



TASTE TECHNOLOGIES

THE KETCHUP CONUNDRUM

Mustard now comes in dozens of varieties. Why has ketchup stayed the same?

BY MALCOLM GLADWELL

Ketchup triggers, in equal measure, all five of the fundamental tastes; one food theorist calls it "the Esperanto of cuisine."

Many years ago, one mustard dominated the supermarket shelves: French's. It came in a plastic bottle. People used it on hot dogs and bologna. It was a yellow mustard, made from ground white mustard seed with turmeric and vinegar, which gave it a mild, slightly metallic taste. If you looked hard in the grocery store, you might find something in the specialty-foods section called Grey Poupon, which was Dijon mustard, made from the more pungent brown mustard seed. In the early seventies, Grey Poupon was no more than a hundred-thousand-dollar-a-year business. Few people knew what it was or how it tasted, or had any particular desire for an alternative to French's or the runner-up, Gulden's. Then one day the Heublein Company, which owned Grey Poupon, discovered something remarkable: if you gave people a mustard taste test, a significant number had only to try Grey Poupon once to switch from yellow mustard. In the food world that almost never happens; even among the most successful food brands, only about one in a hundred have that kind of conversion rate. Grey Poupon was magic.

So Heublein put Grey Poupon in a bigger glass jar, with an enamelled label and enough of a whiff of Frenchness to make it seem as if it were still being made in Europe (it was made in Hartford, Connecticut, from Canadian mustard seed and white wine). The company ran tasteful print ads in upscale food magazines. They put the mustard in little foil packets and distributed them with airplane meals—which was a brand-new idea at the time. Then they hired the Manhattan ad agency Lowe Marschalk to do something, on a modest budget, for television. The agency came back with an idea: A Rolls-Royce is driving down a country road. There's a man in the back seat in a suit with a plate of beef on a silver tray. He nods to the chauffeur, who opens the glove compartment. Then comes what is known in the business as the "reveal." The chauffeur hands back a jar of Grey Poupon. Another Rolls-Royce pulls up alongside. A man leans his head out the window. "Pardon me. Would you have any Grey Poupon?"

In the cities where the ads ran, sales

of Grey Poupon leaped forty to fifty per cent, and whenever Heublein bought airtime in new cities sales jumped by forty to fifty per cent again. Grocery stores put Grey Poupon next to French's and Gulden's. By the end of the nineteen-eighties Grey Poupon was the most powerful brand in mustard. "The tagline in the commercial was that this was one of life's finer pleasures," Larry Elegant, who wrote the original Grey Poupon spot, says, "and that, along with the Rolls-Royce, seemed to impart to people's minds that this was something truly different and superior."

The rise of Grey Poupon proved that the American supermarket shopper was willing to pay more—in this case, \$3.99 instead of \$1.49 for eight ounces—as long as what they were buying carried with it an air of sophistication and complex aromatics. Its success showed, furthermore, that the boundaries of taste and custom were not fixed: that just because mustard had always been yellow didn't mean that consumers would use only yellow mustard. It is because of Grey Poupon that the standard American supermarket today has an entire mustard section. And it is because of Grey Poupon that a man named Jim Wigon decided, four years ago, to enter the ketchup business. Isn't the ketchup business today exactly where mustard was thirty years ago? There is Heinz and, far behind, Hunt's and Del Monte and a handful of private-label brands. Jim Wigon wanted to create the Grey Poupon of ketchup.

Wigon is from Boston. He's a thick-set man in his early fifties, with a full salt-and-pepper beard. He runs his ketchup business—under the brand World's Best Ketchup—out of the catering business of his partner, Nick Schiarizzi, in Norwood, Massachusetts, just off Route 1, in a low-slung building behind an industrial-equipment-rental shop. He starts with red peppers, Spanish onions, garlic, and a high-end tomato paste. Basil is chopped by hand, because the buffalo chopper bruises the leaves. He uses maple syrup, not corn syrup, which gives him a quarter of the sugar of Heinz. He pours his ketchup into a clear glass ten-ounce jar, and sells it for three times the price of Heinz, and for the past few years he has crisscrossed the country, peddling World's

Best in six flavors—regular, sweet, dill, garlic, caramelized onion, and basil—to specialty grocery stores and supermarkets. If you were in Zabar's on Manhattan's Upper West Side a few months ago, you would have seen him at the front of the store, in a spot between the sushi and the gefilte fish. He was wearing a World's Best baseball cap, a white shirt, and a red-stained apron. In front of him, on a small table, was a silver tureen filled with miniature chicken and beef meatballs, a box of toothpicks, and a dozen or so open jars of his ketchup. "Try my ketchup!" Wigon said, over and over, to anyone who passed. "If you don't try it, you're doomed to eat Heinz the rest of your life."

In the same aisle at Zabar's that day two other demonstrations were going on, so that people were starting at one end with free chicken sausage, sampling a slice of prosciutto, and then pausing at the World's Best stand before heading for the cash register. They would look down at the array of open jars, and Wigon would impale a meatball on a toothpick, dip it in one of his ketchups, and hand it to them with a flourish. The ratio of tomato solids to liquid in World's Best is much higher than in Heinz, and the maple syrup gives it an unmistakable sweet kick. Invariably, people would close their eyes, just for a moment, and do a subtle double take. Some of them would look slightly perplexed and walk away, and others would nod and pick up a jar. "You know why you like it so much?" he would say, in his broad Boston accent, to the customers who seemed most impressed. "Because you've been eating bad ketchup all your life!" Jim Wigon had a simple vision: build a better ketchup—the way Grey Poupon built a better mustard—and the world will beat a path to your door. If only it were that easy.

The story of World's Best Ketchup cannot properly be told without a man from White Plains, New York, named Howard Moskowitz. Moskowitz is sixty, short and round, with graying hair and huge gold-rimmed glasses. When he talks, he favors the Socratic monologue—a series of questions that he poses to himself, then

answers, punctuated by "ahhh" and much vigorous nodding. He is a lineal descendant of the legendary eighteenth-century Hasidic rabbi known as the Seer of Lublin. He keeps a parrot. At Harvard, he wrote his doctoral dissertation on psychophysics, and all the rooms on the ground floor of his food-testing and market-research business are named after famous psychophysicists. ("Have you ever heard of the name Rose Marie Pangborn? Ahhh. She was a professor at Davis. Very famous. This is the Pangborn kitchen.") Moskowitz is a man of uncommon exuberance and persuasiveness: if he had been your freshman statistics professor, you would today be a statistician. "My favorite writer? Gibbon," he burst out, when we met not long ago. He had just been holding forth on the subject of sodium solutions. "Right now I'm working my way through the Hales history of the Byzantine Empire. Holy shit! Everything is easy until you get to the Byzantine Empire. It's impossible. One emperor is always killing the others, and everyone has five wives or three husbands. It's very Byzantine."

Moskowitz set up shop in the seventies, and one of his first clients was Pepsi. The artificial sweetener aspartame had just become available, and Pepsi wanted Moskowitz to figure out the perfect amount of sweetener for a can of Diet Pepsi. Pepsi knew that anything below eight per cent sweetness was not sweet enough and anything over twelve per cent was too sweet. So Moskowitz did the logical thing. He made up experimental batches of Diet Pepsi with every conceivable degree of sweetness—8 per cent, 8.25 per cent, 8.5, and on and on up to 12—gave them to hundreds of people, and looked for the concentration that people liked the most. But the data were a mess—there wasn't a pattern—and one day, sitting in a diner, Moskowitz realized why. They had been asking the wrong question. There was no such thing as the perfect Diet Pepsi. They should have been looking for the perfect Diet Pepsis.

It took a long time for the food world to catch up with Howard Moskowitz. He knocked on doors and tried

to explain his idea about the plural nature of perfection, and no one answered. He spoke at food-industry conferences, and audiences shrugged. But he could think of nothing else. "It's like that Yiddish expression," he says. "Do you know it? To a worm in horseradish, the world is horseradish!" Then, in 1986, he got a call from the Campbell's Soup Company. They were in the spaghetti-sauce business, going up against Ragú with their Prego brand. Prego was a little thicker than Ragú, with diced tomatoes as opposed to Ragú's purée, and, Campbell's thought, had better pasta adherence. But, for all that, Prego was in a slump, and Campbell's was desperate for new ideas.



Standard practice in the food industry would have been to convene a focus group and ask spaghetti eaters what they wanted. But Moskowitz does not believe that consumers—even spaghetti lovers—know what they desire if what they desire does not yet exist. "The mind," as Moskowitz is fond of saying, "knows not what the tongue wants." Instead, working with the Campbell's kitchens, he came up with forty-five varieties of spaghetti sauce. These were designed to differ in every conceivable way: spiciness, sweetness, tartness, saltiness, thickness, aroma, mouth feel, cost of ingredients, and so forth. He had a trained panel of food tasters analyze each of those varieties in depth. Then he took the prototypes on the road—to New York, Chicago, Los Angeles, and Jacksonville—and asked people in groups of twenty-five to eat between eight and ten small bowls of different spaghetti sauces over two hours and rate them on a scale of one to a hundred. When Moskowitz charted the results, he saw that everyone had a slightly different definition of what a perfect spaghetti sauce tasted like. If you sifted carefully through the data, though, you could find patterns, and Moskowitz learned that most people's preferences fell into one of three broad groups: plain, spicy, and extra-chunky, and of those three the last was the most important. Why? Because at the time there was no extra-chunky spaghetti sauce in the supermarket. Over the next decade, that new cate-

gory proved to be worth hundreds of millions of dollars to Prego. "We all said, 'Wow!'" Monica Wood, who was then the head of market research for Campbell's, recalls. "Here there was this third segment—people who liked their spaghetti sauce with lots of stuff in it—and it was completely untapped. So in about 1989-90 we launched Prego extra-chunky. It was extraordinarily successful."

It may be hard today, fifteen years later—when every brand seems to come in multiple varieties—to appreciate how much of a breakthrough this was. In those years, people in the food industry carried around in their heads the notion of a platonic dish—the version of a dish that looked and tasted absolutely right. At Ragú and Prego, they had been striving for the platonic spaghetti sauce, and the platonic spaghetti sauce was thin and blended because that's the way they thought it was done in Italy. Cooking, on the industrial level, was consumed with the search for human universals. Once you start looking for the sources of human variability, though, the old orthodoxy goes out the window. Howard Moskowitz stood up to the Platonists and said there are no universals.

Moskowitz still has a version of the computer model he used for Prego fifteen years ago. It has all the coded results from the consumer taste tests and the expert tastings, split into the three categories (plain, spicy, and extra-chunky) and linked up with the actual ingredients list on a spreadsheet. "You know how they have a computer model for building an aircraft," Moskowitz said as he pulled up the program on his computer. "This is a model for building spaghetti sauce. Look, every variable is here." He pointed at column after column of ratings. "So here are the ingredients. I'm a brand manager for Prego. I want to optimize one of the segments. Let's start with Segment 1." In Moskowitz's program, the three spaghetti-sauce groups were labelled Segment 1, Segment 2, and Segment 3. He typed in a few commands, instructing the computer to give him the formulation that would score the highest with those people in Segment 1. The answer appeared almost immediately: a specific recipe that, according to Moskowitz's data, produced a

score of 78 from the people in Segment 1. But that same formulation didn't do nearly as well with those in Segment 2 and Segment 3. They scored it 67 and 57, respectively. Moskowitz started again, this time asking the computer to optimize for Segment 2. This time the ratings came in at 82, but now Segment 1 had fallen ten points, to 68. "See what happens?" he said. "If I make one group happier, I piss off another group. We did this for coffee with General Foods, and we found that if you create only one product the best you can get across all the segments is a 60—if you're lucky. That's if you were to treat everybody as one big happy family. But if I do the sensory segmentation, I can get 70, 71, 72. Is that big? Ahhhh. It's a very big difference. In coffee, a 71 is something you'll die for."

When Jim Wigon set up shop that day in Zabar's, then, his operating assumption was that there ought to be some segment of the population that preferred a ketchup made with Stanis-

laus tomato paste and hand-chopped basil and maple syrup. That's the Moskowitz theory. But there is theory and there is practice. By the end of that long day, Wigon had sold ninety jars. But he'd also got two parking tickets and had to pay for a hotel room, so he wasn't going home with money in his pocket. For the year, Wigon estimates, he'll sell fifty thousand jars—which, in the universe of condiments, is no more than a blip. "I haven't drawn a paycheck in five years," Wigon said as he impaled another meatball on a toothpick. "My wife is killing me." And it isn't just World's Best that is struggling. In the gourmet-ketchup world, there is River Run and Uncle Dave's, from Vermont, and Muir Glen Organic and Mrs. Tomato Head Roasted Garlic Peppercorn Catsup, in California, and dozens of others—and every year Heinz's overwhelming share of the ketchup market just grows.

It is possible, of course, that ketchup is waiting for its own version of that

Rolls-Royce commercial, or the discovery of the ketchup equivalent of extra-chunky—the magic formula that will satisfy an unmet need. It is also possible, however, that the rules of Howard Moskowitz, which apply to Grey Poupon and Prego spaghetti sauce and to olive oil and salad dressing and virtually everything else in the supermarket, don't apply to ketchup.

Tomato ketchup is a nineteenth-century creation—the union of the English tradition of fruit and vegetable sauces and the growing American infatuation with the tomato. But what we know today as ketchup emerged out of a debate that raged in the first years of the last century over benzoate, a preservative widely used in late-nineteenth-century condiments. Harvey Washington Wiley, the chief of the Bureau of Chemistry in the Department of Agriculture from 1883 to 1912, came to believe that benzoates were not safe, and the result was an argument that split the



ketchup world in half. On one side was the ketchup establishment, which believed that it was impossible to make ketchup without benzoate and that benzoate was not harmful in the amounts used. On the other side was a renegade band of ketchup manufacturers, who believed that the preservative puzzle could be solved with the application of culinary science. The dominant nineteenth-century ketchups were thin and watery, in part because they were made from unripe tomatoes, which are low in the complex carbohydrates known as pectin, which add body to a sauce. But what if you made ketchup from ripe tomatoes, giving it the density it needed to resist degradation? Nineteenth-century ketchups had a strong tomato taste, with just a light vinegar touch. The renegades argued that by greatly increasing the amount of vinegar, in effect protecting the tomatoes by pickling them, they were making a superior ketchup: safer, purer, and better tasting. They offered a money-back guarantee in the event of spoilage. They charged more for their product, convinced that the public would pay more for a better ketchup, and they were right. The benzoate ketchups disappeared. The leader of the renegade band was an entrepreneur out of Pittsburgh named Henry J. Heinz.

The world's leading expert on ketchup's early years is Andrew F. Smith, a substantial man, well over six feet, with a graying mustache and short wavy black hair. Smith is a scholar, trained as a political scientist, intent on bringing rigor to the world of food. When we met for lunch not long ago at the restaurant Savoy in SoHo (chosen because of the excellence of its hamburger and French fries, and because Savoy makes its own ketchup—a dark, peppery, and viscous variety served in a white porcelain saucer), Smith was in the throes of examining the origins of the croissant for the upcoming "Oxford Encyclopedia of Food and Drink in America," of which he is the editor-in-chief. Was the croissant invented in 1683, by the Viennese, in celebration of their defeat of the invading Turks? Or in 1686, by the residents of Budapest, to celebrate their defeat of the Turks? Both explanations

would explain its distinctive crescent shape—since it would make a certain cultural sense (particularly for the Viennese) to consecrate their battlefield triumphs in the form of pastry. But the only reference Smith could find to either story was in the Larousse Gastronomique of 1938. "It just doesn't check out," he said, shaking his head wearily.

Smith's specialty is the tomato, however, and over the course of many scholarly articles and books—"The History of Home-Made Anglo-American Tomato Ketchup," for *Petits Propos Culinaires*, for example, and "The Great Tomato Pill War of the 1830's," for *The Connecticut Historical Society Bulletin*—Smith has argued that some critical portion of the history of culinary civilization could be told through this fruit. Cortez brought tomatoes to Europe from the New World, and they inexorably insinuated themselves into the world's cuisines. The Italians substituted the tomato for eggplant. In northern India, it went into curries and chutneys. "The biggest tomato producer in the world today?" Smith paused, for dramatic effect. "China. You don't think of tomato being a part of Chinese cuisine, and it wasn't ten years ago. But it is now." Smith dipped one of my French fries into the homemade sauce. "It has that raw taste," he said, with a look of intense concentration. "It's fresh ketchup. You can taste the tomato." Ketchup was, to his mind, the most nearly perfect of all the tomato's manifestations. It was inexpensive, which meant that it had a firm lock on the mass market, and it was a condiment, not an ingredient, which meant



that it could be applied at the discretion of the food eater, not the food preparer. "There's a quote from Elizabeth Rozin I've always loved," he said. Rozin is the food theorist who wrote the essay "Ketchup and the Collective Unconscious," and Smith used her conclusion as the epigraph of his ketchup book: ketchup may well be "the only true culinary expression of the melting pot, and . . . its special and unprecedented ability to provide something for everyone makes it the Esperanto of cuisine." Here is where Henry Heinz and the benzoate battle were so important: in defeating the condiment

Old Guard, he was the one who changed the flavor of ketchup in a way that made it universal.

There are five known fundamental tastes in the human palate: salty, sweet, sour, bitter, and umami. Umami is the proteiny, full-bodied taste of chicken soup, or cured meat, or fish stock, or aged cheese, or mother's milk, or soy sauce, or mushrooms, or seaweed, or cooked tomato. "Umami adds body," Gary Beauchamp, who heads the Monell Chemical Senses Center, in Philadelphia, says. "If you add it to a soup, it makes the soup seem like it's thicker—it gives it sensory heft. It turns a soup from salt water into a food." When Heinz moved to ripe tomatoes and increased the percentage of tomato solids, he made ketchup, first and foremost, a potent source of umami. Then he dramatically increased the concentration of vinegar, so that his ketchup had twice the acidity of most other ketchups; now ketchup was sour, another of the fundamental tastes. The post-benzoate ketchups also doubled the concentration of sugar—so now ketchup was also sweet—and all along ketchup had been salty and bitter. These are not trivial issues. Give a baby soup, and then soup with MSG (an amino-acid salt that is pure umami), and the baby will go back for the MSG soup every time, the same way a baby will always prefer water with sugar to water alone. Salt and sugar and umami are primal signals about the food we are eating—about how dense it is in calories, for example, or, in the case of umami, about the presence of proteins and amino acids. What Heinz had done was come up with a condiment that pushed all five of these primal buttons. The taste of Heinz's ketchup began at the tip of the tongue, where our receptors for sweet and salty first appear, moved along the sides, where sour notes seem the strongest, then hit the back of the tongue, for umami and bitter, in one long crescendo. How many things in the supermarket run the sensory spectrum like this?

A number of years ago, the H. J. Heinz Company did an extensive market-research project in which researchers went into people's homes and watched the way they used ketchup. "I remem-

ber sitting in one of those households," Casey Keller, who was until recently the chief growth officer for Heinz, says. "There was a three-year-old and a six-year-old, and what happened was that the kids asked for ketchup and Mom brought it out. It was a forty-ounce bottle. And the three-year-old went to grab it himself, and Mom intercepted the bottle and said, 'No, you're not going to do that.' She physically took the bottle away and doled out a little dollop. You could see that the whole thing was a bummer." For Heinz, Keller says, that moment was an epiphany. A typical five-year-old consumes about sixty per cent more ketchup than a typical forty-year-old, and the company realized that it needed to put ketchup in a bottle that a toddler could control. "If you are four—and I have a four-year-old—he doesn't get to choose what he eats for dinner, in most cases," Keller says. "But the one thing he can control is ketchup. It's the one part of the food experience that he can customize and personalize." As a result, Heinz came out with the so-called EZ Squirt bottle, made out of soft plastic with a conical nozzle. In homes where the EZ Squirt is used, ketchup consump-

tion has grown by as much as twelve per cent.

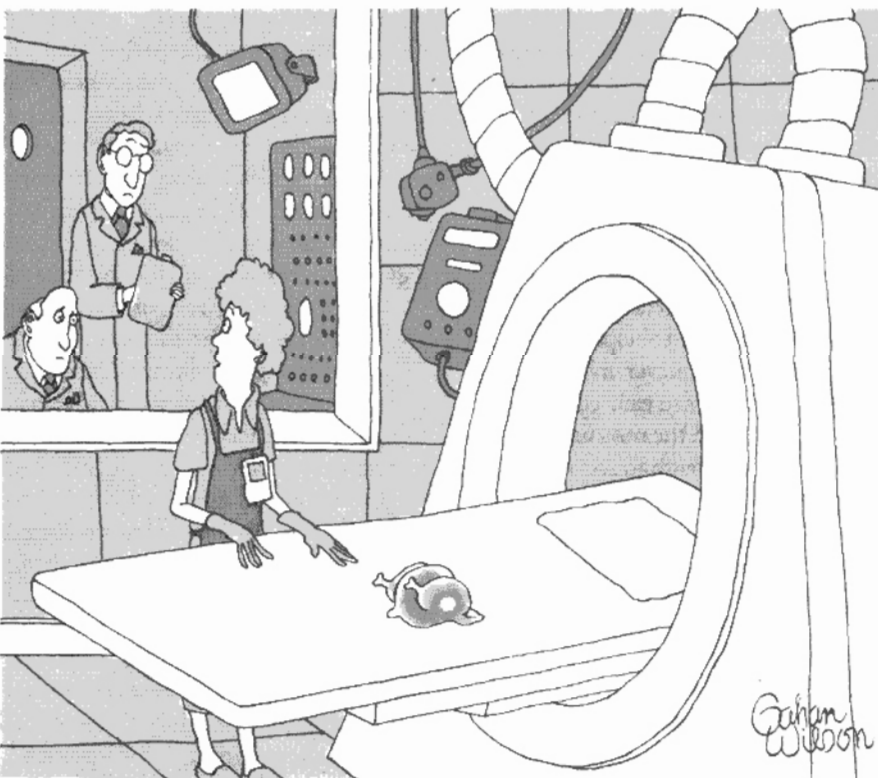
There is another lesson in that household scene, though. Small children tend to be neophobic: once they hit two or three, they shrink from new tastes. That makes sense, evolutionarily, because through much of human history that is the age at which children would have first begun to gather and forage for themselves, and those who strayed from what was known and trusted would never have survived. There the three-year-old was, confronted with something strange on his plate—tuna fish, perhaps, or Brussels sprouts—and he wanted to alter his food in some way that made the unfamiliar familiar. He wanted to subdue the contents of his plate. And so he turned to ketchup, because, alone among the condiments on the table, ketchup could deliver sweet and sour and salty and bitter and umami, all at once.

Last February, Edgar Chambers IV, who runs the sensory-analysis center at Kansas State University, conducted a joint assessment of World's Best and Heinz. He has seventeen trained tasters on his staff, and they

work for academia and industry, answering the often difficult question of what a given substance tastes like. It is demanding work. Immediately after conducting the ketchup study, Chambers dispatched a team to Bangkok to do an analysis of fruit—bananas, mangoes, rose apples, and sweet tamarind. Others were detailed to soy and kimchi in South Korea, and Chambers's wife led a delegation to Italy to analyze ice cream.

The ketchup tasting took place over four hours, on two consecutive mornings. Six tasters sat around a large, round table with a lazy Susan in the middle. In front of each panelist were two one-ounce cups, one filled with Heinz ketchup and one filled with World's Best. They would work along fourteen dimensions of flavor and texture, in accordance with the standard fifteen-point scale used by the food world. The flavor components would be divided two ways: elements picked up by the tongue and elements picked up by the nose. A very ripe peach, for example, tastes sweet but it also smells sweet—which is a very different aspect of sweetness. Vinegar has a sour taste but also a pungency, a vapor that rises up the back of the nose and fills the mouth when you breathe out. To aid in the rating process, the tasters surrounded themselves with little bowls of sweet and sour and salty solutions, and portions of Contadina tomato paste, Hunt's tomato sauce, and Campbell's tomato juice, all of which represent different concentrations of tomato-ness.

After breaking the ketchup down into its component parts, the testers assessed the critical dimension of "amplitude," the word sensory experts use to describe flavors that are well blended and balanced, that "bloom" in the mouth. "The difference between high and low amplitude is the difference between my son and a great pianist playing 'Ode to Joy' on the piano," Chambers says. "They are playing the same notes, but they blend better with the great pianist." Pepperidge Farm shortbread cookies are considered to have high amplitude. So are Hellman's mayonnaise and Sara Lee poundcake. When something is high in amplitude, all its constituent elements converge into a single gestalt. You can't isolate the ele-



"The machine's done something really weird to Mr. Hendrickson."

ments of an iconic, high-amplitude flavor like Coca-Cola or Pepsi. But you can with one of those private-label colas that you get in the supermarket. "The thing about Coke and Pepsi is that they are absolutely gorgeous," Judy Heylmun, a vice-president of Sensory Spectrum, Inc., in Chatham, New Jersey, says. "They have beautiful notes—all flavors are in balance. It's very hard to do that well. Usually, when you taste a store cola it's"—and here she made a series of *pik! pik! pik!* sounds—"all the notes are kind of spiky, and usually the citrus is the first thing to spike out. And then the cinnamon. Citrus and brown spice notes are top notes and very volatile, as opposed to vanilla, which is very dark and deep. A really cheap store brand will have a big, fat cinnamon note sitting on top of everything."

Some of the cheaper ketchups are the same way. Ketchup aficionados say that there's a disquieting unevenness to the tomato notes in Del Monte ketchup: Tomatoes vary, in acidity and sweetness and the ratio of solids to liquid, according to the seed variety used, the time of year they are harvested, the soil in which they are grown, and the weather during the growing season. Unless all those variables are tightly controlled, one batch of ketchup can end up too watery and another can be too strong. Or try one of the numerous private-label brands that make up the bottom of the ketchup market and pay attention to the spice mix; you may well find yourself conscious of the clove note or overwhelmed by a hit of garlic. Generic colas and ketchups have what Moskowitz calls a hook—a sensory attribute that you can single out, and ultimately tire of.

The tasting began with a plastic spoon. Upon consideration, it was decided that the analysis would be helped if the ketchups were tasted on French fries, so a batch of fries were cooked up, and distributed around the table. Each tester, according to protocol, took the fries one by one, dipped them into the cup—all the way, right to the bottom—bit off the portion covered in ketchup, and then contemplated the evidence of their senses. For Heinz, the critical flavor components—vinegar, salt, tomato I.D. (over-all tomato-ness), sweet, and bitter—were judged to be present in roughly equal concentrations, and those



"Love the tie, Chad—that is so pimp!"

elements, in turn, were judged to be well blended. The World's Best, though, "had a completely different view, a different profile, from the Heinz," Chambers said. It had a much stronger hit of sweet aromatics—4.0 to 2.5—and outstripped Heinz on tomato I.D. by a resounding 9 to 5.5. But there was less salt, and no discernible vinegar. "The other comment from the panel was that these elements were really not blended at all," Chambers went on. "The World's Best product had really low amplitude." According to Joyce Buchholz, one of the panelists, when the group judged aftertaste, "it seemed like a certain flavor would hang over longer in the case of World's Best—that cooked-tomatoey flavor."

But what was Jim Wigon to do? To compete against Heinz, he had to try something dramatic, like substituting maple syrup for corn syrup, ramping up the tomato solids. That made for an unusual and daring flavor. World's Best Dill ketchup on fried catfish, for instance, is a marvellous thing. But it also meant that his ketchup wasn't as sensorily complete as Heinz, and he was paying a heavy price in amplitude. "Our conclusion was mainly this," Buchholz said. "We felt that World's Best seemed to be more like

a sauce." She was trying to be helpful.

There is an exception, then, to the Moskowitz rule. Today there are thirty-six varieties of Ragù spaghetti sauce, under six rubrics—Old World Style, Chunky Garden Style, Robusto, Light, Cheese Creations, and Rich & Meaty—which means that there is very nearly an optimal spaghetti sauce for every man, woman, and child in America. Measured against the monotony that confronted Howard Moskowitz twenty years ago, this is progress. Happiness, in one sense, is a function of how closely our world conforms to the infinite variety of human preference. But that makes it easy to forget that sometimes happiness can be found in having what we've always had and everyone else is having. "Back in the seventies, someone else—I think it was Ragù—tried to do an 'Italian'-style ketchup," Moskowitz said. "They failed miserably." It was a conundrum: what was true about a yellow condiment that went on hot dogs was not true about a tomato condiment that went on hamburgers, and what was true about tomato sauce when you added visible solids and put it in a jar was somehow not true about tomato sauce when you added vinegar and sugar and put it in a bottle. Moskowitz shrugged. "I guess ketchup is ketchup." ♦