Contextual constraints and non-propositional effects in WhatsApp communication

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ABSTRACT

According to relevance theory (Sperber and Wilson, 1995), information (*a set of assumptions* in its terminology) is relevant if it satisfies two conditions; firstly, it should generate a substantial amount of interest (*positive cognitive effects* in its terminology); and secondly, its processing should demand as little mental effort as possible. In my opinion, this pair of conditions should be supplemented with the notions of *contextual constraint* and *non-intended non-propositional effect*. As will be argued in this paper, this RT extension is particularly appropriate for the analysis of Internet-mediated communication, since nowadays we are witnessing a turn into what has been labeled *phatic Internet*, massive exchanges of messages with little informational relevance but enormous impact on users' feelings of connectivity and sociability, among others. The aim of this paper is to apply this proposal of extension to mobile instant messaging (specifically *WhatsApp*) and explore some of the constraints and non-propositional effects that play a role in the eventual relevance of *WhatsApp* interactions, which typically generate relevance from these non-propositional effects and not from the prototypical object of pragmatic research, namely the propositional content of the messages in the shape of explicatures and/or implicatures.

Keywords: Mobile instant messaging; WhatsApp; Relevance theory; Cyberpragmatics; Phatic communication; Contextual constraint; Non-propositional effect.

1. Introduction: Relevance theory

Relevance theory (Sperber and Wilson, 1995, henceforth RT) claims that human cognition is relevance-oriented and has evolved in such a way that it tends to pay attention to potentially relevant inputs, discarding others due to their irrelevance. This general tendency is covered by the *cognitive principle of relevance*: "Human beings are geared to the maximization of relevance" (Sperber and Wilson, 1995: 260). With this evolved cognitive ability, humans are really good at minimizing mental effort by selecting from context only the quantity and quality of information that is bound to aid in deriving relevant conclusions from any input. Indeed, this cognitive principle is at work in the processing of any kind of stimulus, both verbal and visual, communicative or simply accessible. However, RT is more interested in narrowing down this broad application of the cognitive principle to the specific analysis of ostensive verbal communication. Hence, and included in the aforementioned *cognitive principle*, there is another principle but communication-centered: the *communicative principle of relevance*:

“Every act of ostensive communication conveys the presumption of its own optimal relevance” (Sperber and Wilson, 1995: 158). This presumption of relevance sets the addressee’s inferential strategies in motion in order to find an interpretation that possibly matches the speaker’s intended one, and the first interpretation that provides an optimal balance between the following two conditions is the one that will invariably be selected:

- Condition a. An assumption is relevant to an individual to the extent that the positive cognitive effects achieved when it is optimally processed are large.
- Condition b. An assumption is relevant to an individual to the extent that the effort required to achieve these positive cognitive effects is small.

Crucially, both in general cognitive inferences (managed by the cognitive principle) and communication-centered ones (triggered by the communicative principle), context plays a major part in deriving relevant conclusions. Consider the situations depicted in (1-3) and (4-6):

- (1) New information (visual input):
John enters a Zara store at mid-morning to pick up his girlfriend to go for a coffee at a nearby Starbucks. As he reaches the section where she works, he sees Ann Smith, the head of the section, talking to his girlfriend.
- (2) Information already available (from encyclopedic knowledge):
 - a. Ann Smith never gives workers permission to leave the store at working hours.
 - b. John and his girlfriend can only go for a coffee when Ann Smith is not around.
 - c. Ann Smith is close enough to John’s girlfriend to monitor her actions.
- (3) (Relevant) conclusion (inferred by combining (1) and (2)):
Today it will be impossible to go for a coffee with my girlfriend.
- (4) New information (verbal input):
Harry: So... How is your sister? Did she finally recover from her cancer?
Peter: Today she’s been at the hairdresser’s.
- (5) Information already available (from encyclopedic knowledge):
 - a. Patients with cancer usually undergo chemotherapy and usually lose their hair.
 - b. Hair grows again after the patient recovers from cancer and stops treatment.
 - c. A person with no hair does not usually go to the hairdresser’s.
- (6) (Relevant) conclusion (inferred by combining (4) and (5)):

Peter's sister has recovered from cancer.

In (1-3) and (4-6) two parallel inferential situations are managed by John and Harry respectively. In the first one, there is no verbal communication, but the cognitive principle of relevance causes John to dismiss potentially irrelevant stimuli (e.g. new clothes at the store, new arrangement of furniture...) and focus only on what is utterly relevant to him: the sight of Ann Smith talking to his girlfriend, and he draws the relevant conclusion (3). By contrast, in the second situation there is indeed an ostensive verbal input. Peter's utterance and the communicative principle of relevance lead Harry to get the most appropriate interpretation satisfying the aforementioned conditions of relevance, in this case the implicature (6).

Crucially, both situations are similar in the role of context in obtaining relevant conclusions. Indeed, there is no direct link between (1) and (3), or between (4) and (6) unless John and Harry are capable of accessing the relevant contextual information in (2) and (5) respectively. Besides, one of the major contributions of RT to pragmatics is to show that even explicitly communicated assumptions demand a lot of contextualization in order to be turned into fully relevant interpretations. For RT, several types of information are inherent objects of pragmatic research, here exemplified with Ben's answer to Ken (adapted from Clark, 2013) in (7): (a) explicit interpretations (*explicatures*), as in (8); implicated premises, which are retrieved as part of contextualization, as in (9) (the information in (5) above would also be implicated premises); strong implicatures, clearly intended to be communicated by Ben, as in (10); and weak implicatures, also triggered by Ben's utterance, but whose derivation is probably more Ken's responsibility than actually intended by Ben, as in (11):

(7) Ken: Are you afraid that the price of petrol might go up again?

Ben: I don't have a car.

(8) Ben does not own a car.

(9) A person who has no car normally is not worried about the price of petrol.

(10) a. Ben does not buy petrol.

b. Ben is not worried about the price of petrol.

(11) a. Ben does not like people who own cars.

c. Ben cares for the environment.

Besides these kinds of propositional content communicated by utterances, RT also includes *higher-order explicatures* (which include the speaker's propositional attitude towards what is

uttered or the speech-act schema within which the utterance is embedded) and also *affective attitudes*, that is, feelings and emotions intended by the speaker, either in isolation or as part of the eventual interpretation of the propositional content to which these affective attitudes are attached. An often cited example of the former (affective attitude in isolation) is a couple that has just arrived at the seaside (Sperber and Wilson, 1995: 55). She opens the window overlooking the sea and sniffs appreciatively and ostensively. When he looks at her, there is no specific interpretation that comes to his attention apart from her positive feelings: the air smells fresh, they can smell the sea; all sorts of pleasant things come to mind, and since her sniff was appreciative, he is bound to assume that she must have intended him to notice some of her feelings upon sniffing, even if he is unlikely to be able to pin down her intentions any further.

An example of the latter (affective attitude attached to propositional content) is suggested in Yus (2016a), in which it is argued that irony comprehension necessarily entails the identification of the speaker's affective attitude upon producing the ironical utterance, in order to pin down the intended interpretation as utterly critical, mildly critical, humorous or praising.

The next sections of the paper are organized as follows: In Section two, a terminological proposal is provided for an extension on RT research: the new terms *contextual constraint* and *non-intended non-propositional effect*. These terms are necessary, in my opinion, for determining what is at stake in Internet-mediated communication. And the latter is particularly useful to explain today's tendency to use Internet not as a source of reliable, trustworthy and relevant information, but to use the discourse exchanged on the Net as mere instruments of phatic connection. Section three will be devoted to this *phatic Internet* and my proposal of *phatic effects* that complement the traditional approach to phatic interpretations under RT that treats them as weak implicatures. Section 4 is devoted to general issues on mobile instant messaging and, specifically, on *WhatsApp* (henceforth WA), which will be treated as an inherent phatic technology for the derivation of effects beyond the information supplied by the content coded through this mobile messaging application. Finally, the next two Sections will be devoted to listing some of the contextual constraints (Section 5) and non-intended non-propositional effects (Section 6) that are at work in WA communication.

2. Contextual constraints and non-intended non-propositional effects

RT provides an exhaustive picture of how interpretations are selected and how their content achieves relevance with the aid of contextualization. However, when applied to Internet-mediated communication (e.g. within *cyberpragmatics*, see Yus, 2010, 2011a, 2013), the analyst is faced with a myriad of messages that are devoid of relevant content but which are nevertheless valued by users and produce various kinds of interest and reward beyond their propositional content. This is why in previous research an addition of terminology has been proposed by adding two elements that play a part in the eventual relevance of Internet-mediated communication, but which are not specifically tied to the relevance of the content being communicated (see Yus 2011b, 2014a, 2014b, 2015a, 2015b, 2015c, 2016c).

Firstly, the term *non-intended non-propositional effect* was added to the general RT approach. It refers to non-propositional feelings, emotions, impressions, etc. which are not overtly intended by the “sender user,” but are generated from the act of communication, and add (positively or negatively) to the cognitive effects derived from utterance interpretation (propositional content).

Fig. 1. Contextual constraints and non-propositional effects within the relevance-theoretic model of communication.

Secondly, Internet communication is affected by a number of interface-related and

user-related qualities that may also alter the eventual estimation of the relevance of the act of communication. These are mainly related to the users' management of the interface, the kind of relationship existing between interlocutors, the user's personality, etc. They also affect the eventual (un)successful outcome of Internet-mediated communication. To account for the mediation of these qualities, the term *contextual constraint* was proposed, restricted to aspects that *underlie* the acts of communication and the users' interactions (i.e. they exist prior to the interpretive activity) and *constrain* their eventual (un)successful outcome. They *frame*, as it were, communication and have an impact not only on the quality of interpretation, but also on the willingness to engage in sustained virtual interactions. Needless to say, contextual constraints exist in every act of communication, not only Internet-mediated ones, but their influence is much more noticeable on the Internet, where interactions are often devoid of physical co-presence and utterances often exhibit a cues-filtered quality, also typical in WA communication. In any case, they exist prior to the interaction and hence should not be an inherent object of pragmatic research, but their role in the outcome of communication makes its analysis relevant to determining why communication on the Internet turns out satisfactory or fruitless.¹

This pair of terms (*contextual constraint* and *non-intended non-propositional effect*) allows us to explain frequent situations such as the one in which users spend hours exchanging utterly useless messages, or account for effects such as the frustration upon finding it difficult to manage an interface in order to achieve communicative goals, among others (see below).²

Overall, the framework for the analysis of Internet-mediated communication may be represented as the chart in Figure 1. Inside the thick-line square, the typical objects of cognitive pragmatics and RT research are included: the cases of intended (i.e. ostensive) interpretations of a propositional kind (explicatures, strong/weak implicatures, propositional attitudes) and a non-propositional kind (affective attitude, that is, feelings, emotions and

¹ For example, in Yus (2016b) a number of contextual constraints were listed that play a part in why humorous communication (e.g. jokes) ends up (un)successful, including the suitability of the humorous text in the context of the interaction, the hearer's background knowledge and beliefs, the interlocutor's sex, the interlocutor's sense of humour, and the relationship holding between interlocutors.

² The proposal of adding these elements to the normal formula for the interpretation of utterances in Internet-mediated communication also entails a broadening of research and a cross-breeding of disciplines, since now several conclusions obtained from sociology, anthropology, computer science, etc. may also have to be taken into consideration insofar as they shed light on why messages exchanged on the Internet achieve (ir)relevance and eventual user (dis)satisfaction beyond the relevance of discourse interpretation.

impressions held and meant to be communicated by the speaker). The extraction or derivation of these interpretations from coded stimuli would be triggered by the communicative principle of relevance (abbreviated as *PoR* in Figure 1): the addressee would search for the most relevant interpretation, i.e. the one offering the best balance of conditions (a) and (b) quoted above, and stop interpretation when his/her expectations of relevance are satisfied.

Beyond this array of prototypical interpretations, the addressee may also extract (positive or negative) non-intended non-propositional effects beyond the speaker's intention, effects that *leak*, as it were, from the act of communication in the shape of feelings and emotions. As argued in Yus (2016c), these non-intended non-propositional effects are important for eventual relevance, since they have an impact (a) on the positive/negative outcome of Internet acts of communication; (b) on the preference for a specific site, medium or channel; (c) on why certain interactions are (un)profitable despite the lack of/existence of interesting information; and (d) on how Internet interactions make users feel.

As will be analyzed in Section 6 below, many of these non-propositional effects possess a phatic quality. Indeed, many instances of these effects arise from trivial conversations and, as has been argued in this paper, they compensate for the lack of relevance that the content of the WA messages objectively possess. Of course, these phatic outcomes may be achieved intentionally, by propositional means (in the shape of weak implicatures). By contrast, the phatic effects that will be analyzed in Section 6 *exude* from the WA act of communication, and therefore they are devoid of one quality of (propositional) phatic communication: *intentionality*, since these effects are generated beyond the user's conscious intention to produce them.

Besides, although phatic interpretations typically arise from trivial messages with no relevant or substantive content, there is no reason why these non-propositional phatic effects can not arise from other types of WA interactions, even the ones involving more formal and informative or relevant content. These phatic effects make up for the irrelevance of WA content but may also add to the intended phatic implications also conveyed by the content (typical case of phatic communication), in both cases facilitating a positive inferential outcome. In conclusion, there are at least four situations in which non-intended non-propositional effects may play a part in the eventual relevance of a (phatic) act of WA communication:

(a) Phatic non-intended non-propositional effects that add to the intended (propositional) phatic implicatures intended by the sender user beyond non-relevant trivial

content (default case of phatic communication).

(b) Phatic non-intended non-propositional effects arising from non-relevant content but beyond a conscious intention by the speaker to engage in phatic communication (e.g. when the user types massive amounts of trivial text that produce phatic effects in the addressee user, but the user did not hold a phatic intention when typing them).

(c) Non-intended non-propositional effects that add to the cognitive effects from relevant content and also beyond a conscious intention by the speaker to engage in phatic communication.

(d) Non-intended non-propositional effects of a phatic quality which add to a message that is sent with substantially relevant content in itself, but the user also holds a phatic intention when typing it, for instance predicting that relevant content will aid in “breaking the ice” with the WA interlocutor.

Lastly in Figure 1, both the intended propositional and non-propositional information (inside the thick-line square) and non-intended non-propositional effects would be generated within a *pool*, as it were, of contextual constraints, of a positive or negative quality. These may increase or reduce the eventual relevance of the act of communication as a whole.

Fig. 2. Types of contextual constraint and non-propositional effect.

Crucially, both constraints and non-intended non-propositional effects would be

managed by the cognitive principle of relevance and not by the communicative principle of relevance, since we are dealing with effects that are not intentionally communicated but assessed and computed by the user's cognition as part of the general tendency to the maximization of the relevance of the message inferred. In a nutshell, the addressee would engage in a relevance-seeking inferential procedure of balances of cognitive effects and mental effort by activating the communicative principle of relevance (as applied to the propositional content), but at the same time the addressee may cognitively assess and compute the existence and possible burden/reward of a number of (positive or negative) contextual constraints and non-intended non-propositional effects that are eventually added to the basic RT formula for propositional information, altering the eventual (dis)satisfaction regarding the act of communication as a whole.

Furthermore, due to the specificity of Internet-mediated communication, both contextual constraints and non-intended non-propositional effects may be divided into sub-categories (see Figure 2). Firstly, a distinction can be made between those constraints and effects that are related to the use of an interface (*user-to-system communication*) and those related to the exchange of information among users (*user-to-user communication*) or qualities of individual users that affect the eventual quantity of information coded and the eventual relevance achieved (e.g. the user's personality). Next, both constraints and effects may be associated with the *sender user* or with the *addressee user*, thus introducing further elements that might play a part in how (un)successful interactions on the Net turn out to be. And finally, the user may or may not be aware of the existence of these constraints and non-propositional effects, even if they still play a part in the eventual quality of virtual acts of communication. For example, a narcissist personality is a constraint that influences the users' active uploading of content on a social networking profile, and also a non-propositional effect if, as a result of intense interactions and comments from peers, the user ends up strengthening this narcissist personality. And the user may not be fully aware of the existence of this constraint and/or effect. For example, a typical phatic activity on the Net includes obsessive posting of messages without relevant content, with the relevant non-propositional effects of keeping in contact, reinforcing relationships, creating a sense of intimacy and non-stop connection (Radovanovic and Ragnedda, 2012). These effects make up for the lack of "propositional relevance," but the users themselves may not be fully aware of the creation of these effects; they may simply compute them at a sub-conscious level (e.g. by just feeling good about these mundane interactions). Even in this case, these effects are present and may generate willingness to engage in subsequent (phatic) virtual interactions.

As a conclusion, my proposal is to complement the aforementioned conditions of relevance (guided by balances of positive cognitive effects and mental effort, repeated again below as (a) and (b) for convenience) with this new terminology, as stated in conditions (a') and (b') for contextual constraints, and (a'') and (b'') for non-intended non-propositional effects. With this complementation, we obtain a more thorough picture of what counts as “relevant” or “irrelevant” in an act of Internet-mediated communication:

- Condition a An assumption is relevant to an individual to the extent that the positive cognitive effects achieved when it is optimally processed are large.
- Condition a' The relevance of an assumption is facilitated or enhanced if *positive contextual constraints* make an optimal processing of the assumption easier or add to its eventual relevance.
- Condition a'' The relevance of an assumption is facilitated or enhanced if *positive non-intended non-propositional effects* add to the positive cognitive effects that the assumption produces in a specific context, to the extent that these effects may make the act of communication relevant even if the content of the assumption itself produces few or no positive cognitive effects.
- Condition b An assumption is relevant to an individual to the extent that the effort required to achieve these positive cognitive effects is small.
- Condition b' The relevance of an assumption is facilitated or enhanced if *negative contextual constraints* do not add to or increase the addressee's mental effort devoted to the processing of this assumption in a specific context.
- Condition b'' The relevance of an assumption is facilitated or enhanced if *negative non-intended non-propositional effects* do not reduce the positive cognitive effects that the assumption itself produces in a specific context.

3. The phatic Internet

The addition of the term non-intended non-propositional effect to the main RT framework is particularly interesting for explaining the trend that we are witnessing in virtual interactions: the *phatic Internet*. This label refers to a current tendency in Internet communication in which the propositional content transferred to other users is increasingly irrelevant but the effects that this content generates on these users (in terms of feelings of connection, of sociability, of group membership, of friends' acknowledgment and awareness, etc.) are utterly relevant

and make up for the irrelevance of that content. These effects are so relevant to users that they often constitute the main relevance of the act of communication (instead of the information coded, a typical feature of phatic communication. In a seminal paper on this topic, Miller (2008) convincingly argues that nowadays we are witnessing a shift from dialogue and communication between users on the Net, where the point of communication was to provide users with substantive content, to a situation where the maintenance of the network itself has become the primary focus, that is, communication and exchange of information subordinated to the maintenance of networks and to sustaining connected presence. This has resulted in a rise of what he calls *phatic media* in which communication without content has taken precedence. Miller (ibid.: 395) adds that “with the demands of ever expanding networks and of connected presence, dialogue becomes a hindrance pragmatically and the time-saving role of compressed phatic communications increases in importance.” He stresses that here is “a rise in prominence of phatic media and communication as a way to achieve some form of intimacy and connection with the ever increasing amount of contacts, connections and networks in which we are increasingly embedded.”

These effects of a phatic quality may be intended (i.e. phatic implicatures) or be generated beyond the sender user’s intentions. The latter constitute a substantial part of the possible non-intended non-propositional effects that may be generated out of Internet-mediated interactions (others including, for instance, an impact on the user’s self-esteem), some of which will be listed in Section 6 below, and they entail implications for pragmatic research on Internet communication (and for *cyberpragmatics*) and corroborate the need for an extension beyond the study of communicated propositions, the core object of pragmatics. But before moving on to their analysis, a brief comment on propositional acts of phatic communication will be provided below.

Propositional phatic interpretations are typically defined as the ones arising from an intention to create and maintain ties and social bonds, to exhibit sociability towards others, rather than to transfer information. As such, they are not typical instances of communication in which the relevance is centered upon the value of propositional content. This is why, from an RT approach, phatic interpretations are typically communicated as implicated conclusions (*phatic implicatures*) which do not depend on the explicit content of the utterance, the latter being normally regarded as irrelevant or non-informative (Žegarac and Clark, 1999: 339; Žegarac, 1998: 328). For RT, phatic communication is tightly related to contextualization, just like any other proposition communicated and inferred. A number of aspects are worth

commenting upon:

Firstly, phatic communication compensates for the loss of effects that propositional content produces. There have to be other sources of satisfaction beyond the content coded (Padilla Cruz, 2007). This alternative source of relevance beyond content is pervasive on the Internet, where millions of messages are sent on a daily basis which lack any propositional value, but achieve relevance through the generation of a number of effects across the propositional/non-propositional board. For example, Graham (2012) writes about how users constantly post brief messages on Twitter that are often devoid of substantive content, but are simply meant to update their social network about what they are doing: “going to the store,” “feeling overwhelmed with this paper,” “enjoying the beautiful day,” etc. The purpose of this kind of short message is primarily phatic: participants simply want to stay connected to one another.

Secondly, apart from highly conventionalized phatic phrases that invariably communicate a phatic intention (e.g. *how's it going?*), most phatic phrases may also be understood as non-phatic if context favors this interpretation and it is mutually manifest to both interlocutors (using the RT terminology) that a specific interpretation is intended (see Padilla Cruz, 2005: 230, 2009). Consider (12-13):

(12) John to Thomas: “Nice weather we’re having!”

(13) Ann to Rose: “Hi! How are you?”

Both (12) and (13) are typical instances of phatic utterances. However, the mutual manifestness of certain contextual information may lead the hearer’s inferential strategy away from a phatic interpretation and into a more content-bound one. For instance, in (12) Thomas may have told John that morning that it was ok to go to the beach since the weather was going to be fine; but upon arriving there, it starts pouring down, and then John says (12). In this case, John would hold an ironical intention, not a phatic one. In a similar fashion, if it is mutually manifest to Ann and Rose that the latter is recovering from a serious illness, then the question in (13) will be interpreted as a request for information, not as a phatic utterance. My point in this paper is that users may also extract phatic conclusions out of online messages whose main point is not phatic (or at least not overtly so), as long as the users’ evolved psychological ability (cognitive principle of relevance) is able to compute these effects that add to (or make up for) the inferred interpretation of the propositional content of these messages.

Contextual support and mutual manifestness also determine the existence of degrees of “phaticness” depending on how much standardized or conventionalized the utterance is for phatic purposes.³ For example, Žegarac and Clark (1999: 329) suggest that a string like *how do you know Michael?* seems ‘less phatic’ than a string like *how are you?*, when uttered in the same situation (e.g. to someone one has just met at a party). They add that “it may be possible in certain cases to characterize a particular interpretation as extremely phatic (e.g. if all its implicatures depend upon the communicative intention but not on what is linguistically encoded). In other cases, it may be possible to characterize an interpretation as not phatic at all (e.g. if all its implicatures depend upon what is linguistically encoded)” (p. 334).

What happens in phatic communication is that, when guided by the communicative principle of relevance, the addressee attempts to come up with an interpretation, he/she finds that this interpretation does not yield enough cognitive effects (or yields none), but this lack of effects is compensated for by other intended effects achieved at a phatic level. At the propositional level, these intentional effects are derived as part of the overall interpretation of the utterance; at the non-propositional level, non-intended effects are generated when the cognitive principle of relevance takes over and finds sources of interpretive satisfaction beyond propositional information.

Thirdly, there is an agreement within RT that phatic interpretations are weakly implicated (weak implicatures). Analysts such as Žegarac (1998: 338) assume that if phatic communication is linguistic, then its interpretation necessarily has to be propositional. By contrast, my opinion is that even if this is indeed very often the case (in situations where the speaker does intend a specific phatic implication), “phaticness” may also be generated non-propositionally and beyond the speaker’s intentions, to the extent that these non-intended non-propositional effects are often what keeps Internet users satisfied and sending massive amounts of texts which are devoid of informational value (Vetere et al., 2009: 177). This is especially the case in WA groups involving lots of users teasing one another and contributing with pictures, videos, viral memes and jokes. In other words, limiting phatic communication to the shape of weak implicatures entails that they invariably possess an intentional and propositional status. But the phatic effects that users obtain may also *leak*

³ “The difference between standardised and conventionalised phatic expressions is that the former retain linguistically encoded meanings which may contribute to the communication of non-phatic information, while the latter do not” (Nicolle and Clark, 1998: 185). That is, in conventionalized phatic utterances the meaning is immediately obtained without attention to the propositional content of the utterance, as in “How’s it going?”

from interactions in the shape of non-intended non-propositional effects. Users may obtain feelings of connectedness, sociability, group membership, friendship, etc. even if the “sender user” did not consciously hold the intention to engage in a phatic interaction. In this sense, I propose the term *phatic effect* for this kind of non-intended non-propositional phatic conclusion that users draw beyond the sender’s intentions but which, nevertheless, may result in utterly relevant inferential outcomes beyond the prototypical intentional and proposition-centered communication. This term differs from *phatic implicatures*, which are both propositional and intentional.

Interestingly, some sites or *apps* were not designed to sustain phatic interactions and remain so (i.e. they have not evolved to include more interactional options, as happens with *LinkedIn*).⁴ Others, by contrast, were turned into phatic environments by the users themselves, adding interactive features or purposes that were not initially meant by the makers of the site or *app*, or were added by the makers at a later stage without really acquiring an explicitly interactive purpose. These are what Wang et al. (2012: 86) call *weak phatic technologies*: “the technology is not created for social purposes but it may have phatic uses depending upon the way the technology is used within different user groups” (more on this below).

The sites and *apps* that are relevant to this paper are *strong phatic technologies*, the ones that were explicitly designed for sustained interactions and non-stop connection.⁵ And, undoubtedly, these sites and *apps* on the Internet are ideal environments for phatic interactions. Among others, *Facebook* and similar social networking sites (e.g. *Instagram*, *Tumblr*), mobile instant messaging *apps* (*WhatsApp*, *Line*, *WeChat*, *iMessage*...), and virtual worlds (e.g. *Second Life*) may be listed. Some of these sites have actually evolved in their design in order to allow for even more interactions of a phatic quality. This is the case of *Facebook*, which recently introduced a *messaging* option in the design of the user’s profile, also available as a separate *app* for mobile devices.

All of these interaction-centered sites and *apps* may be grouped under the generic

⁴ However, a subset of users may employ this non-phatic technology for phatic purposes. Wang et al. (2011: 47) propose the term *interpretive flexibility* for those situations in which an initially non-phatic technology becomes phatic for a particular group of users.

⁵ And are typically felt as conversational by their users. In Church and de Oliveira (2013: 354), a user comments that “with WhatsApp maybe you type more, but the conversation is more fluid. You type a sentence and someone sends a sentence and then you type another one. I have the feeling that if it’s WhatsApp, it’s an open conversation. It is similar to if you were talking in person.”

label of *phatic technologies*. These are technological environments “whose primary purpose or use is to establish, develop and maintain human relationships. The users of the technology have personal interactive goals” (Wang et al., 2011: 46). Needless to say, The Internet is now the primary source of strong phatic technologies, where the phatic capability is found in the initial design of these technologies and is not an add-on or emergent feature of such technologies (Wang and Tucker, 2016: 141). Within the scope of this paper, these phatic technologies are ideal environments for the generation on both intended (propositional) *phatic implicatures* and non-intended (non-propositional) *phatic effects* that compensate for the lack of relevance in the content coded and transferred to other users, to the extent that these phatic effects are typically the main communicative point of many posts and interactions on the Net (Miller, 2015: 11).

Phatic technologies have now become an essential part of today’s interactions and acts of socialization, through a process that Wang et al. (2012) call *phatic technological habituation*, in the sense that we have now reached a stage of so much technological dependence that we cannot picture our interactions with other people without the aid of technology: “The use of the phatic technology becomes a habit that shapes members’ actions in the social community. As a consequence, through this process, it becomes a real social community of valued meaning to its members” (p. 88).⁶ Hopkins (2014) adds that these phatic interactions are now so pervasive that they intensify the requirement for relationship building by being in each other’s spaces all the time. Overall, this trend towards non-stop technology-mediated connectivity is part of two parallel processes that were initiated at the end of 20th century: on the one hand, the growing virtualization (i.e. loss of importance) of physical spaces for socialization and interaction; on the other hand, the growing embedding of technologies in our lives for sustaining ties and connections beyond the anchorage of physical spaces (Yus, 2007). Interestingly, phatic technologies reconnect social relations and even create new social environments for individuals to establish, build and maintain these relationships. Phatic technologies, in short, “form a significant type of system of re-embedding, which sustains intimacy at distance by re-constructing social relations across indefinite spans of time-space” (Wang et al., 2012: 89). And phatic posts, the ones that “enable creating, fostering and sustaining relationships and social interaction through non formal conversations, online presence and intimacy” (Radovanovic and

⁶ This *habituation* would take place in three phases (Wang et al., 2012: 88-90): (a) *facilitative* (where the technology simply performs certain tasks in the context); *pervasive* (where the technology is widely used in the context); and (c) *embedded* (where the technology is fully integrated in the fabric of the context).

Ragnedda, 2012: 12), are essential for sociability and connectivity, even if they appear not to communicate relevant information.⁷

4. Mobile instant messaging. The case of WhatsApp (WA)

Instant messaging (henceforth IM) was a computer software for text-based one-to-one or one-to-many interactions with the aid of emoticons/emoji and additional multimedia content. It was immensely popular in the 1990s thanks to the computer program *Messenger*, now extinct. IM was widely used among adolescents since it offered them a wide range of relevance-generating attributes, and multiple sources of personal reward. As commented upon in Yus (2011a), the IM interface was a user-friendly environment that offered the immediate feeling of connectivity through synchronous interactions, and the effort associated with using the interface (one of the contextual constraints that will be listed in Section 5 below as important in mobile instant messaging) was reduced significantly.

IM was a tool for fast synchronous communication with greater emphasis on interactions between users who already knew one another in physical settings, which is also a feature of WA. Besides, the content exchanged through IM, about apparently irrelevant topics, favored phatic strategies.⁸ Indeed, on IM very few messages were intended to satisfy individual needs; most of them possessed a connotation of satisfaction from the achievement of collective communicative intentions (a sort of *we-intention*), feelings of connectivity, group membership, whose fulfilment demanded the participation and cooperation of all the users who were synchronously logged onto the IM system at a specific moment. In IM conversations among young users, there was an obsession with demonstrating that the user was part of the synchronous collectivity.

⁷ Radovanovic and Ragnedda (2012: 13) further divide phatic posts into (a) those which imply short nodding, approval or disapproval using expressions like: yes, right, uhm, hm, lol, etc.; (b) those which imply information about mundane everyday life in order to start up the conversation; (c) those which indicate a secret or internal language especially between teens; and (d) those which indicate online connected presence.

⁸ According to Feng and Hyun (2012: 538), all IM systems share at least these features: (a) near-synchronous communication that can be initiated by either party in an exchange and notification of incoming messages is typically sent in the form of "pop-up" windows or audio alerts; (b) some form of presence awareness, indicating whether other users are connected to the application. Users can also create a status message to indicate their online status or availability (a non-intrusive feature of IM compared to other forms of synchronous communication); and (c) users can not only have multiple synchronous conversations, with each conversation appearing in a different window on the user's screen, but also perform other tasks on their computer or device.

One of the most prominent features of IM was that the user could typically engage in multiple conversations arranged as independent windows on the computer screen, the user trying to monitor and follow, in a relevant manner, several conversational threads with different people and about different topics simultaneously, despite the effort-producing challenge that this multiplicity involved (a challenge to maintain *interactive congruency* throughout all the conversations in these windows, as was called in Yus, 2011a). With today's messaging systems such as *Facebook's Messenger*, users may also engage in multiple conversations simultaneously, but not so much in WA, since the user can indeed engage in parallel conversations, but the mobile phone screen displays one conversational thread at a time. However, within WA groups, the system allows for multi-party conversations, but the turns may be arranged in a disorganized way. And even in one-to-one conversations the system may increase the mental effort devoted to following the conversational topics that are addressed during the conversation. For example, in Yus (2016d) the following real WA conversation is reproduced. It took place on February 7th, 2016 between a female (A) and a male (B) user.

(14) A: La voy a facturar en el aeropuerto

[I'm going to check her in at the airport].

B: Eso

[That's it].

A: Egipto, que allí los idolatran

[To Egypt, since they idolise them there].

A: O a Marruecos pa q aprenda lo que vale un peine

[Or to Morocco, so that she learns the tough way].

Q está muy mimadita

[because she's too spoiled].

B: Yeah

A: Yastan aqui mis padres

[My parents are here already].

B: Que vea que la vida no es solo hacer trastadas

[She has to realise that life is not all about playing tricks around].

A: [emoji of anguish].

B: Ohhhh. Planazo

[Ohhhh. Great plan].

A: Total

[*Totally*].

B: Yo iré al gym luego

[*I'll go to the gym later*].

In this conversation, the initial topic is how angry A is with her naughty cat. Half-way through this dialogue, A informs B that her parents have just arrived (*Yastan aquí mis padres*), but B's next message is still related to the naughty cat, since the application has reproduced messages in strict order of arrival to the system. Similarly, A's next message, an emoji of anguish which codes a whole proposition (roughly "my parents' visit depresses me"), does not refer to the cat either, although it follows B's cat-related message. These mixed-up threads in WA conversations may be a potential source of misunderstanding or increased processing effort.

Needless to say, IM was mainly used for phatic purposes: to show readiness for interaction, to enact and sustain connections, to feel acknowledged by the peers. Nardi et al. (2000) proposed that IM was an ideal environment to create a sense of social awareness and the readiness of friends and acquaintances for interaction, hence forming social bonds through the exchange of trivial information (a relevant non-propositional effect). Vetere et al. (2009) correctly add that the facility to chat idly, to "waste" time on IM with someone you care for was a valuable expression of the care they shared for each other, the substance of their communication being the reassurance that they were connected, that a channel of communication was available to them, and that this somehow strengthened their relationship. The system also alerts (both in IM and WA) of in-coming messages. In the case of WA, it is via notifications of different types (messages on the screen, vibration, audio signal) which in some cases may overwhelm the user, feeling unable to cope with so many in-coming messages (negative non-propositional effect), under the additional pressure to reply shortly, a kind of user-to-user contextual constraint related to the default expectations within these WA interactions (Ahad and Lim, 2014: 192). This is why users often control the amount and types of notification through the *app* settings. In any case, these alerts foster a near synchronous quality of WA, since the time gap between messages sent and replied to is shortened thanks to these reminders (Knop et al., 2016: 1078; Park and Sundar, 2015: 122). In general, though, even if notifications push users into more interactivity by reminding of in-coming messages, there is no guarantee that phatic effects will be generated out of these system-fostered interactions, especially if the user is forced to reply, rather than willing

to.

Instant messaging is now mainly used with *apps* on mobile devices, a perfect location for a technology such as WA for the generation of valuable phatic propositional implicatures and non-propositional effects through relationship management, small talk and sociability (Awan and Gaunlett, 2013: 118; Quan-Haase, 2008: 108), in the same way as text messaging (texting, SMS) was used for phatic purposes not very long ago (Velghe, 2015: 14). Among all the mobile instant messaging *apps*, this paper focuses on WA, immensely popular nowadays and exhibiting interesting interface evolutions for a pragmatic analysis (Yus, 2016d).⁹ In fact, WA was initially only meant for text-based interactions, but it evolved to allow for Internet-enabled phone calls and now the app allows for video-mediated calls. However, users mainly resort to text-based interactions that suffer from all the communicative limitations and problems for contextualization that are also typical in chat-room interactions, as will be commented upon in Section 5 below.

Before some space is devoted to these interface-related contextual constraints, an immediate question arises: Why do users rely on a cues-filtered form of communication through the WA *app* when that very same *app* offers a more contextualized form of communication: free phone calls and video calls? In *cyberpragmatics* (Yus, 2010, 2011a, 2013), it was claimed that the characteristics of the different interfaces for Internet communication (chat rooms, Messenger, e-mail, web pages, etc.) affect the quality and quantity of contextual information accessed by users, the mental effort devoted to interpretation, and the very choice of an interpretation. Certainly, what we can label the *material qualities* of the interfaces (basically their position on the verbal-visual and oral-written scales in terms of options for contextualization) have an impact on the inferred balance of cognitive effects and mental effort during the relevance-seeking interpretation of messages.

As a consequence of fewer options for contextualization in text-based WA interactions and more difficulty in managing the interface than simply listening to the speaker, WA users should opt for the more contextualized option of free phone or video calls, but they do not. A recent *meme* that spread across social networking sites stated the following: “First SMS, then came WhatsApp, now you record an audio file, and your friend records a reply. If they

⁹ According to the web portal *Statista*, WA and *Facebook Messenger* were the most popular mobile messaging *apps* worldwide in January 2017, with a thousand million active users each, followed by *QQ Mobile* (877), *WeChat* (846), *Skype* (300), *Viber* (249), *Line* (217), *Blackberry Messenger* (100) and *Telegram* (100).

continue like this, they will end up inventing the telephone” (my translation).¹⁰ The underlying criticism points toward this preference for limited communicative options such as the audio file (whose conversations are successions of messages, rather than real synchronous interactions) or the text plus emoji on WA. The answer (and the challenge for pragmatics) lies in the fact that these limited forms of Internet-mediated communication generate rewards in the form of non-propositional effects that compensate for the effort devoted to using them (although negative effects may also be generated, thus reducing eventual relevance). Text-based interactions may be limited in contextualization, but they offer users offsets such as freedom from imposition on the interlocutor, time to plan the message, or lack of exuded information on user’s physical presence or vocal qualities of the user’s voice, among others.

5. Contextual constraints in WhatsApp (WA) communication

As was proposed above, the term contextual constraint refers to aspects that *underlie* and *frame* communication and interaction (i.e. they exist prior to the interpretive activity) and *constrain* their eventual (un)successful outcome, that is, they have an impact not only on the quality of interpretation but on the user’s (un)willingness to sustain interactions through this medium. These constraints may be divided into those related to the use of the interface and those related to the individual user or to user-to-user communication. Some of these constraints affecting WA communication are listed below.

5.1. Contextual constraints associated with the use of the WA interface

Some of these interface-related constraints have already been mentioned in passing. Since smartphone screens are small, usability has an enormous impact of user (dis)satisfaction. Usability, as conceptualized in this paper, is mainly associated with the ease of use of interfaces, “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use” (Oghuma et al., 2016: 36).

Because usability affects users’ mental effort when using an interface, managing an *app* or surfing the Net, it clearly plays a part in the eventual relevance of the information accessed through this interface, and specifically through a mobile phone *app* such as WA

¹⁰ Original in Spanish: “Primero el SMS, después vino el WhatsApp, ahora grabas un mensaje de voz, y tu amigo te graba la respuesta. Si siguen así van a inventar el teléfono.”

(Yeung and Law, 2006: 453). Saariluoma and Jokinen (2014) add that the user's experience of poor usability activates a range of negative emotional outcomes, has essential emotional costs, and this explains why people are often poorly motivated in using technologies with little usability.

WA interactions also take place through an interface for text-based communication with the aid of emoji and multimedia attachments (images, videos...). As such, it demands a certain *cyber-literacy* among users in order to make the most of these interactions, especially bearing in mind that often emoji are culturally constrained (Lebduska, 2014). For example, emoticons and emoji icons serve a lot of different pragmatic functions beyond providing a glimpse at the user's feelings or emotions (Luor et al., 2010: 891). Besides, they produce phatic non-propositional emotions and feelings of intimacy, thus fostering a more positive engagement between interlocutors (Wei, 2014). From a pragmatic point of view, in Yus (2014c) up to eight functions of emoticons and emoji were proposed: (a) to signal the propositional attitude that underlies the utterance and which would be difficult to identify without the aid of the emoticon, as in (15a); (b) to communicate a higher intensity of a propositional attitude which has already been coded verbally, as in (15b); (c) to strengthen/mitigate the illocutionary force of a speech act, as in (15c); (d) to contradict the explicit content of the utterance (joking), as in (15d); (e) to contradict the explicit content of the utterance (irony), as in (15e); (f) to add a feeling or emotion towards the propositional content of the utterance (affective attitude towards the utterance), as in (15f); (g) to add a feeling or emotion towards the communicative act as a whole (feeling or emotion in parallel to the communicative act), as in (15g); and (h) to communicate the intensity of a feeling or emotion that has been coded verbally, as in (15h):

- (15) a. I have no time to get bored, nor to read :((.
 [I regret that I have no time to get bored, nor to read].
 b. I hope you'll always remember my Spanish lessons :-).
 c. Stop writing about me! You're obsessed! XD D D D D D D.
 [the force of the directive is softened by the emoticon].
 d. Text commenting on a photo of a shop with the same name as the addressee user].
 I didn't know you had a shop in Alicante :)))))). Kisses.
 e. What a hard life you lead xD.
 f. Saturday at home :-).
 g. How pretty!!! Some parties, uh! You never stop!!!! :-).

h. Sounds great!! So excited to see you!! :-)

On paper, this kind of cues-filtered type of communication (despite the aid of emoji and other strategies for text deformation¹¹) should be negatively constrained, leading to eventual cognitive dissatisfaction, both at the coding phase (trying to make up for the expressive limitations of typed text) and the inferring phase (trying to work out the intended meaning of typed text plus emoji). However, as was also mentioned above, WA users obtain additional rewards in the use of typed messages that are not possible with more contextualized WA-enabled phone or video calls. In any case, mobile phone users do feel that the WA interface is manageable enough and that it serves their communicative needs without the negative effects generated in using the phone/video call (intrusive quality, exudes too much nonverbal information about the user, lack of time for planning messages, etc.).¹² As Wang et al. (2012: 90) correctly explain, individuals experience the advantages of adopting a phatic technology, in this case typed text through WA, and they gradually place more reliance on this interface and depend on it to achieve their social (phatic) goals. After a continued period of using the phatic technology, these individuals simply get accustomed to using it to fulfil these goals and obtain rewarding non-propositional effects, even knowing that there are other technologies available (such as the phone/video call) which may have the potential of being more efficient.¹³ This is because they trust the technology to the extent that their sense of

¹¹ Text deformation covers a wide range of enriching strategies for typed text (see Yus, 2005), including creative use of punctuation marks, repetition of letters and use of emoji. Pirzadeh and Pfall (2012: 493) propose five strategies used when compensating for the lack of orality in typed texts: (a) *vocal spelling* (altering spelling to mimic a specific vocal inflection, e.g. weeeell, soooo), (b) *lexical surrogates* (textual representations of vocal sounds that are not words, e.g. uh huh, haha), (c) *spatial arrays* (pictographs constructed from punctuation and letters, e.g. :-(for a sad face, or :-D to indicate laughing), (d) *manipulation of grammatical markers* (alterations of the presentation of words, e.g. all capital letters, strings of periods or commas), and (e) *minus features* (deliberate or inadvertent neglect of conventional formatting elements, e.g. lack of capitalization or paragraphing).

¹² Lin et al. (2008) stress the link between satisfaction and usage intention. Satisfaction stems from feelings typically exerted from interface use such as *reliability* (the extent to which users believe that the interface is reliable for transmitting information and keeping personal and private information secure), *perceived ease of use* (degree to which the prospective online users expect the use of the interface to be free of effort), and *perceived personalization* (the extent that users are provided with adequate information or functions based on their individual habits, preferences, and usage patterns).

¹³ In Yus (2014a), it was suggested that users are more interested in the cognitive satisfaction that engaging in and through these sites provides, regardless of the options for contextualization. In other words, this cognitive satisfaction is not centered upon purely informational relevance (*maximal relevance*) favored by the qualities of

security and relaxation while carrying out the activity is deeply rooted in this particular phatic technology. In this sense, Awan and Gaunlett (2013: 122) comment that young people regard this kind of online communication as useful for two reasons. First, because they perceive that it is a medium for open self-expression without having to face negative repercussions (e.g. embarrassment or humiliation), plus the added value of anonymity and distance that function as a defense barrier for their feelings. Second, this kind of online communication enables participants to negotiate talk while maintaining a certain level of control over the communicative situation. Similarly, Ogara et al. (2014: 454) emphasize how user experience and familiarity in the choice of an interface make the users be willing to sustain interactions through this medium, especially if their peers are also using the same interface, and therefore using this medium becomes a natural form of interaction for these users, who feel pressured to join their peers in the use of the *app*.

In any case, the fact that users readily resort to the WA interface does not entail that the interface itself is devoid of negative contextual constraints. For example, WA shares a lot of constraints with chat rooms and texting, since both interfaces entail typing¹⁴ and sending messages that a server allocates in a fixed order (Yus, 2003, 2005). As illustrated in example (14) above, the user may find turns disordered, and sometimes the comment on a picture sent by the user arrives at the addressee's mobile before the picture itself, thus creating confusion. Besides, one of the major negative constraints has to do with the management of long lists of contacts who demand equal attention by the user. In other words, WA treats all contacts as equal, but for the user some interactions and interlocutors are more important than others, and the interface should make it possible to prioritize contacts and the variable intensity of interactions (Birnholtz 2010: 1432) so that the user is not loaded with on-screen notifications¹⁵ (or vibrations, or numbers attached to the WA icon)

the interface, but focused on cognitively rewarding non-propositional qualities such as emotions, feelings, sensations, and even aesthetic effects that are triggered by propositional content but not found inside this content (*optimal relevance*).

¹⁴ At the moment of writing this paper, the latest updates from WA include the possibility to type text in bold (by adding an asterisk before and after the message), in italics (underscore “_” before and after the message), and different letter font (“” before and after the message). Video-mediated calls are also possible.

¹⁵ This is a negative quality of notifications, but in fact these are very effective tools fitting the quality of ostensive communication. RT claims that ostensive communication involves the fulfilment of two kinds of intention: the *informative intention* (the intention to communicate some information to the addressee) and the *communicative intention* (the intention to alert the addressee to one's informative intention). Similarly, IM used to alert the addressee user (with an emergent window that invaded the screen and also with a sound) to the fact that another

that alert the user of an attempt of communication from someone in the contact list (Church and de Oliveira, 2013: 356).

Again, these interface limitations do not discourage WA users from using it and from typing plain text instead of engaging in contextualized phone/video calls. As will be commented upon below, one of the main reasons is the amount of non-propositional effects that typed interactions generate and that are not possible elsewhere, many of them of a phatic quality. Users have found in WA a cheap solution for their interactive needs (Dolev-Cohen and Barak, 2013: 59) through easy-to-use intuitive menus. It also offers options for multimedia communication and in-group interaction, exchanging images and videos as an additional phatic strategy, which function as foundations upon which fruitful interactions can be fostered or sustained (Lo and Leun, 2009: 163; O'hara et al., 2014; Cui, 2016: 21).¹⁶

It is clear that software usability has immediate impact on one of the basic conditions of relevance: the expenditure of as little mental effort as possible in choosing interpretations. Therefore, the WA service provider needs to deliver reliable and fast-response services to the users' communicative needs, since they always expect ubiquitous communications from using this *app*. A slow response by the software, for instance, may negatively affect users' experience including perceived enjoyment and their satisfaction will decrease. On the other hand, the WA service provider often offers users new or updated featured functions to improve their satisfaction, but these will not necessarily lead to positive non-propositional effects in all users. For example, the added functionality on *Facebook's Messenger* to monitor and alert the user when their friends are nearby may improve some users' satisfaction, but others may feel uneasy thinking that this service violates their privacy.

user had a communicative intention, and invited the user to engage in a relevance-seeking processing of this user's informative intention. This feature has now been replaced with notifications on the mobile phone. The same applies to e-mail programs that alert the addressee user with an icon (of an envelope, of a mailbox, etc. and with sounds) to the arrival of a message that might provide relevant information (i.e. carries a presumption of its eventual relevance). And in social networking sites the system sends notifications (and also e-mails) to the users alerting them that a relevant comment has been typed on the profile, that a reply to one's comments has been posted, etc. (Yus, 2011a: 118).

¹⁶ Chen et al. (2015) point out that there are valuable effects arising from sharing images, photos and videos (non-propositional ones in the scope of this paper). They create a feeling of togetherness as they are woven into mundane (phatic) conversations and convey affection to the conversational partner. In short, these media are used in the context of the conversation to share particular emotions, many of them of a phatic kind, and feelings that plain text would be unable to convey. Besides, photos are often the topic around which phatic interactions are constructed. It does not really matter whether the photo is good or not. What counts is that they help move the trivial conversation forward, which is harder to achieve through text alone.

Therefore, a specific interface-related constraint may turn out positive to some users while discouraging and ending up negative to others, depending on the specific user's command, familiarity with the interface and personal issues that can only be partly predicted by software companies. An example is interface personalization, which in theory should generate an offset of positive effects in the way the user feels that he/she is treated as a unique individual whose specific preferences and usage patterns are attended to by the *app*. Users like to feel part of the group, network or community, but they also like to "stand out from the crowd," to feel unique in how they experience the *app*. As Höpken et al. (2010: 176) stress concerning *apps* for tourism (see Yus, 2014a), users expect information in a highly personalized way, adapted to personal profiles and preferences as well as to the tourist's current situation (i.e., location, time, surroundings, etc.). Ubiquitous tourism information systems have to show a highly adaptive and personalized behavior in order to fulfill these requirements and their acceptance strongly depends on the adaptation of their content, user interface, and behavior to all dimensions of the usage context. But, again, some users will feel overwhelmed by the wide range of options for personalization and will end up feeling negative effects through lack of control of these interface options. Incidentally, WA offers few options for personalization beyond the choice of the background where text-based interactions take place. Users may also choose a profile photo and a text for the user status.

5.2. Contextual constraints associated with the WA user or the user-to-user WA interaction

The eventual relevance of an act of WA communication may be constrained by the qualities of the interface, but the users themselves may also influence positively or negatively the outcome of a WA interaction. Somehow in-between the interface and the user we can find constraints regarding the use of the interface by particular individuals. For example, the task at hand while using WA may constrain the quality and quantity of the interactions carried out therein, the amount of information, the use of emoji, etc. Xu et al. (2007) differentiate *task-oriented interactions* (for example within a work-related WA group) from *socio-emotional interactions* (for example small talk with friends just to kill time). In the former, interlocutors focus on the task at hand, on an objective to be achieved, and the emotional charge (and parallel use of emoji) is minimal. By contrast, the latter exhibits a lot of emotional exchange, use of emoji and phatic quality which linger on due to a lack of target or objective in the conversation.

Also in-between interface and user is the user's familiarity with and command of the

interface for WA interactions. Although an objective usability of the interface may be established for the WA *app*, the user's familiarity or command (or lack of it) may enhance or decrease the feeling of usability of the interface and hence variations in this interface-related constraint are produced due to the specificity of the user (Ogara et al., 2014: 458). As was pointed out in Yus (2011a: 65-66), "the user's familiarity with the interface, even if it is not user-friendly, and also the user's intuitive ability to interact with the interface also affect the balance of cognitive effects and mental effort involved in processing information from this interface, generating multiple outcomes of (in)efficient interpretations. And frequency of use is a parallel variable affecting relevance."

One of the user-centered constraints is *personality* (and related terms such as self-esteem, self-concept and self-identity), together with associated feelings (e.g. joy, loneliness, depression), which have an impact on the quantity of messages sent through WA, the frequency of these messages, and their content (Michikyan et al., 2014: 180). In Yus (2016c), several aspects of the user's identity were put forward and illustrated, together with their impact on the text typed and the non-propositional effects generated. For example, shyness inhibits users from social behavior in physical scenarios, but shy users may find in virtual interactions such as WA the channel to express themselves without the impact of physical co-presence (Lo and Leun, 2009: 164; Shen et al. 2015: 32; Marriott and Buchanan, 2014: 171). WA would provide protection from some of the negative effects of self-preoccupation through the elimination of physical cues. It would therefore make sense for shy individuals to use WA to supplement their social lives; it may reduce anxiety and allow shy persons to initiate more in-depth and more rewarding conversations (Bardi and Brady, 2010: 1722).

Finally, one additional constraint is the culture to which users belong and within which they carry out their interactions. Although global trends of WA use may be found, especially in the way emoji clarifies messages or adds propositional attitudes or emotional load, some cultures influence the quality and quantity of information exchanged on the *app*. In fact, many of these exchanges exhibit a phatic quality, and several studies have demonstrated the mediation of cultural background in the use of this kind of small talk. An example is Jaworski (2000), who provides many examples to support the claim that different communities use different degrees of phatic interaction in the same kind of event. Rygg (2016) also mentions examples of culture-mediated phatic communication. It would be sensible to conclude that WA phatic interactions are similarly constrained by cultural factors.

6. Non-intended non-propositional effects in WhatsApp (WA) communication

In this paper I have argued that, in the phatic Internet we are currently witnessing, very often the key to the relevance of many of the messages exchanged on the Net, and specifically on WA, does not lie in the informational value of the content coded (i.e. typed), but in (intentional) phatic propositional implicatures and in what interests us in this paper: the phatic non-propositional effects that these exchanges generate in the user (in the shape of feelings, emotions, impressions, etc.) beyond the sender user's intentions. The way these messages make the user feel compensates for the lack of fruitful information that the messages themselves often convey. Therefore, we have a range of possible phatic elements across the propositional/non-propositional and intentional/unintentional board. Users may consciously intend to engage in a phatic interaction, breaking the ice, as it were, attempting to socialize with their peers, and being fully aware of the underlying objectives of this kind of phatic strategy. In this case, the user would be communicating "phaticness" in the shape of weak implicatures (i.e. those that the addressee recovers at his/her own risk and responsibility, and of which the addressee might not have much certainty that these were intended to be recovered). On other occasions, though, the addressee user may obtain phatic conclusions (*phatic effects* as they have been labeled in this paper), beyond the sender user's intentions. Even if these non-propositional effects (feelings, emotions, impressions...) are not explicitly meant, they are nevertheless derived and on many occasions hold the key to the explanation for why many users, especially youngsters, spend hours exchanging utterly irrelevant messages on WA. Of course, these phatic effects are placed on the positive side of the scale, but negative non-propositional effects may also be generated which would decrease eventual relevance.

6.1. Non-intended non-propositional effects associated with the use of the WA interface

Interface-related constraints play a part in the eventual relevance of the act of WA communication as a whole, for example increasing effort to convey the messages if the user has problems managing the WA interface. Similarly, there are non-propositional effects associated with the use of WA in the small interactive area of the mobile phone screen.

The most obvious interface-related non-propositional effects are related to the user's feelings of satisfaction/enjoyment or anger/frustration upon engaging with the WA interface. The former should be more frequent, given the fact that WA is intuitive and devoid of

troublesome menus or instructions to learn. Users may also obtain positive effects simply from the enjoyment and satisfaction from the use of the interface, regardless of the user-to-user interaction carried out there, mostly in terms of perceived enjoyment and offsets of gratification. Tightly connected to satisfaction is the user's feelings that the *app* is reliable and useful, another variety of interface-related effect (Lin et al., 2008: 262-263; Zhou and Lu, 2011: 884-885; Huang and Li, 2013). As Hsiao et al. (2016) summarize, users are concerned with both the affective (emotional and social) nature of *apps* and functional aspects such as reliability and efficiency in managing their daily tasks.

Certainly, WA offers the user an environment that produces this kind of non-propositional effect through affordances such as the use of multimedia files, text plus emoji, multiple in-group interactions, options for sharing content, information on contacts' readiness for chatting and alerts of in-coming messages (Lo and Leun, 2009: 163-164). As Oghuma et al. (2016: 36) stress, user satisfaction is a key issue in the user's decision to continue using a particular instant messaging *app* (another issue being the fact that most peers are on a specific *app* and the user feels compelled to assume the group's choice). In parallel, perceived enjoyment and perceived service quality also play a part in intention to stick to the use of WA (ibid.: 37-38). There has to be some matching between the user's expectations and the actual performance of the WA interface.

Hsiao et al. (2016) devote some space to these interface-related effects. The term *hedonic motivation* is proposed for the fun or pleasure derived from using a technology, essential in determining technology acceptance and use. The WA interface produces hedonic enjoyment upon using the interface, and these pleasurable and fun experiences generate favorable and positive feelings that will lead to a higher degree of satisfaction and continued usage intention. The same applies to the enjoyment of communication through this *app*: when users communicate using this kind of social *app*, the feeling of enjoyment increases their tendency to repeat the action, and this action occurs without a conscious decision to act, and is performed as a habit. The main conclusions by these studies, as applied to WA usage, are that satisfaction with WA is derived from utilitarian, hedonic and social factors, and the intention to use WA would be influenced by satisfaction and hedonic as well as social perspectives. Satisfaction, perceived enjoyment, habitual use, and social ties significantly influence users' continuance intention of *apps* such as WA (Hsiao et al., 2016: 351). Obviously, when peers use the same *app* and resort to it for interactive purposes, they feel the urge to continue using it, not only because of social reasons (friends are also using it and rewarding social capital is generated out of interactions; see Sheer and

Rice, 2017) but also due to personal reasons (personality, and so on) that may indeed play a part of intensity of use, and even addiction.

The WA interface also generates a number of unwanted, negative non-propositional effects. Some of them have to do with misunderstandings regarding the chronemics of WA interactions. Unwanted effects arise from the management of time lapses between WA turns and the mediation of offline activities in the management of the virtual WA communication (Darics, 2014: 339; Pielot et al., 2014). But these effects may be minimized if the interlocutors know each other's "reply habits" or there is mutual manifestness of the impossibility of a fast reply. A user's comment in Karapanos et al. (2016: 894) is illustrative: "Once I was having an argument... and ignoring all other conversations. I was getting lots of notifications from this girl... she could see me online and assumed I was ignoring her... I replied angrily and she blocked me. I hated WhatsApp for showing me online even though I wasn't available to talk to anyone else."

Two features of the WA interface contribute to these misunderstandings. Firstly, the option of "last time accessed" informs the user of the last time the interlocutor was using the *app*. If the initial user sees that his last message was not replied to and, at the same time, WA informs this user that the interlocutor was online later than the time the message was sent, then the user might conclude that the interlocutor was unwilling to reply, when in fact there may be many reasons for this lack of reply (e.g. busy doing things in a physical scenario). Again, it comes as no surprise that many users disable this option due to the unwanted effects it produces.¹⁷

Secondly, a recent update of WA included a famous feature that alerts the user not only to the fact that the message was sent (one check, also called tick) and that it arrived at the interlocutor's phone (double check/tick), but also to the fact that it was actually read (blue double check/tick). Again, a range of misunderstandings may be generated from this feature when contrasted to the user's expectation of a reply. Certainly, many users get angry at the time lapse between this blue double check/tick and the reply, when in fact there are also many reasons why a reply may not be immediately produced. For example, the user may have indeed read the message but perhaps prefers to wait for a better occasion to produce the reply.

¹⁷ The comments by two informants in Church and de Oliveira (2013: 355) are illustrative: "it seems like an invasion of privacy or something to the other person" (Laura); "people read too much into when you're online and when you replied to messages or why you didn't reply and they try to guess why and sometimes this is annoying" (Dean).

6.2. Non-intended non-propositional effects associated with the WA user or the user-to-user WA interaction

As has already been pointed out, the limitations of the WA interface do not discourage users from engaging in frequent text-based interactions, many of them of a phatic quality, and even though more contextualized communicative options are also offered by the WA *app*. This is because interactions through typed text produce effects that compensate for the loss of options for contextualization. Users also obtain feelings of control over the communicative act, e.g. over the level of imposition over the addressee, over what is communicated, over how much nonverbal information exudes from the user, and over creativity upon composing text plus emoji (or any multimedia content), among other possible control-related effects beyond what is coded in the act of communication. In this Section, some non-propositional effects will be listed and commented upon regarding the individual user in interaction, many of which possess a phatic connotation that compensates for the trivial quality of the content of the messages exchanged through the WA *app* (although on some occasions they may be added to messages with substantial content beyond the sender user's intentions). These non-propositional effects are the most interesting ones for a pragmatics and a cyberpragmatics of WA-mediated communication. Needless to say, the phatic connotation of many WA exchanges may be meant as a propositional communicative strategy (via phatic implicatures), but they may also *leak* from interactions with a non-intended, non-propositional shape.

1. *Feeling of connectedness*. WA users often obtain an offset of phatic feelings of connectivity and relatedness with contacts, of being acknowledged by the peers through repeated interactions, etc. Several studies have mentioned the importance of this connectivity-centered non-propositional effect, with greater or lesser emphasis. Most of them conclude that one of the major reasons why users engage in IM or WA communication is to maintain contact, keep in touch, engage in a sense of connectivity with people they already know in physical scenarios, both the ones they meet on an ordinary basis (Quan-Haase, 2007) and those who live far away (Rubio Romero and Lamo de Espinosa, 2015: 84), even if that verbal prolixity entails that the content is often devoid of objective relevance. As Vetere et al. (2009: 180) state, what may appear as "idle chatter" is nevertheless full of meaning for WA interlocutors. The regular and frequent exchanges, which have little if any informational value, are key elements for the strength of the ongoing social binding.

By sharing mutual areas of interest and finding support in sustained interactions, users get an offset of positive feelings associated with WA communication. This is particularly prominent in interactions between adolescents, often anxious for socialization. They find support and the reward of connection from their peers through non-stop WA interactions. Certainly, its use grants adolescents a relatively cheap, readily available solution from among existing communication alternatives with their peer group, especially in times of emotional need, and these apparently useless conversations strengthen the feeling of closeness and reduce loneliness (Dolev-Cohen and Barak, 2013: 61; Lin, 2012: 6-7; Valkenburg and Peter, 2009: 92; Lin, 2012: 2-6; Cui, 2016: 21; Hopkins, 2014; Schandorf, 2013: 321). O'Hara et al. (2014) propose the term *dwelling* for this kind of feeling, in the sense that togetherness and intimacy are enacted through persistent WA use.

A related term consistent with this kind of effect is *ambient awareness* (Thomson, 2008), namely the feeling of being physically near the other WA users with the aid of information about feelings, moods, ordinary activities, etc., and the feeling of mutual acknowledgment of one another through synchronous WA conversations. Radovanovic and Ragnedda (2012: 12) correctly describe how mobile media are centered upon a phatic display of *nonsense writing*, communications designed to be read as soon as they are sent, updates creating the notion and feeling of intimacy by being and feeling constantly connected online, in real time with others, and with an intimate feel of keeping in contact and reinforcing relationships.

Licoppe and Smoreda (2005: 321) propose the term *connected presence*, for this feeling of awareness expressed through multiplied connections of quasi-continuous exchanges in which keeping in touch generates more relevant effects than what is typed when users get in touch. Users therefore get socially engaged through brief, non-formal messages that have phatic meaning and within their context these messages denote something: interaction, connected presence, mutual awareness and fostering and maintaining non-stop reinforcement of connections. Similarly, Nardi et al. (2000) propose the term *outeraction* for communicative processes that socially extend to others, mainly through "awareness moments" that produce feelings of connection with others. These authors suggest that IM (and hence also WA) can be used to create a sense of mutual awareness of one another, and that this awareness forms a social bond without exchanging any substantive information. Vetere et al. (2009: 181) add that the facility to chat idly, to 'waste' time with someone you care for is a valuable expression of the care they share for each

other. The substance of their communication is not always important. It is the reassurance that they are connected, that a channel of communication is available to them, and that this somehow strengthens and nurtures the relationship.

2. *Feeling of group membership and social capital.* WA interactions, especially through the feature that allows for multi-party conversations inside a group of contacts, can create non-propositional feelings of group membership, of belonging to a community of users, of the generation of social capital (Lin, 2011: 105; Lin and Chiu, 2011: 387; Piwek and Joinson, 2016: 359).

This kind of effect is related to personal strategies of self-disclosure and strategies of feedback from the community. Concerning the former, Knop et al. (2016: 1076-1077) link feelings of group membership to sharing personal information and self-disclosure, which are important mechanisms for building and maintaining relationships and for increasing trust between members of a social group and strengthening group identity. WA would hence provide the opportunity for permanent communication and self-disclose within the group, which is rooted in an inherent evolutionary need to belong. Being part of a social group has positive effects on physical and mental health, whereas threats to social bonds quickly lead to negative emotional states. Concerning feedback from community, Carr et al. (2016: 386-388) comment on how receiving personalized feedback was perceived as very supportive by their informants, even if most of the support came from weak ties.

In Church and de Oliveira (2013: 355), informants expressed that WA produces increased sense of community, especially inside WA groups, a very convenient way of connecting with smaller communities all at once. However, some users also complained of negative feelings out of message overload (an example of negative non-intended non-propositional effect), when they felt unable to manage the barrage of messages sent by contacts to the different groups created inside the WA *app*.

Concerning social capital, there is no agreement on whether Internet-mediated interactions are associated with increased or decreased social capital, especially of a bonding kind (Aharony, 2015: 28-29).¹⁸ For some analysts, Internet has diminished (rich) social interactions in physical scenarios, replacing them with less socially productive cues-filtered virtual communication. For others, though, online interactions efficiently replace

¹⁸ Putnam (2000) differentiates between *bridging* and *bonding* social capital. The former refers to weak ties (co-workers, acquaintances), with loose connections devoid of emotional support and depth. The latter, by contrast, is built between close people with emotional involvement and strong ties (family, close friends).

physical interactions in intensity, depth and number of positive effects generated, thus also having an impact on social capital, even if often the ties involved are weak. For Aharony (ibid.), WA contributes to both bridging and bonding social capital, but especially the latter. This is so because for many users WA is now the “natural” way of maintaining connections inside their group of peers of both a strong and a weak quality (family, close friends, etc.).

3. *Feeling of increased social presence.* The term refers to the users’ awareness of one another and of their mutual involvement in the conversation or interaction through a medium; and also to the degree to which the channel facilitates that awareness of interlocutors and that involvement (Park and Sundar, 2015: 121). In theory, social presence is facilitated by the amount of cues and options for contextualization that the medium offers: “nonverbal cues make the presence of communicators more salient to one another and enhance the warmth and friendliness of interaction” (Feng and Hyun, 2012: 539). However, as has already been stated in this paper, WA users prefer the cues-filtered typed text to the more contextualized phone/video call through WA because, for them, it generates optimal relevance and fits their communicative needs without the drawbacks of synchronous talk. In fact, there is growing evidence that the degree of social presence (and warmth, intimacy, etc.) is not so much determined by the medium per se. Specifically in the case WA, users find social presence in the permanent availability (and location) of contacts (Ogara et al., 2014: 458), a feeling of them “being there,” always available, which is accentuated by the narrowing gap between the physical and the virtual (see next non-propositional effect), and the permanent accessibility to WA interactions in any environment, unlike the PC-based, now extinct *Messenger* (Park et al. 2014: 319).

4. *Feeling of narrowed gap between the physical and the virtual.* Today’s social media are filled with messages concerning the users’ physical activities that they want to share with their peers. An example is the non-stop updating of one’s and other users’ daily activities, which provides a feeling of closeness and even of co-presence (White and White 2007: 89; Hannam et al. 2014: 179). Indeed, instead of inferring certain information and deriving conclusions about other people from the information they exude, on the Net the users intentionally inform their followers about these activities. This uploading creates a kind of “proximity in the virtual” or at least an awareness of its existence. Today, the Net makes it possible to form strong and weak ties that hybridize or intersect with those that the person forms in offline scenarios.¹⁹

¹⁹ In previous research on *apps* for tourism (Yus, 2014a), it was described how the physical-virtual boundary is

WA interactions are virtual, but they definitely have a physical feel for its users. This is so not only because very often the interlocutors know each other and also interact in physical scenarios, but also because users resort to the affordances of the WA interface to bring the physical into the WA conversation, generating an offset of feelings of mutuality, intimacy and involvement despite each other's separate contexts. This is why users very often send each other selfies²⁰ at their current location, photos of the meals they are having, of the sights they are witnessing, of the room of the hotel they are staying in, etc. Besides, WA groups are typically used for planning and organizing physical activities, for negotiating locations and schedules (O'Hara et al., 2014).

This transference of the physical into the virtual (through exchanged photos, videos, etc.) provides users with an opportunity for greater intimacy and increased mutuality of information. The latter can then be used as a preliminary context upon which to build subsequent interactions and sustain relationships (Birnholtz, 2010: 1428). For example, Zappavigna (2011) coined the term *ambient affiliation* to describe how microbloggers engage with other virtually co-present users around evolving topics of interest which are regarded as areas of high mutuality.

5. *Feeling of increased self-concept and self-esteem.* WA interactions often have a impact on the user's feelings of self-concept and self-esteem, although negative effects may also be generated, for example if introvert users find no reciprocity from their peers and their feelings of lack of socialization end up enhanced. In this sense, Dolev-Cohen and Barak (2013: 58) correctly underline that, in the case of adolescents with no close friends or with only superficial friendships, non-propositional feelings of isolation and depression may be generated out of virtual interactions, in contrast to those who have close ties of friendship.

blurred by these *apps* in the way the user's friends are constantly aware of the tourists' activities as part of the urge for socialization and minute-by-minute updating on one's whereabouts. Hannam et al (2014: 179) also stress this physical impact of socialization through *apps* when they state that *apps* enable a tracking and monitoring of tourists virtually from a distance through constant updates. Essentially, these *apps* create virtual travel companions, traveling with and being monitored by the continuous background presence of their social networks. Neuhofer et al. (2013: 324) also comment that by being interconnected to social networking sites, tourists can share, comment and co-create while being immersed in the touristic destination.

²⁰ In an interesting paper, Jerslev and Mortensen (2016) describe how celebrity selfies are another form of phatic engagement with their followers. These photos invite quick responses of awe and approval from these fans, calling for more emotional involvement due to the impact of the visual format. As such, these selfies typically possess phatic qualities such as the feeling of non-stop connection, the blurred boundaries between the physical and the virtual, proximity in time and space, and togetherness between celebrity and fans.

Close relationships with friends and the existence of social support strengthen their subjective feelings that they have the means to deal with pressing events; as a result, they experience less anxiety and loneliness in intimidating or stressful situations.

Besides, increased self-esteem and self-concept also influence willingness for self-disclosure in an environment of non-stop connection such as WA (Valkenburg and Peter, 2009: 83). As Davis (2014) states, users feel that it's easier to express certain things about themselves online, a disclosure that typically occurs when close friends are communicating through private online channels such as WA, and especially because channels such as WA favor less inhibition because users don't have to contend with the discomfort of confronting their friends in person.

6. *Feeling of peer pressure.* WA users are in general satisfied with the options for interaction that the interface offers them, but WA interactions are not devoid of negative aspects that might generate negative non-propositional effects on users. For instance, messages may arrive at the user's mobile at inconvenient or disruptive times. And due to the ubiquity of WA, the *app* has increased the expectations of connectedness and obligation for reciprocity (Lin, 2012). Therefore, the user feels the *peer pressure* to suit the non-stop demands for interactions and to reciprocate, which may produce negative feelings (non-propositional effect). Users normally do not control interruptions produced by massive incoming messages that the user is alerted to on the mobile phone screen, and their inability to sustain all the parallel interactions may discourage them (Church and de Oliveira, 2013: 360). An additional source of pressure is the unsolicited addition of the user to a WA group (Karapanos et al., 2016: 894).

7. *Feeling of emotional involvement.* WA is a cues-filtered medium that is not optimal for emotional communication. Users do make the most of the options of WA for improving the emotional load of the text they type, basically through text deformation (Yus, 2005) and emoji, but misunderstandings of the emotions held while typing the message abound, and are accentuated by the fact that emoji and techniques for text deformation are not cross-culturally valid. However, users surprisingly do get a feeling of emotional involvement from the WA interface, contradicting the theories that, under the generic label of *theories of information richness* (as proposed in Yus, 2007),²¹ claimed that a decrease in the availability of cues and

²¹ Among others, the following theories fit this label: (a) *Media Richness Theory*, for which the Net is rather low in informational richness and therefore not suited for fruitful interactions. (b) *Social Presence Theory*, for which the interlocutors' awareness that they are mutually involved in the conversation decreases -leading even to a total lack

in the capacity of the medium to generate a quasi-physical environment for users, would inevitably lead to a loss of interest in the interlocutors and in engaging in subsequent interactions through this medium.

7. Concluding remarks

A pragmatics (and *cyberpragmatics*) of Internet-mediated communication typically analyzes how addressee users make sense of other users' utterances by enriching the text intentionally coded by the sender user and turning it into a relevant propositional interpretation (explicature, implicature, propositional attitude...) with the aid of context. According to RT, the choice of interpretations is guided by the *communicative principle of relevance*, which raises expectations in the addressee user. The best balance of two conditions of relevance guides the addressee towards the choice of the intended interpretation (and towards dismissing other alternative interpretations with worse balances): the interpretation has to produce as many positive cognitive effects as possible in exchange for as little mental effort as possible.

This paper has attempted to provide an explanation for the growing trend nowadays towards a phatic Internet, since users now typically exchange a myriad of trivial messages with no substantial content but which, nevertheless, end up being utterly relevant, among other reasons because of a number of non-propositional effects not covered by the interpretation of the text coded. In order to understand what is at stake in today's massive exchange of phatic messages, a broadening of the RT (and cyberpragmatic) framework has been proposed. It includes aspects that affect the act of Internet communication as a whole (as opposed to the inference of the interpretation of the specific message), both positively and negatively: *contextual constraint* and *non-intended non-propositional effect*. The extent of the positive/negative impact of these added elements to the act of Internet-mediated communication would be managed by the *cognitive principle of relevance*. Since, according to this principle, human cognition is geared to the maximization of relevance, the user may cognitively find additional sources of satisfaction beyond the interpretation of the text (typically the case of phatic communication) and find the relevance-seeking task facilitated by a

of interest in the conversation- when the contextual information available to both interlocutors is reduced due to the qualities of the channel. And (c) *Reduced Social Context Cues Theory*, for which the reduction of contextual cues leads users to more to anonymity and de-personalization and less to emphasizing social aspects of interaction.

number of positive contextual constraints. However, human cognition may also be negatively influenced by these two added elements, thus reducing the eventual relevance of the act of communication.

The main point of this paper is to apply these two notions to the instant messaging interactions on WA, in an attempt to explain why users are so satisfied with this cues-filtered interface and why they stick to plain text despite the availability of other more contextualized forms of interaction offered by the very same WA *app*.

Funding

This research was supported by EMO-FUNDETT research project, a coordinate project awarded by the Spanish *Ministerio de Economía y Competitividad* (FFI2013-47792-C2-1-P).

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