THE POOR, MISUNDERSTOOD CALORIE

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Overview

The typical claim that simply eating more calories than one burns always leads to obesity is not the full picture. The exact number of calories burned and the exact number of calories in food can rarely be measured accurately. And weight is not necessarily the best measure to determine fitness – if one loses 10 pounds of fat but gains 10 pounds of muscle, they are fitter! Overall, carbs are significantly worse for you than fat or protein when it comes to weight loss, and certain types of exercise are better than others. This book contains both scientific studies as well as practical advice for losing weight the smart way.

"A calorie is not a calorie because energy balance doesn't matter. You can get fatter without eating more; you can even get fatter by eating less."

Chapter 1. **The Calorie**

- In **Basic Science**, a calorie is a unit measuring the amount of heat required to raise the temperature of one liter of water by one degree Celsius.
- In **Food Science**, calories are measured by placing food in a "bomb calorimeter" which incinerates food and measure the change in water temperature. Yet human bodies contain many more variables.
- In **Nutritional Science**, the calories expended by someone is measured in one of two ways:
  a) A "direct calorimeter" is a small bedroom where bodyheat is measured. After measuring hundreds of people, scientists formulate general equations. This method ignores many factors such as whether someone is sitting or standing, how much adrenaline someone has, how emotional they are feeling, or how well-rested they are.
  b) An "indirect calorimeter" measures the amount of oxygen and carbon dioxide in the air a person breathes. This changes based on factors such as activity level and whether one is burning fat or carbs for energy.

Chapter 2. **Why no Proper Calorie Applies to Weight Loss**

"Counting calories is an ineffective means to determine energy balance or lose weight."

There are various arguments against these measures:

- **Basic Science Calorie:** The human body doesn't use energy to heat water, and efficiency varies between people, activities, and diets.
- **Food Science Calorie:** Different factors (e.g. the time of day) determine the calories being burned.
- **Nutrition Science Calorie:** It is dreadfully inaccurate for a person to attempt to count calories through food labels and then estimate their energy expended thusly. Even tiny factors such as sitting for different amounts of time can have an impact on energy expenditure when compounded over a year, leading to monumental inaccuracies in such measurements. (Click here to view our summary of *The Compound Effect*.)

A common misconception is that lowering the number of calories consumed will always result in weight-loss. Yet this ignores the fact that the body will adapt to retain homeostasis and make you less energetic. Conversely, increasing one's exercise can make someone hungrier, resulting in a net loss.

"A slightly larger helping of pasta with dinner, an extra scoop of rice, or a couple of cookies easily makes up for the amount of energy burned during an exercise session."

Chapter 3. **Absolute vs. Relative Macronutrient Abundance**

The "absolute amount" of macronutrients (i.e. protein, fat, carbs) represents the total grams eaten. The "relative amount" is what percentage of the diet is comprised of each type. When most people diet, they reduce the absolute amount of protein, which can result in muscle loss. In addition, a low-fat diet could result in