A Functional-Pragmatic Approach to the Analysis of Internet Scientific Articles

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1. Introduction

Nowadays, genre theory is increasingly seeping into the electronic media, notably as far as internet discourse is concerned (e.g. Agre 1998a, 1998b; Beghtol 2001; Crowston and Williams 2000; Dillon and Gushrowski 2000; Kwasnik 2001; Kwasnik *et al.* 2001; Toms 2001; Yates and Orlikowski 1992). One of the main concerns of scholarship focuses upon whether the internet has already created some sort of ontological basis for its own discourse (see Agre 2000), and hence, a set of standardised constraints upon the genres that suit the medium. These web genres may be shaping people´s subjectivities, or what is the same, the set of expectations users arise when accessing online documents. As a result, existing generic patterns (i.e. structural schemata and register choices) such as those forwarded by technoscientific research papers (see Swales 1990; Trimble 1985; and Zappen 1983) undergo an accommodation process in response to the medium and the assumed tenets of the internet audience. As Swales comments on "existing genres can be accommodated" (Swales 1990: 58), their constraints being loosened or tightened in response to the new rhetorical dimension and kind of audiences.

A similar criterion can be applied to the materials spread on the web. Kwasnik *et al.* (2001) report that several organisations have used the web to publish different types of information such as reports, government agency press releases, and product brochures at the same time. As they argue, these organisations tend to use existing genres when putting information on the web. As a result, documents may be confusing and the communicative purpose lost, as people happening to reach those documents will probably be outside the community in which the genre originated and evolved. This in part accounts for the low success rate of some web searches. From this, it follows that existing on-line genres must undergo some modification when adapted to a new medium and less restrictive audiences, thus

allowing the conventions that underlie the discourse to be shaped, reinforced, or renegotiated much more rapidly than in traditional genres.

With the purpose of studying how traditional research papers are accommodating to this new medium, we reviewed a set of articles collected from a random choice of internet sites, especially those including personal homepages, or those belonging to Universities. Due to the actual results we were encountering we also visited a set of sites enclosing online ST magazines, and company sites that publish technical articles. All this provided us with more ample angle to draw comparisons, and test whether the medium acted as a powerful constraint of the research articles published online.

However, due to the length of the articles and because this paper focuses on text, the discussion will be further restricted to comment on a few examples, selected as representative of this type of discourse. Thus, we will discuss an article thoroughly while comparing some general features also displayed by others. Drawing on such analysis, we shall move to consider the general criteria, which can define the actual occurrence of this kind of texts.

Our study departs from the structural framework of the text in an attempt to come to terms with the genre wherein audiences, and especially trained readers, would locate the text. For this purpose, we shall combine research on genre properly so-called as is the case of Bhatia (1997), Swales (1990) Berkentotter and T Huckin (1988, 1995) and Zappen (1983), some approaches of text typology and standards of textuality (Beaugrande and Dressler, 1981; Hatim, 1990) as well as Halliday´s theory of Multiple Themes. Following Bhatia (1983), the successful recognition and deployment of generic structural techniques and strategies is essential to the training of professional communities, as they easen the tasks of decoding and publishing materials.

The second step in our study shall gear our angle towards variables of register like mode and field (see Halliday 1976, 1978, 1985; and Martin, 1993; Halliday and Hasan, 1989) as well as the pragmatic approach of politeness theory to provide a full account of the text at issue. Rather than discarding any of these analytical focuses, they can all ally, in our view, to reveal salient features, and more particularly the rhetorical intention of the writer. In fact, current research on genre theory lies upon an interdisciplinary pragmacognitive approach, which also welcomes common tenets of critical discourse.

Through these textual analysis we hope to show how this kind of texts imaginatively realise and assume the standpoint and main tenets of an audience that just consumes specific genres, most being analogous to the persuasive, manipulative, amusement-oriented genres of TV news stories, tabloids and commercials. These texts are characterised by hybridity, i.e. while they are built according to the schematic structural framework of purely scientific texts, they are

characterised by what Hatim (1990: 51) regards as fuzziness of registers, which in turn seem more proper to mass media discourse.

2. A Functional-pragmatic analysis of an internet scientific article

As a typical example of these kind of texts we will analyse the article "Awareness of SDS Associated with Alcoholism" (http://etoh.homepage.com/awarenessofsds /bao.html.)

2.1. Schematic structure: a purely scientific scaffolding

The Introduction Stage

This article follows the conventional schematic structure that can characterise other scientific genres such as scientific articles or even technical reports since it moves as follows: a first segment can work as introduction or opening segment, then the central body of the article explains the phenomena and reports past research on the topic, and finally comes the closing segment labelled as conclusion, which can be felt as a discussion or the reflection upon the results obtained.

As many articles actually do, the present text overlaps with the expository and argumentative text types (Hatim, 1990) in that an initial thesis -*Lack of knowledge on SDS*- is substantiated through supporting arguments that reason out the initial theory, and a final conclusion follows to sum up in a synthetic way what has been debated throughout the article.

The initial segment or introduction is modelled according to the archetypal steps that guide research articles as much in the overall design as in the more particular structural strategies. As is the case of research articles introductions (Zappen 1983: 130), our introduction can be viewed as an encapsulated problem-solution text in that the writer addresses the goals, current capacities, problems, and criteria of evaluation that operate within the discipline.

The same is true of more particular techniques. The main problem appears clearly explicited in terms of contrast as is the case of many abstracts and introductions of research articles (Swales, 1990: 138; Zappen, 1983: 130) ...*However, few people are aware of SDS*. Although it is not directly asserted here, one can already guess the writer's purpose that of somehow tackling the problem stated by providing information on the topic. Also as in many abstracts, the contrastive rhetorical technique aims to balance background information -*while we are all familiar with alcoholism* as a *social evil*- with the one that the article intends to develop, thus foregrounding the thesis that little is known about SDS associated with alcoholism. Next, the article advances under seven-numbered headings what is going to be debated, namely the causes that provoke SDS*: alcohol poisoning, chronic alcoholism*, etc.

When attempting to pin down how the information is distributed along the article, one can perceive that this reveals itself as clearly structured by core statements and sub-core topic sentences, which put forward the information each paragraph encloses. In these terms, being extremely cohesive in paragraph structure, the text easens the retrieval or the decoding of the rhetorical purpose to the reader.

The central body stage

The central body proceeds by first describing the typical situation and the procedures that doctors follow when such deaths take place. Here, as in conceptual exposition (Hatim, 1990: 155), a sort of definition is first given as core statement; "*Alcohol associated sudden death syndrome is also termed as unexpected death associated with fatty liver syndrome*". Then, the next paragraph includes medical research in general, and six more paragraphs will each disclose the particular investigations carried out by several scholars

Due to the social activity reported, the register shifts in field, mode and tenor. Lexical density proliferates to refer to medical technical definitions (*hypocalcemia, magnesium deficiency*, etc), passive structures appear more frequently to imitate the cold, neutral and objective style of forensic reports (*the body was found dead...the deaths were witnessed...*); and the time order arrangement follows the sequence of the autopsy.

If one pays attention to the syntagms located at theme-position, one comes across with what Halliday terms as experiential or, ideational meaning. They mostly show up nothing but the field: the first paragraph of this central body even departs with the typical mode of scientific texts, namely the high lexical density via nominalisation, of a characteristic grammatical metaphor *Alcohol associated sudden death syndrome*. Next, comes *Medical research* in the following paragraph, and finally the string of individual authors, *Taff, Yoshide, Randall, Yusurika, Eaton* always fulfilling the subjective slot. The pattern is only somehow disturbed by the seventh paragraph, where the writer decides to locate the circumstantial location syntagm*, In a review article* in that theme-position. This paragraph comment on another source of research also advanced by Randall, who, meaningfully enough, shares the writer´s views about the lack of awareness of SDS within the scientific community.

Again this central body shows the features of research articles methods that have been noted by scholars like Swales (1990: 166-170). First, the opening paragraph illustrates what she terms as noun phrase stacking. Second, trained readers are called upon the text to recognise the string of researchers and their increasingly specialised findings. Third, like the method sections of scholarly publications, the lack of anaphoric reference in some cases has to be supplied by the knowledge shared by the professional community that the reader brings to the text. And finally, the more frequent use of passives and the sequence of light themes and heavy rhemes can be also cited as characteristic of the genre.

The conclusion stage

In the conclusion the writer reiterates the problem in identical lexical terms to those of the introduction, (i.e. roughly *the lack of knowledge and awareness)* and states his purpose clearly (i.e. *inform to advise or warn the reader*). As in research articles, one can note here that this conclusion mirrors back the introduction or initial segment, such that it moves from the particular research carried out by the writer to the general social application. The moves of statement of results, explanation (*alcoholism either as a cause or a symptom*) and insistence on the surprising findings, deduction (*it is evident...)* and recommendation (*one should be aware*) pointed out by theorists like Hopkins (in Swales 1990: 172-173) succeed each other following the archetypal order.

It is worth recalling here Halliday´s theory on Multiple Themes to observe that this text reveals no apparent intrusive role of the writer in the development of information. According to Halliday (in Gómez González 1994: 55-56), users choose a Multiple Theme when they place one or several textual or interpersonal items before a simple topical theme i.e. the first transitivity constituent of the clause, namely a participant, an attribute, a circumstance or a process. For Gómez Gónzalez, in Multiple themes, topical, interpersonal and Logico-conjunctive themes compete for the thematic floor. As a result, topical information per se is less of an issue and therefore is often weakened into pronominal realisations. These are embedded within textual and/or interpersonal flavours in order to ensure the continuity of the thread of discourse and foreground the speaker`s perspective on it. However, few multiple themes appear in this text, and none at all in the themes that head each paragraph. For Gómez González, non-multiple themes tend to appear in those texts mainly devoted to just monitoring reality through verbal processes as could be the case of scientific texts. They, she argues, disfavour interpersonal reverberations and keep logico-conjunctive complexity to a minimum.

Out of the analysis of the structural framework that seems to sustain the text, which in turn is underlined by those syntagms strategically placed in theme position, the topical themes: *alcoholism--alcohol associated sudden death syndrome--general medical research--particular researches* and the final heading of *conclusion*; it can be observed that sequences succeed from the general to the particular in a very didactic manner. In what the interpersonal meaning is concerned, one might also deduce at first sight that the tenor is to be highly objective, for nothing alerts us about the intrusive role of the writer and marked interpersonal meanings. Apparently, everything so far is pointing to factual information, experiential meanings. It might well be argued here that the text is a seemingly detached report, which has been written to be read reflectively. Such motivated scaffolding scores high in fulfilling the standards of textuality that well-built texts must follow, for example those of cohesion, coherence and informativity which promote and enhance the reader`s acceptability (Beaugrande and Dressler, 1981).

However, a more detailed analysis would immediately reveal that what structural features seem to imply is far from true. Let us concentrate on those features that

subvert the conventions of ST discourse to colonise the generic and register variables more proper to advertising discourse. These conventions apply to the simulation of conversational interaction, the reports on sensationalist news, self-disclosure taken to the extremes of personal tragedy and overall discourse patterns that construct the identity of the writer.

2.2. Conventions of advertising: face-to-face interaction

The title

The title, as the ones we usually encounter in the internet, already shows some significant differences when contrasted with those belonging to more typical scientific genres such as reports, procedural recounts, explanations, etc. Notice, for instance, the stylistic differences of these other titles *"Managing Technology-Based Projects in Multinational Environments"; "Chromosome Classification Using Backpropagation Neural Networks"*.

Comparing these titles with the ones examined in our corpus, we can establish important distinctions, being the first one related to the registers involved, always in relation to the audience they address, in terms of the context of culture (*genre*) and the context of situation (*register*). As can be noticed at a glance, the titles mentioned above consist of nominalisations and complex technical terms without verbs, whereas in the internet articles writers avoid highly specialised nomenclature, thus making them available and accessible to non-professionals. From this point of view, they can be inscribed within what we usually regard as popular science. They all lack abundant nominalisation and the compressed style of more ST counterparts. In addition to this, the scientific fields involved mix up with general social concerns (*alcoholism, health, emergencies*), which turns wider audiences into potential readers.

The title "*Awareness of Sudden Death Syndrome Associated with Alcoholism*" seems to mask the technical item, which constitutes the topic, *Sudden Death Syndrome* by relegating it to an unmarked syntactic slot. The author initiates Theme (i.e. the starting point of the sentence) with the word *Awareness* in such a way as to state his intention clearly, namely *to make the reader aware,* a motivation that is going to be reiterated throughout the text. This is precisely the intended process, the pragmatic effect he wishes to exert upon the audience. Since the whole article aims to fulfil this pragmatic function, the word *alcoholism* is placed in Rheme-position. This fact seems to contradict somehow the principle of assigning rhematic location or end-focus to what is assumed to mean new information to the audience. In other words, as the writer states below, everyone is familiar with alcoholism but not with sudden death syndrome. It seems that this first rhetorical or textual device attempts to arouse the interest of the audience in a headline-like style to maintain the public in the page as long as possible. Therefore, other registers like those of newspaper articles or editorials appear to be embedded in the text from the very beginning.

The introduction

At the introduction stage the conventional scientific discourse is also modified in order to comply with the assumed expectations and demands of the webusers, in turn located in specific cultural backgrounds. The introduction reverses the conventions of written texts by depicting the picture of typical informal spoken discourses. The situation is made interactive by directly appealing to readers as follows: "*People like you reading this page*"; the appellative function locates readers in the same place and the same time as the author himself. Such situation is further reinforced by first pointing out directly to the audience's familiar background "*... your relatives, friends or co-workers*", and shortly afterwards, by placing himself within the same group and status as that of the reader with the statement "*we are all familiar*".

Following the functional approach to language, we can argue that the writer makes use of those resources characterising spoken discourse in informal situations: equal power or status among interlocutors and address terms denoting frequent contact and high affective involvement or appraisal (Halliday,1985, 1976; Eggins, 1995). In terms of politeness theories of conversational behaviour (Brown and Levinson, 1978/1994), the writer seems to pay positive face to, or compensate for the unpleasant account or face-threatening act, that is, he resorts to in-group identity markers (use of pronoun *we*) as strategic hedges which soften the impact caused by the statement that a nearest acquaintance or relative of the reader can be an alcoholic. It could also be remarkable to reflect upon the ways through which readers are immediately trapped in the scene by means of the verbal processes involved in the passage. First, in the fact-status mood of the indicative the writer immerses the audience in the mental process "*know*" by making us think as "participants-sensers" (Halliday, 1985, 1993), or else remind and recall someone who is alcoholic. Then the attributive process *are* in the sentence "*we are all familiar*", works jointly with the inclusive subject to turn us into members of the same group as the writer´s himself, that is, the group that knows and suffers from the social problem of alcoholism.

So far the text has already crossed the border towards advertising manoeuvres. First, it has constructed the reader's identity and the relationship between the writer and the reader: the simulation of face-to-face discourse (called "synthetic personalization" by Fairclough 1989) has presented the latter as a "potential friend-in-distress" (Verstergaard and Schrøder 1985: 94), and the former as someone who brings some benefit to the reader: the expert who provides reliable information and at the same time as the man in the street who tells about his own experience. This is a type of discourse that connects the audience with its social identity. Most advertisements exploit the interactive potential of discourse in a manner comparable to the picture we find in this homepage. Adverts exhibit various interactive signals, such as those which create the relation between producer and reader (e.g. first and second person pronouns, expressions of offers and advice) or which constitute invitations to actions (e.g. use of imperatives).

It is also at the introduction that an interesting clashing of register variables comes to the surface. The shift of register marks off a second stage in the introduction, which is now populated by other participants (*the health professionals*), to whom the writer assigns other mode, field and tenor. The vantage point changes from the previous familiar *we* to that of the cold nominalisation *Health professionals* that signals distance, low affective involvement, and unequal status with respect to the writer´s previous group. This textual strand is now filled with highly technical terms in nominalisation*: alcohol cirrhosis, GI bleeding, cardiomyopathy...* proper to the activity of these new participants. The pragmatic effect that the writer achieves is worth commenting on: the deeply felt social problems of the previous strand *marital problems, arguments with family... etc*, which both readers and writer suffer, clearly contrast with the more abstract, cold illness categories that can suit medical reports but that, otherwise, might mean little to the common audience. But apart from the field, which has created a drastic reversal of the situation and roles by positioning us in the far distance; the tenor has also been strategically changed to contribute to the same pragmatic effect. Instead of the previous *you ...know, we are*, the writer plays now with modality as follows: "*...Health professionals may be familiar with the definition of alcohol abuse or dependence...*".

According to Martin (1992), Vocatives, Modal adjuncts, Mood (probability, usuality, opinion), Comment Adjuncts, Finites and Wh-interrogative elements fulfil interpersonal functions: they are used to exchange roles in rhetorical interactions with addressees (statements, questions, offers, etc), and to express the speaker´s own angle on the matter, that is, accompanying degrees of modalisation (i.e. probability and usuality) or modulation (i.e. inclination and obligation). In this way, the author cannot hide his pejorative attitude towards this social group. First, he expresses uncertainty *(may)* about the knowledge of these professionals, and then instead of conceding them a direct management of health problems, he just puts them in contact with a theoretical *definition.* In other words, whereas common people undergo everyday tangible problems in their immediate backgrounds, professionals leave them unnoticed or, at best, may have some theoretical knowledge of bodily malfunctions. Even worse, they have been unable to reach any agreement on a common label of the illness and are still getting lost in *mystifying complications* in detriment of the people´s interests and social needs.

The shift of register we referred to above, has already been stressed through the lexical arrangement (technical words instead of the previous more general items), and modality (from certainty to uncertainty or probability). Now, one more device contributes to the contrast, that of passivity, which in addition is first highlighted by means of a result clause: "*SDS ...is an entity so poorly understood that it does not bear a generally accepted label or name*"; and again is assigned to the common practice of professionals in SDS *...may be classified.* The level of lexical density and compressed style has risen in this strand, which together with the passive structures allow the author to express his views more indirectly and cunningly disguised: he evaluates as *poorly* (comment adjunct) the medical research and also

introduces a shift in modalisation *not generally* which contrasts with the assumed usual-always status of the situation depicted above, i.e. what people usually suffer in everyday life. In sum, everything together has helped to decrease the level of addressee-proximity and content-proximity with respect to the previous strand, which also gives us information about a different mode. Now readers have been left out of the situation and language is not used to interact with the reader but to monitor or manage reality.

Out of this analysis one can safely state that the writer is resorting to argumentative techniques to steer the situation in a manner favourable to achieve his goals i.e. rather than inform objectively, he is more than anything persuading the reader to accept his own opinions which also cover a criticism against the behaviour of doctors towards alcoholism. As a matter of fact, the whole introduction has an evaluative texture which is shown in the use of repetitions (*familiar, aware*) or near synonyms (*know, understand*), contrast through the several devices we have seen, and parallel structures (*we are... they can be... they may be... few people are...*), all being, according to Beaugrande and Dressler (1981: 184), distinctive markers of argumentation. In a sense, we can also observe that the text displays features that characterise what Reiss calls "operative text" (in Hatim, 1990: 187). In the typology of texts devised by this scholar, argumentation and instruction with option as in advertising belong to the same category of operative texts. These, he comments, must fulfil a number of requisites if they want to arouse the interest of the audience. Among the ones he includes, we could select the writer has chosen such as those of topicality (alcoholism as a social evil); suggestion and emotion (making the reader revise his/her own background) together with some degrees of language manipulation.

Furthermore, the paper has created a manichean picture of a situation, a version of reality split into two antagonistic social groups, namely common people versus health professionals and has allied himself with the former, the one that suffers not only from alcoholism as such, but also from the malpractice of the latter (lack of agreement and presumably scarce interest in the social problem). Note at this stage that once the article concludes, the writer turns into a book critic by praising and, hence advertising a number of readings on the matter which concentrate more specifically on the social rather than the medical questions. And finally, an extra stroke of effect seems to alert us about the actual intentionality of the writer, as this homepage closes with a commercial that reads as follows: "Are you happy with your doctor? LOCATEADOC allows you to search for a physician in your city, while gaining valuable health information". Thus, the rhetorical intention or the actual purpose of the article comes aided by these extratextual bodies of advertising.

2.3. Sensationalist news to balance scientific contents

Even the central body of the article, the one with more purely scientific register variables, encloses drastic turns towards conventions of more popular-oriented genres. Actually, the writer provides us with more sensationalist additional

information about victims in an attempt to balance the scientific content and thus draw the attention of the non-trained audience.

Twice he informs us that the typical victim is a man, who, besides, seems to be a "lonely" character. In the first paragraph of this central stage, we read: *the body was found alone at his residence*" and more explicitly in the second paragraph, *"The most common victim is an older, white male... usually "found dead" at home"*. At this point, it is not very clear whether the writer is imitating and somehow criticising official reports, which seem to exclude other victims like blacks and women or else, he is just trapping the reader with the sensationalist account. The former explanation can appear more suitable if we consider that the writer misses no opportunity to put down medical research as in "*medical research...was unable to reveal*". These linguistic devices seem to prove that the article unveils a characteristic combination of genres alien to the conventions of the scientific one.

More additional, irrelevant information is later supplied in the fourth paragraph, which again combines the scientific register with that of news reports. Here, the writer comments on a case of a 50-year-old track-driver arrested drunken and then found dead while he was in jail. In every case, melodrama is served to impress and attract us emotionally rather than to provide us with real, useful information about what to do in those cases or how to prevent the trouble.

The same sequence of devices are recovered in the conclusion, although the sensationalist tone is even further increased by providing figures concerning death rates in USA, and other social evils like depression, drug dependence and suicide, thus rising the level of generalisation from the particular problem of alcoholism to the general social situation. Again this mode of operating appears to be more proper to TV news genre or tabloids rather than scientific ones, but it appears to be widely used in popular science, and especially suits internet texts. Personal tragedies, particularly death, are ubiquitous in these texts and work from time to time to balance neutral, objective information as is the case of the article chosen here. Needless to say, death is also the topic par excellence of the yellow press or even TV news world-wide.

A critical reader can deduce at this point that the writer plays with interlocutors by positioning them in and out of the situation depicted in an attempt to gain their agreement. The ideological stance of the text strengthens at this strategic strand through the deliberate ambivalence of registers, text types or, as we argued, even genres. In a few lines, the text moves from the conventions of popular journalism to scientific discourse; or from the tenor of analytical exposition to that of argumentation.

2.4. Self-disclosure and personal tragedy

Self-disclosure, family love, and personal tragedy often go hand in hand in these texts, and serve not only to trap readers emotionally but also to heighten personal

credibility and commitment to the scientific research. In *How Should We Farm? (http://www.bsp.msu.edu/bailey/background/pub3.htm)*, Professor Richard Bawden introduces what he calls his "noble quest" and "glorious enterprise of inquiry for responsible and virtuous action" explaining how his research was "a formative journey" and far "more than a mere intellectual odyssey". In his own words:

> ...at its commencement, my late wife Diane had been dead almost two years from the blight of the hepatic cancer which had killed her, and through which she had shown to all of us who had been privileged to know and be loved by her, the very essence of human dignity and courage. In seeking to accord the highest possible respect for that essence, and for the lessons I had learned from sharing her insights into learning how to die, I was to bring to my studies a personal dimension of incredible intensity.

Notice how the writer portrays himself as the Greek or Dantean hero who must fall to hell, undergo pain and suffering to bring some sort of treasure to the world, i.e. his own research. His labour is daringly modalised, to judge from the tenor variables prevailing in research papers and strategies of modest self-expression, with adjectives such as "noble and glorious". However, the emotional nuance seems to be justified to the reader when revealing the personal misfortune, which is detailed to the outmost. Then, it is personal tragedies that seem to motivate, ignate and rank research into the status of masterworks. In these terms, scientists turn into romantic poets who inspired by dearest relatives elaborate finest pieces of work, and the ones who can best enjoy the sympathy and complicity of the lay readers.
Likewise, in *Awareness of SDS* we have to await the closing of the page in order to come to terms with the nature and tone of this article. Here the reader is left with the last shocking effect as s/he reads: *"This homepage is dedicated to my father, Guozheng Bao, who died of alcohol associated sudden death syndrome in Dec.19, 1997 at the age of 66"*. It is here that readers can sympathise with the writer, somehow understand his anger against health professionals and finally agree with his own views.

2.5. Discourse patterns and construction of the self offered to the audience

Another coincident feature is that of discourse patterns. According to Hoey (1983), the most frequent discourse pattern in advertising texts is Problem-Solution, which consists of four elements: situation-problem-solution-evaluation. A safe way of persuading the reader is to claim that the product will solve a problem or satisfy a need. The potential consumer is drawn attention to (or made aware of) his/her problem and the product is presented as the solution. The adverts that follow this pattern take two different forms, which imply two different constructions of the writer´s identity, aiming at arising confidence in the product: first, constructed as an expert who offers a solution, and second, as a friend in distress who tells how he solved the problem.

As can be seen in this article, the figure of the writer is one who seems to become an expert out of the experience he had with his father, one he could not solve in time. Thus, his personal involvement and frustration makes him more trustworthy than any other potential expert. In *How Should We Farm?* his wife´s death has reified his research by providing it with the emotional commitment that the cold lab-experience often misses in order to reach artistic heights. For Fairclough (1992: 211) producers and sellers have to be constructed in the discourse, "whose image has to be made to harmonize with the images of the product, and of its potential consumers". Our two writers unveil personal experiences and feelings and thus, become the most efficient sellers of their own research.

3. Discussion

Since the Enlightment period, many fields of academic research have been losing ground to Natural Sciences and Technology. Even though eminent public personalities, poets and scholars have regretted the faith modern men once deposited on science while neglecting more spiritual concerns, science has been customarily regarded as the engine fuelling the modern world. As opposed to less factual disciplines, Science and Technology have been advertised as objective, exact, true, empirical, informative and especially useful, something which can also justify the financial investment not devoted to other social spheres. As a matter of fact, studying science can bring about pragmatic discoveries, which are bound to make the world progress by the discovery of a remedy against cancer, old age or AIDS.

However, progress succeeds in such a pace that it is becoming more and more unattainable for the layman, so that today many scientific breakthroughs are conceived of as magical, on equal terms as those miracles once attributed to sorcerers. This state of affairs seems to have created some pitfalls that scientific and technological discourse has to overcome in order to bridge the gap with non-trained audiences. On the one hand, ST discourse must help to sustain the fact-oriented, serious and reliable character of such disciplines. On the other hand, ST discourse must narrow distances with the public enthusiastically in order not to lose its popular appeal and its status of modern myth.

The meeting of different audiences in the homepage creates the conditions for the emergence of a new genre, one which must support the collective cognitive processes of these two audiences at a time to succeed in actual practice. Here, we believe, lies the subtle, but powerful influence and appeal of this kind of texts, which can constitute a specific genre. The readers are provided with a purely scientific scaffolding that sustain the clashing effect of scientific registers dyed throughout with melodramatic and sensationalist resources, the latter helping to keep the target audience glued to their computers. In this sense, these kind of texts resemble the *operative text type* (in Reiss nomenclature, Hatim, 1990), which characterises modern advertising.

The analysis presented in this paper reveals that there are two kinds of audiences addressed to by these texts, as they enhance two kinds of reading: scientists can benefit from the scientific information reported at the core, while for non-scientists the information is smoothed over by typical commercial-like rhetorical techniques and content. In the articles analysed there is no real attempt to instruct the non-specialist, or acquaint him/her with scientific research, since there is no explanation for technical nomenclature. Instead, the layman has to satisfy curiosity by nodding before such incredible achievements or react enthusiastically when sensationalist news is served.

It is precisely this motivated choice of clashing registers or even genres that makes these texts so manipulative in nature. It is no wonder that in an age of ever increasing manipulation of all kinds, internet texts, which attempt to extend and sell their products in the far-flung corners of the world, resort to the mechanisms that more effectively can draw any kind of reader.

Amid the tools deployed outstandingly the force of striking metaphors, the choice of informal tenor and conversational style to approach the reader on an equal social footing to the writer´s, and self-disclosure mechanisms (e.g. personal information, feelings, and family background or tragedy) which aim to inject emotional attachment to the reader and warmth into the language as a means to intimate with the audience in a manner similar to many TV commercials. They could also be compared to the taught techniques of businessmen and company staff to secure the loyalty of customers. The effect is one that makes the reader believe he is immersed in ordinary conversation, the sort of informal interaction with family and friends. As Deborah Cameron (2000: 41) comments, this kind of communication skills which increasingly seem to characterise "good communication" have more to do with the ethics of interpersonal behaviour than with traditional linguistic value judgements: valued qualities include "clarity, honesty, openness, assertiveness and directness" but not usually correctness, elegance or wit. However, as she argues, like all evaluative judgements on language-use, currently orthodox views are ideological, and the ideology they instantiate has arisen in particular cultural conditions. As a matter of fact, those skills are essentially based on mainstream American English discourse norms which are spreading around the world and, thus, contributing to what Canagarajah (1999) terms as linguistic imperialism, something which is in turn adding to the globalisation process.

Wynn´s (2000) research which confirms our views upon personal homepages. As she puts it, homepages are essentially people´s self-created windows on themselves and as such are a construction of self offered to the random viewer. They are "inclusive self-presentations, curriculum vitae, personal advertisement, reflective medium and art all rolled into one presentation" (*ibid.:* 301). They imitate conventions of interactivity to heighten dynamics, and they seek to coin an image of personal authenticity by being predominantly disclosive about the self. They tend to jump to state "this is who I am" (ibid.: 322), which can be expressed in a photograph, a list of interests which are active by being clickable, or as found here,

by indicating the personal tragedies that moved the authors to create the page or elaborate glorious enterprises. They also represent tacit social contexts and a set of tacit implicit assumptions about the users. Everything together feeds back into the language, which in its turn acts as a catalyser and powerful magnet of limitless audiences.

4. Towards a conclusion

The purpose of this paper was to study how traditional research papers are accommodating to the internet. The structural analysis carried out gives some evidence that these texts are characterised by hybridity, i.e. while they are built according to the schematic structural framework of purely scientific texts, they are characterised by what Hatim (1990: 51) regards as fuzziness of registers, which in turn seem more proper to mass media discourse. In order to comply with the expectations, knowledge and assumptions of common readers, this kind of texts modify the conventional standards of scientific discourse to embrace registers which can be deemed alien to the social purposes of scientific genres. No doubt common readers or even more trained audiences can benefit from the reading of these articles. However, to judge from the pragmatic effect that the fuzziness of registers provokes to interlocutors as well as for the sometimes inadequate explanation of scientific material, one might argue that they aim to amaze, fascinate, astonish, provoke or manipulate readers rather than honestly inform and acquaint non-specialists with useful information. Thus, though clearly devised schematic strategies of traditional ST genres easens the decoding of scientific information, scientific internet articles also share the techniques and motivations of tabloids and commercials. Like these ones, internet texts intend to advertise and sell well and are characterised by an appealing mixture of registers and even genres, in their attempt to catch and maintain the interest of the audience.

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Article by Isabel Gonzáles and Alicia Redrado

ABSTRACT

A Functional-Pragmatic Approach to the Analysis of Internet Scientific Articles

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Key Words:
*Discourse analysis; ST discourse; genre and register;
pragmatics, systemic and functional grammar*

Recent years have seen a huge expansion in the use of electronic communication. The differences between the forms of English used in the electronics forms for interpersonal communication –electronic mail, computer bulletin boards etc- and in more regular kinds of written language are still under scrutiny. Such is the case of the scientific articles which are published in the internet webpages. Drawing on genre theory and with the purpose of studying how research papers are accommodating to this new medium, this paper holds a comparative approach between the generic schematic structure followed by these texts and those sustaining others which address more restrictively to the scientific communities. The structural analysis reveals that the internet scientific genre crosses the border towards the conventions of mass media discourse in order to attract the common audience.

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