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## A corpus-based study of lecture functions

Despite the importance of lectures in higher education, relatively little is known about lecture discourse. To contribute to our understanding of this genre, this paper presents a comprehensive overview of lecture functions, i.e. what lecturers use language for. The functional overview is based on a qualitative analysis of lectures from the British Academic Spoken English Corpus and findings from existing research. Six main functions were identified: informing, elaborating, evaluating, organizing discourse, interacting and managing the class. This functional analysis of the lecture genre should be of interest to both genre analysts in the field of academic discourse and English for Academic Purposes practitioners.

Key words: the lecture, lecture functions, academic discourse, EAP, corpus linguistics

### 1 Introduction

The lecture is a central instructional spoken genre in higher education in Europe and many countries world-wide (e.g. Flowerdew 1994; Kiewra 2002; Lee 2009; Miller 2002). Nevertheless, our linguistic knowledge of this high-stakes genre is rather limited. This paper aims to increase our insight into lectures by reporting the findings of a qualitative corpus investigation aimed at determining what communicative purposes, i.e. functions, are served by lecture discourse.

To date, corpus-based accounts of lectures have tended to focus on a limited number of lexico-grammatical features and functions. On the one hand, lexico-grammatical research has in the main been concerned with establishing whether lecture discourse shares more characteristics with oral (e.g. conversations) or literate genres (e.g. academic prose) (e.g. Biber 2006a; Biber, Conrad & Cortes, 2004; Csomay 2006; Swales & Burke 2003) and with quantifying and determining the function of particular lexico-grammatical features such as frequently occurring multi-word sequences (e.g. *going to talk about, if you want to*) (e.g. Biber 2006a; Biber and Barbieri 2007), pronouns (e.g. Fortanet 2004a, 2006; Lee 2009; Morell 2004; Rounds 1987; Simpson 2006), discourse markers (e.g. *now, okay*) (e.g. Schleeef 2008; Simpson 2006) and questions (e.g. Fortanet 2004b; Crawford Camiciottoli 2007a,b; Morell 2004). On the other hand, reports on lecture functions have generally been restricted to lecture introductions (e.g. Lee 2009; Thompson 1994) or certain functions, typically discourse organization (e.g. Crawford Camiciottoli 2004; Nesi & Basturkmen 2006; Thompson 2003), interaction (e.g. Crawford Camiciottoli 2005; Fortanet 2004a,b, 2006; Lee 2009;

Morell 2004) and evaluation (e.g. Biber 2006b; Mauranen 2002; Poos & Simpson 2002; Swales & Burke 2003). More comprehensive functional accounts of lectures are Young (1994) and Crawford Camiciottoli (2007a). Young (1994), investigating a corpus of seven lectures, identifies six recurring lecture ‘phases’ based on language choices: discourse structuring, conclusion, evaluation, content, interaction and examples. Crawford Camiciottoli (2007a) provides a more detailed account of discourse structuring, evaluation and lecturer-audience interaction in a corpus of twelve Business Studies lectures.

The current account of lecture functions is more comprehensive than those available. It uses lectures from different disciplines of the British Academic Spoken English (BASE) corpus<sup>1</sup>, which is a large and freely available corpus. The fairly recent creation of this and other large corpora containing authentic English lecture texts such as the Michigan Corpus of Academic Spoken English (MICASE) and the TOEFL-2000 Spoken and Written Academic Language (T2K-SWAL) corpus results from the fact that much research on academic discourse is currently driven by a need to inform English for Academic Purposes (EAP) courses; it also testifies to the fairly well-established idea within English for Specific Purposes that corpus study is an important means of obtaining such information (e.g. Basturkmen 2010; Biber et al. 2002; Gavioli 2005; Hunston 2002; Mauranen 2006). Although the lack of comparative lecture research across languages and cultures makes it difficult to gauge to what extent the findings about functions in this British corpus can be generalized to other corpora, it stands to reason that there is probably a fair amount of common ground, even if different conceptions of lectures and their consequent delivery may mean that certain functions are more or less prominent.

The corpus findings on lecture functions are complemented with existing accounts of the lecture genre, its discourse functions and its linguistic features. The resulting report should be of interest to both genre analysts who wish to gain a better understanding of this genre and – being based on English data – EAP practitioners.

## **2 Methods**

### **2.1 Sample**

The investigation is based on a sample of 12 lectures totalling about 100,000 tokens drawn from the British Academic Spoken English (BASE) corpus. This corpus was developed at the Universities of Warwick and Reading between 1998 and 2005 and contains 160 lectures and 39 seminars distributed across four broad disciplinary groups: Arts and Humanities (ah), Social Studies (ss), Physical Sciences (ps) and Life and Medical Sciences (ls). To obtain a cross-section of

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<sup>1</sup> The recordings and transcriptions used in this study come from the British Academic Spoken English (BASE) corpus. The corpus was developed at the Universities of Warwick and Reading under the directorship of Hilary Nesi and Paul Thompson. Corpus development was assisted by funding from BALEAP, EURALEX, the British Academy and the Arts and Humanities Research Council.

academic practice, three lectures from different disciplines were selected from each general disciplinary group. Comparable sets were created by systematically varying study levels, interactivity and audience size (small (<40), medium (40-50), large (>50)) (see Table 1). All lecturers in this sample are native speakers of English.

*Table 1.* Composition of the BASE sample (numbers for interactivity denote the different contributions to the lecture rather than the number of speakers)

Discipline	Study level and audience size	Interactivity	Token count
<b>Arts and Humanities</b>			
Classics and Ancient History (ahlct006)	UG2/3 (20-30)	1	6352
English (literature) (ahlct009)	UG2 (45)	1	11,146
Philosophy (ahlct035)	UG1 (90)	6	6317
Subtotal			23,815
<b>Life Sciences</b>			
Biological Sciences (lslct011)	UG3 (40)	2	14,936
Medicine (lslct017)	UG/PG (130)	4	5752
Plant Sciences (lslct040)	UG2 (20)	3	7891
Subtotal			28,579
<b>Physical Sciences</b>			
Chemistry (pslct003)	UG2 (50)	2	5543
Meteorology (pslct027)	PG (25)	3	10,142
Statistics (pslct036)	UG2 (150)	1	6656
Subtotal			22,341
<b>Social Sciences</b>			
Economics (sslct009)	PG (7)	11	14,280
Law (sslct016)	UG (100+)	1	5571
Sociology (sslct031)	UG (50)	4	7356
Subtotal			27,207
Total corpus			101,942

## 2.2 Analytical procedure

Initially, one lecture transcript from each disciplinary group (ahlct006, lslct017, pslct036, sslct031) was analysed for discourse functions in the lecturer's speech. The resulting functional framework was then refined through a close reading of the other eight lectures. The analysis typically involved determining the function of larger stretches of discourse, often comprising several utterances. The following instance is a case in point. The overall function of this stretch is to exemplify a method to make a metal derivative of an organic compound;

however, it contains embedded functions which are performed by smaller linguistic units such as *so* (which here organizes the discourse by signalling the example), *what should we say* (a hesitation device functioning to manage lecture delivery), and *you* (a personal pronoun establishing interactivity).

- (1) so for example you could take lithium metal plus what should we say you could take er ethyl bromide and what you would get out of that assuming that you used the conditions above you had a dry atmosphere dry solvents and all the rest of it you would get er lithium bromide (pslct003)

The analysis was principally guided by lexico-grammatical clues. In this way, the following utterance can be classified as discourse organization because of the noun *lecture*, phrases indicating a chronological sequence (*today's, yesterday, follows on*) and the communication verb *say* combined with *I*.

- (2) today's lecture follows a er very directly on from what i was saying er yesterday (pslct036)

Generic knowledge of the lecture genre also played an important role. For instance, questions which do not require an answer from the students (so-called 'content-oriented' questions, see Thompson 1998 in Crawford Camiciottoli 2007a) (3) can establish a relationship with the audience through (the semblance of) interactivity, which in turn can stimulate thought and help maintain attention.

- (3) what are we doing with the P-value what we do is we we locate on the scale of the test statistic we locate a particular value of the test statistic we've observed (pslct036)

Nevertheless, a degree of subjective interpretation is inevitable in the pragmatic coding of discourse. Moreover, the same stretch of discourse can serve several functions simultaneously. These issues are evident in (4), which can be interpreted as an appeal for silence and cooperation (thus managing the audience) or as creating rapport and so establishing interaction.

- (4) i'm not feeling too good so i hope i survive this lecture (ah035)

Given the scope and nature of the study, decisions about functional classifications were based on a study of the transcripts alone: there was no recourse to the audio and video files and also no possibility of consulting the lecturers or students. These common issues in corpus linguistic research of this kind mean that we lack information about the lecturers' intentions, the students' knowledge, non-verbal communication and prosody.

### **3 Lecture discourse functions**

The functional overview presented here takes into account the overall communicative purposes of the lecture as a primarily instructional genre. Studies

on lectures and lecturers' perceptions (e.g. Brown 1978; Hanson & Sinclair 2008; Isaacs 1994; Maunder & Harrop 2003; Samuelowicz & Bain 2001; Sutherland & Badger 2004) point to three chief, intricately linked purposes. First, lectures are a means of transmitting knowledge. Second, they aim to facilitate learning by generating understanding and stimulating thought and interest. Third, by transmitting knowledge, teaching skills and promoting particular attitudes, they help socialize novice students into their academic, disciplinary and professional communities. Analysing the lecture sample with these purposes in mind, we discerned the following salient discourse functions and subfunctions.

*Table 2.* Overview of lecture functions and subfunctions derived from the BASE sample

<b>Functions</b>	<b>Subfunctions</b>
Informing	Describing Recounting Reporting Interpreting Demonstrating
Elaborating	Exemplifying Reformulating
Evaluating	Indicating attitude Indicating degree of commitment
Organizing discourse	Orientating Structuring Relating
Interacting	Regulating interaction Involving the audience Establishing a relationship with the audience
Managing the class	Managing organizational matters Managing delivery Managing the audience

In what follows, we will discuss these (sub)functions and relate them to existing generic descriptions. The account will also include findings on apparent disciplinary variation and, where possible, the language forms that realize these functions.

### **3.1 Informing**

Lectures are chiefly recognized as a means of disseminating subject information to students (e.g. Brown 1978; Crawford Camiciottoli 2007a; Sutherland & Badger 2004). Discourse with an informing function (cf. 'Content phase', Young 1994) provides students with the information needed to become members of their disciplinary community. In other words, it is aimed at improving students' subject knowledge and skills. The main discourse subfunctions that could be identified here are describing, recounting, reporting, interpreting, and demonstrating. An

overview of linguistic features associated with informational focus can be found in Csomay (2006: 120).

The first informing subfunction is describing. Descriptions are here viewed as statements of the features or function of, for instance, things (5), people (6) and procedures (7). This subfunction was generally associated with present tenses and lexis reflecting the subject (e.g. *lithium, sensitive, philosopher, diameter, measure*).

- (5) the lithium starting material and the lithium product are both sensitive to water and oxygen (pslct003)<sup>2</sup>
- (6) Thomas Hobbes the extremely influential English moral and political philosopher who wrote the great book *The Leviathan* (ahlct035)
- (7) you can measure the diameter either from front to back A-P anterior posterior or from side to side (lslct017)

The subject of descriptions naturally reflects disciplinary preoccupations. Accordingly, the arts and humanities and social sciences lectures contained more descriptions of people and theories, while descriptions in the life and physical sciences lectures tended to be of things, models, processes and procedures (see also Deroey, forthcoming).

Secondly, when recounting, the lecturer presents information about past actions, events or situations, thus providing a ‘historical context’ (Biber 2006a: 116). The classification of discourse as a recount was therefore often triggered by past tenses and time indications (8). An overview of linguistic features that are statistically associated with a ‘reconstructed account of events’ in university genres can be found in Biber 2006a (195-199).

- (8) in the fifties and sixties er cybernetics became extremely influential from about the fifties and sixties onwards through the works of people like Stafford Beer and others (ahlct035)

Again, the sample showed clear disciplinary variation: there was a stark contrast between the many instances of recounting in the arts and humanities and the virtual absence of such discourse in the physical sciences.

Thirdly, lecturers also provide information by reporting somebody’s words, ideas and research. Although we have here only considered discourse that is marked as a report, it could be argued that much of what lecturers say is in fact a report. As Bernstein (1990: 183-4) puts it, ‘[p]edagogic discourse is a principle for appropriating other discourses and bringing them into special relations with each other for the purposes of their selective transmission and acquisition.’ Reporting signals (or ‘evidential markers’, Hyland 2005) typically contained the source (e.g.

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<sup>2</sup> For ease of reading, pause markers have been omitted in all examples.

*Gorz*) and a communication verb (e.g. *say*) (9); sometimes, however, the source reference was vague (e.g. *some people*) (10) or missing (e.g. *what is found*) (11).

- (9) this is Gorz as i said earlier a member of the French Communist Party er saying the working class thing of the past (sslct031)
- (10) some people say there's no effect (lslct040)
- (11) what is found is that in these situations that you get deposition of quantities of fibrous scar tissue (lslct011)

In the arts and humanities and social sciences lectures, reports were mainly of ideas or words, familiarizing students with disciplinary theories (12) and terms (13) or supporting an interpretation, as in (14), where the lecturer quotes from a novel to support his interpretation that the author uses the natural world to represent the idea of an uncontrolled child.

- (12) Searle starts off by observing that we seem to have available to us two different ways of being able to explain human behavior (ahlct035)
- (13) the other half is about the other half of the working class who Gorz calls the non-class of non-workers the people here he's referring to here are people who hold temporary jobs (sslct031)
- (14) at the bottom page fifty-seven it says the garden was overgrown with grass and weeds the fruit trees wanted pruning and it could now hardly be seen where the walks had been look at that idea of the natural world completely overrun the natural world here is not something which is good as a wilderness it means it represents the idea of an uncontrolled child a naturalness which is rampant (ahlct009)

By comparison, in the life and physical sciences lectures, the reporting focus was chiefly on experimental research (15), models (16) and (in the physical sciences) theorems (17).

- (15) so we actually did a little experiment taking different people who knew how to use an ultrasound machine observers giving them an array of patients with different diameter aortas to see how well they did (lslct017)
- (16) every meteorological model i've seen even the very cloud resolving ones or small models all make this approximation (pslct027)
- (17) the theorem says that if we take that as the critical region in other words if we decide H-nought is false when the P-value is less than alpha that is precisely a significance test with significance level alpha (pslct036)

Interestingly, in quite a few cases lecturers also evaluated reports, apparently in an attempt to promote a critical attitude but perhaps at the same time displaying their expertise or trying to persuade students of their opinion (18-19).

- (18) you'll read in the literature again in mostly in the development literature i have to say that you needn't worry about trade diversion 'cause that's only a global loss of welfare okay that the costs of trade diversion are borne by the rest of the world all right that's nonsense (sslct009)
- (19) some textbooks call it metallation i think that's a confusing term (pslct003)

Fourthly, when interpreting, lecturers inform students of the significance of something. Interpretations may be signalled lexically (e.g. *suggest*) (20) but more often the context helps identify interpretation, as in example (21) from a literature lecture, where the reading of a passage is followed by the characteristic disciplinary activity of interpreting.

(20) the terms though that he'd imposed upon people like Cassivellaunus at the end of the fifty-four campaign do suggest however that Caesar saw that campaign as a preliminary to an eventual Roman takeover (ahlct006)

(21) what this narrator is illustrating asking you to notice is that she is saying this is what childhood is while at the same time saying none of us can remember it (ahlct009)

Finally, when demonstrating, the lecturer sets an example for students by showing ways in which disciplinary experts may reason or tackle a particular problem (cf. Isaacs 1994).. This subfunction was especially common in the physical sciences, where large stretches of discourse were devoted to worked examples demonstrating how to solve equations (22) or use particular methods. It was associated with language addressing the audience, such as *you* and directives, and with deictics (e.g. *this*) pointing to what was being demonstrated.

(22) everything is calculated under the assumption of the null hypothesis okay so Q Q this is the one-minus alpha quantile of T that's what Q is so what is the chance now that a random variable by chance will give you a value greater than or equal to the one-minus alpha quantile (pslct036)

In sum, the informing function is associated with several subfunctions the presence and realization of which may vary with disciplinary preoccupations. More specifically, the orientation of the arts and humanities and social sciences towards people and ideas on the one hand and that of the life and physical sciences towards things and actions is reflected in the topics of descriptions and reports. In addition, the subfunction of recounting and demonstrating is particularly associated with the arts and humanities and physical sciences respectively, illustrating the importance of historical context in the former and problem-solving in the latter.

### **3.2 Elaborating**

Importantly, lecturers also help students understand information. Borrowing a term from Halliday (1994), we have here called this 'elaborating'; an alternative term is 'providing a code gloss' (cf. Hyland 2007). As elaborations reflect the lecturer's assessment of the students' needs, they can also be viewed as a form of interaction (Hyland 2007). For the present purposes, we have found it useful to adopt Hyland's (2007) broad distinction of elaborating as exemplifying or reformulating.



Exemplification (cf. 'Examples phase', Young 1994) can enhance understanding and enliven lectures. Examples varied greatly in the explicitness with which they were signalled. While some were clearly introduced by explicit lexical cues such as *example* and *for instance* (23), (see Siepmann 2005 for an overview of exemplification markers), many occurred with potentially ambiguous cues such as discourse markers (e.g. *so, you know*) (24-25). Examples often drew on students' or shared knowledge and experiences, as is reflected in the use of *you* and *we*.

- (23) you might have come across an example of the latter for instance i don't know if you've ever seen or heard people talking about oh when children look at art they have this pure vision that's an idea for instance of vision and consciousness which is allocated at children (ahlct009)
- (24) C-F-L says that er your timestep of your model has got to be less than the grid spacing divided by the speed the maximum speed of propagation so if i have a hundred kilometre hundred kilometre grid we could work this out (pslct027)
- (25) somebody who's doing something absolutely bizarre you know they're standing on one leg like this (ahlct035)

When reformulating, the lecturer clarifies the meaning of other discourse by restating it in other words. Typically then, the content of the reformulation largely overlaps with the discourse it elaborates. It should be noted, however, that reformulation is a complex phenomenon in terms of its linguistic realizations and its precise functions (e.g. clarifying, concluding, initiating repair) (cf. Flowerdew, 1992; Hyland, 2007; Murillo, 2006; Siepmann 2005). In the following illustrations, reformulations are used to clarify a term (26-27) and specify meaning (28-29).

- (26) what i mean by a reductionist view of human behaviour is trying to explain all human behaviour by means of a single explanation (ahlct035)
- (27) the next thing he has to establish is the necessary animus the necessary intention (sslct016)
- (28) the one thing to bear in mind about such agreements is that they are not interstate agreements they're not like present day treaties between one country and another (ahlct006)
- (29) the kidney starts to swell become oedematous okay starts to swell (lslct011)

As with exemplification, reformulation may be, but often is not, signalled by overt cues such as *I mean* in (26) (see Siepmann 2005 for an overview of reformulation markers). Where reformulation markers are vague or absent, students may infer reformulation from lexical repetition (27); the relationship between lexical items, as in (28) (*agreements* and *treaties*, *interstate* and *between one country and another*); or from their disciplinary knowledge, as in (29), where students need to know that oedema causes swelling.

### 3.3 Organizing discourse

Discourse organization is a prominent function of lecture discourse and reflects the pre-planned nature of the lecturer's talk and his or her attempts at guiding the

listeners through the dense instructional message which is processed in real time. The importance of discourse organization can be summarized as follows: '[t]he function of lectures is to instruct, by presenting information in such a way that a coherent body of information is presented, readily understood, and remembered' (Chaudron & Richards, 1986: 14). As a result, various EAP and educational studies have highlighted the role of verbal discourse organizing cues in facilitating lecture comprehension and note-taking (e.g. Allison & Tauroza 1995; DeCarrico & Nattinger 1988; Jung 2003; Kiewra 2002; Lynch 1994; Titsworth & Kiewra 2004; Tyler 1992; Williams 1992).

Three broad categories of discourse organizational cues emerged from the corpus: cues which orientate listeners to upcoming discourse, those which structure the unfolding discourse and those which signal how points are related. First, discourse orientating cues orientate listeners to upcoming discourse by providing a lecture frame onto which the information they receive can be mapped. Such indications of lecture topics (30), aims (31) and scope (32) were concentrated at the beginning (see also Lee 2009; Thompson 1994) but also occurred throughout as new topics and points were announced.

- (30) i'm going to go through some of the different hierarchy of models the the whole range of models that we can use in meteorology (pslct027)
- (31) i want to give you er an understanding of the immunological basis of graft rejection (lslct011)
- (32) let's in fact leave the third party response out because what i want to concentrate on is the anti-donor response (lslct011)

Second, discourse structuring cues reveal the delineation and order of points. For instance, in (33) the lecturer signals a topic shift, while in (34) the order of topics is indicated.

- (33) what i'd like to do now is turn to how you actually make the things (pslct003)
- (34) i'll talk about models and their complexity then i'm going to talk about some of the waves in the atmosphere (pslct 027)

Finally, discourse is organized by indicating how points are related. On the one hand, the relationship between upcoming and previous discourse is indicated by prospective (35) and retrospective (36) markers (cf. Nesi & Basturkmen 2006). On the other hand, points are related in terms of their importance (37). Here discourse is simultaneously organized by establishing a hierarchy of importance of points (cf. Mauranen, 2003) and evaluated along a 'parameter of importance or relevance' (Thompson & Hunston 2000: 24).

- (35) this is a theory about not the changing structure of the working class but about social democratic parties those parties which took that second route that i mentioned earlier (sslct031)
- (36) we're going to come back to waves again (pslct027)
- (37) i think it's important to say that it's actually quite rare (sslct016)

Turning to the linguistic realizations of discourse organizing signals, it is interesting to note the variation in interactivity and explicitness of these cues. In terms of their interactivity, there were three broad types: cues which involved no reference to either the speaker or listeners (38), cues reflecting the speaker-regulated character of lecture discourse (containing *I* and verbs expressing desire (e.g. *would like*), volition (e.g. *want*) or intention (e.g. *will*)) (see also Biber 2006a; Young 1994) (39) and more interactive cues engaging the listeners through pronouns (*you, we*) (40), directives (41) and content-oriented questions (42).

(38) that's the key point (sslct009)

(39) what i want to cover er is the range of transplant medicine (lslct011)

(40) later on we'll discuss what the actual structures of these compounds are (pslct003)

(41) remember this is a theory which he's going to be attacking (ahlct035)

(42) now what might have caused Tincommarus to leave the territory of the Atrebatas and seek refuge with Augustus well there are two possibilities (ahlct009)

In terms of their explicitness, it is noteworthy that the lecture sample yielded numerous instances of less explicit signals such as content-oriented questions and discourse markers (e.g. *so*) (43).

(43) so that's Przeworski's again int-, internal critique of the theory of the labour market (sslct031)

Since these signals may also have other functions, in such cases students and analysts alike may find it harder to discern discourse organization.

### **3.4 Evaluating**

An analysis of the sample confirms previous research reporting the pervasiveness and importance of evaluation in lectures (e.g. Biber 2006a,b; Isaacs 1994; Mauranen 2002; Sutherland & Badger 2004; Thompson 1994; Young 1994). Although evaluation is a fuzzy concept for which different and overlapping terms exist (cf. Thompson & Hunston 2000), for the present purposes we will use Thompson & Hunston's (2000: 5) definition of evaluation as 'the expression of the speaker or writer's attitude or stance towards, viewpoint on, or feelings about the entities or propositions that he or she is talking about'; this is roughly equivalent to 'stance' (Biber et al. 1999), the 'Evaluation phase' (Young 1994) and to some categories of interactional metadiscourse ('attitude markers', 'hedges' and 'boosters') in Hyland's (2005) metadiscourse model. It must be pointed out that the identification and interpretation of evaluation is not always straightforward. On the one hand, 'there is no set of language forms [...] that encompasses the range of expressions of evaluation' (Hunston, 2011: 3), so that existing accounts of lexico-grammatical evaluative expressions are not exhaustive and the identification of evaluation often depends on the context (Mauranen 2004). In this regard, the current description shares with most corpus linguistic

analyses the limitation that it has not taken into account prosodic and non-verbal cues, which play a significant role in evaluation (Biber 2006a). On the other hand, the analyst may miss or misinterpret instances of evaluation because of unfamiliarity with the values of the disciplinary communities whose texts are investigated.

Two major types of evaluation could be distinguished (cf. also Biber 2006a): attitudinal evaluation, which expresses the lecturer's personal feelings (cf. 'attitude markers', Hyland 2005) and epistemic evaluation, which conveys the degree of commitment to the certainty of a proposition (cf. 'hedges and boosters', Hyland 2005). In the illustration below, *complaint* and *literal* express the lecturer's opinion about the interpretation of certain historical events in the books by Braund and Van Arsdell, while the hedge *tend to* and the booster *totally* convey the degree of commitment to this opinion.

(44) my complaint about Braund and about Van Arsdell though is that they tend to be totally literal (ahlct006)

To discuss the use of evaluative discourse in the lecture sample, we have adopted Thompson & Hunston's (2000) distinction between three functions of evaluation, viz. evaluation which serves to express an opinion, organize discourse, and maintain relationships. Note, however, that these uses are not mutually exclusive. First, evaluation which conveys the lecturer's opinion may socialize students into their disciplinary and academic communities (Mauranen 2002): it helps shape students' values and attitudes to knowledge by guiding them in the interpretation of statements (Biber, 2006a: 87), by indicating 'which approaches and which views to adopt and, by implication, which to reject' (Young 1994: 172-173) and by promoting critical thought (Isaacs 1994). The following excerpt, in which the lecturer advises students to be critical when working with climate models, demonstrates this socializing role of evaluation.

(45) it's dangerous people see a very realistic climate model a big one and then they think oh that's the only model all the others are wrong and that's a wrong view of it it's more all models are sort of wrong er what you a range of them you need a good range of models so that's a better way to look at the whole modelling exercise (pslct027)

However, it is often difficult to distinguish between evaluation reflecting disciplinary and personal values. This is partly due to the analyst's lack of disciplinary knowledge but also to the frequent absence of explicit attribution. Examples such as (46), which clearly attribute the opinion to the speaker, were in fact rather uncommon (for a discussion of attribution in university genres see Biber 2006a: 90-91).

(46) The Tenant of Wildfell Hall i think an extremely interesting text which isn't studied enough but that's my personal view (ahlct009)

Given the disciplinary differences in lecture goals and topics, it is not surprising to find some variation in the use of evaluation with a socializing function. Lectures with an applied orientation, which mainly aim to teach a skill, often contained evaluation directing students in using models and methods (47), while those which draw heavily on experimental evidence frequently indicated whether something was established knowledge (48). In lectures with subject matter that is open to different interpretations (e.g. historical evidence, literature, philosophical or sociological theories), many instances of evaluation expressed an assessment of significance, adequacy or certainty (49-51).

- (47) when you do this reaction in a solvent the solvent *must not* provide any concentration of protons (pslct003)
- (48) *there's no doubt* that growing seasons and times of things are changing (lslct040)
- (49) it's also *significant* that the language that starts appearing upon these coins is Latin (ahlct006)
- (50) there are fundamental *flaws* in this idea that the the labour movement is now an old movement which has been surpassed by new social movements (sslct031)
- (51) Caesar's involvement with Britain after his return from the fifty-four er invasion simply ceased *so far as we can tell* (ahlct006)

Second, evaluation was used with a discourse organizing function, for instance to express the relative importance of a statement (52) or to indicate the speaker's wish to talk about something (53).

- (52) *the essential point* with that is that the T-cell will only recognize the foreign peptide in association with self H-L-A (lslct011)
- (53) i just *want* to include a point there (sslct031)

Finally, evaluation was also used to build and maintain relationships, as in the following excerpt.

- (54) i thought probably what i'd do is start with a single equation and this is the only equation you're going to see in this lecture and it's on the board there now now what does that tell you does it look even vaguely familiar to anyone [laughter] no i've probably got it wrong i thought it was something like the equation of relativity (lslct017)

Here the hedges may be argued to be politeness devices: the addition of 'i thought probably' gives the impression the lecture topic might be open to negotiation, thus lessening the imposition on the listeners, while 'I've probably got it wrong i thought it was something like' could be interpreted as a face-saving strategy for both the speaker and the audience. It can thus be concluded that evaluation is a prime example of how discourse can serve different purposes simultaneously.

### **3.5 Interacting**

Lectures tend to be fairly monologic and the relationship between the speaker and listeners is generally rather distant. However, lecture discourse contains many

instances of language which may serve to establish some kind of interaction between the speaker and the audience. The pedagogical importance of this discourse function basically lies in creating an atmosphere that is conducive to learning (i.e. promoting understanding, focusing attention and stimulating thought) (Crawford Camiciottoli 2004, 2005, 2007b; Isaacs 1994; Morell 2004, 2007; Young 1994). Three main categories of interacting discourse could be distinguished in the sample: discourse which regulates interaction by eliciting student contributions or providing feedback; discourse which involves the audience in the talk; and discourse which constructs relationships between the speaker and listeners.

As regards discourse which regulates interaction, it is notable that verbal exchanges were rare and generally lecturer-regulated. They were mainly used to check and improve comprehension (55), involve the audience in the text production (56) and manage the class (57).

- (55) Student: i don't see how they got the er ones that are all spread out  
Lecturer: scenarios for what will happen in in two-thousand-and-twenty and what it's basically saying is that that temperatures temperatures are going to be warmer and summers are going to be dryer (lslct040)
- (56) Lecturer: what happens because the price falls what else happens  
Student: consume more  
Lecturer: they they consume more that's right (sslct009)
- (57) Lecturer: is the is er microphone on  
Student: no (ahlct035)

More typically, however, a sense of listener involvement was created through the speaker's choice of language and content. Interactive devices that have previously been identified in lecture research also occurred in this sample: pronouns referring to the listeners or including them in the same group as the speaker (cf. Fortanet 2004b, 2006; Hansen & Jensen 1994; Lee 2009; Morell 2004; Rounds 1987) (58), content-oriented questions (Crawford Camiciottoli 2007a,b; Flowerdew & Miller 1997) (59), and references to students' experiences (Fortanet 2004b) (60).

- (58) if we do an ultrasonogram of the aorta we can see here this is an example of a very large aorta and in the middle here you've got colours (lslct017)
- (59) now why would Augustus sanction such overt references within literature people like Horace were court poets what they wrote was sanctioned wasn't a free agent well as i've said there is a diplomatic element here (ahlct006)
- (60) there's enormous variation in the form of social movements those of you who might be members of a trade union or a political party [...] will know that they can take an extremely bureaucratic form (sslct031)

In addition to entering into a real or imaginary dialogue with the audience, the lecturer's discourse also contained language that could be interpreted interactively as creating different 'alignment[s] of the speaker to the hearer' (Goffman 1981: 177), or in other words, as constructing particular roles and relationships. These could broadly be classified as either increasing or reducing the distance between

the speaker and listeners. Devices that seemed to increase the distance or, put differently, create divergent roles for the discourse participants reveal the unequal balance of power and knowledge between the lecturer and students. This may create a level of respect, trust and compliance that makes the audience receptive of and attentive to the lecturer's message. In such cases, the lecturer's persona is that of the disciplinary (61) or pedagogical (62) expert, the decision maker (63), or the class manager (64).

- (61) in my experience i can only offer you that as a devil's advocate go and have a look most critics will say yes it's exactly what children are like in this text (ahlct009)
- (62) what i've deliberately done is actually cut down on the detail and try i'm trying to bring out a bit more clearly the principles because in my experience if i try and teach too much about histocompatibility and about how er T-cells respond to histocompatibility antigens in detail er er people don't really cope with that (lslct011)
- (63) i've given you a th-, a third diagram there which er is taken from Bhagwati 'cause i think it's a useful one (sslct009)
- (64) i'll stop in a few minutes and we'll have a short break but i want to talk first before i stop a little bit about this issue of tissue matching (lslct011)

Other discourse appeared to reduce the distance between the speaker and listeners, creating convergent roles for them and establishing rapport. References to shared experiences, knowledge, activities, or values subsume the speaker and listeners in the same academic, disciplinary (65), cultural (66) or 'human' (67) community.

- (65) as i'm sure most of you're aware er s photosynthesis can be restricted by carbon dioxide (lslct040)
- (66) this idea that there's two different ways of dealing with for instance young criminals i'm sure you read about this in the newspaper on the one hand there's the idea that you know who are all these softies who are being so nice to them (ahlct009)
- (67) as you get older the i mean i suppose one of the most obvious facial characteristics when people get older apart from greying hair like mine is wrinkles well just like your face wrinkles your blood vessels wrinkle too in a sense (lslct017)

The distance between the speaker and listeners also seemed reduced through the occurrence of features that are reminiscent of the more informal register of casual conversation, such as colloquial language (68), humour (including self-deprecation) (cf. Morell 2007; Nesi 2008) (69) and asides (Crawford Camiciottoli 2007a; Fortanet 2004; Strodt-Lopez 1991) (70).

- (68) they pooh-pooh the similarity of the name Catuvellauni as the tribe (ahlct006)
- (69) if any of you er speak Polish or have Polish ancestry my apologies if i have made a complete arse of how to pronounce this Polish word [laugh] (sslct031)
- (70) it can be the actual bone marrow which is taken from the donor's bone and i have had it i have done it and i tell you it is very painful don't recommend it except for very close friends (lslct011)

These interactional features can help create a less threatening and more relaxed atmosphere (Crawford Camiciottoli 2007a) and may aid processing by providing breaks from the informationally dense lecture message.

### **3.6 Managing the class**

The lecture can be viewed as an event which is managed in regard of its organization, delivery and audience. Because class management has its own distinct purpose, interactional features (Walsh 2006) and linguistic realizations (Biber 2006a), it could be considered separately from the ‘lecture proper’. However, since we aim to map the functions of the lecturer’s discourse and since class management occurred throughout all lecture texts, we have here considered it to be another lecture function.

Discourse functioning to manage organizational matters helps ensure students have the necessary lecture or course information (e.g. timetables, expectations, assessment guidelines) and materials. Most instances appeared at or towards the beginning of the lectures.

- (71) these lecture notes will go up onto the web er within the very next few days (lslct011)
- (72) as always er you know if you want to discuss the essays with me come along you know any time or certainly i’ll be in my room during s-, so-called surgery hours (sslct009)

In addition, lecturers manage different aspects of the lecture delivery such as the communication of their message (73-74), the physical environment (e.g. the equipment) (75) and timing (76). This was apparent in language commenting on their actions (e.g. *write, stop*) and the things they were trying to manage (e.g. *overhead*), and in the use of interjections and evaluative language signalling problems (e.g. *oh sorry, I’m afraid*).

- (73) X and Z and T oh sorry Y Z T they’re not interested in X (pslct027)
- (74) i’ll write it out in full ‘cause then you can see what’s happening (pslct003)
- (75) i’m afraid only one overhead is working so i’ll have to be over here all the time (pslct036)
- (76) i think i’m going to stop there because it’s going to er we’re going to run into lunch (pslt027)

Many instances of delivery management also appeared to constitute a form of interaction and/or audience management. For instance, (77) could also be construed as an appeal for quiet; in (78) a promise seems implied that may benefit student attention; and in (79) the lecturer’s comment elicits feedback.

- (77) i’m suffering at the moment and er it’s distorting my voice in a variety of ways (ahlct035)
- (78) we’ve got a two hour slot now the material i’m going to present i suspect will take more than an hour but i’m hoping very much that it won’t take two hours (lslct011)
- (79) well that’s great ‘cause the screen’s gone off so i er oh okay right fine i’ve got you this is a cartoons of the aorta (lslct017)



When managing the audience, the lecturer tries to direct the students' physical and mental activity in a way that is conducive to his or her (typically pedagogical) goals. The audience may be directed to, for instance, look at a visual (80), take notes (81), consult a reference outside class (82), make an exercise (83), be quiet (84) or interact in a certain way with the speaker (85). The directive force of such examples varied considerably but on the whole there was a preference for less direct and more polite directives (e.g. *you might want to, what I would like you to do, please wave your hand*).

(80) it's on the board there (lslct017)

(81) you might want to copy this down (pslct027)

(82) there's a reference there where you can find the whole report er if you want to (lslct040)

(83) what i would like you to do is try and find out er er try and find out an equation for the vorticity (pslct027)

(84) one more try shh (ahlct035)

(85) if you don't understand what i'm talking about you want me to repeat things or explain it please wave your hand (ahlct009)

Managing the audience's mental activity also concerns attempts at focusing and maintaining attention and stimulating thought by, for instance, instructing them to attend to something (86), using content-oriented questions and relating information to students' experiences.

(86) so notice a little-X here (pslct036)

To date, there has been little research on class management in lectures; however, this function warrants investigation as it shows how lecturers cope with the organizational aspect of lecturing and reveals their attitudes towards both the lecture content and the audience.

#### **4. Discussion**

Our examination of the twelve BASE lectures supports and enriches existing functional accounts (e.g. Biber 2006a; Crawford Camiciottoli 2007a; Young 1994). Six main functions were revealed, viz. informing, elaborating, organizing discourse, evaluating, interacting and class management, each comprising further subfunctions (see Table 2). These functions clearly reflect the purposes of this genre. First and foremost, its primary instructional aim is apparent in discourse conveying and elaborating information. Second, the prepared and basically monologic nature of the talk combined with the need to aid student comprehension and note-taking of a cognitively complex message which is processed in real time is associated with discourse organization. Third, lecturers may use evaluative discourse to instill academic and disciplinary values into novices. Fourth, the presence of an audience and the need to engage them to

maximize learning is reflected in the occurrence of discourse with an interacting function. Finally, class management discourse can be linked to the physical, 'here-and-now' context. The corpus also indicates disciplinary variation in the realization and prominence of informing and evaluating (sub)functions.

Furthermore, it was shown that lecture discourse is frequently multifunctional. For instance, an utterance which basically serves to organize discourse (e.g. *i want to give you an understanding of the immunological basis of graft rejection*) may contain embedded evaluation (e.g. *want*) and interactivity (e.g. *I, you*), while exemplification may serve not only an elaborating function but also an interacting and audience managing function by relating something to the students' interests and experiences and so involving them in the lecture and maintaining attention. It was further apparent that the frequent absence of explicit lexico-grammatical clues often hampers the functional analysis of lecture discourse and that contextual clues are thus paramount in such analyses.

## **5 Conclusion**

This paper offers a primarily corpus-informed overview of lecture discourse functions that aims to further our understanding of this important but understudied pedagogical genre. The functional framework presented here is, we believe, fairly comprehensive even though it may not be exhaustive. The account does, however, have some limitations. As in most research on lectures, only transcripts were analysed, thus disregarding the role of non-verbal communication, prosody and multi-modality. Moreover, while the functional interpretation was guided by lexico-grammatical and contextual clues as well as existing lecture descriptions, due to practical reasons the sample was not interrater and working with a ready-made corpus also meant the analysis was not informed by witnessing the event or consulting the discourse participants.

This functional analysis lays the basis for further study of the lecture functions and their linguistic realizations and thus has various possible applications. On the one hand, genre analysts could, for example, compare these findings with the functional analysis of other genres, such as conference presentations, conversations and textbooks. On the other hand, EAP practitioners concerned with lecture delivery and comprehension may benefit from the insight gained into what language is used for in this communicative context. Although there are naturally various other factors that need to be taken into account in the design of such courses (e.g. the needs, communicative skills and backgrounds of course participants), the functional framework could be used to help structure such courses and offers a starting point for further, more detailed investigations into the linguistic features associated with these functions.

Finally and importantly, we hope to have shown that the study of even a small corpus combined with knowledge of existing literature has much to offer to generic descriptions and EAP course design that is not necessarily supplied by the analyst's or practitioner's experience with and intuitions about the genre.

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