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JBN-12
EUROPE/RUSSIA

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Internet, Minitel and the Advent of the Hot Air Balloon

PARIS, France

February, 2000

By Jean Benoît Nadeau

My wife Julie and I spent Christmas of 1999 at the Marsaults, a family of friends we had first visited on Easter (see JBN-9) at their home in the Loire valley. But since all good things have to end and our lives are full of sacrifice, we were expected to leave on Boxing Day* to drive across France to the Lorraine town of Sarreguemine, where the Busches were expecting us (see JBN-11). Unfortunately, this was the morning of the highly destructive windstorm that swept the entire country and left massive destruction everywhere. Our normal route would have been via the capital, but not even the trains were running and the Paris area was in havoc. As we tried to figure out the best way, the father, Jean-Marie Marsault, disappeared in his office for a couple minutes. He came back with three sheets of paper listing the shortest routes. It was a detailed driving plan, with highway numbers, kilometers and time of driving. One route was longer in distance but shorter in time, one was shorter in distance but longer in time, and one was picturesque. All this Jean-Marie had got from his Minitel.

A Minitel machine is a work of art, a pure product of the early 1980s. This ancient French interactive contraption looks like a cross between a cellular phone, a TV and a computer, and in many ways, it is. The four-pound, beige-plastic box, equipped with a built-in handle, features a 5X7-inch grayish-glass screen protected by a collapsible brown keyboard with old-fashioned springboard keys. Its earth-tone coloring and Duran Duran look evoke those years when disco went belly-up and the resurrected Elvis was touring all his look-alike contests.

Without a doubt, Minitels are the reason the French "resisted" Internet. These ancient, low-end computers are kitsch, no doubt, but they are not yet collector's prizes, like East Germany's Trabant cars. Over 40 percent of the French, like Jean-Marie Marsault, use the six million existing machines to learn about the weather, to get their bank balances, to find the best route to Sarreguemine, to register at university or to figure out the credit ratings of their clients. For ICWA member Robert McCabe, it even picked the random numbers that won him a small sum on the lottery.

Statistics on Internet in France are deceptive. It is true that only 10 percent of the French are on Internet — one-third the British and one-fourth the German rate, and one-fourth the American — but if you factor in Minitel, the French more than hold their ground with Americans. Most techies and promoters of Internet shiver when they hear that Minitel *could be* Internet technology. Yet it is. The best analogy is aviation. Airplanes are not all there is in the air: blimps still hover over sporting events. Granted, balloons and airplanes don't rely on the

*The day after Christmas, for all ye who did not grow up in a former British dominion. It is a day when, by British tradition, England's landed gentry "boxed up" Christmas leftovers and distributed them to their tenants.



*Minitel looks like a Hershey bar with letters.
And it's got the same brains.*

same principle of physics and have different properties, but both do hang in the air, which is what aviation is all about. Internet is about on-line interactive data processing, or telematics as it used to be called in the 1980s, and so is Minitel. Minitel is slow, ugly, colorless and doesn't make a good Cyber-surfboard. Yet there are things it does better, like electronic transactions — e-trade in e-parlance. So much so that until 1997, the French produced more electronic trade inside France than Internet did worldwide. No country, no company, has developed a more efficient system for trading small amounts from consumers in a safer way.

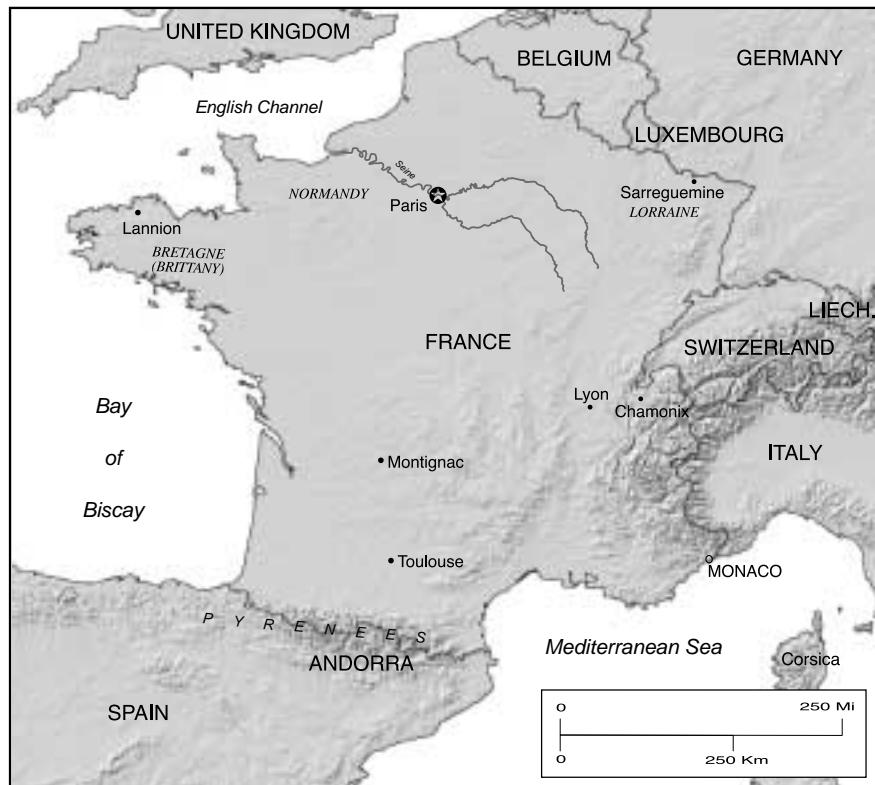
The French did not really resist Internet; they simply did not see the point. After all, they were the only country in the world with a national electronic mail system and a national electronic marketplace — long before US Vice President Al Gore made his famous speech about the electronic highway and the Internet in 1994. This is why a newsletter on the Internet in France must be about Minitel — call it respect for the elders. Why does this all sound like news when it's not? Because there are a lot of techies, computer sellers, politicians, financiers, journalists — even French journalists — who have had a vested interest in saying that the French are different, be-

hind the times, corny, anti-American and reluctant to change.

* * *

But beware, ye reader: this newsletter will glorify neither Minitel nor Internet. I have used computers for writing for 16 years and I know some of their flaws. Take the up-to-date portable PC the Institute got me for this assignment in December 1999. A funny thing happened when I took it home: it was easier to view a digital photograph on my PC than figure out how to type accented letters like *î*, and *é*, or *ê*, not to mention *ü*. You may not think this matters, until you confuse your being (*êtes*) with summers (*étés*), or cannot tell between a thing bought (*acheté*) and your buying it (*achète*). Of all the things they could imagine, the Brains in Redwood, Washington, did not think of a single easy interface to show me what keys produce what effect — or they did not think this mattered. I eventually figured there was a character map somewhere in my computer, and was forced to cut and paste, or to type a series of 8 characters simultaneously — just try it. I did ask a cousin of mine, who works for IBM. He fiddled for a half-hour until he got the *è* and the *é*, but it took me one more month to find the *î* and even more time to discover the *ü*. But then I had to figure out how to stop the computer from automatically correcting the French pronoun *dont* (of which) into “don't.” Had I not been so stubborn, I would have dropped French altogether as a language.

This À-É-Î-Ô-Ü episode shows that computers are not only a culture of their own, but carry a gigantic load of values, prejudice and processes as by-products. What



is true of a computer is ultimately true of its ultimate extension — Internet. So is it any surprise that anyone who did not speak Bill Gates' tongue was late in jumping up onto the bandwagon?

Being neither a techie nor a Luddite, I am not fanatic about the be-all and end-all Internet. My parents had not yet produced me when Marshall McLuhan, overwhelmed by TV, wrote from his global village of Toronto that the medium is the message. Having been raised partly on TV, I can be only skeptical of theories in mass communications. I do not believe that Internet is a revolution. For instance, in spite of all the hype about the famed on-line bookseller Amazon.com, it remains just a glorified mail-order scheme. Nothing more.

What about the fantastic *flexibility* of Internet? 'Tis true, Internet does bring the database to me instead of my having to go to the library, but a writer's main problem is less that of getting more information quicker than simply dealing with it. For the task of lining up intelligent words intelligently, a computer is less necessary than it seems — and a network of them even less so.

The reader will have noticed that I broach the subject with great care. You see, the very fact that I need to apologize before writing about Minitel is ample proof that a technology is not a neutral thing, but is above all a cultural object, and possibly a religion, that brings many results that were not intended in the instruction manual. Internet and Minitel are not about bits and gigabits; they are, above all, pure and simple *hommerie* (humanry), as the French would say.

* * *

Getting your own Minitel is an absolute non-event. All you need is a pulse, a French home address and a phone line. Equipped with the above-mentioned, I entered the France Telecom boutique a few blocks away from our apartment. Unfazed by my accent and reassured by my address, the clerk went to the back store room and returned with a box containing the machine. Thank you, and good bye. I had the last-minute presence of mind to ask for the Orange Pages' listing of all Minitel services. And off I went. What did it cost? Nothing. All was given, for free.

Minitel is the brainchild of Gérard Théry, an engineer who headed the *Direction générale des Télécommunications* (telecom division) of the PTT (*Poste, Téléphone et Télégraphe*) from 1974 to 1981. He is the great modernizer of French telephones. He reduced a Soviet-like waiting list of three years to a mere three days by installing 1.5 million new phone lines per year, 100 times the rate of a decade earlier! As a result, the number of phone lines tripled to 20 million in 1981.

"My assistant and I thought of Minitel during a short flight from London to Paris, in 1977," says Théry, whom Institute of Current World Affairs

I met at a round-table on technology. Both men were returning from a British Post Office presentation showcasing Prestel, a new interactive technology. Microchips were new then, and all phone companies showed off projects to competitors. Théry, like all the others, dreamed of ways to transmit images and text over phone wires. Prestel, which featured a very simple remote control linked by wire to a TV, was the most impressive success of the time in telematics, but Théry could see the flaws. "We reasoned, 'Who wants to interrupt their TV show to check the weather?' Besides, a TV was six thousand francs then, and not many French households had TVs.' Prestel was also too rigid for our taste: its remote control could only scroll pre-set pages."

True telematics, in their view, should involve a real keyboard that could start a word search in a database and show the results, but it should remain as easy to use as the telephone, as reliable and as cheap. "We needed a machine costing as little as six hundred francs [U.S.\$100] per unit. Such low cost could only be attained with a massive order in the millions, and the machines would have to be given to consumers. A huge national data base of phone numbers accessible by Minitel would save us the 40,000 tons of paper it cost to print those damn phone books." It is not as simple as it sounds, and it took them four years to put it together.

A Minitel could be this cheap because it's not really a computer, as we understand it. Microcomputers are stand-alone devices with a processing capacity of their own. Minitel machines don't have a processing capacity: the power is all in the switching centers, just like a phone would be nothing without the network. The idea of giving away millions of low-end computers costing about



My Minitel poses with the Paris phone books it was supposed to replace in the first place. The original scheme was 30 million Minitels and no more phone books. Twenty years later, the score is six million Minitels and more phone books than ever. Technology never does what it's supposed to do.

100 dollars each was not so foolhardy: Polaroid sold cameras at a loss in order to sell more of its costly films. Gillette did the same with razors to sell blades. And nowadays, cellular phone companies give away phones in order to generate traffic.

The other factor that made Minitel possible was that the French network was in full modernizing swing, completely centralized, under unified standards. Since the PTT was the government, it was not bogged down by contradictory regulations: it was the law. By contrast, big countries like Canada and the United States were a patchwork of standards. In the case of the US, the dismantling of AT&T in 1974 under the anti-trust law created regulations that prevented regional phone companies from transporting data.

* * *

Once I got my Minitel machine out of the box, starting it up was easy. It takes five seconds to plug it in, turn it on and be on-line. There is no downloading time — just like a telephone. No programming, no interface, no ugly wires, no modem. Tuning a radio can be more of a hassle.

For the French, the great symbol of Minitel is not the @, it's 36. All Minitel service numbers start with the prefix 36, followed by two other digits from 13 to 19, that give the price range of the service, and then four or more capital letters that stand for the name of the service. 3615 AAVOYANT takes you to astrology service for 2.23 FF (40 cents) per minute. For half that price, 3615 CHAMONIX allows you to rent a room in a ski resort in Chamonix. 3617 COUVRETOI (cover yourself) sells condoms for 5.53 FF per minute. 3617 RJLJ gives you the names of bankrupt businesses. This is not forgetting the weather report, or the sex chatlines known as *Minitel rose* (pink Minitel).

In all, 25,000 Minitel service providers generate an annual business of six billion FF (U.S.\$1 billion). This excludes the untold number of private transactions between individuals or companies for the exchange of goods — another six to nine billion FF for a total of 12 to 15 billion. All proportions considered, and with some qualifications, this is equal to statistics on electronic trade in the United States.¹

Although Minitel is a product of a centralized, *dirigiste* economy, the French did something very atypical: they left control of content to external service providers, which no other country deemed reasonable then. This revolutionary idea, like all revolutionary ideas, was the result of a political tug of war between the *Direction*

générale des Télécommunications and the press, which was opposed to telematics.

The polemic dated back to a 1979 speech by Gérard Théry in Dallas, during which he announced that French telematics would revolutionize telecom and would mark the “end of the paper civilization.” The French press did not like to hear this, especially since it suspected the PTT of trying to get a hold on their lucrative classified-ads market. This kind of corporate reaction is not inherently French: five years earlier, the US press had insisted that regional phone companies be forbidden to transmit data for the same protective purpose.

The miracle was that the PTT's telecom division overcame the objection by giving the press a monopoly on Minitel service. From then on, all service providers had to be registered publications, or had to get their license from a registered publication. But then one influential publisher, Hachette, cut the cards one more time: they agreed to be a service provider, but on condition that their information would not go in the phone company's computers, but stay in their own. This forced the PTT to come up with a way of making its own computing centers compatible with external computers. This was a first, and it forced the concept of service provider into existence. The PTT quickly saw the advantage of it: service providers paid for their own capacity and the phone company did what it did best, that is, transmitting. This is exactly the structure of the Internet nowadays.

“I did not choose Minitel but I saved the system,” explains Jacques Dondoux, ex-minister of Trade (1997-99) who became Théry's successor as head of the Telecom division after the Socialists were elected in 1981. Dondoux made two crucial decisions. He first decided that Minitel rates would be fixed, no matter the distance or the hour of the call. One rate for all of France. The other decision was to make it work like a newsstand: no names asked, no subscription, pay-per-use only. Users wouldn't need to give their names to access a service and be charged, they would simply get on line, the rate would be added to their phone bill, and the phone company would redistribute the proceeds to the service provider minus a cut of about 30 percent. No questions asked: You're in, the meter runs, you're out.

Minitel was officially launched in 1982. Six years later there were already 3.5 million Minitel machines out there, 6.5 million in 1994 — in addition to half a million home computers that had Minitel software. Minitel's success was not overnight. It took off around 1984 by not doing at all what it was expected to do. People cared little for its database; the big craze was the electronic-message feature. Soon, a certain *Peggy-la-cochon* (Dirty Peggy) was

¹ Enthusiastic estimates of e-trade for the US go as high as 100 billion dollars, but this number is largely inflated by internal trade between different branches of the same company and/or by what used to be called Electronic Data Exchange, which has nothing to do with Internet. Sales to consumers are no more than one tenth of the total. Naturally, this excludes the sales of computers, of software, or web-site designs.

the hit of *Minitel rose*. Only the Internet ten years later matched the rage for on-line sex chatlines, that the French experienced in the 1980s. Sex chatlines multiplied, to the point where they accounted for 25 percent of traffic in 1988 (down to five percent ten years later). Soon Minitel developed its own culture, and anyone who was a somebody had a BAL - *boîte aux lettres* (mailbox). Some publications, like *Le Parisien Libéré*, derived 10 percent of their income from on-line services, and it is well known that newsmagazine *Le Nouvel Observateur* was actually saved from financial ruin by the success of *le Minitel rose*.

* * *

"I'm the biggest Minitel entrepreneur and the guy who made the most profit with on-line business, even when you consider Internet," says Louis Roncin, the president of AGL, whom I visited in his Paris office. In all, he runs about 200 Minitel services, ranging from astrology services² to credit ratings to lists of legal judgments. He won't disclose his annual sales, but it's easy to make a minimal estimate of 85 million dollars per year³, not counting the other business it has helped generate. For instance, his Minitel classified service is the basis for a paper publication called *J'annonce* (I advertise). "Clients enter their own ads themselves. We are eight times more efficient that way."

Roncin got interested in database exchange when he was a young computer engineer in California in 1969. Database services were slow, but they sold the information at the rate of \$100 per hour. Knowing that computer technology was fast improving, Roncin quickly grasped the amount of money that could be made with database services and he started his own company. It did not take him long to jump onto the bandwagon of Minitel and figure out the rules of the game.

Aside from entrepreneurial savvy, the Minitel scheme worked commercially because the French are remarkably tolerant to pricing. In the logic of government services, clients don't even pay: they are "surcharged" according to six different rates that go from 1.10 FF per minute to an outrageous 9 FF per minute (U.S.\$1.50), although most services charge 2.23 FF or 5.53 FF per minute. This is the equivalent of having a taximeter on your shopping cart. Most Americans prefer paying by the unit, but the French went along with this taximeter scheme. Which is odd, in a way, because the French are remarkably thrifty and can go a very long way to save a franc — without ever appearing to do so, mind you! But when a government ser-



Patrice Aron here with daughter Lucie and son Olivier. This editor of a computer magazine jumped the fence and now works for a computer firm. When asked why the French never convinced any other country to adopt Minitel, he replied, "It could work only in France."

vice tells them it's 1 FF per minute to know their rights, they fold.

Service providers liked the simplicity of this money-printing machine. Naturally, they got good at creating Minitel sites that made people waste time, which is why I don't like Minitel myself. The crudest gouge consists of providing multiple pages. Another way is offering little or no research possibility. For instance, I tried to get an article from *Libération's* Minitel database on the topic of speleology, but the search engine didn't allow me to restrict my search to particular publications. Rather, it produced a list of 697 articles with the word speleology in them. At the rate of 5.53 FF per minute, it cost me 100 FF to figure out that I hated all on-line services anyway.

* * *

In spite of Minitel's early success, France became a sort of Lost World of on-line data processing because they never managed to sell their little wonder to anyone else. "Minitel could work only in France," says Patrice Aron, a journalist and editor of a few Internet publications. "No other phone utility in the world had a centralized, technically advanced system, total control over regulations, a price-tolerant crowd, a pay-per-call system for domestic calls and the financial leverage to distribute millions of machines for free!"

The other reason is that Minitel was already obsolete when the PTT tried to sell the idea abroad. French ser-

²His astrologer has been dead for four years but this apparently doesn't stop her from telling the future.

³Roncin claims to handle six million calls per month lasting on average five minutes — based on overall France Telecom statistics — for a total of 30 million minutes, or half a million hours. His cut from France Telecom is 86 FF per hour. Multiply by 12 months and that gives one billion FF per year, or 85 million dollars.



On-line reporter Michel Puech is convinced that the opposition between Minitel and the Internet is a great cultural misunderstanding. "They both have flaws, they both have qualities, but telematics is neither one or the other: it's both."

vice providers, for instance, would have liked to have the machines upgraded to feature more functions, more processing capacity and more speed — even color. This would have made sense, since the PTT's scheme had been partly to stimulate the French electronics industry. The problem was that Minitel cost a lot — in all, 10 billion FF, which would not be repaid fully until 1998. Sure, a lot of cash passed through the PTT, but its own cut was only 30 percent. Besides, phone books never disappeared, as expected, and the savings on paper were not what they were supposed to be. The PTT's refusal to upgrade the 1982 machines to 1990s standards explains why the system did not appeal to foreign decision-makers. As a consequence, Minitel was too far behind technically to be rolled into the general Internet, where it belonged, when this technology surged onto the scene in the mid-1990s.⁴

But nobody foresaw this in the late 1980s. The French did try to sell Minitel internationally to add to their own domestic electronics production, but other phone utilities and companies did not want to buy an obsolescent French system. The PTT eventually woke up and tried to develop an inter-network protocol called Minitelnet, which would allow Minitel users to communicate with other national telematics systems in Japan, Britain, Switzerland and Italy. It did not have

much success, mostly because no other country had the capacity or will to create a national telematics system equivalent to that of Minitel — the British Prestel never sold more than 150,000 machines.

What the French did not have was a big domestic market — until 1992, Europe had been mostly a customs union, and state monopolies were deeply entrenched. The key market for Minitel would have been the United States, but the Americans never took to Minitel for the same reason that the French were to be defiant of the Internet in the mid 1990s: it was not national. American decision-makers did not like the French idea of a telematics network based on low-end, giveaway machines, primarily because companies like IBM needed to sell lots of home computers at 100 times the price. Americans preferred powerful, bulky machines that could do

something outside a network. Besides, database companies like Compuserve and America on Line already had a couple of million subscribers, some of whom were involved in a network of networks called Internet.⁵

* * *

"Minitel and Internet are all telematics. Opposing both is just one big misunderstanding!" says reporter Michel Puech.

Late in my research for this newsletter, I came across Michel Puech, one of France's best-informed journalists on Internet and Minitel. In the 1980s, before becoming partly blind, Michel ran a photo agency and got interested in interactive technology as the best way to sell pictures and text. He began to research the question, first as a dilettante, later out of professional interest. Around 1986 he discovered that he could plug in his home computer on-line, in parallel to his Minitel. He began roaming cyberspace under the codename of Tchernob. To him, both Minitel and Internet had merits and flaws, but he saw the makings of what he calls the Big Misunderstanding. He even played a part in it.

The story begins in 1989. One day, a young Ameri-

⁴ During the early 1990's, France Telecom did try to upgrade Minitel by selling faster machines with more functions and additional memory, but few consumers bought them and the Minitel concept, which had been based on give-a-way, low-end computers, never really mutated.

⁵ Americans needed a network of networks because the technical landscape in the United States was a patchwork of standards and contradictory regulations that resulted from the dismantling of ATT in 1974. In fact, the Internet began as an interactive technology designed to clandestinely bypass those obstacles. Literally, it means inter-networks and was designed to be a network of networks.

can showed up at the meeting place of a small association of French on-line journalists, to which Michel belonged. The young American was doing his Masters thesis on interactive journalism and had some questions to ask. Naturally, this flattered the people present, whom colleagues of the established press generally snubbed. That an American was interested in them was proof of something. For months, the young man asked questions about data processing and learned about such things as a “search engine,” “service providers” and “electronic highway” — things that were familiar to the French back in those years. Then the young American went home. His name was David Lytel.

Michel saw him once more in 1994, after Lytel had become Vice President Al Gore’s adviser on the information highway. It was at a product demonstration in the basement of a bank, near the *Arc de Triomphe*, where 150 Minitel entrepreneurs and some journalists had been invited — Michel among them. The product being showcased was Netscape, a new search engine that would revolutionize the Internet. In fact, without Netscape, Internet would have remained the kingdom of technogeeks, scholars and techies, and would never have invaded mainstream culture. David Lytel was there as keynote speaker.

It was a slick presentation, American style, and the general tone was, “Lo and Behold! America Cometh!” The host said:

“Let’s find a pizzeria in Santa Monica and order a Large Pepperoni...”

“Yeah, sure, right, like on Minitel,” yelled Michel from the back of the room.

An operator fiddled until he got the order in. Then the host said:

“It’s my mother’s birthday, let’s get a bouquet for her in Santa Barbara...”

“Yeah, sure, right! Like on Minitel!” yelled a dozen voices.

Then the host expressed the desire to write an E-mail to his mother. This time, the entire room chanted:

“Yeah, sure, right! Like on Minitel!”

The demonstration stopped soon after when the powerful Sun computer crashed.

“Unlike Minitel!” laughed the crowd.

After the presentation, David Lytel came on stage for his speech. During the question period, Michel Puech made his presence known, using his code name.

“David, this is Tchernov. Why don’t you say to these

men that they are the ones who invented all of this?”

At the end of the presentation, Michel Puech was making his way out in the crowd, when David Lytel stepped in front of him with bodyguards on each side.

“Tchernov! I should have been warned earlier.”

“That’s alright, David. I understand. But tell me, what happened with your thesis?”

“Well, Michel, I’ll tell you: I was on a mission...”

* * *

Aside from the sheer weight of Minitel, one reason the Internet did not become a hot ticket in France before last year was the dominant position of France Telecom — as the PTT’s telecom division came to be known after its separation from *la Poste* in 1991. The pride of people at France Telecom was hurt by the fact that the Americans could repackage what they felt as their idea, and convince the world to go for the glitzy, slick WWW. Besides, the free Internet threatened France Telecom’s hold on the six-billion-FF cash cow of Minitel business — and especially its 30 percent cut — at a time when Minitel was not yet fully repaid. All this seemed ample justification for a denigration campaign, and France Telecom executives were heard on TV saying that Internet was a network for pedophiles, sex maniacs and pornographers — all things exclusively Anglo-Saxon, as we all know.

Whatever the people at France Telecom said or thought, the Internet would have made it much faster if Minitel entrepreneurs and the population in general had not remained *sur leur quant-à-soi* (reserved).

Minitel entrepreneurs showed little enthusiasm for the Internet. With reason. Trust is a cardinal virtue in business, and North Americans generally give it openly from the start. This is not the case of the average European, especially the French. They talk business when they know with whom they’re dealing. Even for small operations like closing a bank account, a bank clerk is likely to ask you for a hand-written letter of request. So you can imagine why the French like Minitel: France Telecom vouches for the collection of the money and for the existence of the client. None of this exists on the Internet, which forces you to create an Internet account to manage your online affairs. Two years ago, there existed no foolproof method of making transactions secure on Internet, and there is no universally accepted one even today. The Internet is not yet an efficient way to collect a dollar here, six dollars there from anonymous users the way Minitel is. So the Minitel entrepreneurs’ wait-and-see attitude made sense.

The French were remotely interested in the Internet, as they were in home computers in general. It should be plain to the reader, at this stage, that the Internet was

already well known to French scientists and techies long before the World Wide Web entered the global mainstream. But the French public remained reluctant. The high rates for domestic calls — up to 16 FF per hour — and the absence of fixed monthly fees were certainly detrimental. So was the language question. There is nothing exceptional in this. For all the fuss made about a web-user's capacity to surf the world, most American users stick to American sites.

More importantly, the French are relatively slow at pioneering new technologies, to the point that Minitel was, historically, a rare case of initial enthusiastic response. Generations of sociologists still wonder why the French did not adopt color TV, the microwave oven or the telephone as fast as Germans, British, Dutch or Italians. Statistics show that the French buy fewer home computers than the British or the Germans even today. As a result, relatively few French households had what it took to go on-line when the big Internet craze began in 1994.

The epitome of French reluctance is not the Internet, but the telephone. In the late 1950s, only one household in five had a telephone, and polls showed that most people without phones did not resent this and felt there were sufficient other ways to communicate with one another. Subscriptions were extremely expensive, and you could still find government officials who maintained that lines should not be installed until there was proven demand for them. Just how you prove demand for something that doesn't exist is not clear. "Yet, and this is what's odd, twenty years later, eighty percent of households had a line," says Catherine Bertho-Lavenir, author of a book on French telecommunications.⁶ "Demand was so sudden that the PTT had to multiply the number of lines six-fold over twenty years."

"We saw exactly the same thing with the cellular phone," explains her husband, Jean-Claude Lavenir, who was assistant to the head of the PTT's telecom division in the mid-1980s. At the time, they calculated that the number of mobile phones in France would reach about two million by 1994. It turned out to be half that, but it suddenly doubled every year to reach 20 million in 1999 and possibly 30 million in 2000.⁷

The year of Internet in France was 1999. The percentage of the population using the technology doubled from five to ten percent. Not a day went by, it seemed, without mention of new start-up companies dealing with the Internet. The most enthusiastic Internet monger in France is now France Telecom, which suddenly realized that



*Catherine Bertho-Lavenir wrote a ground-breaking book on the history of telecom in France, *Télégraphes & Téléphones*. "The spreading of one technology doesn't depend on degree of advancement. It results from a trade-off between people who decide: consumers, industrialists, legislators. For Minitel, it worked splendidly."*

Internet might be a good way to sell even more phone time at outrageous rates with little investment. It created its own web service called Wanadoo (JBN-5), now #1 in France, and is buying companies like crazy, like on-line bookseller Alapage, the French version of Amazon. France Telecom adapted its new image to the Internet and is considering issuing separate Wanadoo shares on the Paris Bourse. Greed can work wonders.

In spite of all this, good ol' Minitels are still around and working. In Sarlat, a little town south of Limoges famous for *foie gras* and *truffles*, I met a shopkeeper who swore only by Minitel, and barely had a notion of what he could do better with Internet. "I use it to search the credit history of a supplier or a client." But you need not go this far: there are Minitels everywhere and they don't collect dust. Catherine Bertho-Lavenir, an early user of Internet, still prefers Minitel to get a train ticket or access

⁶Few French historians care about the history of technology and especially telecommunications, but Catherine Bertho-Lavenir is an exception. Her book, *Télégraphes & Téléphones, de Valmy au microprocesseur* (Le Livre de Poche, 1981), makes a compelling and entertaining story starting with the 1792 optic telegraph, to Minitel today.

⁷The reason why cellular phones are more prevalent these days in France has to do with billing. In North America, it is the owner of a mobile phone who pays for calls sent and received. In France, where the entire billing system is designed to have the caller pay, it was easy to apply the same logic to the cellular phone. The result: It is the person calling in to a cellular phone who pays. That is one incentive for owning one.

her bank account. "It's faster and there is no downloading time."

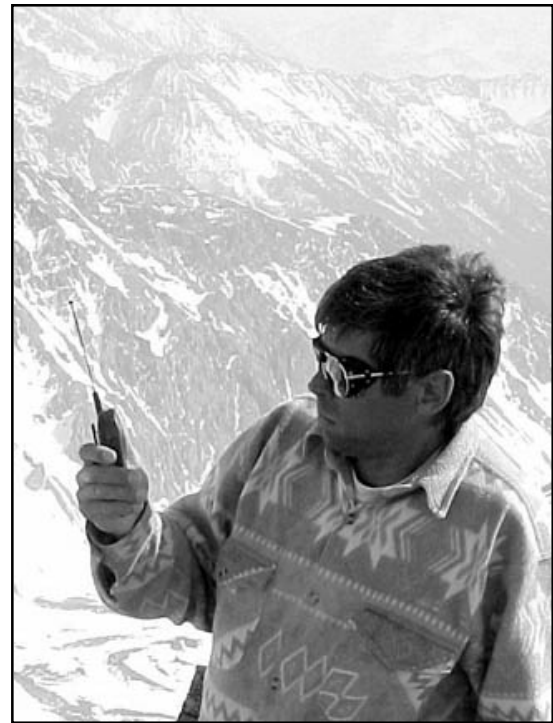
France Telecom's shift in attitude on Internet is likely related to the fact that Internet doesn't mean the overnight end of cash-cow Minitel. "To everyone's surprise, even mine, Minitel doesn't decline in spite of the fact that the use of Internet has doubled in 1999," says Louis Roncin, who is currently converting some of his business into the Internet, but not all. Statistics even show a slight rise of Minitel use in 1999. Minitel users hardly surf and chat any more, but they use it for quick transactions, and they have become good at getting the most out of it quickly. "But Minitel is clearly not the future any more, either," says Roncin, who created an Internet day-trading service, Directe Finance, that manages some 1.3 billion FF in capital on the stock exchange.

* * *

Does it matter that the French adopted the Internet in 1999 rather than 1994?

In the big scheme of things, probably not.

It seems that history is constantly shifting between late starters and early starters. Consider the history of aviation. In 1890, Frenchman Clément Ader created the first steam-powered airplane that took off on its own power, even if ever so slightly. Thirteen years later, Orville Wright made a flea jump with his Flyer and then developed the habit of flying around to the general indifference of American industrialists, who waited until WWI to really exploit the potential. The Wright brothers found interest in France, which developed a lively aviation industry that still holds its ground today. Meanwhile, the Germans paid little attention to this agitation and concerned themselves with balloon technology. They got the



My guide in the Alps, Jean-François Triccard, with the ubiquitous cellular phone. Call him any time.

Zeppelin. This did not prevent them, 40 years later, to make mincemeat of the Poles, the French and the Russians because they had figured out what air power was all about.

Regarding Internet, the issue is not whether 25 or 37 percent of the French, or of any people, are on it. The issue is what people and countries do with it. Americans were quick to grasp the potential of the Internet for distribution and broadcast, and the importance of copyright in the exploitation of this new media. That kind of reflex has nothing to do with the Internet: it's cultural. But it



Louis Roncin, the king of telematics. "I'm the guy who made the most money with on-line business."

does bring funny results. In the visual arts, for instance, the French almost sold away rights for the exclusive digital use of the entire contents of the Louvre — to Microsoft! “Fortunately, one obscure civil servant realized what was happening and stopped the deal!” says Philippe Quéau, (See JBN-6) head of computer development programs at UNESCO, and one of the men most aware of the collision in values that technologies, new or old, provoke.

There is a lot at stake in the adoption of technologies: not only do whole industries depend on them, but effective control of one’s economy and even culture also does. At a recent summit of European ministers, participants realized that Europe lacked an aggressive policy to develop new technologies and reward technological initiatives of all kinds. Maybe they’re late; maybe they’re not. What is certain is that Europe, with a strong penetration of mobile phones operating on a uniform standard, is well placed for the development of the next generation of on-line services: mobile Internet.

No wonder that the French, having failed to export Minitel, are fighting the winner-takes-all logic of today’s wired world. “Cultural choices have to be made, and we cannot let markets do them,” says Philippe Quéau. This said, European lawmakers are busy finding ways to protect individuals from penetration and theft of personal data, which makes a lot of sense. Americans, who rely on personal-data transactions to develop a free, commercially viable Internet, call this protectionism. Another example is free speech: the French have laws against hateful propaganda. These collide with the first amendment of the American constitution, which protects free speech. “Information technology forces us to come up with a concept of the common good. That’s what it’s all about: it’s not about bits and bytes.”

No wonder that the secretive battles to establish standards can be so nasty: they can be more effective than a



The efficiency of French mail is another disincentive for the Internet. Mail is delivered twice a day. A letter mailed in the morning will get to another Frenchman in the afternoon, or on the next day.

tank division. Just consider the development of electronic trade. Finding a convincingly reliable and universally accepted mode of payment remains the major obstacle for the development of a viable consumer market. Guess who runs the most reliable and universal mode of payment? The French, with their smart-card schemes in phoning and banking. Smart cards are plastic cards equipped with microchips, which contain more information in a more secure way than a magnetic band. French public phone booths have been running on these for 20 years, and French banks took to them 10 years ago. There are 30 million such banking cards in France and they work splendidly. But the US and France are battling in the backrooms of the International Standard Organization about the exact position of the microchip on a smart card. The Americans want it just a few millimeters away from where the French put it...

It takes exactly 3.5 millimeters to create a Lost World. □



This picture is not about Roman Polanski but about smartcards. The microchip that makes them “smart” is the small rectangle at the bottom.

They should have been called Greedycards, since they are primarily a financial scheme. People pay in advance for three hours of telephone calls and France Telecom cashes in on the interest. Smart.

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ICWA Letters (ISSN 1083-4273) are published by the Institute of Current World Affairs Inc., a 501(c)(3) exempt operating foundation incorporated in New York State with offices located at 4 West Wheelock Street, Hanover, NH 03755. The letters are provided free of charge to members of ICWA and are available to libraries and professional researchers by subscription.

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INSTITUTE OF CURRENT WORLD AFFAIRS — FELLOWS AND THEIR ACTIVITIES —

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Whitney Mason. A freelance print and television journalist, Whit began his career by founding a newspaper called The Siberian Review in Novosibirsk in 1991, then worked as an editor of the Vladivostok News and wrote for *Asiaweek* magazine in Hong Kong. In 1995 he switched to radio- and video-journalism, working in Bosnia and Korea for CBS. As an ICWA Fellow, he is studying and writing about Turkey's role as nexus between East and West, and between traditional and secular Islam. [EUROPE/RUSSIA]

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