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## The Omnivore's Dilemma

### IS THAT FOOD?

For some animals, there is no dilemma at dinnertime. The koala eats eucalyptus leaves. Period. To the koala, eucalyptus leaves=food. The monarch butterfly only eats milkweed. There's no choice to make. Everything else in nature is not food.

The koala gets all the nutrients it needs from eucalyptus leaves. The monarch gets everything it needs from milkweed leaves. But, unlike koalas and monarch butterflies, omnivores not only can eat different foods, we need to eat a variety of foods to stay healthy. For example,

#### OMNIVORE, CARNIVORE, HERBIVORE

Human beings are omnivores. *Omne* in Latin means all or everything. *Vore* comes from the Latin *vordre*, which means to eat or devour.

Carnivores, like lions and sharks, eat only meat. *Carne* is Latin for meat.

Herbivores, like cows, eat only plants. *Herbe* in Latin means grass or green plant.

we need vitamin C, which is only found in plants. But we also need vitamin B-12, which is only found in animals. Ultimately, our omnivore's dilemma is rooted in our nature as human beings—but we've made our choices much harder than they used to be.

The industrial food chain has brought the world to our supermarkets. Today we can buy just about any sort of food from anywhere in the globe, in any season. We can buy kiwis from New Zealand and grapes from Chile. We can buy fresh tomatoes in the middle of the winter, flown in from Israel or Holland or Mexico. Add that to the thousands of new processed foods—about 17,000 each year—and we have an incredible amount of food choices (even if most of them are made from corn). With all this variety and the constant stream of messages from the food industry and the media, how can we ever make up our minds?

## THE MODERN OMNIVORE

Over thousands of years, human beings built a culture of food that helped us figure out what to eat and what to avoid. We learned what was safe to eat and what could kill us. We learned how to find and cook local foods. These rules and habits made eating a lot easier. When it was time to eat, people didn't have to think about it much. They ate what their parents and grandparents had eaten.

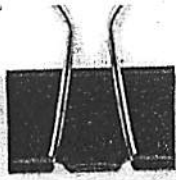
If you lived in Mexico you ate rice, beans, and corn tortillas. If you lived in West Africa you ate cassava, yams, beans, and millet. What you ate also depended on the season. You ate apples in the fall and leafy greens in the spring. In most places people ate small portions of meat, though not at every meal. By following simple rules like these, people solved the omnivore's dilemma.

Today, the modern omnivore has almost no culture to fall back on. Standing in our giant supermarkets, we feel more lost than someone standing in a forest ten thousand years ago. We no longer know for sure which foods are good for us and which aren't. Thanks to the food industry, we don't even know what it is we're eating. Sometimes it even seems like we've forgotten why we eat.

Modern Americans have lost the solution to the omnivore's dilemma and today the problem is bigger than it has ever been. But it's not an unsolvable problem. We need to recover the skills and knowledge people used to have.

## THE OMNIVORE'S BRAIN

The first thing we should remember is that our bodies have evolved to help us solve the omnivore's dilemma. For example, we have different teeth for different jobs. We can bite like a carnivore, or chew like an herbivore, depending on the dish.



## YOU'RE EATING WHAT?

Why are there so many more rats and humans in the world than koalas? Because the koalas' food supply is limited to one thing—eucalyptus leaves. Koalas can only live where there are eucalyptus trees. And if the eucalyptus trees die because of drought or disease, that's it for the koala.

But the rat and the human can live just about anywhere on earth. When their familiar foods are in short supply, there's always another they can try. The list of things human beings have eaten or will eat is pretty much endless. It includes: bugs, worms, dirt, fungi, lichens, seaweed, rotten fish; the roots, shoots, stems, bark, buds, flowers, seeds, and fruits of plants; and every imaginable part of every imaginable animal. (Not to mention haggis, granola, and Chicken McNuggets.)

Our digestive tract is also good at digesting different types of foods.

The omnivore's dilemma is one reason our brains are so large. The koala doesn't need a lot of brainpower to figure out what to eat. As it happens, the koala's brain is so small it doesn't even fill up its skull. Zoologists think the koala once ate a more varied

diet than it does now. As it evolved toward eating just one food, it didn't need to think as much. Over generations, unused organs tend to shrink. In other words, as the koala's diet shrank, so did its brain.

Humans, on the other hand, need a lot of brainpower to safely choose an omnivore's diet. We can't rely on instinct like the koala does. For us, choosing food is a problem that has to be solved with our brains and our senses.

To help it make food decisions, our brain developed taste preferences. We think of taste as something that helps us to enjoy food, but our sense of taste evolved to help us screen foods. Our tastebuds divide

## TASTE AND THE TONGUE

Traditionally, "maps" of tastebuds show areas where the four different tastes—sweet, bitter, salty, and sour—are detected on the tongue. New research, however, has not only uncovered a fifth taste called "umami" (which means "savory" in Japanese), but suggests that tastebuds may be more complicated. Certain cells may be dedicated to detecting one taste but found all over the tongue, or certain areas may just be more sensitive to particular flavors. There's also some evidence that men and women taste flavor differently—and that some lucky supertasters experience more intense flavors because they have more tastebuds than the average person.



food into two groups: sweet foods that are good to eat and bitter foods that might harm us.

Sweetness is a sign that a food is a rich source of carbohydrate energy. We don't have to be taught to like sweet foods—we are born liking them. A sweet tooth is part of our omnivore's brain. It is an instinct that evolved to help us through times of food shortage. It says: Eat as much of this sweet high-energy food as you can because you never know when you're going to find some again. This built-in sweet tooth is so strong that we will keep eating sweets even after we are no longer hungry. Our instinct doesn't realize that in modern times there are always sweet foods available to us. We don't have to go hunting and gathering to get more—all we have to do is walk to the refrigerator.

### THE BITTER AND THE SWEET

We are also born with a built-in signal that tells us to stop eating certain foods. That's the taste we call bitter. Many plant toxins (poisons) are bitter. Avoiding bitter foods is a good way to avoid these toxins. Pregnant women are very sensitive to bitter tastes. This instinct probably developed to protect the developing fetus against even the mild toxins found in foods like broccoli. But this is not a good excuse to stop eating broccoli. It turns out that some of the bitterest plants contain valuable nutrients, even useful medicines. We can't only rely on our sense of taste when we choose what we eat. (Besides, many people like the taste of broccoli.)

The bark of the willow tree is extremely bitter, but early humans learned to make tea from it anyway. Why? Because willow bark contains salicylic acid, a pain reliever. (It's the active ingredient in aspirin.) Our food choices are not just dictated by



### THAT'S DISGUSTING!

Humans are great omnivores. But there are some things that we just won't eat, things that all human beings find disgusting. The list of disgusting things includes corpses, decaying flesh, and animal waste. (Curiously, the one bodily fluid of other people that doesn't disgust us is the one produced by the human alone: tears. Consider the only type of used tissue you'd be willing to share.) The disgust we feel about these items is probably genetic—part of the inborn instinct that tells us what we should eat and what we shouldn't eat. Disgust is an important feeling for omnivores, since it keeps us from eating rotten meat or other items that carry disease and bacteria.

instinct. We can learn to eat bitter foods if they are good for us. We sometimes even decide that we like them.

One way we have overcome the bitterness of some plants is by cooking. Acorns are very bitter. But Native Americans figured out a way to turn them into a rich food by grinding, soaking, and roasting them. The roots of the cassava, a plant in Africa, contain the poison cyanide. This keeps most animals from eating them. But once again, humans figured out a way to safely eat cassava, by pounding and then cooking it. And humans had the

cassava roots all to themselves, since pigs, porcupines, and other animals wouldn't touch them.

Once it was discovered, cooking became one of the most important tools of the human omnivore. Cooking vastly increased the number of plants and animals we could eat. In fact, cooking probably was a turning point in human evolution. Anthropologists think early primates (pre-humans) learned to use fire and cook about 1.9 million years ago. That was around the same time the human brain grew larger and our teeth and jaws grew smaller.

## RATS!

Rats are also omnivores. But unlike us, rats can't pass lessons or food habits down to their many, many children. When it comes to the omnivore's dilemma, each rat is on its own.

Rats solve the omnivore's dilemma by testing new food. If a rat finds something new to eat, it will nibble a very tiny bit and wait to see what happens. Most poisons in nature are not that strong. A tiny amount will make the rat sick but not kill it. If the rat doesn't get sick, then it knows it can eat the whole thing—a knowledge it retains for the rest of its life. This ability to learn is what makes poisoning rats so difficult.

Luckily, we don't have to use the rat method for solving the omnivore's dilemma. And in fact, over thousands of years, people in every corner of the globe built a large body of food knowledge. Through experience, they learned what combinations of local foods made them healthy. They learned which foods to avoid. They learned how to cook and prepare those foods and passed all this knowledge on to their children. You grew up knowing what to eat and how to cook it.

The culture of food didn't just solve the omnivore's dilemma. It was also an important glue that bound people together. It was part of the identity of a tribe or a nation. People hold on to their national foods, even after they move to other countries. Visit any neighborhood where there are immigrants, and you'll see shops that sell food from the home country—pastas from Italy, kielbasa sausages from Poland, curry spices from India.

National food cultures are more than just a list of foods. They are a set of manners, customs, and rules that cover everything from the correct size of a serving to the order of dishes served at a meal. Some of these rules have clear health benefits.

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Kellogg's ALL-BRAN is a powerful laxative that is safe. Children love it. Cooked and branched by a special process, Kellogg's has a delicious nutty flavor. Delightful as a breakfast cereal—there are many other appealing ways to serve it.

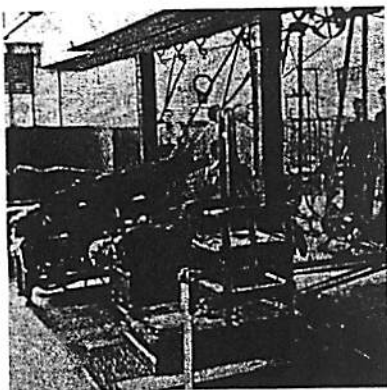
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The earliest so-called "food expert" was Dr. John Harvey Kellogg, who prescribed all-grape diets and hourly enemas before going on to launch the cereal company.



A scene from the Swedish treatment room at Kellogg's health spa, the Battle Creek Sanitarium, circa 1900.

photo courtesy of the Willard Library

the digestive tract from both ends. (Half was eaten and the other half was . . . Well, you can figure it out.)

Around the same time, millions of Americans got caught up in the fad called "Fletcherizing." This involved chewing each bite of food as many as one hundred times. It was named after its inventor, a man named Horace Fletcher, also known as the Great Masticator.

It's easy to make fun of the people who paid good money to follow his advice. But are we really so much smarter today? Food fads still come and go with alarming speed: A scientific study, a new government guideline, a lone crackpot with a medical degree can change our nation's diet overnight. In 2002, one article in the *New*

*York Times Magazine* said that carbs make you fat. Suddenly millions of Americans gave up bread and other carbohydrates and started eating mainly meat. Fifty years from now that diet might seem as crazy as Kellogg's enemas.



THREE ELEGANT

If you live in Japan and eat raw fish (sushi), then it makes sense to eat it with spicy wasabi. Raw fish can contain bacteria, and wasabi kills bacteria. The people who developed the custom of eating sushi with wasabi didn't even know there was such a thing as bacteria. But somehow they figured out that eating wasabi kept them healthier.

People in Central America cook corn with lime and serve it with beans. It turns out there are important health reasons for doing these things. Corn contains niacin, an important vitamin. The way to unlock the niacin in corn is to cook it with an alkali like lime. And eating corn and beans together supplies all the amino acids humans need.

### FOOD FADS

We have never had a national food culture in the United States. There's really no such thing as "American food." (Fast-food hamburgers don't count.) We have few rules about what to eat, when to eat, and how to eat. We don't have any strong food traditions to guide us, so we seek food advice from "experts." This may be one reason we have so many diet fads in this country.

One of the earliest of these so-called experts was Dr. John Harvey Kellogg. Yes, that's the same Kellogg whose name is on Kellogg's Corn Flakes and other cereals. Kellogg was a doctor who ran a "sanitarium," or health clinic, in Battle Creek, Michigan. Large numbers of wealthy people traveled there and followed Kellogg's nutty ideas about diet and health. Some of his advice included all-grape diets and almost hourly enemas. (An enema is a cleansing of the bowel in which . . . Oh, never mind.) He followed the enemas with doses of yogurt, applied to

## THE NO-FAD FRENCH

Relying on experts or magazine articles is a very new way of solving the omnivore's dilemma. But there are still lots of countries where people solve it the old-fashioned way. They eat traditional foods, following customs that haven't changed for hundreds of years. And amazingly, in those countries where people pick their foods based on custom and taste, the people are actually healthier than we are. They have lower rates of diet-related illness such as heart disease.

Take the French, for example. They eat by and large as they have for generations. They drink wine, eat cheese, cook with butter, and eat red meat. Oh yes, they also eat bread without worrying about it! Yet their rates of heart disease and obesity are lower than the health-crazy Americans'. How can that be?

Maybe because *how* we eat is just as important as *what* we eat.

French culture includes a set of customs or rules about how to eat. For example, the French eat small portions and don't go back for seconds. They don't snack—you'll almost never see a French person eating while driving or walking down the street. They seldom eat alone. Instead they eat with family or friends, and their

### A GLOBAL DILEMMA?

Traditional food culture is under attack in France and in many other countries. One reason is the spread of global industrial food companies like McDonald's. In countries big and small, lifestyles are changing as people adjust to modern jobs and a global marketplace. Will the omnivore's dilemma grow in these countries as it has grown in the U.S.? Or will we learn from these traditional food cultures before they disappear?

Meals are long, leisurely affairs. In other words, the French culture of food allows the French to enjoy their food and be healthy at the same time.

Because we have no such food culture in America, almost every question about eating is up for grabs. Fats or carbs? Three square meals or little snacks all day? Raw or cooked? Organic or industrial? Vegetarian or vegan? We seem to have even forgotten what real food looks and tastes like. Instead we make "meals" of protein bars and shakes. Then we consume these non-foods alone in our cars. Is it any wonder Americans suffer from so many eating disorders?

### MARKETING NEW MEALS

And so for us, the omnivore's dilemma becomes bigger and bigger. We can't rely on taste to choose among processed foods. We can't just eat foods that we enjoy. We have no stable food culture to guide us, handed down over generations. We are told instead to rely on science. Science (and the industrial food system) will tell us which foods are good for us and which are not. But the "science" keeps changing with every new study.

This situation suits the food industry just fine. The more anxious we are about eating, the more likely we are to listen to claims from food marketers. Food companies make more money if they can get us to change our eating habits and buy their processed foods. They spend billions to create a constant stream of these new foods and then spend billions more to get us to buy them.

Some of these foods are marketed as being healthy. Others are sold under the banner of "convenience." Many are not meant to be eaten at a dinner table. The protein bar or Pop-Tart

is designed to be consumed in the car on the way to school or to work. Campbell's has even designed a microwavable soup that can be eaten in a car.

About 47 percent of American families say they still eat together every night. But research shows that many of those "family dinners" are in fact something quite new. In many houses now, each member of the family prepares something different to eat. Mom might cook something vegetarian, while the kids take a pepperoni pizza from the freezer and zap it. They don't all gather at the table at the same time. By the time Dad sits down, with his own low-carb meal, the kids may have gotten up. Is that a family dinner? Not in my opinion.

What difference does it make if families don't eat together? Well, let me answer that question with another question. Is eating just a task that we have to get done as fast and "conveniently" as possible? Is it something we do only because we have to, like taking medicine or brushing our teeth? Looking at food that way robs us of one of life's greatest pleasures. We should not only enjoy and appreciate our food, we should enjoy making it and eating it in the company of others. Food is not just fuel. It's also about family and friends and community.

Yet in spite of this, as part of my research I decided to have one of these alone-but-together meals. My family and I were going to share our separate processed meals, from a fast-food restaurant at the end of the industrial food chain. We were going to solve the omnivore's dilemma the way millions of Americans do every day. We were going to McDonald's.