

There will be fat



Rethinking Thin: The New Science of Weight Loss—and the Myths and Realities of Dieting

Gina Kolata

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Reviewed by Matthias H Tschöp

The conclusions to which the reader of Gina Kolata's book will arrive are not good: once you are obese, there is no way back to your dream weight, at least not permanently. Whereas scientists are still figuring out how our body controls its weight, don't count on an effective and safe pharmacological cure to emerge soon. So, for the time being, we will remain fat.

Obesity researchers studying food intake are in a unique situation: they are not only analyzing metabolism of cells and feeding behavior in animal models, but also serving as their own subjects. While studying the molecular underpinnings of appetite and adiposity during the day, they are battling the temptations of a hypercaloric dinner at night and staring at the increasing numbers on the scale the next morning. The science writer Gina Kolata has nicely illustrated these parallel worlds by introducing scientific quotes from obesity researchers along with their respective physiques. For example, the reader encounters a "long and lanky [scientist] with no significant weight problem" who studies fat-derived signals, as well as a "not massively obese, but heavy" expert in genetic causes of obesity, who says that hunger makes him feel "like an antichrist."

Another successful juxtaposition is parallel storylines: detailed chapters on the science of dieting and adiposity alternate with short chapters on subjects enrolling in a diet research study, hoping to cure their obesity. The story starts out with three clinical obesity researchers planning a study to determine whether a low-fat or low-carbohydrate diet is the more efficient obesity cure. Kolata then introduces and repeatedly revisits study subjects throughout the course of the study. Their first-hand descriptions of social stigmatization or of their frustration after many attempts to lose weight help to avoid the dry tone often encountered in science writing.

In parallel, Kolata takes us on an entertaining and highly educative journey through the history of dieting and the science of weight control. My favorite part may be the account of historic dieting frenzies, in which some of the more absurd ideas for beneficial food regimens are described and the illustrious characters proposing them come to life. A glass of vin-

Matthias H. Tschöp is at the Obesity Research Center, Departments of Psychiatry and Medicine, University of Cincinnati College of Medicine, 2180 East Galbraith Road, Building A, Room 123, Cincinnati, Ohio 45237, USA. email: tschoemh@ucmail.uc.edu

egar for breakfast, anyone? Slightly more appealing, one brandy and one raisin, recommended by Lord Byron in the nineteenth century. Readers will be introduced to several famed weight loss approaches named after their respective 'inventors', including 'fletcherism' (extensive chewing) and 'grahamism' (grains, vegetables and strong will), and witness the introduction of calorie counting in the early twentieth century.

Even less entertaining topics such as the ongoing hunt for novel genes and pathways regulating appetite are made palatable by accessing them through the personal narrative of scientists currently working in this field. Through them, the reader is introduced to some of the most important discoveries of today's obesity research, including the lack of evidence for psychopathological causes of obesity, the strong case for the genetic determination of body weight made by studies in identical twins, the failure of one hopeful antiobesity drug after the other, and the current model of neuroendocrine crosstalk between central nervous system circuitries, fat cells and gastrointestinal organs, which is believed to control the amount of body fat.

Only rarely does the story-telling get the better of scientific accuracy, such as when a "more relaxed" ideal body mass index for a male (21.6) compared to a female (18.3) is interpreted as a gender bias of our society's perception, ignoring the difference in muscle mass as a key body mass index variable. Or when it comes to details such as the exact number of amino acids chopped off a peptide hormone to activate satiety effects.

At one point, Kolata discusses an ongoing controversy between epidemiologists and obesity researchers over the real mortality numbers resulting from obesity, suggesting (between the lines) that some obesity scientists are exaggerating these numbers owing to their financial interests in obesity research. Although I am hardly neutral in that discussion, I can assure the author that anyone thinking that chasing US National Institutes of Health grants and teaching graduate students about body weight regulation is a quick way to become rich is in for an unpleasant surprise.

This book makes a perfect gift for junior scientists in the fields of metabolism, diabetes, cardiovascular, nutrition or endocrine research. However, this book may not be an uplifting companion for anyone who is fighting obesity; all study subjects, independently of which diet they were on, had, after some initial success, regained most or all of their body weight at the end of the two-year study. Studies suggest that once we lose considerable weight, we are getting ourselves into a state that our body perceives as sickness, and the fight against intense food cravings and the need for very intense regular exercise will continue at a level far beyond that of a lean individual who has never been obese.

Although much remains unknown about body weight regulation, I believe, unlike Kolata, that there is hope that safe and potent ways to prevent and treat morbid obesity will soon emerge from ongoing research. But I agree that nobody battling obesity will achieve a Hollywood star physique by following the next popular diet craze. If you are an obesity researcher, however, you still might want to start dieting today, just in case you are interviewed for the next book on the topic and do not want your breakthrough discovery to be preceded by the fact that you are "plump with a significant weight problem." Never mind the studies saying that nobody can keep substantial amounts of weight off with dieting. It must be possible. Just ask Mike Huckabee.