

Jeremie Averous

# The Fourth Revolution Manifesto

- Part II -

**Cheap long distance  
interactive  
communication is  
NEW**

# The Fourth Revolution is a one-in-a-centuries opportunity. What about becoming part of the new elite?



A Revolution is an opportunity: to become part of the new social leadership. This manifesto contains invaluable advice and direction as to the behaviors and skills to succeed and thrive through the world's transformation.

The Fourth Revolution is one of the few moments in humankind history where our world understanding and our society are completely redefined.

The Fourth Revolution has already ignited.

The manifesto explains the deep causes of the current changes of the world. What can we do to grasp the opportunity and build the world we want ?

**Contribute to build our world**  
Connect and participate on  
[www.thefourthrevolution.org](http://www.thefourthrevolution.org)

*Jérémie Averous is a senior executive, trainer, certified coach. He likes to describe himself as a K.E.E.N, a Knowledge Enhancer Exchanging Networker, the typical member of the new international nomadic community.*



# The Fourth Revolution Manifesto Reference



To make it easier for online consultation and download, the Fourth Revolution Manifesto has been split in 8 parts

Part I	A short history of humankind – 100,000 years in 3 Revolutions
<b>Part II</b>	<b>Cheap long distance interactive communication is new and transforms our collective cognitive capability</b>
Part III	The Collaborative Age value system: how the collective cognitive capability of humankind is again transformed
Part IV	Four precursors of the Fourth Revolution – events and discoveries at odds with the Industrial Age model in the 20 <sup>th</sup> century
Part V	The Organization Revolution: from efficiency- management to effectiveness- leadership
Part VI	Four institutions that will be deeply transformed
Part VII	Four keys to success in the Collaborative Age: new insights, practices and skills
Part VIII	Your Choice. And why YOU are important for the Fourth Revolution.



# The Fourth Revolution Manifesto

## Part II - Contents



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# Introduction

**Why 'long distance'  
and 'interactivity' are  
important**

# Introduction

## Long distance and interactivity



Since the invention of Speech, **interactive communication** is possible at **very short distance**. Complete with body language and tone of voice, it is a very rich communication capability, able to transmit many nuances.

**Interactivity** is very important because it allows to correct a misunderstanding on the spot by questions and answers. It allows a much higher communication quality.



Beyond speaking distance, communication needs to use other technologies. Progressively over time, many technologies became available. These technologies varied in terms of communication range (distance), and in terms of grade of content density and interactivity.

# Introduction

## Long distance and interactivity



Over time, long distance communication technologies with low interactivity developed, like writing and sending messages by post.

Other technologies developed to allow interactive communication at short distances beyond speaking distance, like the telephone before 1920, which was limited to short distance communication.

**It is only in the past 20 years that technologies allowing cheap, interactive long distance communication became available.**

**This is unprecedented.**

**This is the foundation of  
the Fourth Revolution.**

A group of indigenous people, including a man in traditional headdress and a woman, gathered around a laptop computer held by a man in the foreground. The scene is set in a natural, outdoor environment. The man in the foreground is wearing a large, ornate headdress with feathers and a fur-like top. He is holding a silver laptop computer. Other people, including a woman and children, are looking at the laptop with interest. The background shows a rustic structure and lush greenery.

# Short history of long distance communication

**Communication  
technologies over time**



# Short history of interactive communication



It all started with the messenger...

The messenger carried a message over distance. First it was just spoken words about some news, or a memorized message.

Writing allowed to have the messenger carry a message that could even be encrypted.

In all cases messages could not travel faster than the messenger could travel.

Message transmittal was still something of a miracle: in Antiquity, there was a Messenger God carrying winged sandals: Hermes of the Greeks and Mercury of the Romans.



# Short history of interactive communication



And it continued with the messenger...

Empires and kingdoms were aware of the strategic imperative of long distance communication. They developed special messenger services for their usage. Resources were spent to allow quicker messenger travel with postal routes and regular relays where they could find fresh horses.

The Mongol's messenger service was a model. Still the news of the death of Gengis Khan took 4 to 6 weeks to reach Europe.



# Short history of interactive communication



In the 19<sup>th</sup> Century, postal service got organized to be available to the general public. Before, it was a service maintained mainly for government purposes and private people could use it only in exceptional cases.



The stamp was invented in 1840 to allow easier preparation of letters. This is a definite sign of the industrialization of the post service.

Letters still got carried by messengers.



PONY EXPRESS

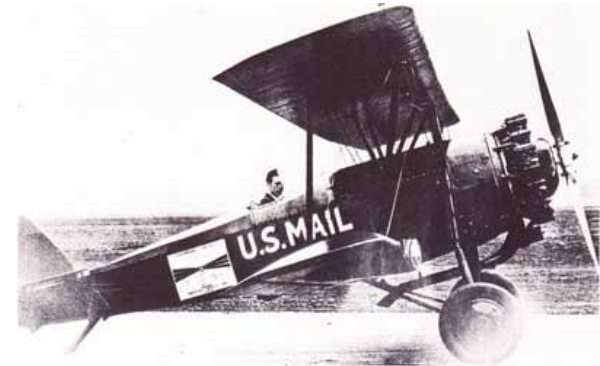
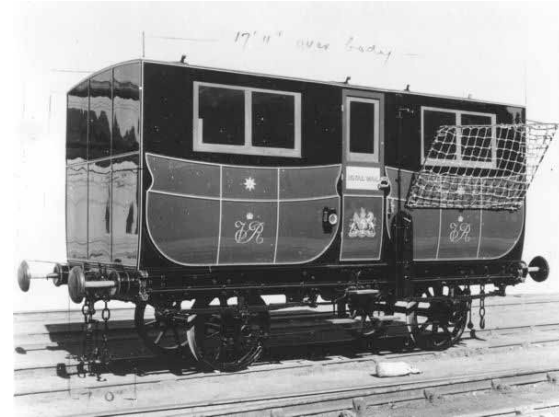
# Short history of interactive communication

Postal service would continue to grow.

It would take any possible opportunity to use modern travel technology to shorten the travel time: railroads, steam ships, and aircrafts got used extensively from their early days for postal services.

Investments in postal service to make it quicker and more reliable were very significant.

This just shows that



**People always craved for  
quicker interactive long distance communication**

# Short history of interactive communication



Then in the middle of the 19<sup>th</sup> century, the telegraph came in.

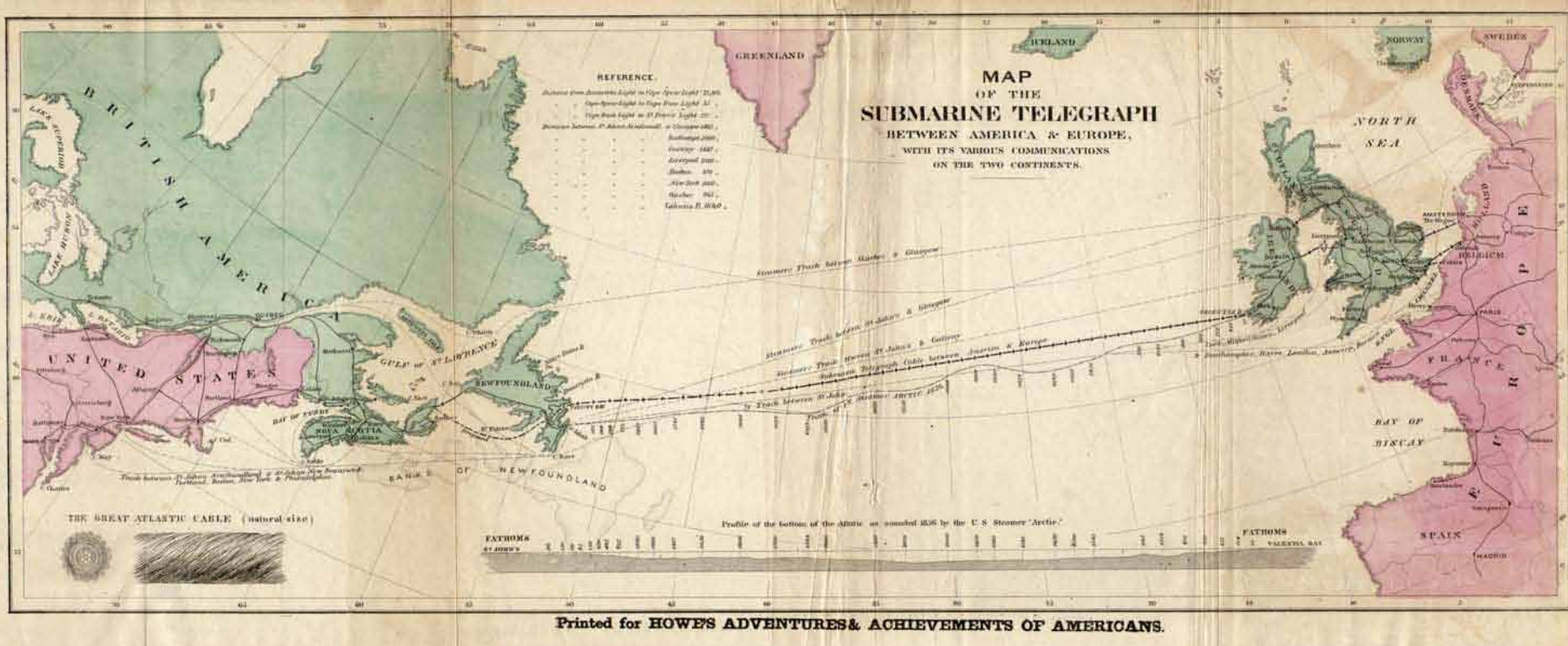
The telegraph allowed almost instant long distance communication. Where it appeared it quickly made messengers obsolete.



# Short history of interactive communication



Very soon the telegraph became intercontinental. In 1866 the first submarine cable was laid between Europe and America.



# Short history of interactive communication



Let us analyze the contents of a telegram to understand what it brought to the world... and its limitations

**CLASS OF SERVICE**  
This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

**WESTERN UNION** 1201

**SYMBOLS**  
DL = Day Letter  
NT = Overnight Telegram  
LC = Deferred Cable  
NLT = Cable Night Letter  
Ship Radiogram

R. B. WHITE  
PRESIDENT

NEWCOMB CARLTON  
CHAIRMAN OF THE BOARD

J. C. WILLEVER  
FIRST VICE-PRESIDENT

(55)

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination.

AAQ146 8 3 EXTRA=STLOUIS MO 15 746P

THOMAS M HALTERMAN=

1941 DEC 15 PM 8 02

417 SOUTH WASHINGTON AVE CARBONDALE ILL=

AM WELL LETTER IN MAIL=

GERALD LEE HALTERMAN CABLE FROM HONOLULU.

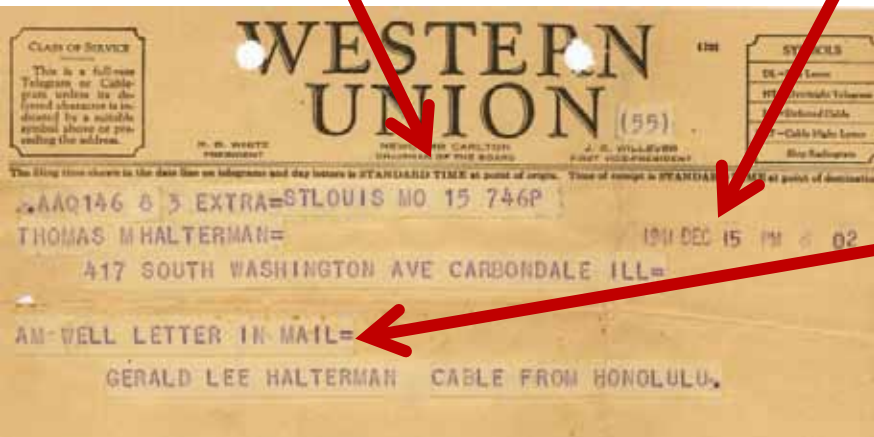
# Short history of interactive communication



Telegraphy allowed the implementation of a synchronous time all over the world and led to the time zones around the Greenwich time, defined in 1883.

Telegraph allowed almost instantaneous transmittal of information over the entire world. Here it is a message from Honolulu one week after the Pearl Harbor attack, sent to the US to reassure that everything is well.

The telegram is a short message. It is to be paid by the word and remains relatively expensive. More details have to be sent by conventional mail. It mainly serves to transmit breaking news. On average, there was never more than 2 telegrams per habitant transmitted per year.





# Short history of interactive communication



The telegraph greatly accelerated speed of transmittal. But it still had to be delivered by messengers from the telegraph station to the final recipient. Telegraph companies like Western Union employed an army of messengers.



# Short history of interactive communication



Then came the telephone...



**Patented in 1876**, it quickly spread. It is an excellent interactive tool that can transmit a rich content – voice and tone of voice.

**However until the 1920's, technical limitations impeded the telephone to be used for long distance.** It could only be used at short distance, within a given city.

For longer distance, telegraph or mail service were still the only available solutions.

# Short history of interactive communication



In the 1920's, transcontinental calls became possible. Here are some pictures from the first transcontinental call in 1915 – what an event!



While technically feasible, long distance phone calls remained extremely expensive. It cost 370 of our modern \$ to call 3 mins from coast to coast in the 1920's!

# Short history of interactive communication



In the 1920's, transcontinental phone calls became also possible. They were even more expensive – 750 modern \$ for a 3 minutes call between New York and London in 1927!



*A picture of the first transcontinental call between New York and London in 1927*

# Short history of interactive communication



Long distance calls were available but were still complicated. Operators were involved. In the 1950's new technology allowed direct calls to be made without the need to operators intervention.

Costs were still high – 20 modern \$ for a in-country long distance call in Europe.



*A picture of the first long distance call without operator in the UK - 1958*

# Short history of interactive communication



Long distance interactive communication became technically available with the telephone in the 1920's.

Its cost would prohibit extensive usage. It would take until the 1950's for the phone to be competitive with the telegraph for the transmittal of short urgent news.

On average, long distance phone calls never exceeded 1 long distance call per phone per week until the 1980's.

**Long distance interactive communication was available from the 1920's onwards but its cost prevented it from becoming ubiquitous.**

**This all changed in the last 20 years.**



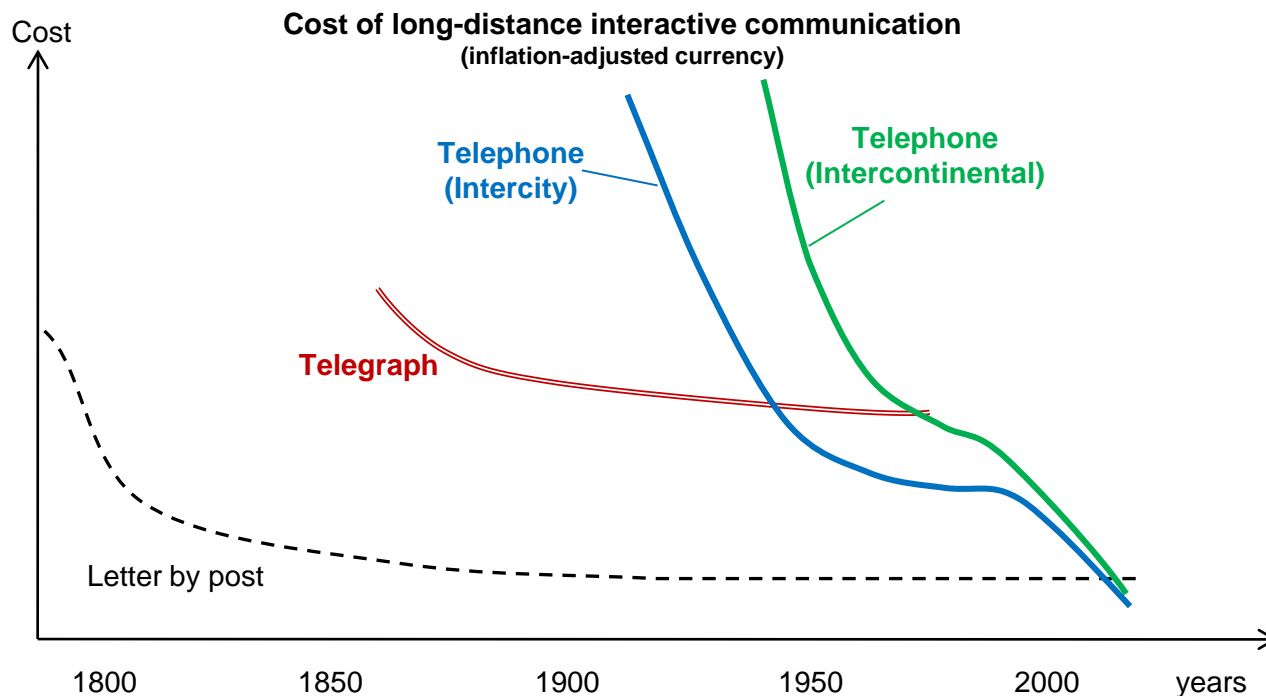
What changed  
in the last few  
decades

**Long distance  
interactive  
communication  
became cheap and  
ubiquitous**

# Long distance interactive communication became cheap



The following graph shows how costs of long distance interactive communication evolved over time (in inflation-adjusted value). It is only very recently that it dropped to very low levels.



The next page highlights some interesting key points of this graph...

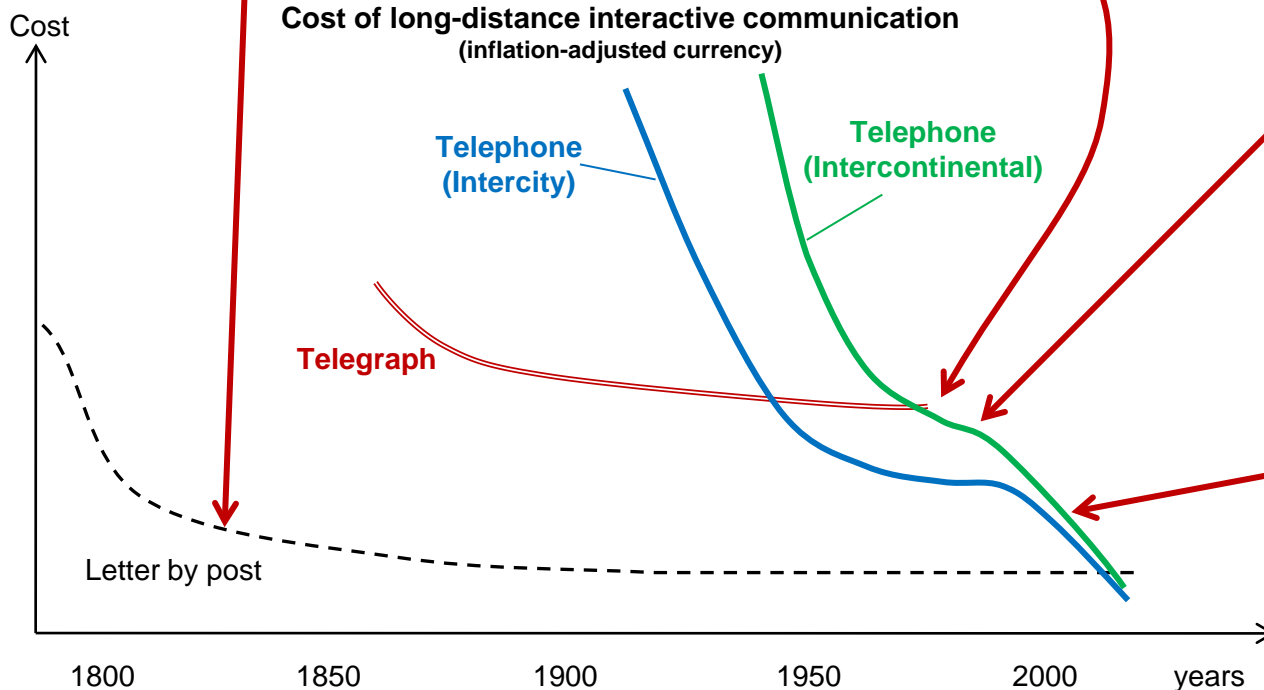


# Long distance interactive communication became cheap



Letters by mail quickly became cheap – but interactivity was very low

Only around 1950 did the cost of long distance phone lead to the demise of telegrams



Cost of phone calls, in particular for very long distances, still remained high until 1990

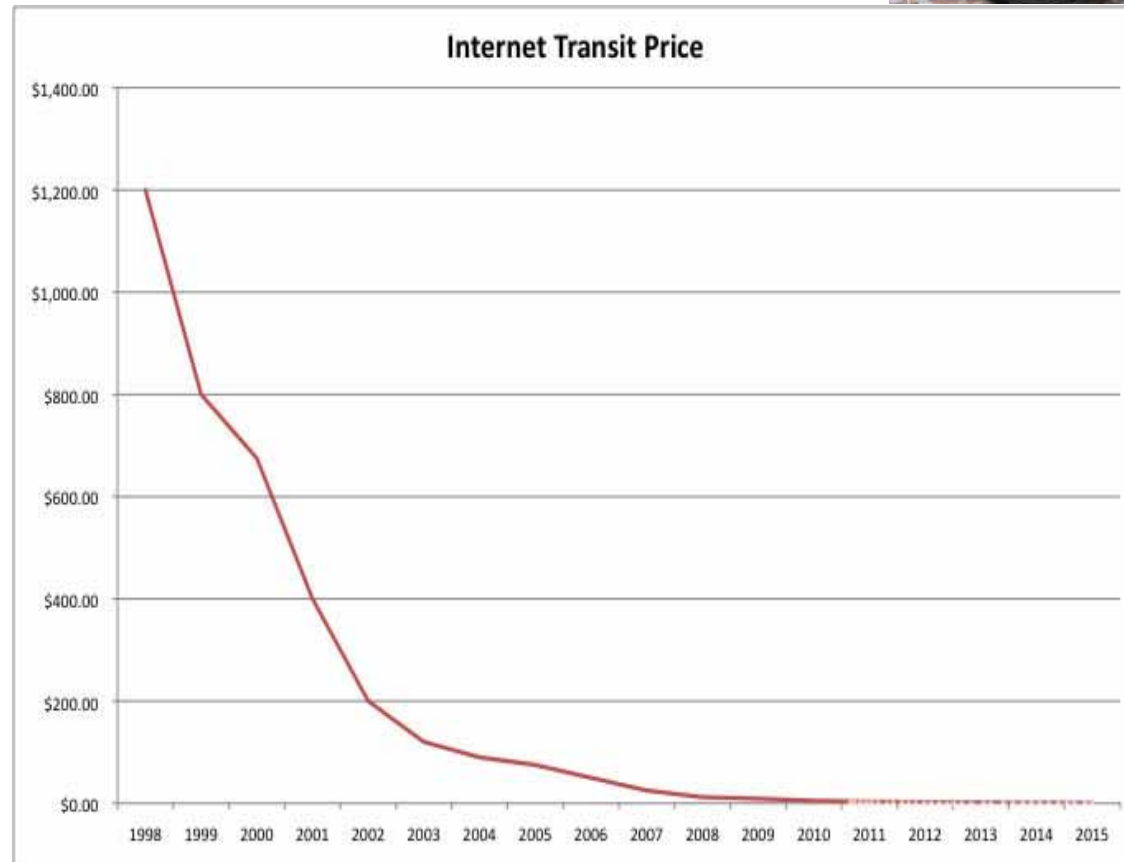
After staying roughly stable between 1960 and 1990, the cost of long distance communication suddenly dropped after 1990 to become almost negligible

# Long distance interactive communication became cheap



The recent drop in data transit price is vertiginous. The graph shows the evolution of data transit price over a decade.

It got divided by a factor of more than 50.



MBps x min - Source DrPeering.net

# Cheap long distance interactive communication: the information explosion



Thanks to their affordability, in the last 20 years (from 1990 onwards)...

- The time spent on long distance interactive tools
- The amount of data exchanged interactively

Increased by a factor of more than...

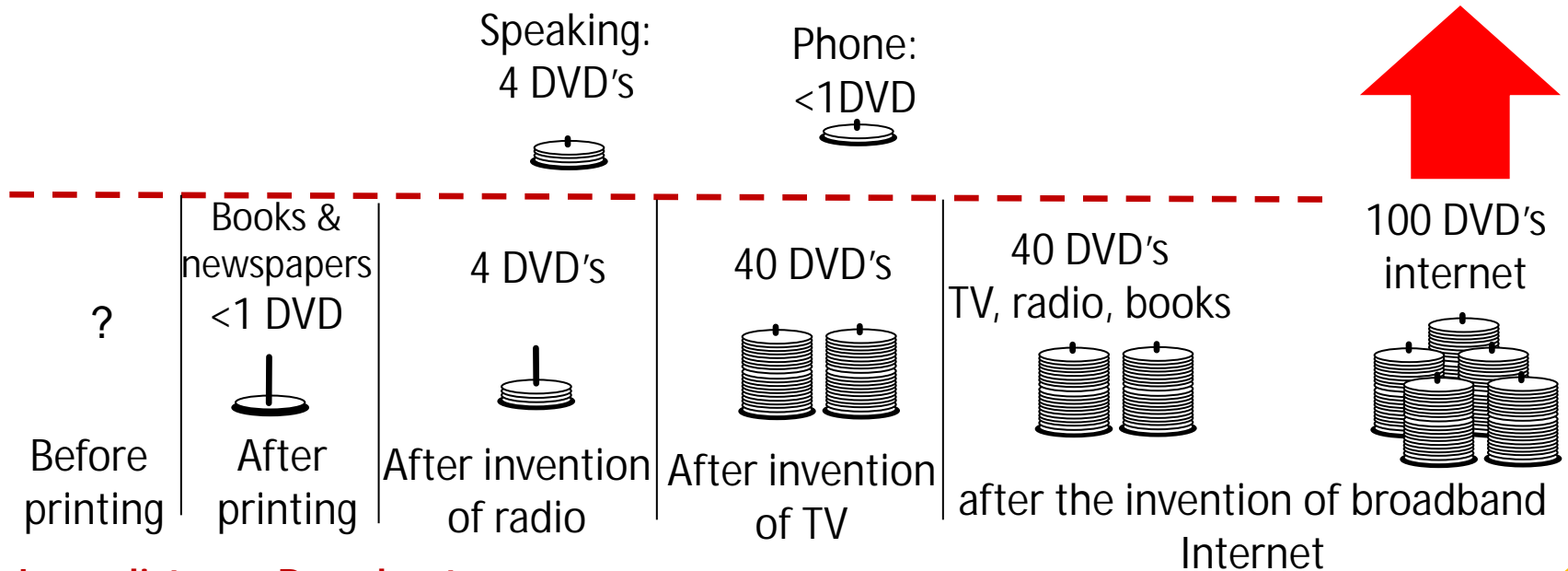
# x1000

# Cheap long distance interactive communication: the information explosion



Another view is to look at the **amount of information exchanged per year** for a typical individual. Information amount is expressed in DVD's for the sake of comparison.

## Short distance & long distance interactive



## Long distance Broadcast

# Cheap long distance interactive communication: the interaction explosion



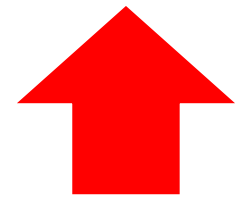
What is important in the illustration of the previous page is

## THE RED ARROW:

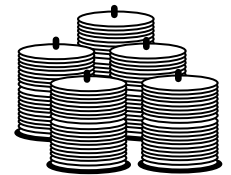
Look back at the illustration on the previous page. **It is what makes all the difference.**

**Not only do we receive much more data broadcasted to us than ever before, but thanks to internet and the web 2.0, we are all contributing significant amounts of data to the world. Incomparably more than ever before.**

How do we do that? Through our Facebook page, through our blog, through Twitter, by posting our pictures, by contributing to Wikipedia....



100 DVD's  
internet



# Cheap long distance interactive communication: the interaction explosion

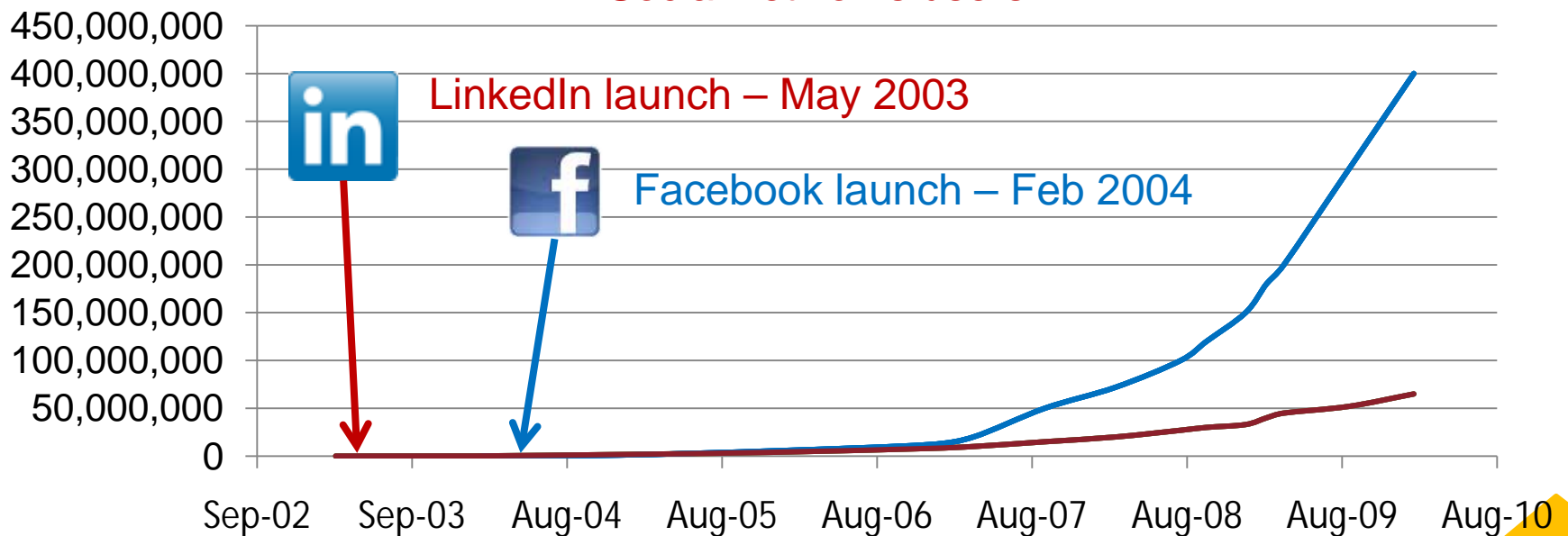


Social networking tools is a new concept for the general public. Most of the famous services we use daily today are less than 8 years old.

Their growth has been extraordinary.

Facebook has close to 500 million users, almost 10% of the world population!

Social networks users



# Cheap long distance interactive communication: the interaction explosion



## Everybody's contribution in numbers

- 126 million blogs (2009)
- 4 billion pictures on Flickr (Oct' 2009)
- 2.5 billion photos uploaded every month on Facebook
- Half of the 500 million Facebook users connect every day
- 700 billion minutes per month spent on Facebook

**More than 1 hour per day  
spent on social networks:**

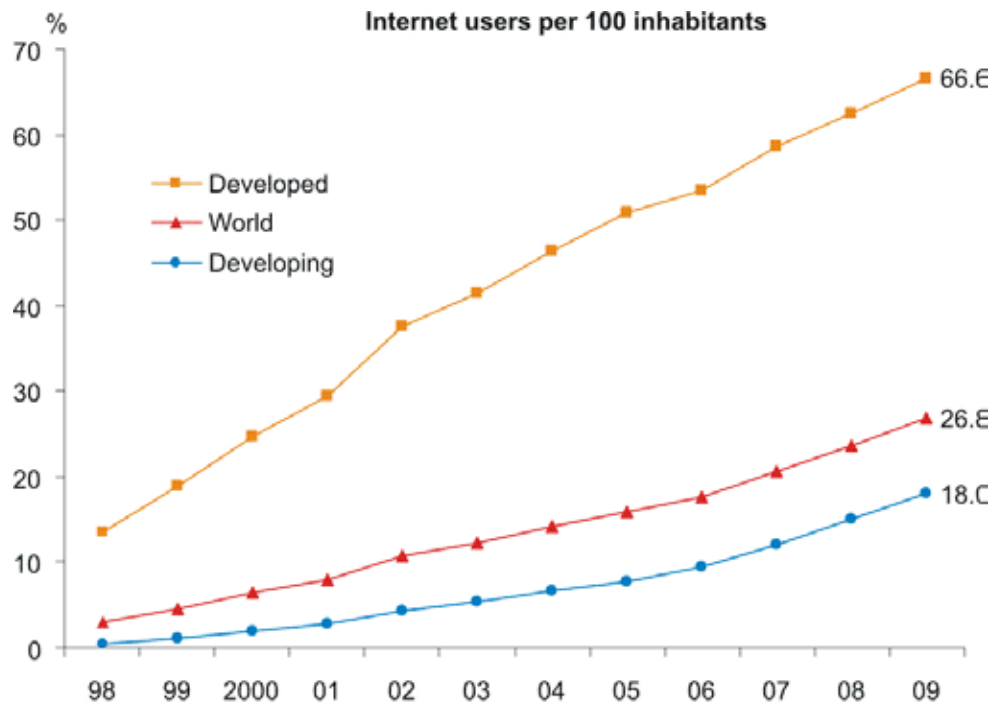
**long distance interactive communication**

(average for the active user)

# Cheap long distance interactive communication: the interaction explosion



Cheap long distance interactive communication not only develops in the developed countries, but also significantly in the developing countries.



Source: ITU World Telecommunication/ICT Indicators database.

**This allows humankind in its entirety to interact.**

**This is unprecedented.**



# Cheap long distance interactive communication: the interaction explosion



In summary,

- Since 1990 long distance interactive communication has become ubiquitous
  - In the entire world, developing countries included
  - In our daily routine – we spend easily more than 1h per day using them
- The amount of data we exchange with the world has increased incredibly
  - In the amount we receive
  - Most importantly, in the amount we give out



**Cheap ubiquitous long distance interactive communication is NEW.**

**It is the source of the Fourth Revolution.**



# Conclusion

**Towards the Fourth  
Revolution**

# The Fourth Revolution is inevitable



Today, a new technology is available:

**Cheap, ubiquitous long  
distance interactive  
communication**

**This leads to a transformation  
of our collective cognitive  
capabilities**



# The Fourth Revolution is inevitable



In part III of the Manifesto we will investigate how the new ubiquity of interactive long distance communication transforms humankind's collective cognitive capability.

Like when speaking, writing and broadcasting were invented, our collective capabilities are now again enhanced by orders of magnitude.

The Fourth Revolution is then inevitable.



**Read part III of the Manifesto:  
How the collective cognitive capability of humankind  
is again transformed**

A group of indigenous people, likely from a tribe in Papua New Guinea, are gathered around a laptop computer. In the foreground, a man wearing a large, ornate headdress with a fur top and a feathered band is holding the laptop. Behind him, a woman with a purple headscarf and a young child are looking at the screen. The scene is set outdoors, with a thatched-roof building visible in the background.

To be  
continued...

**Read part III-**  
**How the collective  
cognitive capability of  
humankind is again  
transformed**