Changing Identities in Information Societies

from kindergarten to the Net

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Abstract. This paper is a search for identities in the past, the present and the future. Using a systems thinking approach of ontological, pragmatic and phenomenological/experimental approaches the possible identity of cyborgs, its potentials and consequences of adopting are discussed. Lessons learned from Kindergarten are contrasted with lessons learned from a systems thinker in order to find out whether we are progressing or merely processing in the wilderness of information societies. The paper suggests that there is hope for progress in border crossing knowing.

1   Introduction

> "*Each step forward in the instrumental use of technology has effects on subjectivity. Technology changes us as individuals, and also changes our relationships and the very consciousness of ourselves*"
> Sherry Turkle

A three-year-old girl is exploring on the computer; suddenly, she does not see the cursor, then she asks: where am I? She does not ask for the mouse's location. She herself has moved from a physical place to a virtual one on the screen: she is inside. This little girl has identified technology and has integrated it into her nature. Her body, in Piaget's words, is matured enough and prepared to appropriate technology through exploration and interaction with the environment, so she is able to transfer her behaviour to a different computer or program. This appropriation quality and "technological naturalization" at an early age is a great birthmark or generational trace that makes adults different from children and young people in our "artificial" or "natural" relationship with technology and media.

But, which is the difference from a little girl in the kindergarten years ago and this girl today in front of her computer? Is experience a different practice between the girl in the past and the girl in the present – and the future? How can we describe such difference?

2   Challenges

It is a fairly accepted thesis that new ICT are fundamental in producing essential transformations in society and culture. Questions about the way in which technology is developed, the selection criteria being applied (technical, ethical, social), the aims of using it, and the way in which it inserts itself into culture, the way in which culture changes it, and others, make a reflection necessary about technology and the objective and subjective facts of reality it produces.

Thus, we consider that technique is a dimension where the human world self-transformation is at stake today: change, mutation, alteration, mixing, where essentialism does not have a place, and where new categories emerge to understand our culture as a techno-culture. Questions related to our identity, to the changes we are suffering and/or encouraging in this technological era, to the implications of establishing connections with the real world through artifacts, to the way in which our experiences and essence are being modified, the consequences of the changes in space, time and speed, among others, are issues that should concern us. As Sherry Turkle [17] says, the question is not "how computers will be in the future?", but "how humans will be?" and "what are we turning into?".

From scientists trying to create artificial life to children and youths practicing morphing- the game of digitally changing faces and bodies - through series of virtual characters, we can see fundamental changes in the way in which we create and experience human identity. In the on-real-time cyberspatial communities we live on the threshold between real and virtual, almost to fall down, inventing ourselves as we go along. Our new relationships, technologically tangled up are commanding us to ask ourselves to what extent we have turned ourselves into cyborgs, the transgressing mixing of biology, technology and code. They come with a built-in chip is between a metaphor to understand changes and a sign showing something that is still between techno-science and fiction. It could become reality. What implications would it have to culture? As stated by Bernard Stigler [16], maybe the division between the alive and the mechanic is now facing a third one: "organized inorganic beings", that is, new technical objects that can not be reduced to an "added-on" or to simply human "products". Or it would be, in Pierre Lévy's words [11], the continuation of the humanization process?

The virtual is in no way opposed to the real, but a fecund and powerful form of being; favouring creation processes, opening horizons, digging meaningful wells under the superficiality of the immediate physical presence: These and many other questions in turn arise new questions to the experimental psychology, the social psychology and in general to the cognitive sciences and studies about identity. It is necessary to rethink the process of construction of "self" in connection with our relationship with ICT. It can no longer be centred in psychological or sociological

theories that conceive "social" and "identity" issues as a different kind of problem in respect to technologies.

3   Approaches

In fact, we can focus technologies, societies and identities in three directions:
- the ontological one, which conceive technologies, societies and identities as a mixing of science, culture and technology in a continuous process where objects are, to a greater or lesser extent, the result of that mixing;
- the pragmatic direction, that is to say, what is performed by technologies, societies and identities;
- the phenomenological or experiential one referring to how our experience is affected by technologies, further than the functional or instrumental aspects.

Our daily experience occurs in an unclear relation with technologies, societies and identities, that is, we do not immediately understand the meaning behind them, what is at stake in each one of them, even more, we have to make choices about all three, yet we are more and more loosing control of the consequences of our decisions.

In a mix of the three approaches we try to meander in order to sweep in on a direction for explanation, understanding and empowerment, a sort of a systemic search based on Churchman [4]:

"What is the nature of systems is a continuing perception and deception, a continuing re-viewing of the world, of the whole system, and of its components. The essence of the systems approach, therefore, is confusion as well as enlightenment. The two are inseparable aspects of human life"

No approach to identities can stand by itself. The only method of standing is to face it with its most severe oppositions.

4   Changing identities, changing technologies, changing societies

> "*Being whatever the explanations and the steps forward that global development of research currently produces, the main interest of those who bountifully support this investigation will be specially directed to create weapons, social control techniques, massive commercial objects, manipulate markets and subvert democratic processes through information monopoly and pre-established consensus.*"
>
> Theodore Roszak

Ideas about technology have been changing but only in recent times they have been questioned. In Echeverría's words [7] the widespread use of words science, technique or society could make us believe that we really know their true meaning based on the fact that we talk about them, communicate each other, and make our

ideas understood by others. But in this case, conceptual analysis through definitions allows us to discover the shades and difficulties that are usually hidden in the common use of these words.

Technology is usually defined as a discourse about technique and it is conceived as a specific command on machines, tools and instruments. Technique (tekné) also expresses the required skills to transform raw materials in finished products. According to Bernard Stiegler [16], technology is a discourse that describes and explains the evolution of specialized procedures and techniques of a system. According to this perspective, technology is the discourse of this system evolution. Moreover, this evolution exerts a double tension on culture and technique: "industrial civilization is supported by an intensive development of permanent innovation processes. As a result, there is a divorce between culture and technique, or at least between their evolution paces" [16].

Following this exposition, today more than ever, technology combines questions about the technical evolution speed with the globalization processes it produces. Moreover, large techno-social systems involving techniques, knowledge, social institutions, researchers, engineers and usage patterns are bursting into society, headed by technology. "It is a product of industrial, economic, political and scientific changes that have located the technological development as the most important economic force, according to the importance of its economic, social, environmental and scientific consequences. Technology has turned science into an investigation massive system that depends on automatic analyzers, information processors, highest quality materials, large monitoring systems, and information networks" [18]. This ability of technology to impregnate our cultural and social dimensions pushes us to think its nature again and to reflect about the novelty of its increasing power.

As a consequence, it is important to recognize that technology is an impelling force that works in every field of human activity, that is present in cultural and socioeconomic changes, and also to emphasize the importance of searching identity in the course of this new history. Where are we going? How are we «navigating» this old-new territory? Which are our instruments, our maps? How do we participate in their construction? How are we transforming ourselves? How are we re-appropriating technologies? These are questions that we teachers, we culture workers in general must ask ourselves. Being optimistic, this is a crisis and transit era, and therefore it is an opportunity to raise new symbols and meanings. We should deal with the debate of techno-democracy by de-constructing techno-science, by explaining its meanings and its others, its alter egos: ecology, environment defense, and ethics, for example. Any technical decision affects a social organization. Powers construct new socio-technical networks in order to control the access through passwords. Our citizens should be qualified and have a vote in these transformations. This relative opening should offer us a chance to ask about the culture we want to build, although this task is not exclusive of school; it requires an agreement and a collaborative work of society.

It is important to indicate that the debates around the Information Society (IS) are in the field of the model of society that economic globalization sets out to implement for the all world. That is to say, there are not only the fights on environment or gender issues, but the model of prevailing society. The four strategic challenges of IS we take to be: (1) the technological revolution and the social exclusion; (2) the battle

of the rights and plights in IS; (3) the intellectual property and the free access; and (4) the cultural diversity and the marks of world-wide regulation. These four strategic challenges and our choices in them all have consequences for our identity.

The world crosses a cultural situation very peculiar, as Martín-Barbero [14] says: an increasing conscience of the value of the difference, pluralism, and the diversity, in the plane of the civilizations and the ethnic cultures, of the local cultures and gender; but at the same time it faces a powerful process of homogenization of imaginaries through the fashions of dressing and the musical tastes, in the models of the body and the expectations of social success, in the narratives with greater public, the cinema and the television and videogames, etc. This tension produces social creativity only if the logics of the market do not squash citizens' capacity to differentiate the culturally valuable thing and the successful thing commercially. Of course, it is important to recognise that it is also possible that some cultural value has also commercial value, for instance, some of the best cinematographic or musical creations have been simultaneously commercially and culturally successful productions.

5   The Cyborg Metaphor – identity being other

In "Mind as Behavior" Edgar A. Singer Jr. [19] told us, that there would be no mind without another mind and that there would be no mind without a change of mind. He could not (maybe!?) envision ICT as we "know" it today. Yet Churchman did try to use these statements to create a systems approach that would try to encompass the perceptions and deceptions inherent in any approach to explaining, understanding and empowering technologies, societies and identities.

The limits that defined the infrastructure of the modern configurations of power and knowledge and made possible the demarcation between I and the other are becoming blurred and dissolving. In their place, new types are emerging from fluid and vague limits that break those demarcations, possible by the unfolding gradually (although unequal) of the cybernetic technologies in science, work, school, entertainment, in the logic of domination of the multinationals, in the army. In short, new infrastructures, new configurations of power and knowledge emerge but also new subjectivities, cybernetic organisms: cyborgs.

The metaphor of cyborg which we use here is taken from Donna Haraway [10] - and in general from the cyberfeminist movement - recognizes the tension between structures and systems of control on the one hand, and the dream of freedom and in-determination on the other hand. It is therefore the bet for a new ontology as a fiction that provides us a privileged context to study the identity as resulting from the blurring and the simultaneous production of three borders: the border between the human and the animal, the barrier between organisms and machines and the limits between the physicist and the non physical things. Radical rupture with the modern essentialism and representationism. Consequence of this is to see us in a relation with the other where the other human is no longer centre, human, physical, technical, animal word are networks of relations in an ecosystem where we reshape ourselves in complex processes of interaction, flows of communication and experiences. In

fact, this new ontology supposes as well ethical and epistemological transformations that perhaps give us some clues about discourses and practices that we required to construct as for new ways of production of subjectivity in the sense of a resingularization of the individual and collective difference.

The confidence in the "new liberating qualities" of the cybernetic surroundings like possibility of political resistance and cultural production put us "face-to-face" with two poles that make the fiction of cyborg and claim for their hybridism problematic. On the one hand, the contextual and historical logics and marks of the subjects related to other ways of production like agrarian or industrial societies in the third world that enters in conflict with the logic of the immaterial production and mental transformations of the late capitalism and its technologies of the information cause today. This pole we can denominate the one of the memory and the roots. And, on the other hand, the implications of assuming a cybercultural ecology: the other, is not only human, is living and the animated things. This pole we can call the nomadic jump to the future. A jump that produces a terrible emptiness both because the unknown landscape we seem to enter, and because of the rupture of the ontological and epistemological paradigms in which we have moved in the past.

This impulse of cyborg is closer to the artist than to a "scientist" obsessed by the "objectivity" of his/her findings. But this subjectivity is not obvious, rather we would agree to speak of "subjetivación components" as it is suggested by Guattari [9]. Each one works by its own account in a position of a "terminal" with respect to processes that imply human groups, joint socio-economic computer science machines in an existential tension by means of human and nonhuman temporalities (animal, environmental, individual, social, technological ones), also bound to institutional dimensions and to social class dimensions that still regulate the direction of the human groups. Thus the subjectivity is placed in a crossing-point of a manifold component relatively independent of the others and, in some cases, discordant. It is a subjectivity that is translated into political actions and contingent alliances of affinities more than to great national projects. The big challenge for social scientist is to deconstruct the metaphors and invent new paradigms that fracture the unique thought. But that invention has to be able to read our contexts in its hybridised forms and schizophrenias, recovering the tensions between the memories/roots and the nomadic jump (one way is being indicated by the post-colonial thought in Latin America that in fact supposes a "discursive translocalization" and the "end of the savage" [2]).

6   A way in the wilderness

Are we making progress or process? In life and/or in science of identities? We don't believe in a theory of "linear progress" which was popular in the nineteenth century and much of the twentieth century too. The idea of a linear joint effort for progress towards enlightenment through cooperation between industrial production and science cannot hold. This idea– as also postulated above - supposes that each individual can create his/her own identity in an own unique way without support of

others and without harming others. Churchman sums this up in "Design of Inquiring Systems" [5]:

"But the lessons of history tell us that when production and science begin to dominate, then society becomes fragmented; only some men reap the benefits and they do so by exploiting the environment and their fellow man."

And Churchman continues his search for a way of overcoming – or at least to understand – the mood needed to create identities in the future, where there maybe only is process. He uses the image of the heroic mood as this is described by Joseph Campbell in "Hero with a Thousand Faces" [5]:

"The myths of the hero, he [Campbell] says, begin with some stable state of affairs, a comfortable house, beautiful wife and children, high respect, in short, plenty of production-science-cooperation. Then comes the impulse for the adventure or quest, sometimes in the form of a message from the gods or other heroes, but in any event the hero has no choice but to go forth, to leave the comforts for a kind of cold darkness. Beasts and evil spirits keep challenging him in the dark forest. In our drama, the black forest and its challengers are the mood that progress does not exist, that it is only a process at best, that the enterprise is no enterprise at all. For the hero in the midst of his journey has no assurance that anything will happen except his own death and that of his companions. At this stage the idea of progress and fulfillment see ns very foolish indeed. The stage need not be tragic or ominous, of course; it may be humorous, playful, silly, lovely. Then science and its big serious program of knowledge control of nature, and the rest look utterly ridiculous: fat science proclaiming it will save the world while it odoriferously defecates in public."

Back to the question: is there progress or merely process? Which is the same as the question of this paper: do the lessons learned generate knowledge of identities or is it our own illusions?

According to Churchman we may find some comfort in the answer: it depends on where you are. As he says [5]:

"If you are at home, in the status quo, there is a kind of quiet progress, an orderliness, cleanness, comfort, in which little discoveries here and there push back the decimal places and provide better ways of doing things. If you are on the road, then there is no progress, just change, which can be bright or dark, funny or sad, tragic or comic. The rules are gone, laws make no sense. If you are fighting the battle, or whatever the mission may be, you are risking your soul for something overwhelmingly important and central. Progress is no longer diffuse, but here and now in your actions; revolution is one word for it. If you are on the way back, you may be disillusioned, angry, dead in spirit, or playful, or senile."

So we can finally ask: is it possible to design identities that live in a heroic mood? And what help can we get from the past, the present and the future, when we are not heroic, not able to fight the battle for identity, i.e. when we are in the wilderness?

7   The past's future and the future's past

But it is not possible to understand our present without recognizing our past, our memories and roots. In that way, the problem of identity subjectivity mediated through ICT as cyborgs and the nomadic jump is not only a question about how our present is changing, or new theories emerging, it is also a question about understanding the ways that human experience is moving in a Life Long Learning.

Abraham Maslow once published a book with a frontier piece where a smiling and beautiful baby was at the top and a outworn and dirty miner at the bottom. In between the two pictures he had a title: "What Happened?". In this paper we finally end our search by trying to make a similar comparison of identities. Lessons learned from Kindergarten and lessons learned from one life – Churchman's - in the service of the design of inquiring systems in information societies.

First the lessons learned from Kindergarten. Robert Fulghum wrote the first edition of "All I really Need to Know I learned in Kindergarten" in 1986 [8]. In this he told he had learned the following lessons:

- Share everything.
- Play fair.
- Don't hit people.
- Put things back where you found them.
- Clean up your own mess.
- Don't take things that aren't yours.
- Say you're sorry when you hurt somebody.
- Wash your hands before you eat.
- Flush.
- Warm cookies and cold milk are good for you.
- Live a balanced life - learn some and think some and draw some and paint and sing and dance and play and work every day some.
- Take a nap every afternoon.
- When you go out into the world, watch out for traffic, hold hands, and stick together.
- Wonder. Remember the little seed in the Styrofoam cup: The roots go down and the plant goes up and nobody really knows how or why, but we are all like that.
- Goldfish and hamsters and white mice and even the little seed in the Styrofoam cup - they all die. So do we.

In the expanded and revised edition 15 years later he added:
- Everything looks better at a distance.
- If you make it up, you have to live it down.
- Everything is compost.
- There is no they – only us.
- It's a mistake to believe everything you think.
- You can get used to anything.
- Sometimes things are just as bad as they seem.
- It helps if you always have somebody to kiss goodnight.

Second the lessons learned from a life in philosophy. Charles West Churchman after a long life in fighting told of the following lessons on systems design:
- "Does God Exist?" is the most important question of systems thinking
- Science speaks in ethical imperatives and not in the indicative
- 'Error' is a determinant in systems thinking
- Implementation is not a result of rationality
- The failure of statistics
- The importance of the analysis of concepts
- Psychology and social science are parts of systems theory
- Academia opposes systems thinking
- Industry likes systems thinking
- Systems thinking and mathematics are not the same
- Optimization is ethics
- We work on the wrong problems
- Why is humanism such a mystery
- Systems thinking is mainly for the sake of future generations

Could the same lessons happen in a future society as a basis for identity formation, individually and collectively? Could or should these lessons be learned in identity formation in an Informational Age? Could they be learned by a Cyborg?

What happens in life is that we add new lessons, delete some lessons and create innovative lessons to pass on to the next generation – even to the point of trying to get rid of any lessons.

So the questions of this paper might be formulated like this: What possible future might grow out of an imaginable past and what past might grow out of an imaginable future. More, what imaginable future are we creating in our relationship with ICT? What we can call "experience" – perceptions and deceptions - nowadays when it comes from our relations with machines, screens, networks of global interactions? Try it yourself in Table 1.

Table 1 What happened?

Robert Fulghum/ My lessons in Kindergarten	What happened? My private journey	Charles West Churchman/ My lessons in life
1. Share everything		13. Why is humanism such a mystery
2. Play fair		13. Why is humanism such a mystery
3. Don't hit people		13. Why is humanism such a mystery
4. Put things back where you found them		12. We work on the wrong problems
5. Clean up your own mess		6. The importance of the analysis of concepts
6. Don't take things that aren't yours		12. We work on the wrong

		problems
7. Say you're sorry when you hurt somebody		6. The importance of the analysis of concepts
8. Wash your hands before you eat		11. Optimization is ethics
9. Flush		11. Optimization is ethics
10. Warm cookies and cold milk are good for you		14. Systems thinking is mainly for the sake of future generations
11. Live a balanced life - learn some and think some and draw some and paint and sing and dance and play and work every day some		9. Industry likes systems thinking
12. Take a nap every afternoon		9. Industry likes systems thinking
13. When you go out into the world, watch out for traffic, hold hands, and stick together		10. Systems thinking and mathematics are not the same
14. Wonder. Remember the little seed in the Styrofoam cup: The roots go down and the plant goes up and nobody really knows how or why, but we are all like that		10. Systems thinking and mathematics are not the same
15. Goldfish and hamsters and white mice and even the little seed in the Styrofoam cup - they all die. So do we		10. Systems thinking and mathematics are not the same
16. Everything looks better at a distance		3. 'Error' is a determinant in systems thinking
17. If you make it up, you have to live it down		4. Implementation is not a result of rationality
18. Everything is compost		5. The failure of statistics
19. There is no *they* – only *us*		2. Science speaks in ethical imperatives and not in the indicative
20. It's a mistake to believe everything you think		14. Systems thinking is mainly for the sake of future generations
21. You can get used to anything		7. Psychology and social science are parts of systems theory
22. Sometimes things are just as bad as they seem		8. Academia opposes systems thinking.
23. It helps if you always have somebody to kiss goodnight		1. "Does God Exist?' is the most important question of systems thinking

8   Conclusion

In an approach to embrace the problem of the identity in our information societies, we should focus on the political philosophy and political economy, where we should further discuss the character of the "immaterial" capital or cognitive capitalism which is based in a productive system supported in knowledge, affections and communication. In this framework we should analyze the implications of this new relational or cognitive capitalism in the (re)configuration of the national identities in the perspective that among others Castells [3] have pointed out and where the "culture" is an important point of discussion.

Finally, we should identify paradoxes and dilemmas across cultures in order to really explain, understand and empower Information Societies. In a recent interview Castells [3] pointed out the need to be careful about thinking that there is only one Information Society and highlights that although there is a global and general movement of change in the production systems, it depends on the historical and cultural conditions of many regions and countries. In special we should address and discuss the cultural issues cutting across the establishment of a balance between powerful regions like USA/Canada, EU, India, China, Russia, Latin-America in relation to forgotten regions like Africa and Native populations.

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