FEELING OTHERS' RELATIONSHIPS: EMBODIED REAL TIME DUPLICATION OF FACE-TO-FACE ENCOUNTERS

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ABSTRACT

Cyrafour is an activity that considers the opportunities of using human avatars (cyranoids) for empathic interpersonal remote communication. An unscripted conversation between two individuals (the sources) is transmitted through radio waves and reproduced by two copresent subjects (the cyranoids) following certain conversational guidelines. Cyrafour could be considered as a playful embodied identity game in which cyranoids are simultaneously together in and aside from a conversation generated elsewhere. Based upon observations of, and interviews with young adults participating in such encounters we suggest that this puzzling circumstance may allow for an empathic embodiment of the meaning transmitted and appears to create a frame for further discussion on the topics raised. This activity appears to offer potential for the nurturing of the interperrsonal understandings that are the essential social glue of contemporary organisational life.

INTRODUCTION

The beginning of the 21st century has witnessed a renewed interest in embodied interactions. Challenging prevailing Cartesian assumptions that considered the body as just an accessory for the mind, a number of researchers from diverse fields (Dourish 2004, Frauenberger *et al.* 2010, Ehrsson 2007) insist on putting a spotlight on the corporeal nature of perception on the (phenomenological) grounds that "the body is our general medium for having a world" (Merleau-Ponty 1996).

It could be argued that such a paradigm shift has had important practical consequences for the design and use of media products and computer interfaces (Biocca 1997), and most notably, for communication technologies responsible for enabling interaction between people in different locations (Sävenstedt 2004). Telepresence allows professionals to form teams independently of their location and work collaboratively. By facilitating a collision of different perspectives in a professional environment, telepresence might potentially foster innovation and hence technology developers behind services like videoconferencing, virtual reality and on-line education constantly seek to improve the sensorial richness available to its users in order to erode the "tele" in telepresence. However, optimistic narratives on the high value of remote, disembodied interactions have been criticized for, among other reasons, the lack of empathic qualities they entail (Dreyfus 2008) when compared to their "offline" world counterparts.

In this paper, we present an experiential activity for embodying remote communication. Cyrafour (a portmanteau of the words indicating the main elements that constitute this activity: cyranoids and four participants) is a performative exercise in which four individuals participate, two as a source and two as their personal surrogates (cyranoids). Different spontaneous conversational activities (from a guided discussion to a

word game) between the two sources are "cloned" through speech shadowing (Marslen-Wilson 1985) by the cyranoids. Elsewhere the first author presents a case (Encinas 2015) for the timely relevance of this activity in deepening the understanding of social interactions among human surrogates, which are becoming increasingly present in leisure, academic and artistic activities (Philippe *et al.* 2014).

In this paper, analysis of the data belonging to three Cyrafour sessions (and interviews with the participants afterwards) are argued to prevent insights relevant to the study of empathy and embodiment and might regard Cyrafour as a rich method for immersing in others' discourse and points of view.

EMPATHY AND CO-PRESENCE

In this section we turn our attention towards the understanding of empathy. It seems relevant to examine how empathy is defined and promoted in order to judge its presence within Cyrafour.

The distinguished psychology professor Simon Baron Cohen (2004) argues for a bifaceted definition of the word empathy. On one side, empathy is a cognitive ability that seeks to understand how others feel and think or, in other words, "to be in someone else's shoes". At the same time, he also considers empathy as affective (or emotional): "it is the drive to respond appropriately to another persons thoughts and feelings" (Baron-Cohen 2004). A primitive human characteristic, empathy is considered an evolutionary ingredient of major importance as the ability to relate and respond to others states of consciousness played a significant role when establishing and stabilizing societal structures (De Waal 2008). Carl Rogers, one of the founders of the humanistic approach to psychology, argued for listening to the feelings behind the words as an exercise to bring about change and learning. He coined the term "empathic listening" to characterize the dynamic, process-like nature of empathy (Rogers 1975).

Empathy not only relates to communication but also encompasses a sense of embodiment. Undoubtedly, words are essential but so are eye contact, facial expression, posture, expressed emotions and tone of voice (Riess 2010), aspects of communication that require presence, or more accurately, "social presence" (Biocca 2003) or "corporeal copresence" (Zhao 2003): "conditions in which human individuals interact with one another from body to body" becoming "accessible, available and subject to one another" (Goffman 1959). Electronic communication technologies (like social media or video conferencing) allow for social presence to occur but due to limitations imposed by distance, some of the sensory and perceptual information of the face-to-face interaction is lost. Being present at a distance (or telepresent (Lombard 1997)) might prove socially beneficial in certain ways (Boyd 2007) but could also reduce the empathic baggage of the message transmitted (Dreyfus 1992).

CONVERSATION SURROGATES AMONG US

Cyrafour relies on cyranic interactions in order to set up remote communication. In the following section, we review the term cyranoid and summarize prominent present examples where they are employed.

The 19th century play Cyrano de Bergerac depicted Cyrano, an eloquent but unattractive man, attempting, and succeeding in winning the heart of a woman by teaming up with a handsome but shallow partner. Through secretly governing the speech of his partner, Cyrano was able to shape the image of a perfect lover, both intelligent and good-looking. Few centuries later, psychologist Stanley Milgram, coined the term Cyranoid to describe "people who do not speak thoughts originating in their own central nervous system: Rather, the words they speak originate in the mind of another person who transmits these words to the cyranoid by radio transmission" (Milgram 1977). After his pilot studies Milgram concluded that the use of cyranoids could be a promising tool for social psychology studies as he observed that when subjects were interacting with cyranoids, they failed to recognize the source of their words as remote, an effect to which Milgram referred to as the "cyranic illusion".

There are different elements involved in a cyranic interaction: the "shadower" who receives a message sent by the "source" and simply repeats it to the "interactant" face to face. Though Milgram was never to deepen his research on this subject, researchers have recently started to explore and report interesting findings concerning cyranic interactions. The second author investigated the implications of using cyranoids as educational mediators and as artistic interventions (Mitchell 2010, Mitchell *et. al,* 2011). Also, Kevin Corti & Alex Gillespie (2014) have revitalized the cyranoid method and underlined its dramatic importance as a social psychological research tool after replicating Milgram's pilot studies and, in Holland, a creative new media organisation presented an interactive performance show in which human avatars can be directed through Skype (Butler 2014).

Cyrafour takes advantage of its technical simplicity and flexibility to posit itself as an artistic activity that stimulates understanding and fosters innovative thinking. Also, Cyrafour could be employed as an interaction research tool to investigate aspects concerning how meaning is represented and acted upon during a conversation. By choosing the appropriate topic, participants might render this activity meaningful in business, academic or leisure environments.

DOUBLE SPEECH SHADOWING

Cyrafour engages four participants divided in two remotely located pairs. One pair act as "sources", each individual equipped with a one directional microphone that transmits their words via radio waves, and the other pair act as "cyranoids", each one receiving a voice stream from their respective "source" via headphones.

Each cyranoid relays the utterances from their "source" outloud to the other cyranoid facing them. That is source 1 transmits to cyranoid 1 and cyranoid 1 speaks with cyranoid 2 at the same time, cyranoid 2 shadows the speach of source 2 and talks to cyranoid 1. The "sources" maintain a unscripted conversation that is transmitted in real time to the "cyranoids" who, in turn, enact the same conversation by shadowing the speech they receive via radio transmission. It could be argued that the conversation between cyranoids is then a "clone" of that between sources as there is no feedback mechanism that informs the sources as to what the cyranoids say.

The following subsections describe the setup of the different experimental conversational activities that were intended to spark interaction among Cyrafour Sources and the results observed. b

Each Cyrafour session was videotaped together with a semi-structured interview of the participants of each session. Later, video data was analyzed iteratively, by identifying themes related to the research interest and relevant literature and contradictions arising from the observed data against what was revealed by participants during the interviews. On the next iteration, the themes discovered were examined and "tested" and later clustered when appropriate. Finally, once issues, contradictions and findings were identified, subsequent viewing of the data provided instances that clearly exemplified results and supported discussion.

A MONOTHEMATIC CONVERSATION

Setting
This Cyrafour activity presents two pairs of IT Product Design master students (a Master program offered by the University of Southern Denmark) maintaining a conversation (Figure 1). One pair, the sources, were invited to openly discuss a topic chosen by a co-present facilitator. The discussion revolved around the question "what is IT Product Design?" apparently, a subject widely debated among students pursuing this postgraduate degree. The facilitator asked questions to stimulate the discussion. The sources spoke into a microphone so to transmit their conversation to the cyranoids via mobile phone communication. In a different room, the other pair, the cyranoids, would receive a live voice stream (through an earphone connected to a mobile phone) that would be verbalized in real time hence, "cloning" the conversation between the sources.

Findings

The following are the main issues identified within the collected data from this session:

- *Subjective Mimicry*: The Cyranoids appeared not to restrict themselves to a strict repetition of the words heard, but adapted their tone and body language (eye contact, posture) to the message conveyed. E.g.

stressing an utterance ("I really don't think so") with vigorous hand movement.

- *Expressing Hardship*: The Cyranoids complain to each other humorously when unable to shadow the speech of the sources shaping what could be described as a friendly and understanding atmosphere distinct to that in which the Sources converse.

- *(Over) Present Facilitator*: Sources included the facilitator in their conversation by directing their attention to and expecting questions from him when their speech fainted. The role of the facilitator became too relevant as it generated non-alignment between the "original" and the "cloned" conversations.

- *Source Indifference*: although initially informed of their role as "Sources" for the Cyranoids, Sources do not seem to adapt their elocution for this task, which leads to the Cyranoids sometimes having difficulty in repeating all the words they hear.

Figure 1. Sources (above) and Cyranoids (below) discussing about IT Product Design

TWO TRUTHS ONE LIE

Setting
This activity was chosen in order to explore the complexities of turn taking and spontaneous commentary. *Two truths one lie* is a conversation game for two participants. Taking turns, each speaker offers 3 facts about her life. Out of the 3 one is a lie, hidden between 2 truths, and it is the task of the listener to uncover it. In this Cyrafour session, Sources played *Two Truths One Lie* and cyranoids "cloned" their conversation by the same technical means described in the previous section. Afterwards, the same game was played with roles reversed. Thus the cyranoids became the sources and vice versa (Figure 2)

Figure 2. Sources (above) and Cyranoids (below) playing *Two Truths One Lie*

Findings

In this session, some of the issues reported in the previous phase of the experiment were also present (like "Source Indifference"). However, and for the sake of clarity, the following lines depict only unprecedented observations:

- *Cyranic Illusion*: on a number of occasions, cyranoids seem to be confused as to whether the message conveyed by their interlocutor actually originates in them only to later discover, with a certain relief, that their speech was being controlled by the source. ("What are you saying?" "Oh, you are just repeating [source's words])

- *Parallel Play*: during the course of the game, it appears as obvious that cyranoids do not limit themselves to "clone" verbally the game played by the sources. Non-verbal cues such as frowning, smiling, pointing with the finger and even verbal ones ("that is a lie") indicate that the cyranoids are themselves engaged in the game, albeit remotely, while shadowing the sources' speech.
- Element of Surprise: unexpected discursive turns transmitted by the sources (e.g. jokes) seem to have a stronger impact on (both) cyranoids behavior than in those of the sources (e.g. Laughing periods last longer). The Sources' spontaneity (e.g. humor) seems to be a force that disengages the cyranoids from their ongoing speech shadowing practice triggering lively gesturing and talking.

THE EXISTENCE OF GOD

Setting

The previous Cyrafour experiences involved conversational activities that required a sort of "comfortable" engagement by the sources. The last phase of the experiment involved a personal and at

times controversial, involvement. The sources (an atheist and a theist) watched a video of Stephen Hawking arguing against the existence of God. Afterwards, they were invited to give their opinion on Mr. Hawking's disclosure. The cyranoids (also an atheist and a theist) enacted the conversation as in previous occasions, with a certain peculiarity. The atheist source would transmit her speech to the theist cyranoid and vice versa. As a result, cyranoids were compelled to voice the words of someone with diametrically opposed beliefs (Figure 3).

Figure 3. Sources (above) and Cyranoids (below) wondering about the existence of God

Findings

- *Parallel Dialogue*: The immersive task of shadowing the speech of the Sources seems to absorb most of cyranoids' attention. However, the task of relating the concepts is interrupted regularly when the cyranoids express their own opinion on a certain sentence they just cloned or when reacting to the other cyranoid comments. This appeared to be a consequence of eitther their cyranic activity or of their personal view being confused. Aside from the dialogue imposed by the sources, cyranoids seem to communicate with each other outside of their cyranic activity and maintain what could be described as a" parallel dialogue" at a personal level.

- *Exposing Understanding*: verbal communication involves a number of supporting non-verbal cues that further express its meaning. Cyranoids expose their understanding of the message being communicated mainly, through facial expression (e.g. frowning when not sure of being cloning a message correctly)

- *Communicative Compromise*: as noted earlier, cyranoids seem to alternate between a purely imitative performance of the sources' speech and a personal interpretation of such content. Attention seems to be

divided between listening, understanding, verbalizing and commenting which affects the clarity of the message conveyed and, in turn, the understanding of the info coming from the co-present cyranoid.

- *Refuge from Meaning*: some cyranoids seem to systematically avoid verbalizing certain sentences, employing silence instead. This, together with a careful and intentional modification of their bodily arrangement might signal the existence of manoeuvres to convey uncomfortable messages or to escape from doing so.

TUNING IN TO INTERPERSONAL GAPS

These observations suggest that particpants in Cyrafour had deepened their mutual understandings through participating in the activity. It appears that this is true not only in relation to the instances and the aspects in which the cyranoids were effective relays for the sources, but when participants stumbled in acting as human avatars. Difficulties in performing Cyrafour such as *Refuge from Meaning*, *Communicative Compromise*, *Parallel Dialogue*, and how participants responded to such challenges, suggest that Cyrafour or other speech shadowing activities might be fruitfully applied in addressing difficulties nurturing professional collaborations.

RELAYING ORGANISATIONAL GLUE

Developing close interpersonal relationships can take considerable time. However, within many organizations, the rapid formation of high trust working relationships is increasingly important for effective team working (Costa *et al.* 2001, Hacker 2002, Jarvenpaa & Leidner 1998). The demand for teamwork at a distance has increased (McDonough *et al.* 2001) but the *"fragile sphere of virtual relationships requires a much higher level of trust than do conventional hierarchically controlled settings"* (Panteli 2005, para 16). The effectiveness of virtual teams maybe increased by face-to-face meetings " for the purpose of easing the process of collaboration and coordination" (Dube and Pare 2003:6 and see also Bos *et al.* 1998). Cyrafour seems to present cyranic interactions as plausible means to facilitate such processes. Embodying and verbalizing some else's discourse and ideas has an impact on everyone involved: sources generate a message that will not only be listened to, but spoken out loud and hence they can possibly be held accountable for their words not on the fuzzy grounds of memory ("I recall you said..") but concerning the responsibility or agency over the message by the cyranoid after speech-shadowing ("I know you said so because I said it). This ambiguous situation seems to demand further discussion and, in all Cyrafour sessions, participants gathered together once the activity was over to clarify, discuss or simply joke about the outcomes of the activity.

Telepresent individuals wishing to work together may have met face-to-face a number of times and thus there is often an imbalance in group teleconferences. Meeting somebody for the first time poses challenges whether

the interaction is face-to-face or via video link (Bekkering & Shim 2005). All synchronous initial encounters share similar challenges of how, when and what to say. Regulating conversational mechanisms such as turn taking is more difficult in group interactions and in remote interactions, the challenge of grounding conversations is further increased (Anderson *et al.* 1999, Geisler & Rogers 2000, Monk 2003). Technological developments of teleconferencing systems hold the promise of making mediated conversations much more similar to face-to-face meetings yet the sensorial richness is diminished when there is space separating team members. Cyranoids share a message generated elsewhere and, attending to Cyrafour results, they do so keeping an alignment between what they say and what they show: adding verbal and non-verbal clues to the cloned conversation in order to facilitate the message conveyed and the understanding of such message by the interlocutor hence grounding the conversation.

Furthermore, if technological developments are successful in more closely replicating non-mediated communication then they may also result in bringing more of the difficulties of a face-to-face encounter into the remote communication session. Nowak *et al.* (2004) have argued that preferences for face-to-face meetings may be a result of social rather than technological effects. Burgoon *et al.* (2002) have also questioned whether face-to-face encounters should be the benchmark against which mediated communication measured. However, as Monk and Reed (2007) show, communication technologies do offer new ways of socialising that are yet to be fully exploited - perhaps in direct contradiction to notions of "proper use" (Pool, 1983:27). Cyranoid techniques are one such instance in that they appear to offer potential for both co-located and remote interactions for introductions and integration of weakly tied team members.

Finally, in terms of making positive initial impressions, how something is said maybe more important than what is said (Argyle 1982:21). A cyranoid can act as a conversational interface between two people that know each other well. When doing so, the cyranoid will thus have greater opportunity to concentrate on appropriate delivery and body language rather than the content of his or her utterances. The technique thus has promise not so much an "icebreaker" but as a means of exploring existing well navigated "channels" between well acquainted dyads and utilise aspects of Walther's (1996 cited by Jarvenpaa & Shaw 1998) proposed "Hypersonal Effect". Or, as after Fjuk and Sorenson (1997) the telecommunication system becomes the tool but the medium is the person. A high degree of what Biocca *et al.* (2001) termed "social presence" may potentially be experienced by parties interacting through a cyranoid. Meyerson *et al.* (1996) argued that "swift trust" is acquired through "doing rather than relating". A cyranoid technique is an active cooperative exercise that

requires immediate reliability and so may also be conducive to swift trust formation.

CONCLUSION

We have presented a qualitative analysis of participant observations and interviews from Cyrafour, an experiential activity to explore and better understand cyranoids as a method to investigate issues related to empathy and embodiment. This initial study suggests that valuable interpersonal understandings may be developed through participants experiencing the novel perspectives that Cyrafour offers upon the opportunities and challenges of conversational interaction. Our hope is that this account provides new opportunities for developing empathic human interpersonal relations particularly in contexts of organisations experiencing changes in personnel.

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