

# THE PRAGMATICS OF MODALITY IN TECHNICALLY-BOUND GENRES

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One of the key factors in shaping modern pragmatics is the increasing interest in the figure of the language user rather than in the concept of language itself. Instead of seeing language as an abstract paradigm, recent developments in discourse analysis (Hoedt et al. 1982, Widdowson 1983, Biber 1988, Cook 1989) and in genre issues (Benson & Greaves 1980, Tickoo 1988, Swales 1990, among others) likewise foreground the pragmatic profile of language, now regarded from its close relation to the user. In this sense, systemic functional analyses approach the manner in which linguistic patternings conveying the writer's intention and attitude towards his/her audience are reflected in the construction of the overall text. In particular, a concept such as register becomes relevant as it embodies within itself those functional variations of language -field, tenor and mode (Halliday 1989: 44)-, thus intricately relating language to its use.

The consideration of language from the point of view of the user should also lead us to the so called concept of 'interpretive community' -as understood by Fish (1980) or Foucault (1972)- and more precisely, to that of 'discourse community', a group of language

users who shape their particular communicative acts with definite linguistic choices and constraints.

Any discourse community uses language for its own ends; that is, it combines linguistic patterns in such particular ways that they finally become established patterns of communication. English for Science and Technology, as an applied linguistics discipline, obviously presupposes the existence of a particular community with implicit and explicit discursive paradigms. Technically-bound discourse operates within conventions defined by its group of users. As such, it can be regarded from two main communicative parameters: the purpose of the writing and the social dimension within which the linguistic framework is placed (cf. Mulkey 1985, Button 1991).

Taken as models of discourse, technically-related genres display a multifarious range of well-established parameters based on agreed-on conventions and social constraints. H. Widdowson (1979: 61) points out that E.S.T. "is structured according to certain patterns of rhetorical organization which, with some tolerance for individual stylistic variation, imposes a conformity on members of the scientific community". These specific rhetorical conditions -forming a whole set of linguistic and stylistic features- make technical literature an institutionalized type of discourse with an elaborate linguistic code of conventions and restrictions.

The purpose of this paper is to introduce the complexities of language use within this specialism-bound community, and more particularly, to deepen into the pragmatic profile of modality in the technical discourse. In order to do so, a previous survey was carried out to determine, first of all, the different genre-types of this particular discourse community. According to both academics and professionals in the field of technical engineering, the most recurrent written material handled by this language-users group is the following:

Advertising texts	95%
Instructional literature	83%
Research articles, reports	67%
Formal correspondence	52%

This repertoire of genre-types shares a significant range of parameters which act all as determinants of linguistic choices: from its schematic structure -reasoning and organization of a coherent and cohesive text-, to its pragmatic purpose -considering both audience and objectives. Nevertheless, although these generic typologies all follow certain agreed-on principles as working guidelines in the users' language practice-, they none the less have distinctive features which differentiate each one from the other genre-types. One of these features which actually establishes clearly-cut distinctions among the different technically-bound genres is that of the pragmatics of modality.

Language, though essentially descriptive, does not simply appear in the form of informative statements, but rather aims at achieving a successful communicative interaction -by representing functions such as assertions, questions, commands, etc.. English has several ways to express commitment by the addresser. One of these is through the so called modal verbs. The use of modality therefore accounts for the writer's judgements about possible states of affairs. M. McCarthy (1990: 60) defines modality by stating that "[e]very discourse, as well as being *about* something, represents the sender's stance or attitude to the message in terms of its truth, its certainty or otherwise, the sender's commitment or detachment from the message, and so on". The present study has been developed out of five hundred examples -100 instances from each genre-type- in which a modal verb is used. The availability of this corpus from this specific discourse community will help us to evaluate those grammatical

generalizations related to the particular use of the modals in the technical register, as well as to have access to certain systematized regularities of modality-patterns in this specialised discourse.

As mentioned before, it is precisely the context and purpose of each genre form that determines a given pattern of modal use. The context is not just a widening of the mere linguistic meaning, but the total social *milieu* in which the communication takes place. In D. Bilmes's words (1986: 127), "the meaning of an utterance is determined in large part by how it responds and how it is responded to, by its place in an interactional sequence". By concentrating on this usage-bound aspect of language, modals experiment different variations according to the genre-type they appear in in technical texts. Put in other words, each genre-type determines those linguistic choices concerning modality that have been established by this particular community.

The genre of advertising literature -the most widely read according to the survey- is mainly grounded on a question of rhetorics, that is, on how the writer gets his/her point across. Broadly speaking, the purpose of publicity is to inform and persuade the reader about a given product; its aim is to satisfy the needs of specific addressees. Advertisements on technical issues, apart from a general description of the product, often revolve around the idea that such product must respond to a given need. To present both the features of the product and the satisfaction or solution to a need or problem, this genre-type falls within the following moves: an introduction - where the need or problem is suggested-, a development -the technical description of the product advertised-, and a conclusion - justification and insistence on the need of the product, slogan and point of contact.

Traditional rhetorical patterns -comparison, contrast, cause/effect. etc.- are enlivened for the reader and simplified for the writer by applying the persuasive principle. Thus, keeping in mind that a reaction on the part of the reader is sought -the ad ultimately seeks to convince the reader-, there follow some comments on the use of

modals in advertising for technical purposes, which will lead us to the conclusion that their use is closely linked to the pragmatic dimension of this sort of texts; in short, to make the audience believe what the ad says.

*Can* and *be able to* are widely used to express ability. In this generic typology of texts, such general use is further expanded, and they both become a mark of reliability on the part of the writer. As the following two ads exemplify, *can* is amply used in publicity not only to suggest that a need or lack can be supplied, but also to imply a sense of efficiency and trustfulness on the part of the advertiser (“We can document this in many ways ...”). As a matter of fact, advertising relies heavily on the idea that the text does not involve alternative points of view or argumentations. On the contrary, it directly presents an opinion -highly persuasive- and leaves the reader either to accept or reject the message while being persuaded by sentences such as:

“Dale *can*”

“But one call to Dale Electronics *can* add more than just a supplier to your next project”

“Dale *can* be the partner you need to provide time-saving

“The new Westinghouse 500 . . . *can* do so much that ...”

“Westinghouse 5000 Series PLCs *can* be installed faster, ...”

etc.

Quite frequently, this type of texts also refers to the possibility on the part of the customer to choose the best option s/he is looking for in order to solve her/his need. In this way, the advertisement becomes somehow interactive, as it calls for a direct answer back to the message sent to the audience, wisely suggesting an exclusively personal freedom of choice (“You *can* choose from digital. . . and more”, “You *can* also choose from three different ...”, etc.). No doubt, the fact of persuading -forcing, so to speak- the reader to accept the product is made in a more subtle way.

However, it should be pointed out that in texts within this genre-type there may appear slight differences in modality use. More specialised publicity on technical products, rather than belonging exclusively to the advertising field, makes an ample use of the modal *can* to display an objective -or rather, extremely accurate- presentation of the advantages and features of the latest market innovations. Therefore, its distinctive value of capability becomes subjected to the purpose of the communicative interaction: as it is a more objective and serious technical literature, addressed to a more specialised audience rather than to a general one, it becomes as descriptively precise as possible, as shown in the advertisement below:

**SPEECH ANALYSIS PACKAGE** based on IBM PC/AT and compatibles

Offering a flexible user-friendly environment for the capture, analysis and display of audio signals, the Speech Workstation features spectrograms, waveform plots, spectral slices and pitch controls. The spectrograms are generated using FFT results calculated by the DSP hardware and *can* be displayed on the PC screen in either 12 colours or in greyscales. The split screen model enables two different signals to be displayed simultaneously. The screen *can* be split horizontally or vertically. Signal editing is also provided for using window, style cut, copy and paste facilities. The data displayed on the PC screen *can* be produced as a hardcopy on either laser printer or on certain colour inkjet printers. All major system functions *can* be selected using the combination of pull-down menus and dialogue boxes.

(EDN May, 1990, p. 2)

As far as the genre-type of letter writing and formal correspondence is concerned, special emphasis should be placed on the notion of register, defined as the relation between the content of a

message, its sender and receiver, its situation and purpose, and the manner in which it is communicated. Here, we will pay close attention to the relation between sender and receiver. In a letter, utterances are formal or relaxed, depending on whether or not they connote social prestige, politeness, tact, approbation or, widely speaking, any kind of constraint in the interaction. Modal usage is thus applied in terms of level of formality and stylistic appropriateness.

The verb *could* is the commonest modal expression in correspondence writing. In its general use, *could* can either express suggestions, past ability, possibility, or a request for permission. However, in this technically-bound genre type, some pragmatic variations can be pointed out. As a matter of fact, the occurrence of this modal is especially noticeable in letters of enquiry, as a means of expressing formal suggestions, as in the examples below:

"Please, *could* you send me details of the refrigerators advertised in yesterday's Evening Post?"

"*Could* you please send me details of your tubeless tyres ...?"

"*Could* you send us your latest catalogue and price-list, quoting your most competitive prices?"

"We are a large chain of retailers and are looking for a manufacturer who *could* supply us with .."

etc.

Politeness mainly accounts for the ample use of this modal in letter writing. This is also the case of the form *would*. In instances where strong formality or seriousness is required, as in letters dealing with payments, complaints or adjustments, the form *would* is preferred. In fact, it is quite clear that some contextual factors obviously require a polite relationship between the sender and the receiver of the letter, for example, when referring to financial issues or when asking for payments:

"Please, *would* you either send us a reply or cheque to clear the account ...?"

"*Would* you send somebody with the consignment ...?"

"Please, *would* you return the whole consignment to us ..."

"We *would* be extremely grateful for an early reply..."

etc.

Extreme politeness towards the addressee is also the pragmatic determinant of the modals *may* and *might*, which are both used as forms of direct persuasion, but in very polite terms (1). At other times, their use becomes a question of style -perhaps a matter of uttermost seriousness or delicacy-, especially when subtly trying to draw the reader's attention towards a particular topic or subject (2):

(1)

"*May* I point out, with respect, that ..." (letter of complaint and adjustment)

"I *might* also add that your credit is in excess ..."

(2)

"Though you will see we offer a wide selection of watches, *may* we draw your attention to pp. 23-28."

As for the other modals, *can* almost always appears in letters of reply and quotations, where the addressee is implied that the advertiser is offering to him/her the best possibilities and advantages. And so, this modal comes once again to suggest not only advantageous possibilities, but rather, credibility and trustfulness:

"You will see that we *can* offer a wide selection of ..."

"We *can* offer you the quantity discount you asked ..."

"You *can* certainly have the assembly kits you asked for ..."

"We *can* also promise that the job will be completed before the end of February ..."

etc



As also happened in advertising technical literature, the modal *should*, rather than being employed to express recommendations as its normal use is, also becomes, at times, a mark of politeness; above all, for instance, in letters of complaint:

“... prices that *should* suit all your customers”

“We *should* warn you that we are holding you to your delivery contract ...”

etc.

By examining all these instances of politeness, we come to the conclusion that in letter writing modality depends to a great extent on the purpose of the letter; in particular, in the relationship between addresser and addressee in the communicative act.

Another important genre under consideration within the technically-bound community is that of research articles and reports. Quite interesting is the use of the modals in this genre-type, as it is closely linked to the particular section of the article or report the modal appears in. Research articles and reports are as well clear instances of how genre constraints operate at the level of discourse structure. This particular genre-type implies a high level of explicitness, which greatly restricts the writer's linguistic choices. In other words, academic writing imposes on the user of the language the need to follow a logical -hierarchical- development of the ideas on the one hand, and a formal style on the other hand. The most recurrent rhetorical structure of this discourse type is the so called ‘IMRD structure’ (Swales 1990: 134), that is, “Introduction-Methods-Results-Discussion” within which a given argument is logically developed. As far as the use of modals is concerned, each of these sub-sections of the general structure is characterized by a particular modal verb, a linguistic choice which, once again, accounts for further purposes or intentions on the part of the writer.

It is particularly interesting to notice how in the introduction -where the theoretical background of the theory or study under

discussion is presented to the reader-, and in the procedure and results sections -where the steps of the research, as well as the materials and apparatuses used in it are specified-, the most recurrent expression of modality is that of *can*. In fact, the introduction presents the study carried out, and usually refers to previous research in the field. The use of *can* comes to suggest a sense of both objectivity and reliability, as the writer's main purpose is to present evidence to support the hypothesis or procedure:

"We *can* write..."  
"It *can* be shown..."  
"It *can* be evaluated..."  
"...the value of .. *can* be checked over a range of ..."  
"As *can* be seen in table ..."  
"The test *can* be carried out ...."  
etc..

These examples prove that the research article is an expressive discourse type, as it focuses on the sender and specifically seeks the author's recognition by its community. In this sense, *can* is used not only to convey a high level of explicitness, but also as the writer's means of obtaining acceptance by the audience.

On the contrary, it is in the discussion segment -where the writer comments on and evaluates the results, suggests modifications or need of future research, etc.- where the other modal verbs appear. In the discussion, as comments often concentrate on the probability of a proposition or hypothesis, the writer tends to use modals such as *may* and *could*, the latter being mainly used to introduce probabilities or feasible results. None the less, *may* is the most frequently used modal when discussing results; above all, when comparing, contrasting, classifying results, when establishing new problems or further suggestions for future research, or even when the writer gives reasons for inaccurate results or unexpected results obtained without being involved in them. In short, it contains the speaker's more

personal attitude towards the study. Common linguistic expressions suggesting a personal -but cautious- involvement on the part of the writer are:

- "This *may* be because ..."
- "It *may* be shown that ..."
- "These discrepancies *may* be due to ..."
- "This *may* be the result of ..."
- "It *may* be stated that ..."
- etc.

Less frequent are the modals *must* and *should*. The former indicates objective appreciations about the research carried out; that is to say, a somehow categorical evaluation on the research is being carried out is being suggested -as in sentences such as "it *must* be realised, however, that ...", etc. On the contrary, when the writer tries to present his/her own personal opinion, the modal *should* is preferred. *Should* is used to introduce more personal comments, more subtle appreciations with which the writer tries to call the reader's interest towards his/her own persona. At the same time, both the research/er's validity within the academic community is further reinforced in this way. However, it should be pointed out as well that when the suggestion or recommendation is strong, it is stated in the active voice, as in this way personal involvement is rhetorically foregrounded. Broadly speaking, and as these instances also prove, the use of passive infinitives after the modals suggest that the finding or theory, rather than the researcher him/herself is more relevant and central:

- "It *should* be noted that ..."
- "In order to obtain a result closer to the accepted value, a specimen completely free of rust and containing a maximum amount of impurities *should* be used",
- "It is recommended that ... *should* be used"
- etc.

As far as the verbs *must* and *to have* are concerned, these denote, in their general use, obligation and logical necessity. However, it should be mentioned that in a technical context these expressions of obligation are subtly reinforced, once again, by an insistence on the idea that there is a lack, necessity, or problem to be solved, in which case, the scientific interest of the research becomes amply justified. Sometimes, the writer is explicit when referring to the problem(s) that may appear and will need to be solved (1); at other times, no explicit reason is stated, but it can simply be deduced from the context, or it may be implied or already known by the specialist reader (2):

(1)

"Also, aqueous ammonia feed pipes *must* be lined with teflon to limit heat transfer, prevent overheating, and avoid problems with premature vaporization of the reagent"

(2)

... special cooling schemes *had to* be implemented for the turbine's combustion chamber"

These modals are often found in sentences where a means-purpose or means-end relationship is established. It is also important to notice that this specific relationship usually takes the form of an infinitive of finality. The examples quoted below, for instance, contain explicit purpose/end propositions:

"Two compressor wheels *had to* be added to the gas turbine to compensate for pressure loss in the immersed tubing"

"An ash-transport mechanism *must* be added to continuously remove what amounts to a smoldering, cementitious material"

As also happened in other genre-types, when obligation is expressed with politeness or reservation the modal *should* is used rather than *must*, a pragmatic deviation which frequently appears, as we will see later on, in instructional language. Once again, a

considerable degree of hedging is therefore one of the linguistic features in the use of modality in this particular discursive community:

“Eco-labelling and environmental product declarations *should* be based on the LCA approach to validate marketing claims”

“... companies with cash-flow problems *should* avoid investing in Indian powerplants, adding that these facilities *should* be approached as long-termed projects”

“However, producers concede that numbers are unlikely to rise in September but *should* definitely start to rise in October”

Regarding the genre-type known as instructional literature -both the so called direct and indirect instructions, commonly found in user’s manuals-, it should be kept in mind that this is a straightforward discourse type whose main aim is to ensure that a series of activities is carried out successfully if the instructions are followed correctly. For this purpose, its style is realistic, detailed and, quite often, illustrative.

No doubt, the most widely used expression of modality in this type of texts is *must*, as it is the result of paraphrasing a direct instruction into an indirect instructional structure: the imperative of the direct instruction becomes a passive infinitive preceded by the modal *must*. The use of the passive after this modal verb becomes a recurrent rhetorical pattern in the so called indirect instructions. Here are some common examples which abound in manuals of appliances, devices, apparatuses, etc..

“The welding set *must* be plugged correctly”

“The compressor system *must* be insulated”

“If the following result is obtained, the solution *must* therefore be acidic”

But *must* does not simply convey a sense of obligation or compulsory action for correctly carrying out the instructions.

Moreover, its recurrence can be specially appreciated in cautions and warnings:

"If the main cord is damaged, it *must* be replaced by a special one"

"A thermostat *must* be used to regulate temperature"

"A fan *must* be installed to avoid excessive air pressure"

etc.

However, there are times when the verb *should* is not simply used for implying suggestions and recommendations (1), but also comes to replace the modal *must* when certain degree of politeness is required (2):

(1)

"The limit *should* not be exceeded by the height of the water in the filter"

"Only very delicate synthetics *should* be ironed with the control at the beginning of the coloured section"

(2)

"This routing *should* be performed before the evaporator unit and blower unit are installed"

"Pipes *should* be connected in center of grommet when connected"

"The parts *should* be reinstalled after the engine compartment wiring harness is installed"

Apart from these community-bound usage of *must* and *should*, instructional writing makes also use of the other modals according to their respective general meanings. *Can* is used when referring to the different possibilities -capabilities, to be more precise -that the product offers (1); *may* is used when there exists a probability of something to happen (2); and *will* is often preferred rather than the

modal *must* when there is absolute certainty that the action is going to take place (3):

(1)

"This electronic game *can* be used in a variety of formats"

"When there is water in the tank, the items to be ironed *can* be sprayed"

"This setting *can* be used for most types of fabric".

(2)

"When used for the first time, a little smoke *may* be emitted"

(3)

"If the cables to the sub-woofer are connected out of phase, bass reproduction *will* almost disappear"

"If the cables of the satellites are out of phase, voices *will* sound diffuse and blurred", for instance.

Though this analysis has simply been an attempt to make some broad generalizations concerning particular usage typologies of modal expressions in the different genre-types of this discourse community, it should be kept in mind that language is very complex. that the use of language is highly specific and therefore, any systematic approach is always incomplete.

Then, as a sort of general conclusion out of this quick revision on the pragmatics of modal verbs, it should be worth pointing out that the technically-bound discourse community actually proves to share conventionalized -or socially institutionalized- language-using practices, but also some other more restricted linguistic practices imposed by the community itself. More precisely, the analysis developed above has attempted to exemplify that each genre type comprises a class of different parameters concerning the use of modality, patterns of linguistic use which have acquired recognition by

the whole community. In short, these speculations and conclusions drawn out of the corpus ultimately try to show how there actually exist certain relevant patterns of grammar particularities which exclusively belong to this group of language-users.

From a pedagogical viewpoint, linguistic insights of this type may help students and make them become immersed in the particularities of their future discourse community. As a matter of fact, this general description can be further applied to practical layers through different pedagogical activities. Broad learning of tasks focusing on rhetorical complexity, accuracy and communicative effectiveness can be devised by seeking and developing what Swales calls activities “*relatable* to genre acquisition” and “*conducive* to genre skills” (1990: 76). By showing and handling in class different genre-types and their respective variations in modality, students become aware of the rhetorical effects of such pragmatic use of modals, at the same time that they handle a useful material to elucidate and clarify some other practical problems inherent in the exercise of the linguistic use of a language for specialised purposes.

On the one hand, students' attention is drawn towards the fact that meaning is ultimately a negotiation among writers, readers and subject matters. More particularly, by focusing on details of rhetorical composition -such as that of the pragmatics of modality, among many others- formal schemata are activated. To study the rhetorical organization of texts -as occurs in a genre-centered approach-, special concern is placed on the role of *schemata* in genre acquisition. Schemata provide the learner with a background knowledge about the content of a discourse -technical matters- and the proper evaluative interpretation -relevance and appropriacy. In this way students learn to schematize not only the features of the general organization, but also to encode and decode those interpretive procedures specific to their future discourse community, which greatly widens their capacity of comprehension as well as their evaluative and critical insights. On the other hand, to raise a rhetorical consciousness also leads students to come to terms to a scientific



discipline and environment which embodies a specific group of researches, specialists, and professionals, being all considered as language-users.

Here lies the importance of defining and deepening into the different genre typologies of a discourse community such as the technical one. However abstract, or formal, modern linguistic theory might be, it has been developed to account for the way people actually use language.

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ABSTRACT

The purpose of this paper is to introduce the complexities of language use within a specialism-bound community -that of technical English-, and more particularly, to deepen into the pragmatic profile of modality in the technical discourse. A repertoire of technically-related genre-types is analysed to prove that although these generic typologies all follow certain agreed-on principles as working guidelines in the users' language practice, they none the less have distinctive features which differentiate each one from the other genre-types. One of these features which actually establishes clearly-cut distinctions among the different technically-bound genres is that of the pragmatics of modality. The paper ultimately aims at demonstrating that the technically-bound discourse community actually shares conventionalized - or socially institutionalized- language-using practices, but also some other more restricted linguistic practices imposed by this particular community itself.