, Georges Canguilhem notes that the reactions of the sick person to sickness “are not the residue of previous normal behavior . . . they are reactions which never turn up in the normal subject in the same form and in the same conditions.”\(^{25}\) Cure for illness is what Canguilhem calls “a shift in arrangements”: not a reversal of processes that unfold in the course of sickness, and thus not the inverse of injury, but rather a rearrangement of the unique order of life cultivated by the sick subject for whom disease reverberates in everyday and often banal moments. The enactment of cure occurs through new, more general disturbances, a set of conditions of normalcy that for Canguilhem “lies hidden” in the compromised subject. It strikes me that the question of residue is still one worth exploring, however, in light of the relations between chronicity and illness that *atyachaar* rearranges in its own right.

Neha’s invocation of *badalte rishte*, a change in relationships following her surgery, articulates some of the rearrangements at stake for metabolic persons seeking this mottled path to cure. So do the visceral rearrangements that happen among the surgeons’ hands, their laparoscopic appendages, stomach pouches, and hormone levels. Metabolic rearrangements complicate an assumption of medicalization as life’s singular, unobstructed outcome. Rearrangements point out the uneven dispersal of the will as a person recuperates and regroups. The surgical patients I observed and spoke with in Mumbai took extensive measures to avoid medicalization through dieting, even as they embraced an intensive, intimate form of medicalization through surgery and then wound up feeling trapped in post-
operative bodily regimens. Goal-oriented pursuits only of life and health were exactly what the surgery was supposed to overcome. They wanted to disconnect their relations to dieting and reconnect with friends, family, and faith and saw surgery as the best means to do so. The contours of a will impossible to realize in relation to health came under the knife. Once sutured to the metabolism, the will was speakable again. This explained why surgery could treat and possibly “cure” metabolic disease in ways that diet or exercise schemes could not. Cure meant being healed in different terms than a rigid language of willful, healthful ambition.

Putting this cure into practice involved dampening an aggravated metabolism so that the willful subject might again have a say in the extent of her porosity to the world. This therapy of reattachments demands an alternative framework for thinking about the will in relation to medicine, one that has different ends than an instrumental consumer identity that marks the unsurprising conclusion of the medicalization of “epidemics of the will.”26 We might fruitfully open up the question of willpower in this light, like the metabolic life it transverses. Life as a metabolic person entails grappling with the arrangements of intimate connections between bodies and environments. The question of “Do I have enough will to cure the problem?” when those arrangements are disturbed must, like the metabolic person, be porous enough to accommodate another question: “Is this a rearrangement I can live with?” For even in its less despotic form, this metabolism still demanded the attention of both will and world and set the conditions of willpower under regimes of chronic disease—both torturous and vitalizing, offering both improvement and atyachaar.

Notes

I am grateful to the patients and surgeons in Mumbai who welcomed me in times of distress and healing. This project was funded by the National Science Foundation, the Wenner-Gren Foundation for Anthropological Research, and the Fulbright-Hays Doctoral Dissertation Research Abroad program. I thank Catherine Lutz, Lina Fruzzetti, Daniel Smith, Sherine Hamdy, Lawrence Cohen, Jennifer Ashley, Kathleen Millar, Maura Finkelstein, Gabriel Rosenberg, Hannah Landecker, and Kaushik Sunder Rajan for their guidance, and I express my gratitude to Kevin Lewis O’Neill, Tomas Matza, and the editors and anonymous reviewers at Social Text for their support and insight.

1. Names used for of persons and institutions are pseudonyms.
4. See, e.g., Ashish Bavdekar et al., “Insulin Resistance Syndrome in Eight-Year-Old Indian Children: Small at Birth, Big at Eight Years, or Both?,” Diabetes


7. I translate the Hindi rishte as “arrangements,” in the context of Neha’s utterance as relations under reconfiguration. Rishte may also be translated as “relationships,” whether in general or implying intimate and/or familial connections.


9. Ibid., 52.


14. On the concept of local biologies, see Margaret Lock, Encounters with Aging: Mythologies of Menopause in Japan and North America (Berkeley: University of California Press, 1995).


17. Peter Sloterdijk, Bubbles. Spheres I (Los Angeles: Semiotext(e), 2011), 95. It is important to note that one cannot take “the metabolism” for granted in Sloterdijk’s writing (nor, for that matter, in that of Serres either), as his descriptions of hollowness and hydraulics are locatable in specific histories of biology.


20. See Hannah Landecker, “Postindustrial Metabolism: Fat Knowledge,” 


