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# Modality in English and Hungarian Drug Information Leaflets

## 1. Introduction

Modality is defined as “the grammaticalization of speakers’ attitudes and opinions” (Palmer 1993: 16). Modality is an important linguistic function in biomedical communication; it could be expressed to mark any of the following: possibility or the related concept of permission, probability or the related concept of obligation, certainty or the related concept of requirement (Steele et al. 1981: 21). Modality has two main classes: epistemic and deontic. Epistemic modality is concerned with matters of knowledge, belief, or opinion rather than fact (Llyons 1977: 793), while deontic modality relates to the necessity or possibility of acts performed by agents, including the speaker himself (Llyons 1977: 823). The present study will focus on deontic modality. This device which makes it possible for the authors of biomedical texts to tone down the strength of the statements and also to include their opinion concerning the truth conditions can also be found in a special type of biomedical communication, namely drug information leaflets. Drug information leaflets are those sheets of papers that are included in medicine boxes and bottles and provide information about the purpose, the side effects, the dosage and the storage of the drug they describe.

## 2. Modality in drug information leaflets

Genre is comprised by a set of communicative events, which have a common communicative purpose (Swales 1993: 58). The purpose of the genre of drug information leaflets is giving useful pieces of information to drug takers on the amount, way, expected side effects and hoped positive outcome of using a particular medicine. On the other hand, these documents are also meant to serve as a special means of self-defence used by "drug-dealers" for preventing legal action taken against them by unsatisfied, disappointed, or even damaged patients. The linguistic manifestations of these efforts are the main focus of the present study and their interpretation and classification are thought to be a useful contribution between the two traditional partners: patients and drug manufacturers. A very curious point of the investigations was a comparison between the samples of this commonly used genre in the Hungarian and Anglo-Saxon backgrounds. The initial hypothesis of the study was that both languages apply the technique of modification, but Hungarian texts seem to state information in a more explicit manner.

The method of investigation was manual analysis of a corpus of fifteen drug information leaflets in both language. A special selection criterion was the originality of the texts in both language. The manual analysis as a procedure was preferred to computerised analysis for its more individualistic character and the opportunity it provides for analysing narrower or wider contexts of each individual target language item.

In the following sections of this paper I will discuss how drug information leaflets provide information about the way of taking the drug, the amount f taking the drug, side effects and storage of the drug.

## 3. The results of the study

### 3.1. Providing information on the way of taking the drug

Drug interactions caused by taking more than one drug simultaneously can result in adverse effects. Each drug information leaflet mentions that the drug it describes cannot be taken together with certain other drugs. English drug information leaflets investigated here normally name those other drugs and state that the two drugs taken together can cause side effects, e.g. "Do not take ergotamine or dihydroergotamine tablets or use ergotamine inhalers for migraine, while taking Erythroped A as this can cause serious side effects." The usage of the auxiliary can (or may) expresses deontic possibility and implies that it is not certain that serious side effects will occur when taking the two drugs simultaneously, merely there is a chance for their appearance. Thus, it seems to place the patient into a position of false security, since the patient may think that if the drug only sometimes causes side effects than he/she will not be just the person to experience side effects. The majority of the Hungarian drug information leaflets do not state explicitly what those drugs are that should not be taken together with a particular drug, only pass on this problem to the doctor, e.g.: "Az egyidejűleg szedni kivant egyeb gyogyszerekről a kezelőorvost tajekoztatni kell." (=The consultant doctor must be informed about other drugs that the patient wishes to take simultaneously with the drug.) Some of the Hungarian texts forbid the patient to take the drug together with any other drug, unless the doctor prescribes it (e.g. "Kifejezett orvosi előiras nelkul mas gyogyszerekkel egyutt alkalmazni nem szabad." =It must not be applied together with other drugs without the explicit prescription of the doctor), while none of the English texts do so.

Similarly, drug information leaflets indicate that patients must not take the medicine if they are allergic to an active ingredient. Each Hungarian text displays it in a straightforward manner, e.g. "Penicillin-tulerzekenyseg eseten nem alkalmazhato" (=It must not be applied in case of oversensitivity to penicillin.), while in about half of the English texts we can find a hedge which slightly modifies the information conveyed by the sentence, e.g. "Do not take Hytrin BPH if *you know that* you are allergic to terazosin, any of the following drugs alfuzosin, indoramin, prazosin, tamsulosin, doxazosin, or any of the other ingredients contained in Hytrin BPH." In this way, patients should avoid taking the drug only if they know that they are allergic to an ingredient, although practically any ingredient of the medicine can cause allergic reactions, the patient is not warned about it in a separate sentence. Hence, drug information leaflets avert responsibility in case of patients who are allergic to an ingredient of the medicine but are not aware of their allergy, although they can experience severe allergic reactions.

Many drugs cannot be taken if the patient suffers from a certain illness, e.g. liver problems or renal failure. The investigation has revealed that several drug information leaflets do not mention the problems caused if the patient takes the drug when he/she has the illness mentioned in the leaflet or some of the texts do not indicate that it can cause problems at all, but they direct the patients to the doctor, e.g. "If you suffer from a condition called myasthenia gravis, which causes muscle weakness, consult your doctor before taking erythromycin lactobionate." In this way, drug manufacturers transfer responsibility to the doctor. Of course, doctors ask whether the patient suffers from an illness, but patients may not be aware of the importance of mentioning a certain condition because they do not know that if they suffer from an illness other than that the drug was prescribed for then they might not take the medicine. Among the Hungarian drug information leaflets I have found two examples, where the illness, in case of which it is not indicated to take the drug, is not overtly mentioned, e.g.

"Mikor nem szabad Nitromint aerosolt hasznalnia? ….

- heveny szivinfarktus es szivelegtelenseg bizonyos eseteiben;
- szivizombetegseg es szivburokgyulladas bizonyos eseteiben;
- szivbillentyű-hibak bizonyos eseteiben; … "

(= When should you not use Nitromint aerosol? ….

- in certain cases of cardiac infarction and cardiac insufficiency;
- in certain cases of myocardial disease and pericarditis;
- in certain cases of valvular disorder; …)

In this case the name of the disease is modified by the expression "in certain cases", thus some patients suffering from pericarditis, for instance, can use the drug while others cannot because due to the modifying expression patients suffering from the diseases mentioned above do not learn whether or not they can take the medicine. Here the purpose of the modifying expression is to avert responsibility because drug manufacturers do not specify which patients of the above diseases can take the drug. Drug manufacturers are protected in those cases patients suffering from any of the above diseases develop some unexpected symptom, because they have told that the drug must not be used in *certain* cases of the disease.

### 3.2. Providing information on the amount of taking the drug

The drug information leaflets investigated here, except for one, describe prescription drugs, i.e. they are drugs that you can only get by prescription. The dosage of the drug is determined by the doctor, but, nevertheless, drug information leaflets still display a "usual" dosage, which is often followed by the sentence "The doctor can prescribe a different dosage". Drug information leaflets use this sentence as a safeguard to avert responsibility in case of an overdose. Overdose can lead to serious side effects, but by entitling the doctor to prescribe a "different" dosage (by the use of the modal auxiliaries *can* or may) they do not indicate the upper limit of the dosage. Thus, patients damaged by a drug overdose cannot find any basis concerning dosage in these drug information leaflets. If the doctor prescribes a dosage different from the "usual" dosage in the leaflet and the patient develops any adverse symptoms than drug manufacturers can avert responsibility to the doctor although in most cases the problem does not stem from the dosage.

### 3.3. Ways of rendering side effects

Each drug information leaflet indicates that the drug can cause certain undesired effects called side effects. Modality is used to predict the chances of occurrence for a certain side effect. Most drug information leaflets use the modal verbs *can* or *may* (and their Hungarian equivalent in this sense, the suffixes *–hat, -het*) to inform the patient that it is possible that a certain side effect appears. Mainly the English texts, but rarely Hungarian texts also use an auxiliary expressing possibility together with an adverb of frequency (e.g. rarely, sometimes) – I introduce the concept of "double modality" to refer to this technique- to express that the likelihood of a certain side effect occurring is extremely low: e.g. "Very occasionally, dobutamine may cause a reduction in the cells that help blood to clot". Double modality is applied to calm the patient, implying that it is not likely that they will experience these side effects, but drug manufacturers still mention these side effects in drug information leaflets to protect themselves if these side effects appear in patients. On the other hand, a list of side effects which can –although only sometimes- occur may frighten some of the patients.

Almost every drug information leaflet mentions that other side effects can occur besides the ones enumerated in the leaflet, e.g. "Tell your doctor or pharmacist if you or your child develop any of these problems or if you have *any other unexpected or unusual symptoms* while taking Erythroped SF Suspensions." This sentence suggests that, although in rare cases, the drug can practically have any side effects, of which patients are not aware. By including this sentence, drug manufacturers decline to take responsibility and refuse to state explicitly the possible consequences of taking the drug. In this way, they prevent legal action taken against them by patients who have been damaged by the drug.

### 3.4. Ways of Providing Information about the Storage of the Drug

The last rhetorical step in each drug information leaflet is instructions concerning the storage of the drug. The Hungarian texts investigated here express this function with a modal verb denoting obligation or prohibition, or with the imperative, e.g. "A gyogyszert gyermekek elől gondosan el kell zarni. Ne tarolja 30°C feletti hőmersekleten!" (= The medicine must be closed from children. Do not store it at a temperature above 30°C!) The imperative expresses deontic proposition, and it is neither stronger nor weaker and neither less nor more polite than a modal verb expressing obligation (Palmer 1993: 108). Here the drug information leaflet clearly instructs the patient how to store the medicine. Half of the English texts use the same devices as the Hungarian texts to formulate instructions concerning the storage of the medicine, but some of the texts use a modal verb that is weaker than the imperative (e.g. should): "This medication should not be used after the expiry date shown on the label. By using the modal verb *should* the speaker does not exclude the possibility that the event described by the verb will not occur (Palmer 1993: 100), thus he/she does not take responsibility whether or not the patient follows the instructions. Moreover, in some cases the English texts apply the modal verb expressing future (*will*) to express this function, e.g. "It will be used before the expiry date. Your medicine will be kept below 30°C away from light. The solution will be stored below 25°C and used within 24 hours." The modal verb expressing future predicts that the event will occur and the patient will follow the instructions. The modal verb *will* does not concern the speaker's opinion or attitude, but it is completely hearer-oriented (Palmer 1993: 103), thus it is the patient's responsibility to keep the instructions, it does not express as clearly as a modal expressing obligation or the imperative that the patient must follow the instructions so that the drug provide the most beneficial effect. Rather, it expresses a habit that patients –in their interests- usually comply

with the instructions provided by the leaflets, thus, it is presupposed that patients will keep the instructions. On the other hand, the imperative preferred by Hungarian drug information leaflets does not contain an element of presupposition, but it simply tells the patient what to do and what not to do, thus expressing a caring attitude towards patients.

## 4. Conclusion

The following conclusions can be drawn from the investigation:

-both languages resort to the use of devices expressing modality to a large extent in drug information leaflets;
-we can find examples in both languages where more than one device is applied within the same structure, a technique which I call "double-modality";
-with a few exceptions, Hungarian drug information leaflets tend to provide information in a more straightforward way, whereas the English texts investigated by the present study seem to tone down and obscure information to a larger extent than their Hungarian counterparts.

The main function of modal devices in this genre is to change the truth conditions of the information provided by texts representative of this genre by avoiding explicitness and providing intentionally vague information. They resort to modality either to change the patients attitude to the drug he or she is taking (for instance, to calm or flurry the patient) or to decline responsibility by refusing to state explicitly the possible consequences of taking a particular drug. The differences between the way the two languages handle modality in drug information leaflets may be explained by cultural differences, but further studies are needed to confirm this.

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