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ANNALS OF RETAIL

Clicks and Mortar

*Don't believe the Internet hype:
the real E-commerce revolution happened off-line.*

by Malcolm Gladwell

1.

At the turn of this century, a Missouri farmer named D.Ward King invented a device that came to be known, in his honor, as the King Road Drag. It consisted of two wooden rails that lay side by side about three feet apart, attached by a series of wooden braces. If you pulled the King Drag along a muddy road, it had the almost magical effect of smoothing out the ruts and molding the dirt into a slight crown, so that the next time it rained the water would drain off to the sides. In 1906, when King demonstrated his device to a group of farmers in Wellsville, Kansas, the locals went out and built a hundred King Drags of their own within the week, which makes sense, because if you had asked a farmer at the turn of the century what single invention could make his life easier he would probably have wanted

something that improved the roads. They were, in the late nineteenth century, a disaster: of the country's two million miles of roads, fewer than a hundred and fifty thousand had been upgraded with gravel or oil. The rest were dirt. They turned into rivers of mud when it was raining, and hardened into an impassable sea of ruts when it was not. A trip to church or to go shopping was an exhausting ordeal for many farmers. At one point in the early part of this century, economists estimated that it cost more to haul a bushel of wheat along ten miles of American dirt road than it did to ship it across the ocean from New York to Liverpool.

The King Road Drag was a simple invention that had the effect of reducing the isolation of the American farmer, and soon that simple invention led to all kinds of dramatic changes. Ever since the Post Office was established, for example, farmers had to make

the difficult trek into town to pick up their mail. In the eighteen-nineties, Congress pledged that mail would be delivered free to every farmer's home, but only so long as rural communities could demonstrate that their roads were good enough for a mailman to pass by every day--which was a Catch-22 neatly resolved by the King Road Drag. And once you had rural free delivery and good roads, something like parcel post became inevitable. Through the beginning of the century, all packages that weighed more than four pounds were carried by private-express services, which were unreliable and expensive and would, outside big cities, deliver only to a set of depots. But if the mail was being delivered every day to rural dwellers, why not have the mailman deliver packages, too? In 1912, Congress agreed, and with that the age of the mail-order house began: now a

farmer could look through a catalogue that contained many thousands of products and have them delivered right to his door. Smaller companies, with limited resources, had a way to bypass the middleman and reach customers all over the country. You no longer needed to sell to the consumer through actual stores made of bricks and mortar. You could build a virtual store!

In the first fifteen years of this century, in other words, America underwent something of a revolution. Before rural free delivery, if you didn't live in a town-- and most Americans didn't-- it wasn't really practical to get a daily newspaper. It was only after daily delivery that the country became "wired," in the sense that if something happened in Washington or France or the Congo one evening, everyone would know about it by the next morning. In 1898, mailmen were delivering about eighteen thousand pieces of mail per rural route. Within five years, that number had more than doubled, and by 1929 it had topped a hundred thousand.

Here was the dawn of the modern consumer economy--an economy in which information moved freely around the country, in

which retailers and consumers, buyers and sellers became truly connected for the first time. "You may go to an average store, spend valuable time and select from a limited stock at retail prices," the fall 1915 Sears, Roebuck catalogue boasted, "or have our Big Store of World Wide Stocks at Economy Prices come to you in this catalog--the Modern Way." By the turn of the century, the Sears catalogue had run to over a thousand pages, listing tens of thousands of items in twenty-four departments: music, buggies, stoves, carriage hardware, drugs, vehicles, shoes, notions, sewing machines, cloaks, sporting goods, dry goods, hardware, groceries, furniture and baby carriages, jewelry, optical goods, books, stereopticons, men's clothing, men's furnishings, bicycles, gramophones, and harnesses. Each page was a distinct site, offering a reader in- depth explanations and descriptions well beyond what he would expect if he went to a store, talked to a sales clerk, and personally examined a product. To find all those products, the company employed scores of human search engines-- "missionaries" who, the historians Boris Emmet and John Jeuck write, were "said to travel constantly, inspecting the stocks of virtually all retail

establishments in the country, conversing with the public at large to discover their needs and desires, and buying goods 'of all kinds and descriptions'" in order to post them on the World Wide Stock.

The catalogue, as economists have argued, represented a radical transformation in the marketing and distribution of consumer goods. But, of course, that transformation would not have been possible unless you had parcel post, and you couldn't have had parcel post unless you had rural free delivery, and you could not have had rural free delivery without good roads, and you would not have had good roads without D. Ward King. So what was the genuine revolution? Was it the World Wide Stock or was it the King Road Drag?

2.

We are now, it is said, in the midst of another business revolution. "This new economy represents a tectonic upheaval in our commonwealth, a far more turbulent reordering than mere digital hardware has produced," Kevin Kelly, a former executive editor of Wired, writes in his book "New Rules for the New Economy." In "Cyber Rules," the software entrepreneurs

Thomas M. Siebel and Pat House compare the advent of the Internet to the invention of writing, the appearance of a metal currency in the eastern Mediterranean several thousand years ago, and the adoption of the Arabic zero. "Business," Bill Gates states flatly in the opening sentence of "Business @ the Speed of Thought," "is going to change more in the next ten years than it has in the last fifty."

The revolution of today, however, turns out to be as difficult to define as the revolution of a hundred years ago. Kelly, for example, writes that because of the Internet "the new economy is about communication, deep and wide." Communication, he maintains, "is not just a sector of the economy. Communication is the economy." But which is really key--how we communicate, or what we communicate? Gates, meanwhile, is preoccupied with the speed of interaction in the new economy. Going digital, he writes, will "shatter the old way of doing business" because it will permit almost instant communication. Yet why is the critical factor how quickly I communicate some decision or message to you-- as opposed to how long it takes me to make that

decision, or how long it takes you to act on it? Gates called his book "Business @ the Speed of Thought," but thought is a slow and messy thing. Computers do nothing to speed up our thought process; they only make it a lot faster to communicate our thoughts once we've had them. Gates should have called his book "Business @ the Speed of Typing." In "Growing Up Digital," Don Tapscott even goes so far as to claim that the rise of the Internet has created an entirely new personality among the young. N-Geners, as Tapscott dubs the generation, have a different set of assumptions about work than their parents have. They thrive on collaboration, and many find the notion of a boss somewhat bizarre....They are driven to innovate and have a mindset of immediacy requiring fast results. They love hard work because working, learning, and playing are the same thing to them. They are creative in ways their parents could only imagine....Corporations who hire them should be prepared to have their windows and walls shaken.

Let's leave aside the fact that the qualities Tapscott ascribes to the Net Generation-- energy, a "mindset of immediacy," creativity, a resistance to authority, and (of all things) sharp differences in outlook from

their parents--could safely have been ascribed to every upcoming generation in history. What's interesting here is the blithe assumption, which runs through so much of the thinking and talking about the Internet, that this new way of exchanging information must be at the root of all changes now sweeping through our economy and culture. In these last few weeks before Christmas, as the country's magazines and airways become crowded with advertisements for the fledgling class of dot coms, we may be tempted to concur. But is it possible that, once again, we've been dazzled by the catalogues and forgotten the roads?

3.

The world's largest on-line apparel retailer is Lands' End, in Wisconsin. Lands' End began in 1963 as a traditional mail-order company. It mailed you its catalogue, and you mailed back your order along with a check. Then, in the mid-nineteen-eighties, Lands' End, like the rest of the industry, reinvented itself. It mailed you its catalogue, and you telephoned an 800 number with your order and paid with a credit card. Now Lands' End has moved on line. In the first half of this year, E-commerce sales

accounted for ten per cent of Lands' End's total business, up two hundred and fifty per cent from last year. What has this move to the Web meant?

Lands' End has its headquarters in the tiny farming town of Dodgeville, about an hour's drive west of Madison, through the rolling Midwestern countryside. The main Lands' End campus is composed of half a dozen modern, low-slung buildings, clustered around a giant parking lot. In one of those buildings, there is a huge open room filled with hundreds of people sitting in front of computer terminals and wearing headsets. These are the people who take your orders. Since the bulk of Lands' End's business is still driven by the catalogue and the 800 number, most of those people are simply talking on the phone to telephone customers. But a growing percentage of the reps are now part of the company's Internet team, serving people who use the Lands' End Live feature on the company's Web site. Lands' End Live allows customers, with the click of a mouse, to start a live chat with a Lands' End representative or get a rep to call them at home, immediately.

On a recent fall day, a Lands' End Live user--let's call her Betty--was talking to one of the company's customer-service reps, a tall, red-haired woman named Darcia. Betty was on the Lands' End Web site to buy a pair of sweatpants for her young daughter, and had phoned to ask a few questions.

"What size did I order last year?" Betty asked. "I think I need one size bigger." Darcia looked up the record of Betty's purchase. Last year, she told Betty, she bought the same pants in big- kid's small.

"I'm thinking medium or large," Betty said. She couldn't decide.

"The medium is a ten or a twelve, really closer to a twelve," Darcia told her. "I'm thinking if you go to a large, it will throw you up to a sixteen, which is really big."

Betty agreed. She wanted the medium. But now she had a question about delivery. It was Thursday morning, and she needed the pants by Tuesday. Darcia told her that the order would go out on Friday morning, and with U.P.S. second-day air she would almost certainly get it by Tuesday. They briefly discussed spending an extra six dollars for the premium, next- day service, but Darcia talked Betty out of it. It was only an eighteen-dollar order, after all.

Betty hung up, her decision made, and completed her order on the Internet. Darcia started an on-line chat with a woman from the East Coast. Let's call her Carol. Carol wanted to buy the forty-nine-dollar attaché case but couldn't decide on a color. Darcia was partial to the dark olive, which she said was "a professional alternative to black." Carol seemed convinced, but she wanted the case monogrammed and there were eleven monogramming styles on the Web-site page.

"Can I have a personal suggestion?" she wrote.

"Sure," Darcia typed back. "Who is the case for?"

"A conservative psychiatrist," Carol replied.

Darcia suggested block initials, in black. Carol agreed, and sent the order in herself on the Internet. "All right," Darcia said, as she ended the chat. "She feels better." The exchange had taken twenty-three minutes.

Notice that in each case the customer filled out the actual order herself and sent it in to the Lands' End computer electronically-- which is, of course, the great promise of E-commerce. But that didn't make some human element irrelevant. The customers still needed

Darcia for advice on colors, and styles, or for reassurance that their daughter was a medium and not a large. In each case, the sale was closed because that human interaction allayed the last-minute anxieties and doubts that so many of us have at the point of purchase. It's a mistake, in other words, to think that E-commerce will entirely automate the retail process. It just turns reps from order-takers into sales advisers.

"One of the big fallacies when the Internet came along was that you could get these huge savings by eliminating customer-service costs," Bill Bass, the head of E-commerce for Lands' End, says. "People thought the Internet was self-service, like a gas station. But there are some things that you cannot program a computer to provide. People will still have questions, and what you get are much higher-level questions. Like, 'Can you help me come up with a gift?' And they take longer."

Meanwhile, it turns out, Internet customers at Lands' End aren't much different from 800-number customers. Both groups average around a hundred dollars an order, and they have the same rate of returns. Call volume on the 800 numbers is highest on Mondays and Tuesdays, from ten in the morning until one in the afternoon. So is E-commerce volume. In the long term, of course, the hope is that the Web site will reduce dependence on the catalogue, and that would be a huge efficiency. Given that last year the company mailed two hundred and fifty million catalogues, costing about a dollar each, the potential savings could be enormous. And yet customers' orders on the Internet spike just after a new catalogue arrives at people's homes in exactly the same way that the 800-number business spikes just after the catalogue arrives. E-commerce users, it seems, need the same kind of visual, tangible prompting to use Lands' End as traditional customers. If Lands' End did all its business over the Internet, it would still have to send out something in the mail--a postcard or a bunch of fabric swatches or a slimmed-down catalogue. "We thought going into E-commerce it would be a different business," Tracy Schmit, an Internet analyst at the company, says. "But it's the same business, the same patterns, the same contacts. It's an extension of what we already do."

4.

Now consider what happens on what retailers call the "back end"--the customer-fulfillment side--of Lands' End's operations. Say you go to the company's Web site one afternoon and order a blue 32-16 oxford-cloth button-down shirt and a pair of size-9 Top-Siders. At midnight, the computer at Lands' End combines your order with all the other orders for the day: it lumps your shirt order with the hundred other orders, say, that came in for 32-16 blue oxford-cloth button-downs, and lumps your shoe order with the fifty other size-9 Top-Sider orders of the day. It then prints bar codes for every item, so each of those hundred shirts is assigned a sticker listing the location of blue oxford 32-16 shirts in the warehouse, the order that it belongs to, shipping information, and instructions for things like monogramming.

The next morning, someone known as a "picker" finds the hundred oxford- cloth shirts in that size, yours among them, and puts a sticker on each one, as does another picker in the shoe area with the fifty size-9 Top-Siders. Each piece of merchandise is placed on a yellow plastic tray along an extensive conveyor belt, and as the belt passes underneath a bar-code scanner the computer reads the label and assembles your order. The tray with your

shirt on it circles the room until it is directly above a bin that has been temporarily assigned to you, and then tilts, sending the package sliding downward. Later, when your shoes come gliding along on the belt, the computer reads the bar code on the box and sends the shoe box tumbling into the same bin. Then the merchandise is packed and placed on another conveyor belt, and a bar-code scanner sorts the packages once again, sending the New York-bound packages to the New York-bound U.P.S. truck, the Detroit packages to the Detroit truck, and so on.

It's an extraordinary operation. When you stand in the middle of the Lands' End warehouse--while shirts and pants and sweaters and ties roll by at a rate that, at Christmas, can reach twenty-five thousand items an hour--you feel as if you're in Willy Wonka's chocolate factory. The warehouses are enormous buildings--as big, in all, as sixteen football fields--and the conveyor belts hang from the ceiling like giant pieces of industrial sculpture. Every so often, a belt lurches to a halt, and a little black scanner box reads the bar code and sends the package off again, directing it left or right or up or down, onto any number of separate sidings and

overpasses. In the middle of one of the buildings, there is another huge room where thousands of pants, dangling from a jumbo-sized railing like a dry cleaner's rack, are sorted by color (so sewers don't have to change thread as often) and by style, then hemmed, pressed, bagged, and returned to the order-fulfillment chain--all within a day.

This system isn't unique to Lands' End. If you went to L. L. Bean or J.Crew or, for that matter, a housewares-catalogue company like Pottery Barn, you'd find the same kind of system. It's what all modern, automated warehouses look like, and it is as much a part of E-commerce as a Web site. In fact, it is the more difficult part of E-commerce. Consider the problem of the Christmas rush. Lands' End records something like thirty per cent of its sales during November and December. A well-supported Web site can easily handle those extra hits, but for the rest of the operation that surge in business represents a considerable strain. Lands' End, for example, aims to respond to every phone call or Lands' End Live query within twenty seconds, and to ship out every order within twenty-four hours of its receipt. In August, those goals are easily met. But, to maintain that level of service in November and

December, Lands' End must hire an extra twenty-six hundred people, increasing its normal payroll by more than fifty per cent. Since unemployment in the Madison area is hovering around one per cent, this requires elaborate planning: the company charters buses to bring in students from a nearby college, and has made a deal in the past with a local cheese factory to borrow its workforce for the rush. Employees from other parts of the company are conscripted to help out as pickers, while others act as "runners" in the customer-service department, walking up and down the aisles and jumping into any seat made vacant by someone taking a break. Even the structure of the warehouse is driven, in large part, by the demands of the holiday season. Before the popularization of the bar code, in the early nineteen-eighties, Lands' End used what is called an "order picking" method. That meant that the picker got your ticket, then went to the shirt room and got your shirt, and the shoe room and got your shoes, then put your order together. If another shoe-and- shirt order came over next, she would have to go back to the shirts and back to the shoes all over again. A good picker under the old system could pick between a hundred and fifty and a hundred and

seventy-five pieces an hour. The new technique, known as "batch picking," is so much more efficient that a good picker can now retrieve between six hundred and seven hundred pieces an hour. Without bar codes, if you placed an order in mid-December, you'd be hard pressed to get it by Christmas.

None of this is to minimize the significance of the Internet. Lands' End has a feature on its Web site which allows you to try clothes on a virtual image of yourself--a feature that is obviously not possible with a catalogue. The Web site can list all the company's merchandise, whereas a catalogue has space to list only a portion of the inventory. But how big a role does the Internet ultimately play in E-commerce? It doesn't much affect the cost of running a customer-service department. It reduces catalogue costs, but it doesn't eliminate traditional marketing, because you still have to remind people of your Web site. You still need to master batch picking. You still need the Willy Wonka warehouse. You still need dozens of sewers in the inseaming department, and deals with the local cheese factory, and buses to ship in students every November and December. The head of

operations for Lands' End is a genial man in his fifties named Phil Schaecher, who works out of a panelled office decorated with paintings of ducks which overlooks the warehouse floor. When asked what he would do if he had to choose between the two great innovations of the past twenty years--the bar code, which has transformed the back end of his business, and the Internet, which is transforming the front end--Schaecher paused, for what seemed a long time. "I'd take the Internet," he said finally, toeing the line that all retailers follow these days. Then he smiled. "But of course if we lost bar codes I'd retire the next day."

5.

On a recent fall morning, a young woman named Charlene got a call from a shipping agent at a firm in Oak Creek, Wisconsin. Charlene is a dispatcher with a trucking company in Akron, Ohio, called Roberts Express. She sits in front of a computer with a telephone headset on, in a large crowded room filled with people in front of computers wearing headsets, not unlike the large crowded room at Lands' End. The shipping agent told Charlene that she had to get seven drums of paint to Muskegon, Michigan, as soon as possible. It was 11:25 a.m. Charlene told the agent she would call her back, and immediately

typed those details into her computer, which relayed the message to the two-way-communications satellite that serves as the backbone for the Roberts transportation network. The Roberts satellite, in turn, "pinged" the fifteen hundred independent truckers that Roberts works with, and calculated how far each available vehicle was from the customer in Oak Creek. Those data were then analyzed by proprietary software, which sorted out the cost of the job and the distance between Muskegon and Oak Creek, and sifted through more than fifteen variables governing the optimal distribution of the fleet.

This much--the satellite relay and the probability calculation--took a matter of seconds. The trip, Charlene's screen told her, was two hundred and seventy-four miles and would cost seven hundred and twenty-six dollars. The computer also gave her twenty-three candidates for the run, ranked in order of preference. The first, Charlene realized, was ineligible, because federal regulations limit the number of hours drivers can spend on the road. The second, she found out, was being held for another job. The third, according to the satellite, was fifty miles away, which

was too far. But the fourth, a husband- and-wife team named Jerry and Ann Love, seemed ideal. They were just nineteen miles from OakCreek. "I've worked with them before," Charlene said. "They're really nice people." At eleven-twenty-seven, Charlene sent the Loves an E-mail message, via satellite, that would show up instantly on the computer screens Roberts installs in the cabs of all its contractors. According to Roberts' rules, they had ten minutes to respond. "I'm going to give them a minute or two," Charlene said. There was no answer, so she called the Loves on their cell phone. Ann Love answered. "We'll do that," she said. Charlene chatted with her for a moment and then, as an afterthought, E-mailed the Loves again: "Thank you!" It was eleven-thirty.

Trucking companies didn't work this way twenty years ago. But Roberts uses its state-of-the-art communications and computer deployment to give the shipping business a new level of precision. If your pickup location is within twenty-five miles of one of the company's express centers--and Roberts has express centers in most major North American cities--Roberts will pick up a package of almost any size within

ninety minutes, and it will do so twenty-four hours a day, seven days a week. If the cargo is located between twenty-six and fifty miles of an express center, it will be picked up within two hours. More than half of those deliveries will be made by midnight of the same day. Another twenty-five per cent will be made by eight o'clock the next morning. Ninety-six per cent of all Roberts deliveries are made within fifteen minutes of the delivery time promised when the order is placed. Because of its satellite system, the company knows precisely, within yards, where your order is at all times. The minute the computer tells her your truck is running fifteen minutes behind, Charlene or one of her colleagues will call you to work out some kind of solution. Roberts has been known to charter planes or send in Huey helicopters to rescue time-sensitive cargo stranded in traffic or in a truck that has broken down. The result is a truck-based system so efficient that Roberts estimates it can outperform air freight at distances of up to seven hundred or eight hundred miles.

Roberts, of course, isn't the only company to reinvent the delivery business over the past twenty years. In the same period, Federal Express has put together, from scratch, a network of six hundred and

forty-three planes, forty-three thousand five hundred vehicles, fourteen hundred service centers, thirty-four thousand drop boxes, and a hundred and forty-eight thousand employees--all coordinated by satellite links and organized around a series of huge, automated, bar- code-driven Willy Wonka warehouses. Federal Express was even a pioneer in the development of aircraft antifog navigational equipment: if it absolutely, positively has to get there overnight, the weather can't be allowed to get in the way.

E-commerce would be impossible without this extraordinary infrastructure. Would you care that you could order a new wardrobe with a few clicks of a mouse if the package took a couple of weeks to get to you? Lands' End has undergone three major changes over the past couple of decades. The first was the introduction of an 800 number, in 1978; the second was express delivery, in 1994; and the third was the introduction of a Web site, in 1995. The first two innovations cut the average transaction time--the time between the moment of ordering and the moment the goods are received--from three weeks to four days. The third innovation has cut the transaction time from four days to, well, four days.

It isn't just that E-commerce depends on express mail; there's a sense in which E-commerce is express mail. Right now, billions of dollars are being spent around the country on so-called "last-mile delivery systems." Companies such as Webvan, in San Francisco, or Kozmo.com, in New York, are putting together networks of trucks and delivery personnel which can reach almost any home in their area within an hour. What if Webvan or Kozmo were somehow integrated into a huge, national, Roberts-style network of connected trucks? And what if that network were in turn integrated into the operations of a direct merchant like Lands' End? There may soon come a time when a customer from Northampton could order some shirts on LandsEnd.com at the height of the Christmas rush, knowing that the retailer's computer could survey its stock, assess its warehouse capabilities, "ping" a network of thousands of trucks it has at its disposal, look up how many other orders are going to his neck of the woods, check in with his local Kozmo or Webvan, and tell him, right then and there, precisely what time it could deliver those shirts to him that evening or the next morning. It's not hard to imagine, under such a system, that Lands' End's sales would soar; the gap between the instant gratification of a real store and the delayed gratification of a virtual store would narrow even further. It would be a revolution of sorts, a revolution of satellites, probability models, people in headsets, cell phones, truckers, logistics experts, bar codes, deals with the local cheese factory, and--oh yes, the Internet.

The interesting question, of course, is why we persist in identifying the E-commerce boom as an Internet revolution. Part of the reason, perhaps, is simply the convenience of the word "Internet" as a shorthand for all the technological wizardry of the last few decades. But surely whom and what we choose to celebrate in any period of radical change says something about the things we value. This fall, for example, the Goodyear Tire & Rubber Company--a firm with sales of more than thirteen billion dollars--was dropped from the Dow Jones industrial average. After all, Goodyear runs factories, not Web sites. It is based in Akron, not in Silicon Valley. It is part of the highway highway, not the information highway. The manufacturing economy of the early twentieth century, from which Goodyear emerged, belonged to trade unions and blue-collar men.

But ours is the first economic revolution in history that the educated classes have sought to claim as wholly their own, a revolution of Kevin Kelly's "communication" and Bill Gates's "thought"--the two activities for which the Net-Geners believe themselves to be uniquely qualified. Today's talkers and thinkers value the conception of ideas, not their fulfillment. They give credit to the catalogue, but not to the postman who delivered it, or to the road he travelled on. The new economy was supposed to erase all hierarchies. Instead, it has devised another one. On the front end, there are visionaries. On the back end, there are drones.

6.

One of the very first packages ever delivered by parcel post, in 1913, was an eight-pound crate of apples sent from New Jersey to President Wilson at the White House. The symbolism of that early delivery was deliberate. When the parcel post was established, the assumption was that it would be used by farmers as a way of sending their goods cheaply and directly to customers in the city. "Let us imagine that the Gotham family," one journalist wrote at the time, immured in the city by the

demands of Father Gotham's business, knew that twice a week during the summer they could get from Farmer Ruralis, forty miles out in the country, a hamper of fresh-killed poultry, green peas, string beans, asparagus, strawberries, lettuce, cherries, summer squash, and what not; that the "sass" would be only a day from garden to table; that prices would be lower than market prices; that the cost of transportation would be only thirty-five cents in and, say, eleven cents for the empty hamper back again. Would the Gotham family be interested?

The Post Office told rural mailmen to gather the names and addresses of all those farmers along their routes who wanted to sell their produce by mail. Those lists were given to city mailmen, who delivered them along their routes, so interested customers could get in contact with interested farmers directly. Because customers wanted to know what kind of produce each farmer had to sell, local postmasters began including merchandise information on their lists, essentially creating a farm-produce mail-order catalogue. A California merchant named David Lubin proposed a scheme whereby a farmer would pick up colored cards from the post office--white for eggs, pink for chickens, yellow for butter--mark each card with his prices, and mail the cards back. If he had three chickens that week for a dollar each, he would mail three pink cards to the post office. There they would be put in a pigeonhole with all the other pink cards. Customers could come by and comparison shop, pick out the cards they liked, write their address on these cards, and have the postal clerk mail them back to the farmer. It was a pre-digital eBay. The scheme was adopted in and around Sacramento, and Congress appropriated ten thousand dollars to try a similar version of it on a large scale.

At about the same time, an assistant Postmaster General, James Blakslee, had the bright idea of putting together a fleet of parcel-post trucks, which would pick up farm produce from designated spots along the main roads and ship it directly to town. Blakslee laid out four thousand miles of produce routes around the country, to be covered by fifteen hundred parcel-post trucks. In 1918, in the system's inaugural run, four thousand day-old chicks, two hundred pounds of honey, five hundred pounds of smoked sausage, five hundred pounds of butter, and eighteen thousand eggs were carried from Lancaster, Pennsylvania, to New York City, all for $31.60 in postage. New York's Secretary of State called it "an epoch in the history of the United States and the world."

Only, it wasn't. The Post Office had devised a wonderful way of communicating between farmer and customer. But there is more to a revolution than communication, and within a few years the farm-to-table movement, which started out with such high hopes, was dead. The problem was that Blakslee's trucks began to break down, which meant that the food on board spoiled. Eggs proved hard to package, and so they often arrived damaged. Butter went rancid. In the winter of 1919-20, Blakslee collected a huge number of orders for potatoes, but, as Wayne Fuller writes in his wonderful history of the era, "RFD:The Changing Face of Rural America," the potatoes that year were scarce, and good ones even scarcer, and when Blakslee's men were able to buy them and attempted delivery, nothing but trouble followed. Some of the potatoes were spoiled to begin with; some froze in transit; prices varied, deliveries went astray, and customers complained loudly enough for Congress to hear. One harried official wrote Blakslee that he could "fill the mails with

complaints from people who have ordered potatoes from October to December."... Some people had been waiting over four months, either to have the potatoes delivered or their money refunded.

Parcel post, in the end, turned out to be something entirely different from what was originally envisioned--a means not to move farm goods from country to town but to move consumer goods from town to country. That is the first lesson from the revolution of a hundred years ago, and it's one that should give pause to all those eager to pronounce on the significance of the Internet age: the nature of revolutions is such that you never really know what they mean until they are over. The other lesson, of course, is that coming up with a new way of connecting buyers and sellers is a very fine thing, but what we care about most of all is getting our potatoes.

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