

1) What it means is that a calorie of protein will generate the same energy when metabolized in a living organism as a calorie of fat or carbohydrate. When talking about obesity or why we get fat, evoking the phrase “a calorie is a calorie” is almost invariably used to imply that what we eat is relatively unimportant. We get fat because we take in more calories than we expend; we get lean if we do the opposite. Anyone who tells you otherwise, by this logic, is trying to sell you something.

2) But not everyone buys this calorie argument, and the dispute erupted in full force again last week. The Journal of the American Medical Association published the results of a clinical trial by Dr. David Ludwig of Boston Children’s Hospital and his collaborators. While the media tended to treat the study as another diet trial — what should we eat to maintain weight loss? — it spoke to a far more fundamental issue: What actually causes obesity? Why do we get fat in the first place? Too many calories? Or something else?

3) The calorie-is-a-calorie notion dates to 1878, when the great German nutritionist Max Rubner established what he called the isodynamic law.

This is his thesis or main claim. Taubes is hoping to fuel a larger conversation about our public conversation on diet. See paragraph 14.

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The #3 context task is always hard because it is invisible. A way to look at it is to get a sense if the author is writing in the same culture as you. Does Taubes seem to be in the US about now? Then ask what you see in the text that lets you know this. It also helps to know some about what is going on in our society and culture. A big clue in Taubes is knowing about the rising diabetes epidemic and having an awareness of the recent health trends like "BeachBody" going back to Jane Fonda in the 80s. The mantra is to simply eat less than you burn to not gain weight. So if you want to drink a coke at full sugar, you just have to go out and run a mile. So these reflect our current time with diabetes and our culture of seeing our bodies as machines for reaching our goals (career, success) -- put fuel in and go.

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5) This has been the core of the controversy ever since, and it's never gone away. If obesity is a fuel-partitioning problem — a fat-storage defect — then the trigger becomes not the quantity of food available but the quality. Now carbohydrates in the diet become the prime suspects, especially refined and easily digestible carbohydrates (foods that have what's called a high glycemic index) and sugars.

6) UNTIL the 1960s, carbohydrates were indeed considered a likely suspect in obesity: "Every woman knows that carbohydrate is fattening," as two British dietitians began a 1963 British Journal of Nutrition article.

7) The obvious mechanism: carbohydrates stimulate secretion of the hormone insulin, which works, among other things, to store fat in our fat cells. At the time, though, the conventional wisdom was beginning its shift: obesity was becoming an energy issue.

8) Carbohydrates, with less than half the calories per gram as fat, were beginning their official transformation into heart-healthy diet foods. One reason we've been told since to eat low-fat, carbohydrate-rich diets is this expectation that they'll keep us thin.

9) What was done by Dr. Ludwig's team has never been done before. First they took

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For #11, this is the subtle and direct ways that an author lets the reader know what he means by a term or concept he is using. Taubes does this in paragraph 5 with "fuel-partitioning problem — a fat-storage defect."
Most readers would not be able to imagine what a fuel-partition is, but guessing what it is to have a defect in storing fat is easier to grasp. This is definition.

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#6 is noticing the patterns of organization in the text - the box on the writing process diagram list the varieties of organization. The first thing to check is the paragraphs - if you see that the paragraphs (or little sections) start with a main idea followed by specifics and examples, then you are seeing general to specific. Also notice how Taubes covers the scientist from the 1800s, then the British women in the 1960s, to today in paragraphs 8-9 -- this is chronological.

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5 8) Carbohydrates, with less than half the calories per gram as fat, were beginning their official transformation into heart-healthy diet foods. ● One reason we've been told since to eat low-fat, carbohydrate-rich diets is this expectation that they'll keep us thin.

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14) From this perspective, the trial suggests that among the bad decisions we can make to maintain our weight is exactly what the government and medical organizations like the American Heart Association have been telling us to do: eat low-fat, carbohydrate-rich diets, even if those diets include whole grains and fruits and vegetables.



5 8) Carbohydrates, with less than half the calories per gram as fat, were beginning their official transformation into heart-healthy diet foods. ● one reason we've been told since to eat low-fat, carbohydrate-rich diets is this expectation that they'll keep us thin.

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9) What was done by Dr. Ludwig's team has never been done before. First they took obese subjects and effectively semi-starved them until they'd lost 10 to 15 percent of their weight. Such weight-reduced subjects are particularly susceptible to gaining the weight back. Their energy expenditure drops precipitously and they burn fewer calories than people who naturally weigh the same. This means they have to continually fight their hunger just to maintain their weight loss. The belief is that weight loss causes "metabolic adaptations," which make it almost inevitable that the weight will return. Dr. Ludwig's team then measured how many calories these weight-reduced subjects expended daily, and that's how many they fed them.



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#12 we look for the level of expertise of the author as it shows in the text. We can also look him up if we want to take the time. For Taubes, we note that he accesses scholarly research and he does a good job of analyzing and presenting the results of Ludwig's study. Then we decide if a reader would trust his authority and this leads to the extent to which it might convince a reader. When we get to analyzing this for appeals - we would call this ethos, an appeal for credibility.

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11) The results were remarkable. Put most simply, the fewer carbohydrates consumed, the more energy these weight-reduced people expended. On the very low-carbohydrate Atkins diet, there was virtually no metabolic adaptation to the weight loss. These subjects expended, on average, only 100 fewer calories a day than they did at their full weights. Eight of the 21 subjects expended *more* than they did at their full weights — the opposite of the predicted metabolic compensation.

12) On the very low-carbohydrate diet, Dr. Ludwig's subjects expended 300 more calories a day than they did on the low-fat diet and 150 calories more than on the low-glycemic-index diet. As Dr. Ludwig explained, when the subjects were eating low-fat diets, they'd have to add an hour of moderate-intensity physical activity each day to expend as much energy as they would effortlessly on the very-low-carb diet. And this while consuming the same amount of calories. If the physical activity made them hungrier — a likely assumption — maintaining weight on the low-fat, high-carb diet would be even harder. Why does this speak to the very cause of obesity? One way to think about this is to consider weight-reduced subjects as “pre-obese.” They're almost assuredly going to get fatter, and so they can be research stand-ins — perhaps the best we have — for those of us who are merely

This part is hard to understand but Taubes's point is that hi-carbs needed more exercise to not gain weight.

13) If we think of Dr. Ludwig's subjects as pre-obese, then the study tells us that the nutrient composition of the diet can trigger the predisposition to get fat, ¹⁰⁰ ^{diction} independent of the calories consumed. The fewer carbohydrates we eat, the more easily we remain lean. The more carbohydrates, the more difficult. In other words, carbohydrates are fattening, and obesity is a fat-storage defect. What matters, then, is the quantity and quality of carbohydrates we consume and their effect on insulin.

14) From this perspective, the trial suggests that among the bad decisions we can make to maintain our weight is exactly what the government and medical organizations like the American Heart Association have been telling us to do: eat low-fat, carbohydrate-rich diets, even if those diets include whole grains and fruits and vegetables.

metaphor

15) A controversial conclusion? Absolutely, and Dr. Ludwig's results are by no means ironclad. The diets should be fed for far longer than one month, something he hopes to do in a follow-up study. As in any science, these experiments should be replicated by independent investigators. We've been arguing about this for over a century. Let's put it to rest with more good science. The public health implications are enormous. ¹⁰⁰

Gary Taubes is The author of "Why We Get Fat."

8 A version of this op-ed appears in print on July 1, 2012, on page SR5 of the New York edition with the headline: What Really Makes Us Fat.

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Taubes is hoping to fuel a larger conversation about our public conversation on diet. See paragraph 14. To him, Ludwig's study is enough to do this. Taubes is not arguing that "a calorie is not a calorie." If he were, he would include more evidence from various sources and he wouldn't have spent so many paragraphs detailing Ludwig's study, much of which is displaying the validity of Ludwig's study.

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#8 When a text has an intro, body, conclusion and a thesis statement, you are most likely looking at an essay! Taubes writes an op-ed (Opposite editorial) - these are usually arguments in the shape of an essay! Essays are everywhere, which is how we make things happen in our larger conversation - public discussion. And why schools get students to write essays.

This ties into #9 - Number 9 is recognizing the various ways the information is presented. Informative is like news - plain facts w/o opinion (generally but there's always bias). Narratives break into a story. For Taubes it is expository like a report you might write for school but there is also persuasion about doubting the mainstream dietary guidance.

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