ATTITUDES AND EMOTIONS THROUGH WRITTEN TEXT: THE CASE OF TEXTUAL DEFORMATION IN INTERNET CHAT ROOMS[1]

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Resumen

Los *chats* españoles de Internet son visitados por muchos jóvenes que usan el lenguaje de una forma muy creativa (ej. repetición de letras y signos de puntuación). En este artículo se evalúan varias hipótesis sobre el uso de la deformación textual respecto a su eficacia comunicativa. Se trata de comprobar si estas deformaciones favorecen una identificación y evaluación más adecuada de las actitudes (proposicionales o afectivas) y emociones de sus autores. Las respuestas a un cuestionario revelan que a pesar de la información adicional que la deformación textual aporta, los lectores no suelen coincidir en la cualidad exacta de estas actitudes y emociones, ni establecen grados de intensidad relacionados con la cantidad de texto tecleada. Sin embargo, y a pesar de estos resultados, la deformación textual parece jugar un papel en la interpretación que finalmente se elige de estos mensajes enviados a los *chats*.

Palabras Clave: comunicación mediada por ordenador, emociones, actitudes proposicionales, texto escrito, chats

Abstract

Spanish Internet chat rooms are visited by a lot of young people who use language in a very creative way (e.g. repetition of letters and punctuation marks). In this paper, several hypotheses concerning the uses of textual deformation assess their communicative usefulness. The goal of these hypotheses is to check whether these deformations favour a more accurate identification and evaluation of the senders' underlying attitudes (propositional or affective) and emotions. The answers to a questionnaire indicate that despite the supplementary level of information that textual deformation provides, readers tend not to agree on the exact quality of the sender's underlying attitudes and emotions, nor do they tend to establish degrees of intensity related to the

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quantity of text typed. However, and despite this evidence, textual deformation seems to play a part in the eventual quality of chat users' interpretations of the messages sent to chat rooms.

Key Words: computer-mediated communication, emotions, propositional attitudes, written text, chat rooms

Resumé
Les sites de bavardage sur Internet ("chat") espagnols sont fréquentés par beaucoup de jeunes qui utilisent la langue d'une façon très créative (par exemple, répétition des lettres et signes de ponctuation). Dans cet article, plusieurs hypothèses sur l'usage de la déformation textuelle évaluent leur utilité communicative. L'objectif de ces hypothèses est de vérifier si ces déformations facilitent une évaluation et identification plus précise des attitudes (propositionelles ou affectives) et émotions sous-jacentes des expéditeurs. Les réponses à un questionnaire indiquent que, malgré le niveau supplémentaire d'information que la déformation textuelle fournit, les lecteurs souvent ne sont pas d'accord sur la qualité exacte des attitudes et émotions sous-jacentes de l'expéditeur, ni établissent degrés d'intensité liés à la quantité de texte affichée à l'écran de l'ordinateur. Pourtant, et malgré cette évidence, il semble que la déformation textuelle joue un rôle dans la qualité finale de l'interprétation que les utilisateurs du "chat" font des messages envoyés aux sites de bavardage.

Mots Clés: communication assistée par ordinateur, émotions, attitudes propositionelles, texte écrit, communication par chat.

Sumario

1. Internet chat rooms

Internet chat rooms are areas of the web for synchronous text-based interactions. These areas are normally accessed through a single web page (e.g. a portal on Internet), and contain a number of channels (designed by the makers of the chat room) and sub-areas (created by the users). The samples selected for this article comprise interactive exchanges which took place in sub-areas and channels often used by Spanish adolescents, who typically tend to display a great amount of what I will label *textual deformation* (basically repetition of letters and non-standard uses of punctuation marks, spelling, etc., see Yus (2001a: 148-151, 2002a, 2003a). These creative spellings and punctuations constitute important discursive markers of identity (SMS texts sent through mobile phones work in much the same way), since they create linguistic barriers of intra-group specificity (Yus 2002b), with jargons which are only comprehensible to those in the same social group (e.g. the peers).

This paper is about the use of textual deformation by Internet chat users who are willing to produce a string of text rich enough to direct the recipient not only towards (supposedly) the intended interpretation of their messages, but also towards a certain measurement of the underlying propositional attitudes, affective attitudes and emotions attached to the message when it is typed on the computer keyboard. At the same time, textual deformation shows the kind of creative manipulation of discourse that chat users typically display as part of their so-

cial identities. As normally happens with most jargons, textual deformation in chat rooms is continuously contrasted with well established and normalised forms of written communication against which the users of chat rooms rebel. In Kataoka's (2003: 125) words,

> graphemic features may serve as a means of the writer's affiliation with particular groups, community, contexts, and cultures. Affective signs, exploited by young writers with a certain emotional drive, can index facets of the encoder's self through the ways s/he reveals and responds to affective events. We could take affective signs and punctuation to serve as a means of connecting emotion and youth identities... Youth identities are closely tied to the community-sanctioned ways of representing emotions that are shared between senders and addressees and appropriate to the epistolary context.

This is an explanation of textual deformation at a social level of analysis. In this paper I will try to demonstrate that there is also an explanation at the level of communicative interaction: when chat users type their messages they lack the ability to communicate the full range of attitudes and emotions which a richer context such as face-to-face communication facilitates (writers in general share this feeling to a greater or lesser extent) and they resort to textual deformations in order to compensate for this loss. This tendency is particularly explainable in a medium, Internet, in which feelings and emotions typically spread without much control (e.g. spam). Kesseler & Bergs (2003: 80) comment on how the cues-filtered quality of written text on Internet facilitates the expression of feelings and emotions, the extroversion of otherwise introverted people and the full display of affect. Although Internet communication allows users to speak more openly about feelings, desires and conflicts, it does not, at least in the case of chat rooms, provide them with an effective means to communicate them.

In general, the messages which are sent to chat rooms undergo a double process of informative loss. On the one hand, messages in chat communication, like virtually any text or utterance, underdetermine (i.e. *literally code* less information than) the thought(s) that the speaker intends to communicate with them. Within relevance theory (Sperber & Wilson 1986/ 95), human comprehension is pictured as an inferential task geared towards filling up all the informative blanks that the semantic representations (i.e. logical forms) of utterances or texts possess when they reach the receiver's mind. For instance, hearers or readers are expected to fix the time span of tenses, as in (1a), to find referents for indexicals (1b), to disambiguate (1c), to engage in enriching (1d) and loosening (1e), to find the elliptical propositional material of sub-propositional utterances (1f), etc., among other inferential procedures performed by the addressees in their search for a relevant interpretation of the utterance.

(1) a. Do you fancy some bread? No, thanks. I've already eaten [*this morning*].
b. She [*Ann*] put it [*the book*] there [*on that table*].
c. I saw her in the bank [*river bank/financial bank*].
d. What time is it? It's three [*It's two minutes to three*].
e. This steak is raw [*undercooked*].
f. Superb! [*I think that the film we have just seen is superb*].

In short, the first informative loss in chat rooms is the one that takes place between the sender's typed text and the sender's intended interpretation, which has to be filled inferentially. And there is a second layer of informative loss: the lack of nonverbally conveyed contextual information (vocal and visual) which is often essential to communicate attitudes and emotions

in face-to-face communication. The propositional content of utterances can acquire drastically different meanings depending on which underlying attitude or feelings are held or felt when these utterances are produced. It is logical to assume that even under the interactive speed constraint and under the shortened status of typed messages, chat users will also aid the interlocutors in the correct (or at least approximate) identification of their attitudes and emotions which would normally be spotted by nonverbal means, had they taken place in a face-to-face environment. Indeed, just a brief look at any interaction in a chat room shows how users constantly display feelings and emotions (cf. Chenault 1998). Despite the fact that there are fewer ways of conveying paralinguistic cues in this communicative environment, chat users who are "seasoned communicators" become used to producing and interpreting paralinguistic codes by resorting to strategies such as textual deformation.

In the next section I will briefly underline the importance of attitudes and emotions in human communication, and comment on how chat users try to communicate them with their texts on the computer screen. The subsequent part of the article is organised as follows: section 3 will be devoted to the main two-fold prediction underlying this paper: (a) that Spanish chat users can infer attitudes and emotions from the textual deformation typed by other chat users; and (b) that different quantities of textual deformation can lead to the interpretation of different degrees of intensity in these attitudes and emotions. In section 4, the data and methodology used for this article will be provided. Section 5 will be devoted to the theoretical explanation of four hypotheses which result from the aforementioned prediction. Finally, in section 6 these hypotheses will be tested and evaluated.

2. Attitudes and emotions through written text

According to the picture of human communication that is envisaged within a relevance-theoretic perspective, when interlocutors engage in the interpretation of utterances or texts they go through a number of inferential steps which take the schematic logical form of the utterance (its semantic representation) as the starting point. This zero-context coded logical form has to be developed inferentially by using context, with interpretive steps which are constantly guided by the interlocutor's search for the relevance that the utterance will (presumably) yield.

The outcome of the inferential development of the logical form is the so-called proposition expressed by the utterance which can then be communicated (as what is called *an explicature*), or used as one of the premises in the derivation of *implicatures*. However, relevance theory predicts that hearers will not normally be satisfied with the basic-level proposition expressed obtained from the inferential development of the logical form, and will try to embed it in a higher-order schema incorporating the speaker's attitude when communicating that proposition (the so-called *higher-level explicature*). Indeed, the identification of one attitude or another can alter the meaning that is eventually ascribed to the utterance. For example, upon hearing (2a) (adapted from Sperber & Wilson 1986/95: 11), Peter will not be satisfied with simply identifying (2b), but will try to infer whether Mary's underlying attitude is any of (2c-f):

(2) a. Mary [*to Peter*]: "You're going".
b. Mary has said "you're going".
c. Mary is asking Peter to go.

d. Mary guesses that Peter is going.
e. Mary is asking Peter to confirm whether he is leaving or not.
f. Mary is expressing outrage at the fact that Peter is leaving.

Natural languages offer speakers a whole range of linguistic means which can be used in the coding of propositional attitudes. These include that-clauses introduced by an attitudinal verb, as in (3a), parenthetical clauses (3b), verbal moods (3c), illocutionary adverbials (3d), and evidentials (3e), among others:

(3) a. I regret that you failed your exam.
b. It's time to go, I guess.
c. Come here right now!
d. Frankly, I am not surprised.
e. No doubt, he is the best candidate for the job.

On other occasions, though, the underlying attitude (and also the feelings or emotions attached to the utterance) can only be derived from non-linguistic evidence, by focussing on vocal aspects (e.g. intonation) and visual aspects (e.g. facial gestures) of the specific context in which the act of communication is taking place. For instance, Carston's (2002: 156) sub-sentential example "Out!" in (4a) can be interpreted as an order, that is, as having the higher-order explicatures in (4b-c), depending on non-linguistically-coded paralinguistic information (and also contextual information about power relations between the interlocutors):

(4) a. Out!
b. The speaker is telling the addressee to get out of the room.
c. It is desirable to the speaker that the addressee get out of the room.

However, in my opinion (4b-c) do not fully reflect the kind of information that the speaker really intends to communicate with (4a). The speaker is probably also interested in conveying his/her feeling(s) when uttering "Out!" (anger, indignation, irritation...), which may be very relevant, for instance for the interlocutors' background knowledge on the kind of relationship which they hold. In face-to-face contexts, the combination of vocal cues (e.g. shouting) and visual cues (e.g. facial gestures) is a good resource for speakers to convey the intended extent of their feelings and emotions while uttering that command, but in virtual environments such as chat rooms, letters and punctuation marks are the only resources available for this task. Later in the article it will be hypothesised that innovative uses of these typographic resources can actually favour accessibility not only to feelings and emotions but also to their intensity.

It should be noted that very often there may be no intended (i.e. correct, unique) interpretation of attitudes, feelings and emotions expected by the speaker. The literature on this issue shows that speakers are often very bad at assessing their own feelings and emotions, at least in a fine-grained way, since they are frequently unable to control and explain the range and scope of the information that *exudes* from their interactional behavior.[2] In general terms, though, it can be predicted that speakers at least have an idea of clearly positive or negative

[2] For example, Strzyz (1997) points out that individuals may be uncertain about the actual nature of their nonverbal behaviour, because either they cannot observe many sources of information from their expressions (e.g. facial cues) or they are unaware of some aspects of their expressions while they are cognitively involved in the emotion experience and the conversational tasks.

feelings and emotions, and can differentiate some general sub-types both in their own and other people's expressions. One of the aims of this article is, precisely, to investigate to what extent Internet users can infer types (and degrees) of attitudes and emotions from distorted verbal content and non-standard uses of punctuation marks in chat rooms.

In the remaining part of the article I will address the hypothesis that chat users are not only willing to compensate for the loss of nonverbally communicated attitudinal and emotional information in written texts, but are also willing to innovate with written language in as many ways as may be necessary in order to facilitate enhanced accessibility to a certain type of attitude or emotion and also to the intensity with which these are held or felt.

3. Preliminary prediction: Textual deformation and ad hoc measurement

Androutsopoulos (2000: 517) points out that "graphemic contextualisation cues can be defined as spelling choices which signal certain attitudes or evoke certain frames of interpretation by establishing a contrast to the text's spelling regularities or to the default spelling of a linguistic item". The main aim of this article is to test whether textual deformation in Spanish chat rooms works in a similar fashion, signalling to the other users that a certain attitude, feeling or emotion is held or felt while the sender is typing the text and, at the same time, the intensity of these attitudes and emotions. In other words, it is predicted that users play with orthographic conventions expecting their interlocutors to retrieve from memory the stabilised version of the words and punctuation marks that would have been used in a more neutral form of communication, and to evaluate both the type and the intensity of attitudes and feelings according to the quantity and quality of textual deformation that the senders apply to their messages.

The fact that several degrees of intensity in the experience of feelings and emotions can be differentiated does not imply that senders always intend very detailed interpretations of their creative textual deformations (interpretations which senders themselves may not even be fully aware beyond a very basic typology), or that their interlocutors will invariably search for a very fine-grained interpretation of these creative texts. However, in this article it is hypothesised that, while interpreting textual deformation, the receivers can infer some general distinction between broad attitudes and emotions and can also differentiate between several degrees of intensity in the display of feelings and emotions by focussing on the quantity and quality of this textual deformation.

Considering the inference of degrees of intensity, and for lack of a better term, from now on I will use the expression *ad hoc measurement* for the receiver's inferential attribution of attitudinal and emotional emphasis of textual deformation in chat rooms. Firstly, this attribution is *ad hoc* because the users have to evaluate, in a very specific interactive context, the extent and quality of these textual deformations, inside an environment which is characterised by its speed. Indeed, the so-called *scroll factor* (the fact that utterances in chat room dialogues disappear from the top of the computer screen and are then forgotten by the users) is an important constraint in the *ad hoc* evaluation of these textual deformations. And secondly, it is also some kind of *measurement*, since we can in theory establish a continuum of textual deformations intimately related to the intensity of the attitudes and emotions that chat users intend to communicate.

This *ad hoc* measurement is, however, constrained by the inherent mental quality of both attitudes and emotions (and the parallel difficulty that users face when attempting to communicate them). On paper, attitudes seem to be cognitively more lasting than emotions, even though one can temporarily hold a certain attitude to what one is saying (propositional attitude) or feeling (affective attitude). As pointed out by Pilkington (2000: 152-153),

> an emotion, such as fear or anger, is a temporary state, a response to some perceived event or state of affairs in the world... An attitude, such as love or hate, involves the storage of a belief and/or phenomenal state in long-term memory, attached to a conceptual address... Whereas an emotion is a temporary response to a situation involving the creation of a new desire or the strengthening of an existing desire, an attitude is focussed upon a particular object.

The analysis of the data and the information provided by a number of respondents will determine the accuracy of this two-fold prediction: that textual deformation can foreground attitudes and emotions in chat communication and that it can also favour an *ad hoc* measurement of their intensity. This analysis will be carried out in the next sections.

4. Data and methodology

Before collecting the data for this article, the preliminary prediction outlined above was broken down into four hypotheses concerning the use of textual deformation in Spanish chat rooms, and taking into account analyses of Internet chat communication undertaken in previous research (Yus 2001a, 2001b, 2002a, 2003a, 2005). The hypotheses address possible reasons for attitude- and emotion-related textual deformations in chat rooms:

Hypothesis 1

Textual deformation, when applied to specific linguistic items in the message, may aid the reader in a chat room in his/her identification of the propositional attitude that the sender holds while typing the subsequent stretch of discourse; that is, it may function as a *procedural device* facilitating the reader's identification of this propositional attitude. Besides, different quantities of text may be related to different degrees of intensity with which the propositional attitude is held by the chat user.

Hypothesis 2

Textual deformation may be useful to communicate propositional attitudes, especially when the verbal content of the message is not explicit enough to convey these attitudes properly. And again, a higher quantity of textual deformation may be used in order to communicate a higher intensity in the attitudes held by the chat users.

Hypothesis 3

Chat users who intend to communicate their affective attitudes (i.e. feelings) may resort to textual deformation in order to convey them more accurately. Besides, an additional layer of information may be attached to these affective attitudes, depending on the quantity of text displayed on the computer screen.

Hypothesis 4

Since there is a high degree of emotional communication in Spanish chat rooms, the users may be willing to express their emotions with the aid of textual deformation. Again, as in previous hypotheses, a higher quantity of textual deformation may lead the reader of the message to infer that a higher intensity in the emotion is felt (and intended) by the sender.

After stating these hypotheses, the data for this study were collected. They are made up of 1,700 messages sent by Spanish Internet users to different portals offering the possibility of synchronous chat communication. As a preliminary procedure, automatic messages such as those which indicate who has entered or left a certain channel, were discarded as they are not relevant to the present study.

Most of the data comes from the chat within the *Terra* server (www.terra.es/chat) obtained in several sessions that took place in August 2003 (483 messages) and October 2003 (574 messages). Another data-gathering session took place in the *Portalmix* server (www.portalmix.com), in its channel called *Operación Triunfo* in February 2002 (421 messages). The remaining data come from the chat *IRC Hispano* server (www.IRC.org), and was gathered in 2001 (222 messages). The channels (within the servers' domains) which were analyzed are typically visited by Spanish people in the 14-21 age group.

The data were then analysed in a search for the recurrent patterns in the way textual deformation (basically repetitions of letters and punctuation marks, and also connotative emphasis with capital letters) was used. The examples of textual deformation in the data are very frequent, but all the uses seem to be covered by the four hypotheses mentioned above.

The next stage in the research was to test the validity of theses hypotheses with a number of respondents. A questionnaire[3] (see Appendix) was handed out to 169 students (53 boys and 116 girls). The students live in Alicante (Spain) and study at a secondary school (58.6%) and at university (41.4%). Most of these students (77.52%) know how to log onto Internet and how to participate in chat conversations (19.52% of them actually chat online every day). Concerning their age, the respondents were 14-15 years old (34.32%), 16-17 (24.26%), 18-19 (4.73%), 20-21 (15.97%), and over 21 (20.72%).

In this questionnaire some of the samples collected during the analysis of the data were quoted and their possible interpretations checked and collected quantitatively. As can be seen in the Appendix, most of the items in the questionnaire contain different options to tick, but there is also an area in which the respondents can write their own interpretations. In fact, these respondents were encouraged not to tick any of the given options unless it really coincided with their own interpretations of the chat samples. The quality and quantity of the answers provided will be analysed in section 6 below. Before that, some theoretical aspects of these hypotheses will be addressed in the next section.

5. Hypotheses: Theoretical issues

5.1. Hypothesis 1: ad hoc measurement of procedural encoding

The first hypothesis predicts that textual deformation may be applied to the messages sent to the chat room as a *procedural* verbal device encoding instructions that will guide the

[3] The usefulness of the questionnaire was assessed with other colleagues at the department (University of Alicante, Spain). As a result, questions 6, 7 and 8 were added to the initial five questions in the questionnaire.

receivers of the message in their inferential steps oriented towards the interpretation of the subsequent stretch of discourse. In doing so, senders can make sure that their attitudes towards the propositional content of their messages will be identified correctly and, at the same time, they will make this identification less effort-demanding in cognitive terms.

This role of textual deformation can be explained by resorting to one of the most interesting lines of research within relevance theory: the one which differentiates between *conceptual meaning* and *procedural meaning*. While the former deals with the propositional content of utterances, the latter refers to the role of some elements in the utterances which facilitate the inferential processing of this propositional content (cf. Yus 1998: 328-329; Blakemore 1987, 2002; Wilson & Sperber 1993: 10).

In chat communication, samples of attitude-connoted items preceding verbal content can also be found, and they also *procedurally* aid the other users in their inferential processing of this content.[4] The research focussing on how emotions can facilitate the inferential search for an adequate interpretation of communicative behaviour points in a similar direction. Nabi (2003: 224), for instance, suggests that rather than approaching the study of emotion through more traditional routes focussed on the processing of message content, we should explore the possibility that emotions serve as frames for issues, privileging certain information in terms of accessibility and guiding information-seeking processes and subsequent judgments. Similarly, Kneepkens & Zwaan (1994: 129) insist that "the emotional impression directs the attention of readers and helps them to decide which information is relevant for the situation and must be activated. This role of emotions is especially important when there are few textual and contextual cues, for example, in the beginning of a text". If textual deformation manages to convey a more precise account of the users' underlying attitudes in communicating the adjacent stretch of discourse, then the *procedural* role of some verbal elements will probably be enhanced, and several attitudinal degrees may be identified depending on the quantity of text typed on the computer screen (see 6.1 below).

5.2. Hypothesis 2: ad hoc measurement of propositional attitude

The second hypothesis predicts that the lack of (vocal and visual) nonverbal communication in chat communication leads users to engage in a textual deformation of their messages when they want to communicate a certain propositional attitude, especially when the attitude is not properly coded in the utterance. Besides, as in the first hypothesis, a parallel prediction is that a higher quantity of textual deformation may be used in order to communicate a higher intensity or degree in these attitudes.

Chat users (and hearers in face-to-face communication) are expected to embed the propositional form of their messages in a particular attitude under which the utterance is typed. Most of the possibilities speakers have to communicate propositional attitudes (and affective ones, see section 5.3 below) are also available for chat users (cf. Wharton (2000: 184)), as can be seen in the choice provided in (5b-d) regarding the attitude quoted in (5a):

[4] Blakemore (1987, 2002) and her followers, when introducing this dichotomy, mainly analysed connectives (e.g. *after all*, *but*...), which typically *constrain* the inferential phase by indicating the kind of mental procedure that the hearer should go through (hence reducing the eventual overall effort) in the processing of the subsequent stretch of discourse (for instance, "but" warns addressees that the subsequent discourse should be interpreted as a contrast to the discourse preceding it). However, in recent research the list of procedural items has been extended and now it also covers nonverbal aspects such as intonation.

(5) a. [*User B is delighted with what user A has just typed*].
b. <B> :-D (an iconic emoticon substituting the natural reaction of a smile).
c. <B> Fantastic!!!!! (telling A about his attitude).
d. <B> Wow!!!!! (an interjection half-way between the mere display of feelings and coded communication).

Nevertheless, in chat communication the interlocutor's attitude is often not clearly (or not sufficiently) "visible" (i.e. textually made explicit, for example, with a 'that-clause' introduced by an attitudinal verb) and therefore chat users sometimes have to resort to textual deformation in order to favour a correct attitudinal identification and an appropriate *ad hoc* measurement of its intensity.

5.3. Hypothesis 3: ad hoc measurement of affective attitude

The prediction in this hypothesis is that chat users who are unsatisfied with the range of verbal options to communicate their affective attitudes (i.e. feelings) may resort to textual deformation in order to show the kind of feeling which they have while they are typing their messages. Besides, textual deformation may also provide a supplementary informational layer to the meaning which can normally be deduced from the coded aspects of the utterance, allowing for *ad hoc* measurement of the strength or intensity of these affective attitudes.

On paper, a distinction can be made between, on the one hand, propositional attitudes, whose schemas have a propositional form embedded, and affective attitudes and emotions, on the other. But the dividing line is not always clear.[5] Indeed, many propositional attitudes are communicated with overlapping or cause-consequence-related emotions and feelings. As Wichmann (2000) points out, the kind of labels we associate with a propositional attitude reflect the emotions aroused by that opinion, belief or knowledge. The labels associated with the expression of propositional attitude seem therefore to be related to those associated with feelings and emotions.

Wharton (2000: 189) tries to distinguish propositional attitudes and affective attitudes in his analysis of interjections. Consider (6) below:

(6) a. *Wow*! You're here.
b. The speaker is delighted that he is here.
c. *Wow*! This ice-cream is delicious.
d. * The speaker is delighted that this ice-cream is delicious.
e. *Wow*!

For Wharton, (6a) leads to the higher-level explicature (propositional attitude) in (6b), but the attitude in (6c) is *not* expressed to an embedded proposition, that is, the hearer is not expected to derive (6d) from (6c). Instead, the attitude is expressed to an object (the taste or look of the ice cream), rather than to a proposition. An extreme case would be (6e), in which there is no coded proposition which the hearer can embed in an attitudinal schema. Similarly, interjections in chat rooms can be used with the purpose of foregrounding affective attitudes.

[5] For example, Lehtinen (1998: 10) wonders: "it is easily granted that 'beliefs that...' and 'doubts that...' are fairly and squarely nonemotional, cognitive or truth-oriented, but what about 'hopes that..', 'wishes that...', 'desires that...', 'fears that...'? One obvious question here is: why are not, e.g., 'sadness that...', 'delight that...', and other emotions that allow for that-clauses also incorporated among propositional attitudes?".

This affective role of interjections will be analysed in section 6.3 below.

5.4. Hypothesis 4: ad hoc measurement of emotive communication

The prediction in this hypothesis is that, given the highly emotional quality of communication in chat rooms, the users may express their emotions with the aid of textual deformation, which may be a major strategy for emotive communication in chat rooms. And once again, a parallel prediction refers to the possibility that a higher textual deformation (e.g. more letters or punctuations marks typed) may lead the reader of the text to infer that the sender intends to communicate a higher intensity in the emotion.

For the purposes of this study of textual deformation in chat room communication, it would be useful to try and distinguish the different types of affective communication.[6] In general, it can be assumed that emotions are typically characterised as "acute, intense, and typically brief psychophysiological changes that result from a response to a meaningful situation in one's environment" (Rosenberg, quoted in Kidron & Kuzar 2002: 130) and that chat users want to let other users know about their emotional states while engaging in virtual conversations in Spanish chat rooms. A different issue is whether the range of emotions which can be communicated is narrow or broad, which connects with the parallel debate on whether there is a basic set of emotions from which all other emotions are derived (cf. Ekman 1992) or a number of sub-components, such as valence and intensity, combine to form specific emotions (cf. Ortony & Turner 1990).

Of particular interest is the fact that emotions can be broadly divided into unconsciously produced emotions and intentional emotions, the latter directed at an interlocutor and consciously assessed. Ekman & Friesen (1969) did some pioneering research on this issue. Often, emotions are unconsciously produced (in a phase called *affect program*, in their terminology) but the person can then mask, intensify, hide, emphasize etc. this emotion (in the phase of *display rules*). Much research on the issue of (un)intentional emotional information has taken place since,[7] including the distinction between unintentional *emotional* behaviour and intentional *emotive* communication.[8]

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[6] Caffi and Janney (1994: 327) distinguish between *feelings* (a broad, complex class of subjective personal sensations or states of inner physiological arousal), *emotions* (a restricted subset of empirically investigable phenomena within this general class that are relatively transitory, of a certain intensity, and are attached to, or triggered by, particular objects, ideas, or outer incentive events), *moods* (of longer duration than emotions and not necessarily attached to specific inner states or definite objects), and *attitudes* (transitory feeling states with partly uncontrollable subconscious psychobiological components and partly controllable expressive components, which are said to be instrumental in maintaining social and psychological equilibrium and adapting to different situations). Other authors try to distinguish emotions by isolating their typically recurrent features. For Rey (cited in Wharton (2000, 189)), emotions comprise cognitive, qualitative and physiological elements. For Oatley (1989) emotions have five characteristics: (a) they usually include an involuntary urge to act; (b) there is often some bodily perturbation; (c) there is usually distinctive conscious feeling; (d) recognizable expressions of emotion, such as smiling or frowning, occur; and (e) thoughts may come to mind involuntarily and may reverberate for some time. For Feldman Barrett & Fossum (2001), emotions comprise dimensions of valence and arousal. Finally, Ekman (1999) isolates up to eleven distinguishing features of emotions.

[7] Also by Ekman and Friesen themselves. For instance, Ekman *et al.* (1982) demonstrated how conversational partners attempt to "mask" their deceptive intentions and words in an effort to control their facial displays.

[8] Caffi & Janney (1994: 328) characterize these types as "a type of spontaneous, unintentional leakage or bursting out of emotion in speech" (*emotional*) and "the intentional strategic signaling of affective information in speech and writing in order to influence partners' interpretations of situations and reach different goals" (*emotive*).

Besides, unconsciously generated emotions are usually regarded as cross-culturally valid, while every culture constrains the ways in which these universal emotions can be expressed in social interactions (e.g. rules of manners and politeness regulating the degree of emotional display in public encounters). This is the typical constructivist position, for which "emotions are not just remnants of our phylogenetic past, nor can they be explained in strictly physiological terms. Rather, they are social constructions, and they can be fully understood only on a social level of analysis" (Averill, quoted in Cornelius 2000).

Needless to say, chat users can only engage in (intentional) emotive communication, and the most that they can do with their unconsciously generated emotions is to go through some *ex post facto* assessment of why and how they were produced. In Yus (2001a: 129-130) it was claimed that many of the interpretive possibilities that a nonverbal behaviour can produce in a face-to-face context are simply impossible to reproduce in chat communication, especially those related to unconscious generation and transmission of information (e.g. blushing). If (non)verbal communication has to be typed, there has to be an underlying intentionality of some sort leading to the typing activity.

In section 6.4 the users' ability to convey emotions via textual deformation will be analysed and evaluated.

6. Hypotheses: The analysis

6.1. Hypothesis 1: ad hoc measurement of procedural encoding

The first hypothesis predicts that one of the uses of textual deformation is to function as a procedural device guiding the reader towards the kind of inferential processing that should be applied to the subsequent stretch of discourse. The analysis of the data collected for this article revealed that Internet users basically use interjections for this procedural role of discourse. In face-to-face communication interjections play a similar role. Wharton (2000: 194), for example, analysed how interjections can *procedurally* guide the hearer in the identification of the speaker's attitude underlying the subsequent propositional content of the utterance:

> the procedural information encoded in interjections might activate various attitudinal concepts or types of concepts. Under such an account *wow* would not encode a concept that a hearer translates as 'X is delighted'. Instead *wow* activates a range of attitudinal descriptions which involve delight, surprise, excitement etc.. In the case of *yuk*, the attitude will be one of disgust; in the case of *aha* it will be an attitude of surprise etc.. In the case of *eh* what will be activated is a range of interrogative propositional-attitudes; in the case of *huh*, it will be a range of dissociative attitudes, and so on.

The interjections found in the data seem to have a similar role. Some examples are quoted in (7):

(7) a. <stefany> jooooooo pronto empieza el curso.
[*Jeez! the school term starts soon*].
b. <Jun-> aggg el brecol ta mu malo [*el brécol está muy malo*].
[*Aggg, broccoli tastes awful*].

In (7) "joooooooo" and "aggg" would encode procedural information activating various attitudinal schemas into which the utterance following them would be embedded. The reader of (7a) would be instructed not to infer that the subsequent stretch of discourse is to be interpreted as encoding an assertive higher-level explicature (<*stefany*> *believes that the school term starts soon*) but that this stretch is produced with a different attitudinal schema, which I interpret as a "S regrets that *p*" schema. Similarly, the writer of (7b) is not only asserting that he believes that broccoli tastes awful, but is instructing the reader that this utterance should be understood as produced within a more relevant "S is revolted by *p*" schema.

In this hypothesis it was also predicted that in reality the respondents reading the examples in (7) should not need textual deformation in order to identify the procedural role that these initial particles acquire. In other words, it was hypothesised that the respondents would also identify the unconnoted "jo" and "ag" as procedural devices, given their stereotypical use as interjections. But, at the same time, in a speed-constrained medium such as chat rooms, the users are not expected to engage in repetitions of letters which are communicatively empty. The prediction, then, is that textual deformation in (7) should allow for accessibility to a supplementary layer of meaning: the one related to the intensity with which the higher-level propositional attitudes are held by the sender. That is, repetition of letters in "*joooooooo*" and "*aggg*" should, in theory, lead the interlocutor to an *ad hoc* measurement, turning the default attitudinal schemas into more fine-grained and relevant "S *highly* regrets that *p*" and "S is *totally/utterly* revolted by *p*" schemas, respectively.

This was confirmed by the responses to question 5 in the questionnaire (see Appendix). The respondents were provided with the message quoted in (7a) and a choice of options for the interpretation of the sender's underlying propositional attitude: (a) to inform that…; (b) to regret that…; (c) to wonder whether…; (d) to confirm that…; and (e) a blank space for the respondents to write their own interpretations.

Predictably, 94.70% of respondents selected option (b) (regret that…) as the most likely interpretation of (7a). They were then asked about what role the repetition of letters in "joooooooo" might have in the eventual interpretation of the utterance (see Appendix, question 6). 92.90% of respondents agreed that the repetition indicated a higher intensity in the way the attitude of regret was felt by the user. Therefore, repetition of letters in these interjections seems to play a role in the interpretation of the "attitudinal intensity" that the user intends to convey.

However, there was also a prediction that, if the number of repeated letters in (7a) was increased, the interpretation of the intensity would vary accordingly. The respondents were asked about that possibility (see Appendix, question 6) but many of them (68.05%), despite rating textual deformation as conveying a supplementary layer of attitudinal meaning, did not infer levels of intensity from the quantity of text typed.

6.2. Hypothesis 2: ad hoc measurement of propositional attitude

This second hypothesis predicts, on the one hand, that textual deformation should be a good resource for chat users when they intend to communicate the higher-level attitude-connoted explicature of the utterance, especially when the propositional attitude is not coded by conventional linguistic means; and, on the other hand, it predicts that the quantity of textual deformation should also be useful for providing accessibility to the intensity of the attitude (in other words, that textual deformation facilitates *ad hoc* measurement of this intensity).

The analysis of the data revealed that on many occasions the creative uses of punctuation marks, repetitions of letters and especially the use of capital letters (which are often banned in chat rooms) appear to compensate for the cues-filtered quality of written communication in order to convey attitudes. Some examples from the data are listed in (8) below:

(8) a. <Jun-> no chillesssssssssssssssss.
[*Don't shout*].
b. <ZePeLiNa> NO XHILLE OTIAAAAAAAAAA [*¡no chilles, hostia!*].
[*Don't shout, damn it!*].
c. <^LoBeZNo^> maaaaaan echao [del chat]!!!
[*I was kicked out* [*of the chat room*]].
d. <elia> malhe nooooooooo te vayas.
[*malhe don't go*].
e. <el-rey-del-swin> [*Hazlo*] pero yaaaaaaaaaaaaaaaa .
[[*Do it*] *right now*].

Examples like these lead me to the conclusion that capital letters and repeated letters or exclamation marks can aid the reader in the identification of the underlying propositional attitude. Concerning the intensity of the attitude, in the questionnaire the respondents were asked about their interpretation of some samples of the data. (8e) was one of these samples. They were asked whether they interpreted (8e) differently when it was quoted with and without textual deformation (see Appendix, question 4).

18.93% of respondents found no difference in the way that they would interpret both messages. The rest found a difference in the meaning of the utterance. Leaving aside 19.52% of respondents who ticked the first option but failed to provide a reason why they found a difference of meaning between option (a) and option (b) ((8e) with/without textual deformation), the main answers provided by the respondents are summarised in table 1.

-In (b) the user seems to communicate his text with more insistence.	23.49%
-In (b) the user is more demanding, is in a hurry for a reply, is anxious/desperate to get a reply from an interlocutor.	30.88%
-In (b) the user communicates the information with a more forceful tone, with a higher level of energy.	6.71%

Table 1. Main answers to question 4 in the questionnaire concerning the interpretation of (8e).

Punctuation marks are also a good resource for the communication of propositional attitudes, for instance in cases like questions. In chat rooms, at least in the main area where non-private messages are sent and displayed, yes-no questions are the most frequent type, which comes as no surprise since a great majority of the users' questions sent to this main area of the chat room have to do with their willingness to meet other people by asking whether anybody is available to chat with them.

These yes-no questions often require the addressee's dual recovery of the missing information in the logical form (common to all types of verbal human communication), and of the sender's attitude through an embedding of the proposition expressed by the utterance in a higher-order schema such as "the Internet user is asking if *p*".

In theory, when the question mark is repeated, the recovery of the higher-level explicature and its *ad hoc* measurement should be easier for the reader. For instance, given (9a) and (10a) below, (9b) and (10b) would be the propositions resulting from the inferential development of the logical form, with information which is predictable to a greater or lesser extent (as the reader can see in the alternative endings of the utterance), whereas (9c) and (10c) would be higher-level explicatures with the propositions embedded in an attitudinal schema facilitated by the presence of questions marks. Finally, I predict that (9d) and (10d) would be the resulting propositions after *ad hoc* measurement of the repeated question marks has taken place:

(9) a. <nenita69> alguien de torrejon de ardoz???????
[*Anybody from Torrejón de Ardoz???????*].
b. [*Is there*] anybody from Torrejón de Ardoz [*connected to this channel*] [*who wants to chat with me*]?
c. <nenita69> is asking if anybody from Torrejón de Ardoz [*who is connected to this channel*] [*wants to chat with her*].
d. <nenita69> is asking *with insistence* if anybody from Torrejón de Ardoz [*who is connected to this channel*] [*wants to chat with her*].

(10) a. <beckham15_msn> alguna valenciana???????????????
[*Any Valencian girl???????????????*].
b. [*Is there*] *any Valencian girl* [*connected to this channel*] [*who wants to chat with me*]?
c. <beckham25_msn> is asking if any Valencian girl [*who is connected to this channel*] [*wants to chat with him*].
d. <beckham25_msn> is asking *with great insistence* if any Valencian girl [*who is connected to this channel*] [*wants to chat with him*].

(10a) was included in the questionnaire (see Appendix, question 1). The respondents were asked whether they found any difference in the interpretation of (10a) when compared to an alternative utterance without textual deformation. The respondents were given a number of options to tick, summarised as: (a) there is no difference in meaning between the two versions of the message; (b) in (10a) the user asks with more insistence; (c) in (10a) the user is more annoyed; and (d) in (10a) the user is more desperate to get a reply. The respondents also had the chance to provide their own interpretations.

Our prediction was that chat users would find differences in the use of repeated question marks, and would ascribe an additional attitude-connoted layer of meaning. This prediction was confirmed: option (a) was chosen only by 3.55% of respondents. It was also predicted that *ad hoc* measurement facilitated by repeated question marks would lead the respondents to tick option (b). This prediction was only partly supported. 45.56% of respondents chose (b), but another 44.97% chose option (d). And only 3.55% of respondents chose option (c). From this I conclude that the respondents engaged in *ad hoc* measurement of the higher-level explicature in the question, but did not agree on the kind of intensity foregrounded by the repetition of question marks (e.g. insistence or desperation). This conclusion may be explained by the fact that the respondents were *reading* the messages. Some research has shown that readers in general can only infer broad categories of feelings and emotions in what they read, and are quite bad at differentiating between subtle variations inside the same broad category of emotions (see Gygax *et al.* 2003). For instance, Fussell & Moss (1998) point out that the conventional

affective lexicon may not suffice in order to express the nuances of specific emotional experiences. Many affective terms, such as "depressed", are normally used loosely and therefore may not have the precision speakers desire. Similarly, in chat room communication users have to trace emotions from the texts which they read, and the same use of textual deformation can in theory be used for communicating related but subtly different types of feelings and emotions.[9]

This *ad hoc* measurement should also be valid for the other types of propositional attitude, especially if the propositional attitude is not explicitly coded (i.e. typed) in the messages. The analysis of the data showed that utterances coding higher-level explicatures like the ones reproduced in (11) below are not the norm in chat communication (my italics):

(11) <ESIGUAL> NO contestare mas privados... gracias *espero ke* lo comprendais.
[*I won't answer any more private messages... thanks* I hope that *you'll understand*].
<principe20> muy guapo y muy majo *creo q* existen pokos.
[*good and nice,* I think that *there are few of them*].

More frequently, Internet users either do not have time to type all the text which would make the interpretation of their propositional attitude much easier, or are simply unsatisfied with the verbal options that Spanish can offer to communicate both these attitudes and their intensity. When faced with these limitations, the user will tend to resort to textual deformation in order to fulfill this communicative task, facilitating the reader's identification of an appropriate attitudinal schema and, saving time, a parallel *ad hoc* measurement of the intensity of this attitude. In (12a) below, the coded text foregrounds, by itself, a higher-level explicature with the attitudinal schema of begging, and textual deformation would only emphasize a higher intensity while communicating this attitude. In (12b), on the contrary, textual deformation is useful in pinning down the propositional attitude, since the proposition expressed by the utterance could well be interpreted as an assertion, unless textual deformation underlines the attitude. Finally, in (12c) capital letters, which invariably denote intensity of emotions in chat communication (this is why they are often banned in chat rooms), convey the user's urgent need to get a reply:

(12) a. <Quesalid> bastaaaaaa... Bastaaaa pofavóoo [*por favor*].
[*Stop... Stop please*].
b. <saratogo> estoy gorrrrrrrrrddddooooooooooooooooooooooo [*gordo*].
[*I am fat*].
c. <rubita69> DEJAMEEEEEEEE DEJARMMEE VEROSSSSSSSSSS
[*Let me... let me see you*].

(12b) was included in the questionnaire (see Appendix, question 2). The question was followed by several options to tick: (a) inform that he is fat; (b) be glad to be fat; (c) regret that

[9] Besides, it should be noted that this ambiguity in the interface between feelings and emotions and their expressions is not restricted to written communication. Cauldwell (2000) points out that there can be no one-to-one relationship between intonation and attitudinal meaning in English: similar attitudes can occur with different tones ('emotional involvement' and 'surprise'/'shock' occur with both the fall and the rise); and different attitudes can be associated with the same tone ('urgency' and 'tentativeness' with the fall-rise).

he is fat; (d) be angry at being fat; and (e) "Other" –respondent's own interpretation–. Our prediction was that the use of textual deformation in (12b) would lead the respondents not to choose the basic-level explicature in option (a) and, instead, they would tend to select option (c). The respondents' answers lead to mixed conclusions: as predicted, only 15.97% of respondents ticked option (a) and most respondents felt that there was an additional layer of information attached to textual deformation in (12b). But I also expected most respondents to tick option (c), which turned out to be disconfirmed. 20.12% of respondents ticked (c) but, contrary to the expectations, 24.85% of them ticked option (d). Again, an explanation lies in the fact that the respondents are trying to isolate attitudes from a written message which is devoid of coded linguistic attitudinal markers and, without additional contextual information, they cannot reach a unitary conclusion on the kind of attitude that is signalled with this textual deformation beyond some general attitudinal attribution. In other cases, in which textual deformation is added to an utterance which, itself, already communicates feelings and emotions (e.g. to be angry at…; to be happy that…, etc.) it is easier to infer that textual deformation only adds an additional "higher than default" layer of intensity ("default" meaning "the prototypical coded intensity in the meaning of these utterances") than in the case (12b) above, in which *estoy gordo* (*I am fat*) can be uttered with a much wider range of underlying attitudes (and these attitudes, in turn, with different degrees of intensity).

6.3. Hypothesis 3: ad hoc measurement of affective attitude

The hypothesis outlined in 5.3 above on *ad hoc* measurement of affective attitudes predicts that chat users will use textual deformation to communicate supplementary information on affective attitudes (i.e., feelings). If this hypothesis is correct, it means that textual deformation is not gratuitous in chat communication, but provides relevant information in order to reach a more complete understanding of the utterance in which the sender's affective attitude is also inferred.

To start with, it seems to be more difficult to distinguish between feelings and emotions, both of which do not require embedded propositions, than propositional attitudes. In fact, many authors treat feelings and emotions as synonymous, or at least overlapping. For us, feelings are similar to emotions, the latter being, perhaps, more typically unconscious and sudden, although speakers can control the way in which they are displayed to the audience.

For the purposes of an analysis of textual deformation in chat rooms, I predict that users have feelings which they want to communicate to the other users and that they resort to textual deformation in an attempt to favour both an identification and an *ad hoc* measurement of these feelings (cf. Kataoka 2003: 126). Therefore, while some chat users simply type the closest –and more conventional– way of coding their feelings, as in (13a), others frequently rely on textual deformation, as in (13b), or even use coded symbols for the transcription of feelings, as the repetition of "Z" to show boredom in (13c):

(13) a. <ferrari> me siento solo.
[*I feel lonely*].

b. <morena> me aburroooooooooooooooooooooooooooooo.
[*I am bored*].

c. <solito_casa> zzzZZZzzzz.

Interjections can also be used as markers of affective attitude. Some examples of interjections containing affective-attitude information of the type "*X is surprised while saying that p*" are quoted in (14a-c) below:

(14) a. <sigma> uy!! ya se a parado esto.
[*Oops! This has stopped*].
b. <Malhe> uys esta celosita esta cambiando las buenas costumbres.
[*Oops! This celosita* [a nick] *is changing good manners*].
c. <afro> ups me cai.
[*Oops! I've fallen down*].

However, no examples in which textual deformation was consistently applied to these feeling-connoted interjections were found. This implies that none of the users intended an *ad hoc* measurement of the extent to which these affective attitudes were held (in the samples in (14) above, an *ad hoc* measurement of *how surprised* the users were while typing their messages is not intended, apart from the double exclamation mark).

Other examples of affective-attitude-related textual deformation are provided in (15) below. My personal *ad hoc* measurement of the extent and intensity of these attitudes is also provided ("S" for speaker; "U" for utterance). I predict that, in all of these examples, the senders seem to be dissatisfied with the range of linguistic options which they have in Spanish for the communication of affective attitudes and their intensity:

(15) a. <xica_gogo> abridme un privado por favor!!!!!!
[*Send me a private message, please*].
[*S* is feeling *very* eager while typing *U*].
b. <yo> HOLAAAAA ALGUIEN QUIEREEEE HABLARR CONNNNMIGOOOO QUEEEE YO ACEPTOOOOO A CUALQUIERAAAAA .
[*Hi! Does anybody want to talk with me? I'll accept anyone*].
[*S* is feeling *incredibly* anxious while typing *U*].
c. <cufi> t kieroooooooooooooooooooooooooooooooooo [*te quiero*].
[*I love you*].
[*S* is feeling *absolutely* in love while typing *U*].
d. <BEFLY> vaya cuerdas vocaleeeeeeeeeeeeeeeeeeeeeeeeeeee
[*What vocal chords!*].
[*S* is feeling *utterly* amazed while typing *U*].

I tested these examples in the questionnaire (see Appendix, question 4). The objective was to compare the interpretations of two versions of these examples, one without textual deformation and the other as they appear in (15a-d).

The analysis of the data reveals that only a small percentage of respondents found no difference in the interpretation of the utterance with and without textual deformation (14.20% for (15a); 15.38% for (15b); 16.57% for (15c) and a –surprising– 33.73% for (15d)). The rest of respondents inferred that textual deformation was related to the sender's intentional attempt to provide a supplementary layer of information concerning their affective attitudes. However,

as can be seen in table 2, there is no uniformity in the interpretation of this supplementary layer of affective information.

<xica_gogo> abridme un privado por favor!!!!!! [*Send me a private message, please*].	
-The user is very desperate to obtain a reply.	30.77%
-The user conveys increased insistence in her willingness to communicate.	30.18%
-The user provides increased emphasis in the act of begging for a reply.	5.32%
-The informant ticks that there is a difference, but does not specify.	17.16%
<yo> HOLAAAAA ALGUIEN QUIEREEEE... [*Hello, anybody wants...*].	
-The user calls other people's attention to his/her intentions by shouting.	22.48%
-The user is very desperate, very anxious to get a reply.	15.38%
-The user indicates increased insistence to get a reply.	7.69%
-The user shows increased impatience.	4.73%
-The user conveys a deeper feeling.	3.55%
-The informant ticks that there is a difference, but does not specify.	20.71%
<cufi> t kieroooooooooooooooooooooooooooooooooooo [*te quiero*] [*I love you*]..	
-The user conveys a deep love.	24.85%
-The user says the words with increased emphasis, increased strength.	24.85%
-The informant ticks that there is a difference, but does not specify.	21.89%
<BEFLY> vaya cuerdas vocaleeeeeeeeeeeeeeeeeeeeeeeeeeeeee [*vocales*] [*What vocal chords!*].	
-The user communicates the text with increased emphasis, increased strength.	17.75%
-The user foregrounds the quality of the voice; conveys a deeper feeling of admiration.	7.69%
-The user communicates a feeling of happiness.	4.14%
-The informant ticks that there is a difference, but does not specify.	22.48%

Table 2. Main answers concerning the interpretation of (15a-d).

In short, textual deformation seems to provide a "higher than default" additional affective meaning, but chat users do not seem to be able to agree on which specific feelings motivate textual deformation.

In the questionnaire I also tested our parallel prediction within this hypothesis: that if more textual deformation is typed by the chat user (e.g. more letters or punctuation marks are repeated), the reader should infer a more intense feeling associated with the typed text (see Appendix, question 3). I asked the informants to compare the interpretations of (16a-f) and to answer whether they thought that the higher quantity of textual deformation (higher as we go down the examples) was related to a higher intensity in the user's feelings:

(16) a. <Elitrix> holaa [*hello*].
b. <RuBiOWaPo> HoLaa!!!!
c. <patricia> hola¡¡¡¡¡¡¡¡¡¡¡¡
d. <tere_rubia> ola a todo el mundoooooooo [*hello everybody*].
e. <chico_20> hhhhhhooooooooooooolllllllllllllllaaaaaaaaaaaaa.
f. <sevillana14> holaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa.

They were given several options to tick: (a) more text is related to more intensity in the feeling; (b) the repetition of letters is related to the intensity of the feeling, but the users do not necessarily have to feel a higher intensity as we go down the examples in (16a-f); and (c) there is no relationship between a higher quantity of textual deformation and a higher intensity of the feeling. A fourth option was provided where the informants could write their own interpretations.

I expected the respondents to infer that the feelings which accompany these greetings would be more intense as we go down the examples listed in (16a-f). In other words, that most of the respondents would tick option (a). However, contrary to my expectations, only 20.71% of respondents did so. And 23.07% of respondents ticked option (c), not finding any difference of meaning in the higher or lower number of repetitions typed in (16a-f).

The option which was most frequently ticked (39.05% of respondents) was (b). From this I conclude that the respondents found that textual deformation does play a part in the communication of feelings, and that these textual deformations are intentionally devised to achieve specific effects in chat communication, but the respondents were unable to agree in their *ad hoc* measurement of intensities of feelings beyond this basic relationship between the (higher than default) quantity of text and a higher intensity of the feelings.

6.4. Hypothesis 4: ad hoc measurement of emotive communication

Since emotions are typically displayed without much control on Internet, the prediction in this hypothesis is that chat users will resort to textual deformation in order to communicate their emotions, favouring not only a better identification, but also an adequate assessment of their intensity.

Emotive communication through textual deformation is easy to spot and very frequent in chat rooms. A preliminary explanation of why textual deformation is used for emotive communication in chat rooms lies in the fact that even in face-to-face interactions the range of vocal and visual options interlocutors have to express their emotions is limited compared to the vast amount of subtleties and shades of meanings that emotions can acquire. For instance, Fussell (2000) points out that although nonverbal cues can indicate what general class of emotions a person is feeling, they typically do not provide very detailed information about that person's emotional state. Textual deformation would then be seen as an attempt to signal explicitly the approximate extent of a range of emotions which are nevertheless difficult to verbalize.

The analysis revealed that the emotions which are most frequently communicated in Spanish chat rooms are the ones which are easiest to type, that is, those emotions whose vocal expression in oral communication is not superimposed to speech (what Poyatos 1975 labelled

alternants). Typical emotion-conveying alternants include laughs, as in (17) below, and shouts (18):

(17) <xica_gogo_16> os kiero muchisimo!! jeje [*I love you a lot!! ha ha*].
<ZePeLiNa> Quesaild: jajajajajajajja jajajaajajajajjajajaja.

(18) <cristina_c_a> aaaaaaaaaaah.
<ESIGUAL> waaaaaaaaaaaaaaaaa.
<zuMBaooo> WweeeeeeeeeeeeeeeEEEEEEEEEEEEEeeeeeeeeeee.
<ya_ta> buaffffffffff.

Ad hoc measurement of these emotion-connoted repetition of letters does not seem to be oriented towards communicating the intensity with which these emotions are felt but, instead, towards a more or less faithful reproduction of how lasting the sound of the alternant would have been if the user had heard it in a face-to-face context (an altogether different type of *ad hoc* measurement to the one which has been analysed so far). In other words, textual deformation here merely *transcribes* alternants as they would have taken place orally.

On the other hand, emoticons, iconic combinations of punctuation marks like [:-)] (joy) or [:-( ] (sadness) seem to be subject to an intensity-related *ad hoc* measurement by the audience, depending on how innovative –and repetitive– their depiction is compared to the default typology[10] **(the latter suggested in square brackets):**

(19) a. <Quesalid> XDXDXD [XD].
b. <Quesalid> :(((([:( ].

Concerning the parallel prediction that a higher repetition of typographic signs inside the emoticon may imply a higher intensity of the feeling, the respondents were asked about (a) whether they inferred that (20a) and (20b) provided different levels of information (see Appendix, question 7); and (b) whether they thought that variations of intensity were involved in the repetition of signs in (20b) and (20c) (see Appendix, question 8):

(20) a. <Quesalid> :-)
b. <Quesalid> :-)))))
c. <Quesalid> :-))))))))))))

The answers provided are similar to the ones already assessed in previous hypotheses. Again, most respondents (85.80%) inferred that there is an additional meaning communicated by (20b) compared to (20a) and, since the emoticon typically communicates a broad kind of emotion, the respondents suggested that this additional meaning was simply related to a higher

[10] Although there is a large variety of emoticons, only a handful of them are frequently used by Internet users, especially the ones communicating happiness [:-)], wink [;-)] and sadness [:-( ] (cf. Walther & D'Addario (2001)). For instance, Schulze's (1999) quantitative analysis revealed that only nine emoticons are extensively used. Taking into account the process of stabilization that emoticons have undergone, especially with the online publication of various emoticon glossaries, it can be stated that any repetition of one or more of the typographic signs composing the emoticon should be taken as a connotation of the default type, and hence the other users reading these emoticons will tend to infer an additional layer of meaning associated to this repetition.

intensity in the emotion ("joy"). However, and contrary to my prediction, many respondents (67.45%) found no difference of intensity in the different number of repetitions of typographic signs between (20b) and (20c). Once more, it seems that textual deformation is mainly useful to communicate an additional "higher than default" layer of information but, beyond this point, the respondents seem to be unable to relate a higher quantity of text with a higher intensity in the emotion.

7. Concluding remarks

From this analysis of textual deformation in Spanish chat rooms, we can conclude that this kind of innovative text is the outcome of an intentional verbal strategy used by chat users when they are willing to connote their messages with attitudes and emotions.

In this paper, it was predicted that Spanish chat users would use textual deformation in order to signal to the other users the kind of propositional attitude, affective attitude or emotion felt while typing their messages. It was also predicted that the quantity of textual deformation typed (e.g. the number of letters or punctuation marks repeated) would be related to an attempt to communicate the intensity of these attitudes and emotions.

This two-fold prediction was then spelled out as four hypotheses which reveal an interest in engaging in textual deformation as a means to communicate attitudes and emotions. Indeed, the results from my analysis of the data and the respondents' answers to a questionnaire revealed that users try to identify the user's attitudes and emotions and that they also attempt some "*ad hoc* measurement" of these attitudes and emotions. Textual deformation proved to be useful for inferring the extent of the attitude being signalled by interjections as procedural devices (hypothesis 1), and the general quality of the sender's propositional attitude (hypothesis 2), affective attitude (hypothesis 3) and emotions (hypothesis 4). However, on most occasions the *ad hoc* measurement performed by the respondents only led to the interpretation of a "higher than default" additional layer of attitudinal or emotional information with no agreement on which specific supplementary information was intended by the chat user. Contrary to my expectations, the respondents pointed to the same broad area in the emotional spectrum (e.g. "to regret that one is fat" versus "to be angry at being fat"), and failed to agree on a clear-cut underlying feeling or emotion (and some respondents even suggested a radically different interpretation, e.g. "to be happy to be fat"). Although the respondents pointed out some interpretive possibilities and these were often close, the resulting asymmetry in the interpretations of textual deformation confirms that different attitudes and emotions can be inferred from one single sample of textual deformation and that textual deformation is, in general, not a good resource for communicating subtle varieties of attitudes and emotions.

8. References

ANDROUTSOPOULOS, J.K. (2000), "Non-standard spellings in media texts: The case of German fanzines", *Journal of Sociolinguistics* 4: 514-533.

BLAKEMORE, D. (1987), *Semantic Constraints on Relevance*, Oxford: Blackwell.

BLAKEMORE, D. (2002), *Relevance and Linguistic Meaning*, Cambridge: Cambridge University Press.

CAFFI, C. & R.W. JANNEY (1994), "Toward a pragmatics of emotive communication", *Journal of Pragmatics* 22: 325-373.

CARSTON, R. (2002), *Thoughts and Utterances*, Oxford: Blackwell.

CAULDWELL, R.T. (2000), "Where did the anger go? The role of context in interpreting emotion in speech", paper delivered at the *ISCA Workshop on Speech and Emotion: A Conceptual Framework for Research*, Belfast, Queen's University, September.

CHENAULT, B.G. (1998), "Developing personal and emotional relationships via computer-mediated communication", *CMC Magazine* 5 (Online).

CORNELIUS, R.R. (2000), "Theoretical approaches to emotion", paper delivered at the *ISCA Workshop on Speech and Emotion: A Conceptual Framework for Research*, Belfast, Queen's University, September.

EKMAN, P. (1992), "An argument for basic emotions", *Cognition and Emotion* 6: 169-200.

EKMAN, P. (1999), "Basic emotions", in T. Dalgleish & T. Power (eds.), *The Handbook of Cognition and Emotion*, Sussex, UK: John Wiley and Sons. 45-60.

EKMAN, P. & W. FRIESEN (1969), "The repertoire of nonverbal behavior: Categories, origins, usage and coding", *Semiotica* 1: 49-98.

EKMAN, P., W. FRIESEN & P. ELLSWORTH (1982), "Research foundations", in P. Ekman (ed.), *Emotion in the Human Face*, Cambridge: Cambridge University Press. 7-21.

FELDMAN BARRETT, L. & T. FOSSUM (2001), "Mental representations of affect knowledge", *Cognition and Emotion* 15: 333-363.

FUSSELL, S.R. (2002), "The verbal communication of emotion: Introduction and overview", in S.R. Fussell (ed.), *The Verbal Communication of Emotion: Interdisciplinary Perspectives*, Mahwah: Lawrence Erlbaum Associates. 1-22.

FUSSELL, S.R. & M.M. MOSS (1998), "Figurative language in emotional communication", in S.R. Fussell & R. J. Kreuz (eds.), *Social and Cognitive Approaches to Interpersonal Communication*, Mahwah: NJ, Lawrence Erlbaum Associates. 113-141.

GYGAX, P., J. OAKHILL & A. GARNHAM (2003), "The representation of characters' emotional responses: Do readers infer specific emotions?", *Cognition and Emotion* 17: 413-428.

KATAOKA, K. (2003), "Emotion and youth identities in personal letter writing. An analysis of pictorial signs and unconventional punctuation", in J.K. Androutsopoulos & A. Georgakopoulou (eds.), *Discourse Constructions of Youth Identities*, Amsterdam: John Benjamins. 121-149.

KESSELER, A. & A. BERGS (2003), "Literacy and the new media. Vita brevis, lingua brevis", in J. Aitchison & D.M. Lewis (eds.), *New Media Language*, London: Routledge. 75-84.

KIDRON, Y. & R. KUZAR (2002), "My face is paling against my will. Emotion and control in English and Hebrew", *Pragmatics & Cognition* 10: 129-157.

KNEEPKENS, E.W.E.M. & R.A. ZWAAN (1994), "Emotions in literary text comprehension", *Poetics* 23: 125-138.

LEHTINEN, U. (1998), "What is an emotion?", in *Underdog shame. Philosophical Essays on Women's Internalization of Inferiority*, Filosofiska Meddelanden, Röda Serien 37, Department of Philosophy, University of Göteborg, Sweden.

NABI, R.L. (2003), "Exploring the framing effects of emotion. Do discrete emotions differentially influence information accessibility, information seeking, and policy preference?", *Communication Research* 30: 224-247.

OATLEY, K. (1989), "The importance of being emotional", *New Scientist* 123, 19 August 1989.

ORTONY, A. & T.J. TURNER (1990), "What's basic about basic emotions?", *Psychological Review* 97: 315-329.

PILKINGTON, A. (2000), *Poetic effects. A Relevance Theory Perspective*, Amsterdam: John Benjamins.

POYATOS, F. (1975), "Cross-cultural analysis of paralinguistic 'alternants' in face-to-face interaction", in A. Kendon, R. Harris & M.R. Key (eds.), *Organization of Behavior in Face-to-Face Interaction*, The Hague: Mouton. 285-314.

SCHULZE, M. (1999), "Substitution of paraverbal and nonverbal cues in the written medium of IRC", in B. Naumann (ed.), *Dialogue Analysis and the Mass Media*, Niemeyer, Tübingen. 65-82.

SPERBER, D. & D. WILSON (1986, 1995), *Relevance: Communication and Cognition*, Oxford: Blackwell.

STRZYZ, K. (1997), "Self and partner perceptions of the appropriateness of emotions", *Communication Reports* 10: 134-143.

WALTHER, J.B. & K.P. D'ADDARIO (2001), "The impacts of emoticons on message interpretation in computer-mediated communication", *Social Science Computer Review* 19: 324-347.

WHARTON, T. (2000), "Interjections, language and the 'showing'/'saying' continuum", *UCL Working Papers in Linguistics* 12: 173-213.

WICHMANN, A. (2000), "The attitudinal effects of prosody, and how they relate to emotion", paper delivered at the *ISCA Workshop on Speech and Emotion: A Conceptual Framework for Research*, Belfast, Queen's University, September.

WILSON, D. & D. SPERBER (1993), "Linguistic form and relevance", *Lingua* 90: 1-25.

YUS, F. (1998), "A decade of relevance theory", *Journal of Pragmatics* 30: 305-345.

YUS, F. (2001a), *Ciberpragmática. El uso del lenguaje en Internet*, Barcelona: Ariel.

YUS, F. (2001b), "Ciberpragmática: Entre la compensación y el desconcierto", paper delivered at *II Congreso de la Lengua Española*, Valladolid (Spain), October.

YUS, F. (2002a), "El papel del contexto en la comunicación por Internet", paper delivered at *VII Jornades per al Foment de la Investigació en Ciències Humanes i Socials*, Castellón, Jaume I University, April.

YUS, F. (2002b), "Discourse and identity", in N.J. Smelser and P.B. Baltes (eds.), *International Encyclopedia of the Social and Behavioral Sciences*, Oxford, Pergamon. 3728-3732.

YUS, F. (2003a), "El *chat* como doble filtro comunicativo", *Revista de Investigación Lingüística* 5, 141-169.

YUS, F. (2005), "The linguistic-cognitive essence of virtual community", *Ibérica* 9: 79-102.

9. Appendix: Questionnaire (originally in Spanish)

(1) Compare these two messages:

<beckham15_msn> alguna valenciana?

<yomismo> alguna valenciana?????????????????

What role does "?" play in the interpretation of both messages?

[ ] no difference; in both messages the user is simply asking.
[ ] the second user is more eager to get a reply.
[ ] the second user is angrier and shows his/her anger by typing "?" several times.
[ ] the second user is desperate to get a reply.
[ ] Other: . . . .

(2) If you were in a chat room and the following message from <saratogo> turned up on the computer screen, what would you think he meant with this message?

<saratogo> estoy gorrrrrrrrrddddooooooooooooooooooooooo.

[ ] saratogo is informing the other users about how fat he is.
[ ] saratogo is glad to be fat.
[ ] saratogo regrets that he is fat.
[ ] saratogo is angry at the fact that he is fat.
[ ] Other: . . . .

(3) Imagine that, in a chat room conversation, the following messages appear on the computer screen:

<Elitrix> holaa [*Hello*].
<RuBiOWaPo> HoLaa!!!!
<patricia> hola¡¡¡¡¡¡¡¡¡¡¡¡
<tere_rubia> ola a todo el mundooooooo [*Hello everybody*].
<chico_20>
hhhhhhoooooooooooooollllllllllllllllllaaaaaaaaaaaaaa
<sevillana14>
holaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa

If you read them, do you think that the repetition of letters would lead you to think that the user who repeats more letters is happier to greet the other users? That is, do you think that, for instance, <sevillana14> is happier than <Elitrix> when greeting, or that <chico_20> is happier than <patricia> when greeting?

[ ] Yes, I think that the more letters typed in these messages the more intense the feeling of the user.
[ ] Yes, there are feelings related to the higher or lower repetition of letters, but I am not sure that a higher number of letters means a more intense feeling.
[ ] No, I don't think that a higher or lower repetition of letters has anything to do with the user's feelings.
[ ] Other: . . . .

(4) How would you interpret, in a chat room, the second message (b) compared to the first message (a)? Would you interpret them differently or do you think that (a) and (b) communicate the same information?

(a) <xica_gogo_> abridme un privado por favor.
(b) <xica_gogo_> abridme un privado por favor!!!!!!!!

[ ] They are different: in message (b) . . . . . .
[ ] I wouldn't interpret (a) and (b) differently.

(a) <el-rey-del-swin> Hazlo pero ya.
(b) <el-rey-del-swin> Hazlo pero yaaaaaaaaaaaaaaaa

[ ] They are different: in message (b) . . . . . .
[ ] I wouldn't interpret (a) and (b) differently.

(a) <yo> Hola, alguien quiere hablar conmigo, que yo acepto a cualquiera.
(b) <yo> HOLAAAAA ALGUIEN QUIEREEEE HABLARR CONNNNMIGOOOO QUEEEE YO ACEPTOOOOO A CUALQUIERAAAAA

[ ] They are different: in message (b) . . . . . .
[ ] I wouldn't interpret (a) and (b) differently.

(a) <cufi> t kiero.
(b) <cufi> t kieroooooooooooooooooooooooooooooooooooooooo

[ ] They are different: in message (b) . . . . . .
[ ] I wouldn't interpret (a) and (b) differently.

(a) <BEFLY> vaya cuerdas vocals.
(b) <BEFLY> vaya cuerdas vocaleeeeeeeeeeeeeeeeeeeeeeeeeees

[ ] They are different: in message (b) . . . . . .
[ ] I wouldn't interpret (a) and (b) differently.

(5) Which of these options is the closest to your interpretation of this message? If none fits your interpretation, write your own in "Other".

<stefany> joooooo pronto empieza el curso

[ ] stefany is informing that the school term starts soon.
[ ] stefany regrets that the school term starts soon.
[ ] stefany is asking if the school term starts soon.
[ ] stefany is confirming that the school term starts soon.
[ ] Other: . . . . . .

Besides, and regardless of your choice above, do you think that by repeating the "o" in "joooooo" <stefany> intends to communicate a more intense feeling about the school term than she would by simply writing "jo"?
[ ] Yes.[ ] No.

(6) Now compare these two messages:
(a) <stefany> joooooo pronto empieza el curso.
(b) <luisito> jooooooooooooooooo pronto empieza el curso.

Do you think that <luisito>, by repeating the "o" more times than <stefany>, communicates a deeper feeling towards the school term than <stefany>?
[ ] Yes.[ ] No.

(7) Compare these two messages:
(a) <Quesalid> :-)
(b) <luisito> :-)))))

Do you think that by repeating many times the smile (“)”) <luisito> is happier than <Quesalid>?
[ ] Yes.[ ] No.

(8) Compare these two messages:
(a) <Quesalid> :-)))))
(b) <luisito> :-))))))))))))

Do you think that <luisito> is happier than <Quesalid> since he repeats the smile (“)”) more times?
[ ] Yes.[ ] No.