

Paper: Assignment
Style: Harvard
Pages: 9
Word Counts: 1888
Level: Graduate

Introduction to Computing

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[Name of Institution]

[Course]

Introduction

The Actor-network theory is characterized by performing a thorough and persistent work of demolition of dichotomies traditionally articulated through sociological and psychosocial analysis. Their budgets betting on a monistic way of explanation in which the protagonists are characterized by their material heterogeneity. That is, the blurring of boundaries arises between social domain and the natural domain. Traditional characteristics attributed to human actors appear now related to non-human elements; and differentiation between levels of explanation becomes useless (Latour, 2013).

Since its appearance on the intellectual scene, the actor-network theory has been characterized and develops an alternative vocabulary used by the sociocultural thought. Notions such as quasi-object, enrolment, translation, mediation, generalized symmetry, device registration or actants are some common terms in their texts and a stamp that identifies work produced from this approach. Despite the difficulty, it sometimes contains such texts and vocabulary used, and living disputes arise, with little margin for error that many of its insights and procedures are used currently in concrete and the sociology of science fields, but also in broader areas such as anthropology, geography, social psychology or the world of organizations.

Our interaction is usually framed, guided or ritualized, ultimately, contextualized by extra-somatic elements which have the property of repetitiveness to render it. For example, a semaphore allows three behavior rules which are continuously repeated without remember to apply (Rowland et al., 2011). The essence of our-living-in-common, resides precisely what it is beyond our flesh. Our interaction frames are places, artefacts, symbols present, but absent

symbolically. The social elements are of great variety and social bond characterized by extra-social and wield fully heterogeneous properties. Networks are like computers, phones, cars, codes, signs, rules, rituals etc. that precisely and directly involved in that action and to facilitate repetition of social relations to allow its survival.

The same is true for modern day computers as it also cannot work in isolation. Because, what we are not always aware as users is that all the technological tools such as computers, tablets, smartphones, e-readers, GPS etc. are all electronic sensors that leave traces of our movements, our behavior. Every day, people supply electronic networks of tens of millions of information and, in most cases, they are even geo-tagged.

In the course of this discussion, it has been discussed in detail that, as described in actor-network theory, no actant works in isolation. Thus, computers are also works in networks.

Computer Networks

The advent and improvement, since the 1970s, with high computing power computers, search algorithms adapted to a number of gigantic data allowed the development of computational sciences in the study of complex systems. The company represents a complex group whose experimental study of a small group cannot extrapolate large-scale phenomena. This holistic approach is an alternative to reductionism. It is understood that the whole is more than the sum of its parts. In other words, the whole is not a simple aggregate of several smaller elements juxtaposed to each other (Scott, 2012). The elements have an influence on each other. From a certain threshold of complexity, systems see the emergence of new so-called emergent properties. The essence of the system lies in the interaction of its parts and the overall behaviour emerging from these interactions.

This work requires trans-disciplinary efforts, particularly with the contribution of social sciences such as psychology, sociology and anthropology. With the development of new information and communications technology, the evolution of Web 2.0, social science found their field experience to understand relational and social mechanisms. For example, the study of telephone habits and information conveyed by social networks can understand the organization of crowd gatherings, evaluate the progress of traffic jams and road density, analyse the movements of individuals, understand the behaviour of citizens in elections, conduct predictive models in epidemiology, etc. The application possibilities are extremely broad.

Are social networks really new?

A social network is a set of relationships between a group of individuals. In this sense, social networks are probably as old as humanity (De Nooy et al., 2011). Since individuals coexist and live together, they form a society that involves social links, relationships that maintain a social life. Besides, we do not say that someone has "relations" or that he has a good "Address Book" (Ellison& Boyd, 2013). These expressions induce the idea of social capital of that relations (inherited or constructed) are all potentially useful resources an individual can use to achieve its goals.

Individuals are able to effectively activate their networks to achieve a specific goal. In 1967 an experiment was conducted in which 300 people were invited to send a letter to a target person they do not know. They have just a few indications as his place of residence and profession. Finally, 60% of letters arrive at their destination through different relays of knowledge, forming chains of varying length(Scott, 2012). However, the average length of these

channels is six relations. This experience brought the hypothesis of a "small world" in which two individuals, who do not know, are connected, on average, by a chain of six relations.

Then in the beginning of the decade of 70s, an interesting theory about the functioning of social networks: the strength of weak ties was presented. According to this theory, a person's knowledge network consists of strong ties, relations maintained regularly from a close friends or family, and weak links from more distant relations(Scott, 2012). Weak ties are typically bridges between various networks or groups of people. More weak ties are diverse; the more social capital is recoverable. The theory illustrated with an illuminating example. To find a job, it is more effective to enable both types of links. By using only the intimate, there is a good chance, given the familiarity between people, the information held by the relationship is already known to the job seeker. Whereas, if it mobilizes knowledge, it opens to new information circulating in networks other than their own. In this way, it is beyond the scope and it offers new opportunities.

The existence of social networks is not new. What is new today is the twinning of networks with technology. This had the effect of amplifying the phenomenon of networks and put it on the front of the stage. Today, thanks to the power of Internet and interactive mobile, we are hyper-connected. We can get in touch with our networks constantly and wherever we are.

What sociability practices via "social networks"?

When we speak of "social networks" today, it is most often to describe the community website dedicated to networking such as Facebook, Twitter, LinkedIn and many others. These sites include a large number of users who communicate via the platforms available to them on the canvas. These platforms are the members of the community themselves that supply the content of their comments, their photos, their videos, their notes etc. (Ellison& Boyd, 2013)

The great strength of the Internet is to navigate from one to the other with just one click. Thus, the user travels from one social network to another, a forum to blog through sites with disconcerting ease and speed. The famous "Address Book" is now a list of friends on Facebook, a professional contact list on LinkedIn or some nicks which we follow such news on blog or forum (Ellison & Boyd, 2013). The storage of call and connection, the Automatic links begetting more broadly all recording systems and capitalization ephemeral contacts create a network effect. They are now whole networks which agglomerate to open for their members without border social navigation within a network of networks.

One might think that these new ways of "doing network" restore social equilibrium since everyone can access without distinction. Most often, the only constraint is to have an email address (Scott, 2012). In theory, everyone has the tools to build social capital recoverable which only the well-off previously had. However, despite the democratization of technology and the massive generalization of their use, it must be recognized that the digital divide persists. We are not all equal in front of a computer. It is not enough to own one, it is still necessary to use in achieving useful! Understanding and familiarity with the various uses that can make communication technologies is also a kind of "capital".

The phenomenon of "small world" and the theory of "the strength of weak ties" have been studied in the virtual social networks and they also check it. Contrary to what some advocate of virtual social networks, contacts that we have on the canvas are not "false friends". They are all strong and weak ties, diverse that we can maintain and mobilize relatively easily through the Internet.

Virtual social networks work roughly the same way as their real counterparts. However, the ease and speed offered by technologies tend to make us lazy. Maintaining relationships requires an investment in time rather consequent whether online or in real life (Zhong et al., 2011). Soon enough, a detachment occurs with people who are not connected. Conversely, the network is enriched by people connected more quickly that the effort to add them is minimal. This does not mean that virtual networks supplant real networks. This is not because we have friends on Facebook and that it is active one is isolated in life. The two types of communication, online and offline, fit to each other and complement each other. Internet and virtual networks are proving an opportunity for greater openness to the world, politics, cultural and social life.

Conclusion

There is no point demonizing new communication tools. This is not because it is new and it changes the mode of operation of certain things that it is bound to reject. By cons, do not be naive and blindly use these tools. The apparent transparency of the network, its lack of social cues like space, actually leads to what we never know too that we risk delivering. In contrast, malignant, network managers, police, spammers, hackers, power, advertising and other malicious canvas can follow our exchanges, we put plug, appropriating content our directories, or the entire network woven by our "community" and it is also almost impossible to erase our tracks.

We believe that information and communication technologies are an extraordinary innovation. But like any innovation, it requires adaptations: legally, in the protection of privacy; politically, to avoid abuses and limit the use of the 'digital divide'. Certainly the initiatives already exist, but we already seem to lag behind as technological developments, it is rampant.

This should also take a larger scale in the continuing education that works directly with the public.

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