CULTURAL DIFFERENCES IN DECISION-MAKING. A TRANSCULTURAL INTERFACE FOR GAMBLER'S FALLACY

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Tout joueur hasarde avec certitude pour gagner avec incertitude

Blaise Pascal

Abstract

The future of the technology resides nowadays in communication and collaboration since we are part of the global village which implies that every aspect of people's life will suffer major changes in terms of technological and social development. We often hear talking about transculturality and transdisciplinarity as means of creating state-of-the art technologies aided by both humanists and technologists and also through the collaboration of scientists belonging to different cultures.

Urgent decision making is prone to errors due to hasty, inappropriate inferences. Thus, the natural tendency of humans to take risks - for instance, like in gambling - , is amplified when response time is critical, moreover, it is depending on "cultural memes" and on the degree humans reject probabilistic thinking. The main aim of this paper is to present the importance of transcultural interfaces in urgent decision-making considering the cultural differences of the decision-makers and the fact that humans do not use probabilistic thinking when they make decisions (especially under time pressure) leading, therefore, to varied forms of "gambler's fallacy". Hence, the idea that such thinking is culturally influenced was close enough to encourage the paper.

In the introduction the title of the paper is explained in more detail and the following sections are focusing on the very instance of this paper: cultural differences between Northerners and Southerners with emphasises on decision-making considering the nondeterministic thinking of humans and their gambling styles.

Keywords

Transcultural Interfaces (TI); Computer-Aided Semiosis (CAS); Urgent decision-making; Nondeterministic thinking.

1 INTRODUCTION

It is already a known fact that cross-cultural collaboration and communication became popular concepts in the world with increasing globalization, where cultural issues are important to be explored. Therefore every aspects of e-communication should be inquired since nowadays we have access to all the necessary tools of the broadband society. In this regard, the transcultural interfaces are a tool by which people can interrelate through a cultural bridge, preserving in the same time their national identity.

The proposed transcultural interface presented in this paper could be a real help in urgent decision-making since this is a relevant concern, considering the fact that many decision-makers have to react quickly to a problem so as to make a decision on time. This is a well-known characteristic of this century when speed and efficiency are key requirements in all fields of interest. Therefore, many decision-makers are confronting at least once in their activities with the circumstance in which they have to be a sort of risk takers and gamble their decisions particularly when the time doesn't permit any delays.

Considering the fact that humans do not use probabilistic thinking when they make decisions (especially under time pressure) [3], they are often prone to varied forms of "gambler's fallacy". Thus, the idea that such thinking is culturally influenced was close enough to encourage the paper.

The main directions of this research are depicted in an umbrella-like paper that presents both the framework and the common denominator of two other related papers illustrating relevant subdomains of ICT interfaces designed to ease trans-cultural communication. Therefore to impair redundancy the paper is reduced to the scope and the content corresponding to the idea of cultural differences in urgent decision making. Hence, in the following section is presented the related work and history – however, not referring to general aspects but focusing on the very instance.

2 HISTORY AND RELATED WORK

The history of this undertaking includes two main strands: (1) quality assurance, presented in [6], [12], [13] and in this context, *group (collaborative) decision-making* and (2) CAS [2], [7], [8]. CAS came as an idea a couple of years before as a necessity for the prior mentioned reasons in the introduction section. The concept itself defines the transdisciplinarity by combining both a technologist concept "computer-aided" and also "the semiosis" that is more related to humanists [5].

Given the broadband era, now, more than ever, every activity will be somehow assisted by IT tools. In this regard, the idea of creating a transcultural interface able to help people making decisions remotely, in a collaborative way, without being constrained by the cultural differences seems very attractive.

As stated in the previous section, TI have a big prospective in the global village where boundaries of any kind have ceased to exist. Scientists are currently able to create interesting and state of the art technologies designed to aid people to communicate in their own style through collaboration and transdisciplinary studies. Today, communication doesn't consist anymore only in spoken and written language but instead people choose very different means of expressing themselves. Likewise some people choose to express themselves and transmit a message by using their skin as canvas, some other may choose to use TI i.e. icon-based messages, besides words.

The solution to the toy problem presented herein (creating a communication bridge between decision-makers of different cultures) is not designed as a replacement of common communication methods because these will continue to exist as long as people will enjoy reading books and receiving perfumed letters, but it offers a tool on tap, i.e. literally speaking. Consequently, the anthropocentric perspective is kept as a desideratum when designing the interface in order to aid the users to express themselves in a specific way, using common cultural concepts, but being understood by their communication peers in their own cultural patterns.

Decision making theory (in general) and mental models (in particular), associate judgment and choice. As a consequence decision-making plays an important and inseparable role in almost every domain of human cognition. For the most part, the same general mechanisms are used when decisions are made regardless of the specific domain, including categorization [17], memory recognition [15] and perceptual processes [10].

For most decision-making tasks, alternatives are considered and their benefits are measured until a decision threshold is reached at which time a "winner takes all" action is triggered [16]. Considering these aspects regarding what type of games people prefer for their spare time, a survey was conducted during 2006-2007 by Queensland Household Gambling Survey, to generate population gambling data at a detailed regional level. To this end, recruitment of survey respondents occurred in 30 different regions with approximately 800 respondents in regions with small populations to almost 2,800 respondents in Brisbane [11].

The survey illustrates the differences between North and South regions when gambling; the results are pointing to the fact that there is a significant difference between these two opposite regions when choosing a type of game. If the Southerners prefer high risk games like blackjack or Texas hold'em (in this regard, the most well-known region of gambling is Las Vegas, this corresponding to the geographical position South-West), the Northerners are rather preferring low risk or moderate risk games. These facts could have also been inferred from every day aspects regarding Southerners and Northerners. For example in Europe, the south corresponds to Balkan region and the north is corresponding to Scandinavian region – when speaking about these two regions in a comparison, a clear-cut difference can be easily depicted: Northerners think in terms of *what if* considering the results when making a decision, whereas Southerners are taking a decision on the basis of *why not*, this meaning that they are not afraid of taking risks.

3 TOY PROBLEM SCENARIO; CROSS-CULTURAL EXPERINCE IN DECISION MAKING

The proposed scenario for this instance is the following: a big company of furniture having two main branches, one in Great Britain and one in Romania are confronting with the economic crisis and they have to decide whether or not they can afford to keep the factory from Romania or to close it.

In this instance, the decisional process is mediated by a human-centred interface for online meetings. The important feature of such an interface is that is transcultural and besides the common communication using voice, video and chat it also provides a set of icons that are used for *cultural disambiguation.* For example, the Romanian partner wants to say good luck to the British partner using an icon therefore he/she double clicks on the horseshoe icon – a representative icon in this culture when speaking about luck – and the British partner receives an acorn – a representative icon since the Norman Conquest when the English carried dried acorns to protect themselves from the brutalities of the day.

In line with this example, the users have to be cautious when saying *buona fortuna* (goof luck) to an Italian because is considered bad luck, therefore the proper way to wish good fortune is to say *in bocca al lupo,* which can be translated as "into the wolf's mouth." Similar to the English expression "break a leg," the *"in bocca al lupo"* metaphor compares any challenging scenario to being caught between the hungry jaws of a wild beast whose aim is to swallow both the misfortunate and the careless [9]. The answer to this fortune wish is *crepi* or *crepi il lupo* which can be translated as "the wolf to die". For instance, the Italian writes this expression to his/her British communication peer and the peer receives an acorn on his/her screen. In this case the translation is made from text to image. If the British peer answers by sending back and acorn (saying good luck to you too), the Italian should receive on his/her screen the word *crepi*.

In the first example, the British partner, being part of a more rational culture rather than hasty, would make the judgment based on facts and numbers in the context of the economic crisis and by taking these into account would try to make the most wary decision. To be pragmatic he/she would rather give a negative answer that could spare the company some money, not risking losing even more on employees' salaries. On the contrary, the Romanian partner, thinking in terms of *why not* and basing his/her decision on the Markov's chains principles that state that *given the present state, future states are independent of the past states,* he/she would not consider the economic context and instead would say that after a chain of bad lucks the "sun would have to come eventually on his/her street too", therefore giving a positive answer for keeping the factory.

We often hear expressions like a *win-win game* or *zero-sum games* as result of a negotiation or a decisional process, which depicts the fact that the decision-makers are *non-deterministic thinkers* [4]. Game theory attempts to mathematically capture behaviour in strategic situations, in which an individual's success in making choices depends on the choices of others. While initially developed to analyze competitions in which one individual does better at another's expense (zero sum games), it has been expanded to treat a wide class of interactions, which are classified according to several criteria [1]. If Southerners have larger social networks than Northerners then the first ones are more tolerant of financial risks and therefore may be more risk-seeking for gains.

4 INTERFACE ARCHITECTURE

The proposed solution is supposed to help bonding people willing to communicate using alternative means of communication besides the common ones but, even more than that, bonding scientists from different research fields. The first level bonding, representing the designing and implementation phase would consist in a thoroughly communication between humanists and technologists and assertive studies both on designing an image-based ontology and its implementation. By this, the synergy between the two "teams" could be also called a *transdisciplinarity study*. When using TI, a common ontology for end-users should exist. An ontology is simply a structured way of showing relationships between related entities as in a hierarchy and it also can have subdivisions which to show similarities and differences between them [14].

To create an ontology which is the foundation of the TI, humanists have to find the proper symbols which worth to be included in it, i.e. these would have to be wide-spread concepts like, for instance, the *apple* and which can also be interpreted differently from culture to culture, giving this way the concept a "national tint of colour". The core of the ontology is represented by the specific "grammar rules" by which the icons are arranged in a coherent way so to be interpreted by the receiver as meaningful messages. The inspiration model came from Umberto Eco's communication theory by which a sent message is understood by the receiver through the process of semiosis. The CAS domain, as young as it may sound, it has the potential to become an immediately useful, challenging, easy to implement and a "humanist" domain.

The solution of the toy problem could be implemented as a plug-in for any instant messages service (see Figure 1), preserving also the common communication methods: chat, voice and video. The example depicted in this figure is adapted to the scenario presented in the previous section.

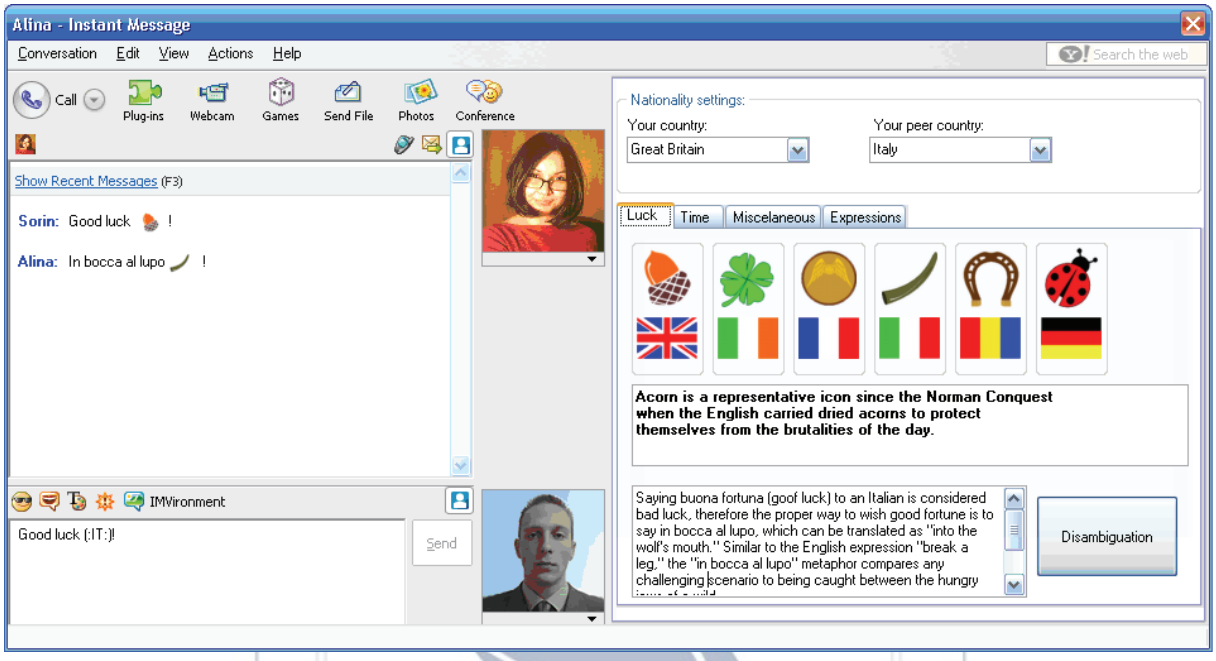

Figure 1. A possible implementation of the transculturale interface for gambler's fallacy

The main macro-architectural features looked-for are *flexibility* and *user-friendliness*. The anthropocentric feature is crucial for any applications involving intensive human-computer interaction (HCI). Hence, to meet the challenge, the HCI community developed methodologies for anthropocentric system design. Two approaches can be observed: *consultative design* (let decision-making power to technicians, users being simply sources of information with little or no direct influence) and *cooperative design* (strongly involves selected users giving them the chance to influence the final system). Anyhow, the design of truly anthropocentric systems has to be carried out by transdisciplinary teams including psychologists, teachers, software engineers, mathematicians, system analysts, and specialists of the particular fields involved.

5 CONCLUSIONS AND FUTURE WORK

The transcultural interfaces are seen as an alternative means of communication in order to help the users to get connected with people belonging to different cultures in an easy way. In this context, CAS is seen as a new paradigm that is meant to help the users to communicate in this arabesque like Europe. Because of the subtlety of different (non-)probabilistic thinking – sometimes not even realized by the very interactat, there are genetic differences between North and South in which we refer to gambler's fallacy. It is not a coincidence the fact that Las Vegas and Monte Carlo are situated in Latin settings.

The example given in this paper is just directional, as to provide a background image regarding the applicability of such a transcultural interface. Also, the dialog is quite primitive because it was invented only by the author without any transdiciplinary collaboration. So as a future work, the interface can be adapted to go beyond this level by translating a whole range of symbols from one culture to another by creating a visual ontology and therefore, helping in cultural disambiguation. The proposed solution can be also used in many instances of online communication not just in online decision-making processes.

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