

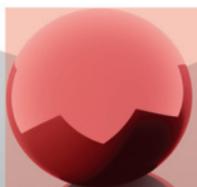


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CONVERGENCE LETTER

Railroad or steam

The day telecoms disappear



N°29

To get there. Together.

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June 2012: France's Minitel will be withdrawn completely. October 2012: the UK's own Teletext system, Ceefax, will be shut down. Some will say this is the end of an era, others that this is the natural course of telecom development. Minitel or Teletext's demise is not just a moment to reflect on the industrial adventure these systems represent, but to take an in-depth look at the fate of telecoms, the foundation of the third industrial revolution. Can we consider them to be the steam – the mastery of which was the basis of the first industrial revolution – or the railroads – the foundation of a new economic sector? Clearly telecoms have introduced a phenomenon of convergence, not in a purely telecom sense (landline – mobile – internet) but in an economic sense where barriers between economic sectors have disappeared. So in a few years, when this convergence has taken over, what role will the telecoms sector actually have? Three scenarios are possible: steam, railroads or subliminal catalyst.

■ **Let's look at the first scenario.** Telecoms become so banal that they no longer represent much in the economy. This idea is not new: it has been the subject of debate since the 90s when the idea of telecom commoditisation appeared. This neologism hides a fairly simple economic mechanism. Telecoms (i.e. transport and distribution of and access to voice and data) become a commodity: they lose much of their value and are a largely substitutable good or service. In this case, the telecoms would become a banal sector that has far less a role in innovation and transformation

than in the past... but would still be considered the vector of the third industrial revolution which was based on the development of an entire sector dedicated to information transportation. The outlines and vehicles of the information transportation sector are still unclear today but telecoms are a key player. Going back to our analogy, telecoms are the steam of this particular industrial revolution.

■ **In the second scenario, telecom sector companies' ability to make a come back (R&D investments, strategic partnerships and marketing prowess) will allow telecoms to continue on the same path and to reinforce their vital role in (r)evolutions in the years to come.** Telecoms can be considered an important element of every day life and not simply a "utility". The mobile phone has gone from being an elitist object of the 80s to a real object of pleasure or even freedom. If some are busy having fun developing ideas like communicative clothing or fridges, telecoms will also be playing a role in the exploration of new territories like the oceans and space. Back on earth, other projects that have already seen the light of day illustrate the key role telecoms can play in numerous different industrial sectors. Vast programmes of urban development have been launched in developing countries, around the Mediterranean basin, in the Gulf and in Asia. These projects aim to build ready to use *smart cities*: they reach out to the expertise of international telecoms suppliers for special telephonic and Internet solutions. In this case, far from being considered a mere commodity, tele-

coms will become an essential building block for every area of the economy and even an invaluable tool with which to conquer new territories, rather like the railroads were in the American far west!

■ **The third scenario goes even further.** Today, telecoms answer a strong need for exchanging information in real time. This phrase came into its own with Bell and then services, content, material, terminals and applications were added to the equation. Telecoms are perhaps simply a stage on the journey towards even greater dematerialisation, the ultimate case being that of the human body or thought... teleporting such as imagined in classics like Star Trek! Telecoms bring together all the different technologies able to transfer dematerialised information. And in this case, the issue isn't so much the material used (yesterday it was the landline, today it's the PC and mobile phone, tomorrow clothing and after tomorrow neurons), but more the methods used to create these exchanges without the physical constraint of the speed of light. If things evolve this way, terminals will fast be outpaced. The possibilities are endless especially if the sector's economy means large groups can continue to invest. After several more long decades of development, innovation and societal change, a day will come when telecoms will be so intrinsically linked to our everyday life that they will be invisible. Information highways powered by steam... in physics this is known as sublimation. In chemistry telecoms would be considered the catalysts

of these changes that are going to affect companies as well as individuals... but just like steam today has a less direct influence on the economy, after their initial success, telecoms will gradually evaporate too!

■ **Between steam, railroads and sublimation, the future of telecoms is a variable geometry.** And this is the downside of being the economic sector at the heart of convergence. The Minitel or Teletext case, both major technological and societal innovations, is a good illustration of this point. Minitel, created a huge life-size laboratory of converging usages on a countrywide scale: the majority of uses anticipated in the 70s by French state laboratories are ones that we still talk about today. Using material for distance learning or medical imagery were already being discussed then; the usages and eco-system that appeared in the 80s via the public sector (from patent registration to Baccalaureate results on the Minitel) or private sector (adult content, mail order via Minitel, directories etc.) were all rapidly reproduced on the internet. As far as the idea that the existence of Minitel meant the French were slower to switch to the internet might have been true in the 90s, but don't forget that 10 years on, they are ahead of the game in broadband Internet and social networks usage. Minitel is in fact leaving its place to allow other actors to develop. The telecoms sector is one which sees far quicker renewal and reinvention than others. Motorola developed the mobile phone that was

then overtaken by Nokia in the 90s and in turn beaten back by Apple. AltaVista and Yahoo yielded to Google while MySpace just couldn't stand up to Facebook, or Palm Pilot to Blackberry and then the iPhone. And each wave only lasts about 5 to 10 years; an incredibly fast pace rarely seen in any other economic sector.

From this tornado, these births, deaths and rebirths, is meant to emerge what telecoms have brought to the world's economy via this phenomenon of convergence: the creation of a new economic sector. The first industrial revolution helped develop large scale transportation of goods both fast and far, the second was human transportation. Clearly today's third industrial revolution will be that of the transportation of dematerialised information but it is still early days before we know whether the Fords or General Electrics of the 2050s will be called Facebook, Apple or any other name of a company whose founder hasn't yet been born. Whether they were the steam, the railroad or the subliminal catalyst for this new activity, it is clear that telecoms will have played a pivotal role in this revolution.

■ **This fast paced change would seem to indicate that time is speeding up.** Paradoxically, every industrial revolution has had a short cycle of try outs or errors, but history and long cycles are part of a centennial approach. We are at the beginning of history. Previous revolutions had their load of experiments. The

Teletexts or 3615 Minitel numbers hark back to the cotton factories or dynamo workshops from past centuries. 150 years on they have been somewhat forgotten, and yet, like the teleservice pioneers or taxable telephone numbers, they were an essential step on the path to maturation. In the same vein, we are not at the end of an era but at a stage of convergence... and new ones are already being written.

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