Desserts & drugs. A complex organism functions adaptively on many levels at once. For example, consider Harold Basset. Harold was a basset hound, an independent and pensive dog, a canine counterpart of a university professor. For his dinner Harold preferred to take some bread and cheese, but usually we managed to keep these out of his reach, so that normally he was obliged to dine on kibble. Whenever we filled his dish with kibble, Harold emptied it. Whatever quantity we put in his dish, he ate it all. Inexorably he put on weight. We put ever less food in his bowl but still he put on weight. Finally we tried an experiment. We bought a bowl large enough to feed a rhinoceros and filled it to the brim. Harold walked over and stared at it, then he looked up and to the left, then to the right, then behind him, and finally back toward the bowl. After several seconds he reached in and ate a mouthful. Just one mouthful. Occasionally through the rest of the day he walked back for another mouthful. By the end of the day he had eaten less than we had ever dared to give him. As long as we kept the bowl full, he ate modestly and lost his excess weight. However, if we ever let him eat more than half the food in the bowl, he ate it all.

Every day an animal expends a certain number of calories to maintain itself, so on average the animal must ingest food containing exactly that many calories to stay alive. However, animals do not replace calories one for one, they tie their eating to their experience and expectations. For example, when Harold feared he might run out of food, he ate like hunter-gatherers who fear hunger and so binge whenever they can. Temperature also affects how much we eat. Cold requires the body to generate more heat, yet away from the world of supermarkets, food in the winter can be scarce. To generate more heat from less food, in winter the body modifies its chemical processes to use food more efficiently. Some of these processes require fat—so much fat that in northern Canada, trappers who run out of fats to eat can stuff themselves with all the rabbit they can chew yet still starve to death. Conversely, in hot weather the body does not need to generate any more heat than is necessary to run its basic chemical processes, and food is more abundant. The human body's special summertime task is to replenish salt that is lost in the sweat secreted for evaporative cooling.

Just as the body adapts to winter and summer, it adapts to other cycles as well. Human beings have no physiological requirement for three meals a day. The number of meals people eat per day may be as few as one for a Buddhist monk or as many as six for a contemporary American (breakfast, morning snack, lunch, afternoon snack, dinner, midnight snack). Even within a specific country and era, times for eating vary widely. They are determined by the time and resources available for cooking, by climate, and by the occupations of the people eating and the friends they might want to have dine with them. A broad variety of dietary regimes can be healthful. It can even be healthful to eat less than dieticians deem necessary. The people with the longest life expectancy on earth appear to be elderly Okinawans, whose diet before 1960 used to contain 11% fewer calories than would have been recommended to maintain their weight. (Their diet has enlarged with Japan's wealth and westernization, as have the sizes and shapes of Okinawans, while the life expectancy of younger Okinawans has has shrunk.) It is even possible for a man to survive on a vegetarian diet of only 1200 calories per day. Japanese monks do this routinely at Eihei-ji, a Zen temple in Fukui. When novices first start the diet, they lose weight, but after three months they begin to regain it. The body adapts to whatever number of meals it is used to having, and comes to require that number of meals.
Drug addiction

Cocaine is similar to caffeine in this regard, although it is more powerful. Opiates are also comparable, although they depress the nervous system instead of stimulating it. Their chemical effects are stronger than coffee’s, which leads to stronger countervailing chemical changes and, hence a stronger craving, but the craving is still dependent upon expectation. That is why U.S. soldiers addicted to heroin in Vietnam lost their addiction once they returned home. It is also why heroin addicts die of an overdose: they take their normal amount but not in their normal circumstances—perhaps in an alley instead of a bedroom—so their body is unprepared.