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## REALISM(S) AND SOCIAL NETWORKS. TOWARDS A COMMUNICATION CONTINUUM

**Abstract.** What I've been working on during the past few years is a rethinking of our understanding about communication and the paradigms that have been and still are to a large extent the points of reference for the media industry. Basically, what we can see is that we had some explicit trends until a few years ago that repeated themselves several times in the 20<sup>th</sup> century, and that gave a sort of direction to where communication was going, in a media world dominated by the mass media and the one-to-many model of communication.

One fundamental point of reference was provided by Marshall McLuhan. The second contribution was not really about communication, but about relationships between people and small groups. One came in the late 1940s-early 1950s from Fritz Heider, a pupil of Wolfgang Köhler, in the tradition of Gestalt psychology. On this matter, there is Heider's fundamental book published in 1958 called "The Psychology of Interpersonal Relations" on which a whole new concept was built, now known as Small Groups Theory. In a similar vein was the research carried out by Solomon Asch, who did some fundamental work on conformity. This was at the time, about 1952, when in America social change was beginning to change that country, so conformity was a major preoccupation for sociologists and psychologists.

Another type of contribution, which was highly formalized mathematically, was developed at Stanford University

during the 1960s; this provided an entirely new framework for studies of interpersonal relations and behavior within small groups. Some of the early examples of learning with computers were derived from this context.

A further contribution came communication from Ervin Goffman. He wrote several very important books and one of them is "The Presentation of Self in Everyday life". Here he proposed a paradigm that tries to explain how people behave in small groups when they meet face to face. The second aspect of Goffman's theory is that people work in social contexts as if they were on a stage. So, the whole area of interpersonal relations, on the one hand, goes under the influence of Fritz Heider and everything that came after him. On the other hand, there's the very important contribution of Goffman. In this context, McLuhan is sort of in the middle - apart, but also strongly connected to these areas of research.

Many years later came the Internet and many things changed in the modes of communication. Most likely, the fundamental aspects for communication with Internet are interactivity, speed and networking. Speed, as underlined by Paul Virilio, influenced the way communication channels are used and the way people communicate with each other (email etc.). The big jump was not only the enormous amount of information that became available, but especially the speed at which information became available and could be circulated. The speed has two ways of influencing the communication process:

one is what comes to us, and the other one is our response, thus a connection with interactivity can be established.

More recently we have witnessed the growth of three very wide areas of concern in communication and the media: multi-channel content delivery, multimedia, and cross media. What can we say about them?

Multi-channel content delivery is a system of distribution that was already practiced by the press in the 19<sup>th</sup> century (a novel would be published first in installments in daily newspapers or in magazines, and then republished in book form) and was re-invented between the late '20 and early '30 by Walt Disney. When he started making his cartoons, he realized that he could publish comic strips in the papers at the same time: comic strips were derivatives of the transparencies drawn and painted to shoot the cartoons. These became regular, weekly or monthly publications, and later would become fully developed books. This is a good example of what multi-channel content delivery means: a piece of content is produced once and is distributed/delivered by means of several channels in different formats. Each channel has its own economic model and return on investment, but derivative versions of the original product cost only a fraction of the original production: the overall revenues and profits are increased.

This was multi-channel until television came about. The studios in Hollywood soon realized that broadcasters were willing to pay a sizable amount of money

for the rights to show a movie a second time after the programming in the movie theatres. Furthermore, this brought about first a production for the movie theatres and a second market, that was much larger than the initial market – the cinemas, and provided for the studios high profits practically at no cost, because the only cost to be borne – generally by the broadcaster – was only the transfer of the 35mm film print to video. It represented a marginal production cost and it was sustained by the television station, not by the studio that produced the original movie. So, the producer had only benefits from this.

Latter, a big change in multi-channel content delivery came with George Lucas, who put together the original pieces of the game, as devised by Disney, but with many, very important additions. This was not accomplished with “American Graffiti”, but with the first of the Star Wars saga. This movie was programmed from the very beginning to be a distributed by exploiting the potential of multi-channel content delivery. The story was written in such a way that it could have many downstreams for distribution. For example, the laser sword became a toy; there were video games that came out of Star Wars, some of the first video games; puppets, books, and so on. So, the big difference between Walt Disney in the 1930s and Lucas in the late 1970s, was that George Lucas provided a global framework for multi-channel content delivery and one writing for all these declinations of the main product – the movie. When the film editing was finished and delivered

to the cinemas, six months after the first showing, Lucas made a new version, only for American television. Ten or fifteen minutes were different from what we saw in the cinema. That was done because Lucas estimated the need for more close-ups and a slower editing in some parts of the film, taking into account the way people look at the TV screen, which is different from the way we look at the big screen in cinemas. Then, he made further versions for the release of DVDs in the early 2000s.

The big difference was also that the first Star Wars film wasn't released as it was customary in America in those days: the first showing was usually done in four main cities, in 3-4 cinemas in those four main cities. When Lucas was left with no money, practically with no money at all, in London, towards the second third of the shooting, he had no idea if he could finish this movie. He was totally bankrupt, and by the way, the same happened to Walt Disney when he was totally bankrupt in 1938 while halfway in the production of “Snow White and the seven Dwarfs”. Disney was saved by a banker in New York that decided to give him the money for the remaining production. Lucas moved differently. 20<sup>th</sup> Century Fox was experiencing serious difficulties and they had to find a solution. Lucas went to Hollywood and talked to people in the right way and convinced the top managers of 20th Century Fox to assure the distribution. Only Lucas had a condition. Probably he said something like this: “Gentlemen, we're not going to go

out with 15-16 copies, but with 1.200 prints to be shown in 1.200 movie theatres at the same time, across the whole territory of the United States, and first projection date will be the same. I, George Lucas, tell you this, because you're investing all this money and you're entitled to get you're money back as soon as you can. The only way you can get your money back as soon as you can, is to have a massive distribution all of the sudden coming out in the cinemas and, if the movie works, in three weeks everything will be paid and we'll have very huge profits".

The managers of 20<sup>th</sup> Century Fox didn't really have a choice, so they decided to go ahead with the proposed program and they went out to convince the owners of the movie theaters. Movies are rented out to distributors and cinema operators in a way that is very different from what happens in Europe. The "buyers" meet in a room and make offers and/or offer guarantees, and whoever guarantees the most gets the film. So, to get twelve hundred cinemas to distribute the film in the same day was a really difficult task. But the people at 20<sup>th</sup> succeeded and the movie paid for itself in about two weeks, after that there was profit.

Since then, all over the US, in Western Europe, in Japan, Brazil and other countries, now big production movies are issued on the same day in hundreds of cinemas. They invade the market. Coupled with the increasing existence of multi-room cinemas (multiplexes with 8-10-12 rooms), 4 or 5 movies can "occupy" the whole market, or at least 80% of the

market. So, what started as a solution for recouping in a short period of time the cost of production has become a big danger for the future of cinema, for smaller budget films and a great majority of national productions made outside of Hollywood encounter great difficulties in distribution.

If we now take multimedia into consideration, we must underline that this modality of communication has not been introduced as recently as most people think. One of the early examples I can mention is the way the cemetery of Pisa was built – the "Camposanto" in Italian, which lies at the northern edge of the Cathedral Square, also known as "La Piazza dei Miracoli – The Square of Miracles". The cemetery has a wall that separates the piazza from the tombs. On the side of the wall that is on the inside of the cemetery there are very important frescoes. The wall was commissioned by the Dominican friars, which made it the main area for public speeches, for the oral transmission of the Scriptures. The iconography was dictated entirely by Dominican friars, including the choice of the columns, and several art historians report that that was the place where the Madonna's dress was painted in blue for the first time. It became blue from then onwards and it was the official color for the Madonna dress in Western art. Beyond that, the friars asked all of their painters to paint in such a way so they could use the paintings to illustrate what they were saying with words. Their speech could find a coherent structure behind the speaker, by means of indicating

specific areas of the fresco. This is a very strong example of multimedia, and a very specific communication need is fulfilled in this manner: in the 13<sup>th</sup> century most people were illiterate and uncultured, so a one-to-one correspondence between words and iconography was fundamental. Multimedia has come to be what we know and have now and, in practice, we have two ways of making multimedia projects. One is to put together several, different media, each one sort of independent, and the other, which is more difficult and much more expensive to produce, is to use different media to build one single object of communication. Interactivity, even at the lowest level, is not an essential component of multimedia projects.

Cross media is a quite different story, because it involves not only digital media – this is the case also of multimedia, which nowadays is entirely digital –, but can include parts that are not digital, and interactivity is a fundamental characteristic that is built in cross media projects. Cross media has to carry one message through different access devices and this is a major difference, from my point of view, from multimedia. Multimedia is not concerned so much with access devices. Cross media is concerned first of all with delivery of the content. This means a variety of devices, from the cell phone to the television set, to cinemas, to books. The project must be constructed in such a way that the user can access the story at any point by means of any access device. Although there isn't any widely accepted definition for cross media, I've tried last year to provide one,

which says, practically, that there are two types of cross media: one is a form of content construction and delivery, by which the interactive channels are either navigational or functional. This means the users can access the content, but they cannot change the database, i.e. they cannot change the "story" and its structure. They cannot interfere and put information in the database. The second type of cross media, on the other hand, is a communication project that involves adaptive types of interactivity, whereby users can modify the storyline, that is the database can be accessed, additional data can be included, and modifications can be brought by the users. Wikipedia is an example, although it does not use many media, but it has some key characteristics of cross media.

Today we have three large areas of communication modalities: multi-channel, multimedia, cross media. On the other hand, we have a multiplicity of devices for access and we can combine these three with the way content is created, is post produced, is distributed, reaches the audience and the audience can respond – that is, there can be a form of dialogue between the users and the system –, we must ask ourselves: How do I produce for that? If you produce for television, you are closed within the TV box, if you produce for daily newspapers, you are in another box. The three areas I just mentioned, plus the variety of available devices that provide access to the content, make it impossible to continue production in those

ways, totally blocked inside a single box, with its unique rules and methods.

We have to rethink the whole chain of production. Theory has to be not only taken into account one way, from transmission to reception, but also from reception back to the original transmission. The receiver becomes an transmission agent and the original sender becomes the reception agent. This means that we have to take networks into account. Networks are available to whoever has received the message and talks back. If the two channels do not have the same bandwidth, then the system is unbalanced in favor of whoever controls the widest channel. The thinner channel has less power and less influence.

This was true until a short time ago, but it's not true anymore. With the resurgence of certain types of communication, there is the possibility of creating channels from the bottom, without even caring if there is somebody else of the old type of media to get the messages back. It can be a totally enclosed world, like Linked In, like FaceBook. They don't need a referent from the world of big media producers and distributors. With so-called Web 2.0 it's not only the creation of social networking, it's a total subversion of the way media, as it is being re-organized.

This is something that most of the people don't want to realize. Social networking involves a type of discussions where everybody puts in anything they want. That's very superficial. In economical terms, that's a disruptive technology, because it creates communication spaces

that did not exist before. Many people upload text or pictures or video on MySpace, YouTube etc. without caring about money. Therefore, the economic model of these websites has nothing to do with the traditional models of communication. It's a totally different way of organizing one's personal communication network. So these are just some of the main points. In the end of all this there is this big question mark: How are we going to produce in the future? What will be the chain of acquisition, from the new materials put into postproduction – what kind of postproduction? What kind of distribution? The complexity of communication systems has become such that it requires a totally different approach to the way we produce content and the content production-distribution industry must come to terms with this mutation.

We need a very different model for the economic aspects of communication, because many elements are transferred to another type of organization. One solution is convergence. Convergence seems an obvious option, but I'm not very happy with the current definitions and I prefer to define convergence in 2 ways: one, the technological convergence and the other one, the global convergence. And both types of convergence refer to the market: the reference points are not the devices or between devices, not the networks or between networks, but on the market.

So if we have everything in digital formats, including digital cinema – which I have not mentioned so far, but is an increasingly important area, because

it's the last medium that is becoming digital, in the global transition of the media to digital –, all this converges on the market, and we have this type of convergence where we have the contents, the consumers, the computer digital technologies, every existing access device, the whole infrastructure of wireless and wired communication system. So we have all this intertwined and the competition at all levels of the communication systems happens on the market and refers to it.

Now, the other thing is that all this brings about an extremely visible increasing noise; so, with increase in noise, what happens is that the attention of the user is more difficult to attract, and not only to attract, but especially to maintain. The attention span decreases because there are so many events that go around you at the same time, that the choice is difficult; paying attention to something becomes difficult; but especially the attention span decreases, not so much as a consequence of increased noise, but also as a consequence of diminished capability of the temporary memory, of the short-term memory. With so many things happening at the same time, the short-term memory is locked on trying to find out what it wants to send to the long-term memory and this exerts undue pressure on mechanisms of the brain that become cut out from the linear flow of data. The consequence is that when the brain receives a non-linear flow, it has problems.

Convergence is not anymore an issue that is being discussed a lot nowadays.

Convergence was a big item of discussions in the late '80s, in the '90s, early 2000.

Now the main issue concerning technological aspects of communication is interoperability. But interoperability is a complete mess, in terms of connecting multiple media. For example think only of television: we are still in two worlds (50 Hz and 60 Hz), Standard and High Definition TV sets are not interoperable, television on the internet is not interoperable with the other TV signals. If we consider mobile phones, 99% of the services available – financial, news, sports, whatever –, are not interoperable, they're blocked, locked onto that specific set of technological rules and modalities. If we have a Vodafone phone, we cannot watch any tv or music program coming from a company that has an agreement with another company, another mobile operator. Most of this is due to the fact that many companies have a very hard time deciding how much a given patent can be worth, which has direct consequences on the terms of the possible licence to use that patent. This is a big, big problem. The other one is that the many manufacturers of television or mobile equipment have no interest at the moment to make products that are interoperable, either because of hardware configurations and/or of software enablers. Again, think of television: at this very time we have a range of Panasonic video cameras and recorders, we have a range of Sony equipment; both are made to produce the same types of images, e.g. high definition images with certain technical characteristics; but nothing is

interoperable, absolutely nothing. Even the family of compression algorithms MPEG-2 is not fully interoperable, because we have the variants of MPEG-2 with video 4.2.0 for DVDs and standard digital television transmission, 4.2.2 for higher quality production, and 4.4.4 or even 4.4.4.4 which is used inside the studios for very high quality work. and MPEG-2 is not interoperable with more recent and more efficient families of compression algorithms, such as MPEG-4 and H.264. All this brings about complex operations in processing signals, with notable losses in the quality of the final product.

Another set of problems in the transition to digital is linked with interactivity and the use of interactive systems. Still nowadays, most of the media industry does not have a wide use of interactivity and remains very much linked to the one-to-many model of communication.

In the access to content, another important variable to be considered is that it's not the content that is important, but it's the network that is how the connections are made: this becomes the narrative. The narrative is not in the single video, it is in the connections of the videos that are made by sets of users. This is now very strongly visible, in my opinion.

Another area that is necessary to consider is that it is now impossible not to take into account at the same time content, technologies, and economic models. I have come to believe the fact that for communication students nowadays it is absolutely impossible to go about studying communication and the

media without having the three domains combined. It doesn't make any sense. If one does not understand the nature of costs that have to be covered by making the projects, then one is not likely to be able to make it. It's very simple. For example, if the technology is left out of the picture, especially in professions like publishing and the press, also for graphic artists the technology is an intrinsic part of the mental framework that one has to have. Think only of a TV editor that receives material to work on – it happens every day, everywhere in large TV stations – that was originated in the US at 525 lines and 60 Hz, and has to use this material with other material originated in some other country at 625 lines 50 Hz, maybe with different types of compression: what must the editor do? If he does not know what he is going to lose and gain by following a certain work procedure, he will not be able to deliver a finished product that will offer the audience the quality that is expected. So the editor, but this is true for any profession now in the media, has to know in depth how decoding or recording whatever material will entail in terms of final quality of the product that is to be delivered to the audience.

If we talk now about user experience...

What we are witnessing is that we are moving from a model of industry generated content to something that is a mixture of passive users, active users, user driven content, user generated content. This a component of the future in communication and the media.



We are moving forward with issues that are being modified almost continuously.

I want to mention very briefly that the last sector of the media that is being slowly transforming itself into a digital world is out-of-home communication – billboards, information on big displays, displays in supermarkets, hotel lobbies etc. We are moving also in other countries towards landscapes of the sort that you can see if you look at pictures of Shanghai, or Beijing, or Times Square, or Piccadilly Circus: some of the central areas of several major cities are not very different from baseball or football fields, if we consider the of displays and the surface that they occupy.

What is happening to the images? I mentioned before that the mobile phones, the smartphones, are becoming the preferred communication instruments, not only in mobility. The reason is that on the manufacturing side of the smart phones, the manufacturers are already moving towards the use of a new type of displays, called OLED for Organic Light Emitting Diodes, which is about to become available also for TV sets, e-books, and many other uses.

Their molecules assure a very high resolution, with very good contrast ratios, very good black, and accurate rendition of colors. But a very interesting characteristic of OLED displays is that they can be manufactured by applying the stratum of molecules on flexible surfaces. This will allow OLEDs to be purchased at the dimensions required by a specific use, but it will also be possible to roll it

or fold it: in this manner the display can be connected to any new type on mobile phone, providing the phone with a viewable surface that will be decided by the user according to his needs at a given time at a given place.

Another field in full bloom is stereoscopic films and, with some delay, stereoscopic television. In Hollywood and in France, many new films are produced in stereo and major US broadcasters are preparing the ground to show in stereo several major football and basketball games to audiences in various cinemas around the country.

I have tried to provide a description of the global picture beforehand, but little has been said about what is happening on the Web.

In a certain sense, still quite unclear in my opinion, Social Networks and other types of web activities are bringing about a redefinition of what realism is, and what it concerns. Realism has many different definitions according to the different fields of human endeavor. So it's not a term that has a definition that is widely agreed upon; realism in the more recent mutations of the Web – or Web 2.0 – is meant here as something that lives on the web by the way people are presenting themselves, so I chose the kind of realism in the line of Erwin Goffman, revisited in function of what I would call “a virtual theatre or a virtual stage” – that is, the presentation of self is mediated by the websites to which people subscribe and participate in. It is a form of interaction that was not something viable until certain kinds of web sites came

about - e.g. YouTube, MySpace, Facebook, and many others. There you find a wide range of "presentations of self", from those that are extremely crude, at one of the lowest levels of realism that has been available, in other terms people who talk about themselves in real time, without any sort of "editing", without adding anything, to "presentations" that are nearing professional quality, or presenting events that could not be shown by broadcasters - e.g. images of the tsunami in South East Asia (December 2004) or the bombings in the London tube (July 2005), or of the Twin Towers in Manhattan being hit by the terrorists with the hijacked airplanes.

The presentation of self is left to viewers'/visitors' interpretations and to levels of acceptance of what is real: realism on social network websites seems to work in an interactive environment, where quite often those who present their images and spoken words present these expecting some kind of answer, which can be simple visualization of what is offered to very short comments to the establishment of a two-way communication scheme, which can start the build-up of a network, which may or may not grow over time. As in Goffman's original proposal, also on these websites presentations of self live on forms and levels of interactivity, and evolve dynamically.

It could be interesting to analyze the birth, growth, decrease and demise of social groups on the web by utilizing mathematical instruments that can help predict certain type of behavior. Contrary to "live" social interactions, groups on

social networks leave many traces which can be collected as data for further research. Graph theory can help the mapping of groups, and, by giving weights to levels of one-to-one interactions, can also provide information about the balance or imbalance of the group as related to the participants' expectations. The use of Poisson's probability theorems can be an important tool in predicting the growth, or lack of it, in situations like those that are encountered on the web when a person starts presenting herself: at the beginning of the process, we have very small numbers, but we have an understanding of the context (the rules imposed by the software the underlies the social network website) and an understanding of the social environment within which people "act" on these websites. This satisfies two conditions that allow us to study and predict behavior as "eigenbehavior", and Poissons' theorems provide the mathematical tools to describe the dynamics of these types of groups. Finally, under certain circumstances, we can use also theorems of Markov chains to predict, as simulation over variable periods of time, growth, the reaching and the maintaining of behavioral balance, beginning of unbalances, further unbalances that will eventually lead to the demise and disappearance of a group on a social network.

These analyses could be used also to trace behavioral forms of "realism", by attaching specific values to specific types of behavior that we may define as belonging to the realm of "realism". This

might help us to clarify issues regarding realism, allowing us to categorize and rank various types of behavior.

As can be easily understood by this short digression, the question of realism on the web is an open field, and unfortunately I must admit that very little research has been or is being done on this matter. It is my opinion that one of the reasons lies in a basic misunderstanding of which tools should be used: the web is generally associated with large numbers, and this leads most researchers to approach behavioral studies using tools that adapted to large sets of data, large populations and large samples. My understanding is that there are very widespread types of behavior on the web, and especially what is allowed by social networks, that require the use of analytical tools that are better suited to studying small numbers of participants.

**Some examples of various types of "realism" that can be viewed on the web:**

- Prof. David Weinberger - Harvard Berkman Center - 2007  
Everything is miscellaneous  
<http://www.youtube.com/user/theconnectedrepublic>  
<http://www.youtube.com/watch?v=x3wOhXsjPYM>
- Geriatric 1927 - first try  
[http://www.youtube.com/watch?v=p\\_YMigZmUuk](http://www.youtube.com/watch?v=p_YMigZmUuk)
- Girl  
<http://www.youtube.com/user/journalgirrl>
- Imaginative realism - improvised videos by boys

- <http://www.youtube.com/user/ImaginativeRealism>
- Emotional realism - from France  
<http://www.youtube.com/user/LEGRANDDURIEN>
- Optimistic realism - faces smiling  
<http://www.youtube.com/user/cabelindsay>
- Boys and girls in schoolyard in China  
<http://www.youtube.com/user/ddreitanmama>
- Toronto propane explosion Aug 10th 2008  
<http://www.youtube.com/watch?v=ya11Z3TW26g&feature=PlayList&p=0E653DD2DE26B579&playnext=1&index=2>
- Video by film student - "the video describes me better than my words"  
<http://www.youtube.com/user/JetSetProdigy>
- Scientific realism  
<http://www.youtube.com/watch?v=Ow4VgYvajPM>

**Some references:**

***Fritz Heider***

- areas of research: equilibrium states, Interpersonal relations, Dynamics of interpersonal relations
- analytical tools: graph theory - matrix theory  
- probabilities and evolutionary forecasts

***Solomon Ash***

- areas of research: conformity processes, conformity convergence, small groups, research in laboratory, field research

***Erving Goffman***

- areas of research: Presentation of Self in Everyday Life, frame analysis, group formation

***Group formation, evolution, disaggregation:***

- virtual aggregation, sharing modes/discovery processes, clustering, zero-sum exchanges (Game Theory), fissuring, distancing, virtual disaggregation

**Poisson distribution vs. Gauss distribution:**

- Small groups - larger and larger groups
- Connections on Internet more important than single communication units
- Size-interrelations-activity
- Speed (Paul Virilio)
- Multiple layers (Obama campaign)

- Multiple spread with fast-continuous feedback

**Martin Nowak:**

- Mathematical models for: evolutionary dynamics, evolution, mutation, selection, sequential space

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