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Metadiscursive Practices in Introductions: Phraseology and Semantic Sequences across Genres

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Abstract

The study of metadiscursive practices is particularly fruitful in introductory part-genres where the representation of disciplinary discursive procedures plays a major role for the discourse community. The main aim of this paper is to investigate the ways in which some English metadiscursive expressions (forms of self-mention and illocution markers in particular) are used to offer a representation of academic argument in different genres. The paper concentrates on the representation of discourse procedures in introductory moves, looking in particular at how economists identify their research purposes and their discourse space, while providing a definition of their topic or contextualizing their research in current debates. The study is based on two small corpora of article introductions and textbook introductions. The approach adopted looks at phraseology as a perspective integrating meaning, form and function. The phraseological patterns identified are analyzed as sequences of semantic units—involving reference to a textual source, a discourse procedure and a cognitive construct. Cross-generic variation highlights a different lexical range and different lexical combinations in the two corpora examined. This is interpreted in terms of the ethos of the discourse community and the different role played by argument in the two genres.

1. Introduction

Research on reflexive features of academic discourse has revealed growing interest in variation across languages, genres and disciplines (e.g. Dahl 2003, 2004; Bondi 2005; Hyland 2005). A variety of factors may be shown to affect the representation of one's own evolving discourse, with a view to the inherently argumentative nature of academic discourse. First of all, culture—used here to refer to both local culture and local academic culture—may determine what is considered appropriate argument (Ventola & Mauranen eds. 1993; Mauranen 1993a and b, 2001; Fløttum & Rastier eds. 2003; Bondi 2007). Then the ethos of the discipline—what the community considers appropriate methodology and relevant objectives—may have an impact on language choice and determine in particular the representation of research activity (Hyland & Bondi eds. 2006). Finally, the status of the genre within the discipline—what sort of functions are normally attributed to individual

genres—may be equally relevant, especially in the degree of explicitness of self-reference (Bamford & Bondi eds. 2005).

Choosing to talk about “metadiscursive practices” (Bondi 2005; Bamford & Bondi eds. 2005) means emphasizing the centrality of discourse as social action and the need for discourse participants to refer to their own discourse and represent its nature and development. While recognizing that the word “metadiscourse” may be slightly misleading in suggesting that metadiscourse is somewhat “outside” discourse, it can be argued that the “M-word” (Sinclair 2005) still proves to be inevitable when the aim of research is to illuminate features of discourse. Reflexivity may be the most appropriate expression when looking at features of individual lexico-grammatical units, and therefore of Language as system, but metadiscourse is often preferred when linking work on Text—in particular the study of organizational units (Sinclair & Mauranen 2006) in the linearity of text—and work on discourse as social practice. The expression thus refers to a “folk linguistics” perception of discourse within the community, i.e. the words used by the community to represent its own discursive activity. This may not coincide exactly with what linguists recognize as reflexive language. In academic discourse studies, for example, the study of metadiscursive practices will be equally concerned with illocution markers that are inherently reflexive (*we define*) and illocution markers that only become so in specific discourses (*can be measured as*, followed by the appropriate mathematical expression).

The study of metadiscursive practices may be particularly fruitful in introductory part-genres where the representation of disciplinary discursive procedures plays a major role for the discourse community. By comparing a corpus of article introductions and a corpus of textbook introductory chapters within the same discipline—economics—we should be able to highlight cross-generic variation and to discuss the different representations of disciplinary discourse in a research genre and a didactic genre.

The main aim of this paper is to investigate the ways in which some English metadiscursive expressions (forms of self-mention and illocution markers in particular) are used to offer a representation of academic argument in different genres. The paper concentrates on the representation of discourse procedures in introductory moves, looking in particular at how economists identify their research purposes and their

discourse space, while providing a definition of their topic or contextualizing their research in current debates.

Reporting expressions—*verba dicendi* like *find*, *suggest*, *show*, *argue*, etc. with their nominalizations—have been a key issue in metapragmatic studies of illocution and in studies on reflexivity in language. The language resources available in a community offer interesting insights into the culture of the community itself. Verbs referring to discourse or research acts may variously characterize evaluative positions (Thompson 1996; Hunston & Thompson eds. 2000; Hunston 2004), as well as disciplines or genres (Hyland 1999, 2000; Thompson 2005; Groom 2005; Charles 2006; Dahl 2003).

Similarly, self-reference markers—*we/our*, *this/the present + paper/study/research/section/chapter* etc.—identify discourse participants and discourse units in ways that may be characteristic of a discipline or a genre, as shown by the numerous studies of academic discourse that have looked at these as signals of writer identity, often acting as tools of self-promotion (Hyland 2001, 2002; Breivega et al. 2002; Fortanet 2004).

Both reporting expressions and self-reference markers are core elements of metadiscourse—often defined as “discourse about discourse” (Vande Kopple 1985; Crismore 1989)—and deserve special attention in most classifications of its language resources, whether including or excluding evaluative elements (see Adel 2005, 2006). It is my contention that their use in academic discourse can be more closely related to issues of generic structure if the two are looked at in combination, as phraseological patterns involving both reporting expressions and self-reference markers.

Metadiscourse is best defined functionally rather than formally and metadiscourse studies have often had to look at phraseology rather than isolated words, placed as they are at the intersection of descriptive, theoretical and educational work. The emphasis here is on patterns (Hunston & Francis 1999) and especially on “semantic sequences” (Hunston 2008), that is, sequences of semantic elements that may reveal patterning even in contexts of formal variation.

The next section outlines the approach to phraseology as integrating meaning, form and function. This methodological framework leads to a presentation of the corpora examined and the specific analytic procedures applied. The results of the analysis are presented by dealing with article introductions and textbook introductions separately. This is

followed by comparative discussion of the phraseological patterns identified—semantic sequences involving reference to a textual source, a discourse procedure and a cognitive construct.

2. Phraseology, framework sequences and metadiscursive nodes

Phraseology is identified here on the basis of a combination of frequency-based information and semantics. Starting from the frequencies of word forms or multi-word units, we study the extended lexical unit (Sinclair 1996), identifying both the potential semantic associations between otherwise different forms and the association of the unit with further textual-pragmatic functions. The aim is to integrate meaning, form and function in phraseological studies, along the lines of work carried out by Groom (2005), Charles (2006) and Hunston (2008).

Such a view of phraseology also integrates corpus and discourse perspectives. A corpus perspective looks at words in combination and sees phraseology as the ideal starting point for the exploration of the systematic relation between text and form (Sinclair 2005). A discourse perspective sees interaction and argument instantiated in textual practices recognized and redefined by discourse communities. Integration of both perspectives ensures that corpus data are interpreted in terms of verbal action and textual structures, beyond immediate lexico-semantic associations (Bondi 2008:35). Introductory moves which identify the discourse space chosen by the writer are typically characterized by phraseological combinations of self-reference markers and reporting expressions combined in specific sequences of semantic units (Hunston 2008) constituting acts of self-reference (Sinclair 2005): *in this paper we show, the next section outlines*, etc. These sequences help structure discourse by pointing at its macro-argumentative structure, thus acting as interpretative “frameworks” for the whole discourse. These “framework sequences” can be studied as core features of academic disciplinary discourse, signalling the way communities represent their own practices.

Metadiscursive practices seem to cluster around specific functional steps in the generic structure of the text, acting as “metadiscursive nodes”. There are basically two potential metadiscursive nodes in article introductions:

(a) Presenting the research, by identifying the **topic** (*the present paper explores the interdependence...; in this paper we study the links between...*) or **purpose** (*the purpose of this paper is to extend the analysis...; the present study was undertaken with two key objectives in mind...*). These are closely related, although there may be some intercultural variation.

(b) Presenting the paper **outline** (*the paper is organized as follows...; in the next section we discuss the model...*).

In terms of the move structure of article introductions as outlined by Swales (1990, 2004:230), they both relate to Move 3 (*Presenting the present work*), referring in particular to obligatory Step 1 (*Announcing present research descriptively or purposively*) and Step 7 (*Outlining the structure of the paper*). For an extended analysis of metadiscursive units connected to move/step analysis, see Pérez-Llantada (this volume). An example of both is provided below, where signals of the two steps are underlined:

(1) 1. Introduction. Given the governance issues arising from the separation of ownership and control, it is not surprising that the form of the relation between the performance of firms and managerial ownership has been the subject of empirical investigation (for example, see Morck et al., 1988; McConnell and Servaes, 1990 and McConnell and Servaes, 1995; Kole, 1995). To date the analysis has been primarily US based and the purpose of this paper is to extend the analysis in a number of important ways. First, the analysis of the relationship between the performance of firms and managerial ownership is extended to the UK where there are important differences, as compared to the US, in the governance system. In addition, the distribution of managerial ownership in the UK is different to that of the US and it has certain properties which are a positive benefit given the nature of the present analysis. Second, the analysis is conducted with a more generalized form of the relationship between management ownership and firm performance and with different measures of the performance of firms. The paper is structured as follows. Section 2 outlines briefly the extant literature concerning the relation between the performance of firms and managerial ownership. As a means to guiding the methodology of the present paper, Section 3 discusses how institutional differences between the US and UK might lead to differences in governance mechanisms. Section 4 details hypotheses and empirical methods. Section 5 describes the sample and data, while the empirical findings are presented in Section 6. Section 7 presents conclusions and summarizes the findings of the paper. (I-23, *Journal of Corporate Finance*)

Similarly in economics textbooks one can identify functions like Mapping the *discipline* (i.e. providing a definition of the discipline and its object in relation to neighbouring disciplines) and Mapping the *text* (i.e. providing an outline of the text) (Bondi 1999:63-64). It is this second function that is particularly relevant here, as represented by attempts to establish conventional chapter structures and announce content and procedures. Introductory chapters usually set out the basic definitions—in particular a definition of economics as such—and anticipate the structure of the book. Notice for instance how Example 2 closes the introductory chapter by summarizing what has been established and announcing the objective of the second chapter, as well as the basic distinction of the textbook into micro- and macro-economic issues:

(2) In this chapter, we have attempted to explain the nature of economics, to outline some of the major concepts which modern economists employ and to discuss the methodology of economics as a 'science'. It should be clear by now that the basic function in an economy is the production of goods and services. Without production, no economy as such could exist. For this reason, before delving into the main areas of micro- and macroeconomics, it is useful to set out the major concepts of production. This is our objective in Chapter 2. (Hardwick Ch.1)

3. *Materials and methods*

The study is based on two small corpora that have been designed to be representative of different part-genres—article introductions and introductory textbook chapters.

The CAI corpus (Corpus of Article Introductions) consists of 35,994 words. It is composed of 40 introductions of a random selection of research articles taken from a larger corpus of articles collected over two years (1999-2000) from eight refereed journals representative of a wide range of economic subdisciplines and approaches.¹ The small corpus of

¹ The corpus comprises articles from the following journals: *European Economic Review* (EER), *European Journal of Political Economy* (EJOPE), *International Journal of Industrial Organization* (IJOIO), *International Review of Economics and Finance* (IREF), *Journal of Corporate Finance* (JOCF),

introductions can be measured against the corpus of the 40 full articles. From the point of view of article types, or subgenres of the research article, these can be described as: two historical essays, two argumentative essays, two surveys, 34 model-based formal analyses, i.e. papers where a model is presented and tested with empirical data or simulations.

The CTI corpus (Corpus of Textbook Introductions) comprises 10 introductory chapters of economics textbooks, amounting to 70,776 words. The textbooks were chosen on the basis of a variety of criteria: they were all major works whose authority is established by their longevity (there have been regular revisions and numerous editions) and by their being included as set reading texts or reference texts in reading lists for British and American university students (and A-Level students). A reference corpus of 40 chapters from the same textbooks is also available.²

The analysis—supported by *WordSmith Tools* 5.0 (Scott 2007)—starts by exploring the frequency and use of metadiscursive elements and moves on to concordance analysis of highlighted elements, in order to identify similarities and differences between the genres through collocational and phrasal patterns. Repeated strings of words point to some of the most interesting metadiscursive nodes of the part-genre “Introduction”. An analysis of the semantic relations between elements is

Journal of Development Economic (JODE), Journal of Socio-Economics (JOSE), North American Journal of Economics and Finance (NAJEF).

² The included textbooks are: W.J. Baumol & A.S. Blinder, *Economics. Principles and Policy*, 4th Edition, Orlando, Harcourt Brace Jovanovich, 1988; D. Begg, S. Fischer & R. Dornbusch, *Economics. British Edition*, Maidenhead, McGraw-Hill, 1983; J. Craven, *Introduction to Economics*, Blackwell, Oxford, 1984; E.G. Dolan & D.E. Lindsey, *Economics*, 5th Edition, NY, Holt, Reinhart and Winston, 1988; S. Fischer & R. Dornbusch, *Economics*, NY, McGraw-Hill, 1983; P. Hardwick, B. Kahn & J. Langmead, *An Introduction to Modern Economics*, 3rd Edition, 1990; R. Lipsey, *An Introduction to Positive Economics*, 7th Edition, London, Weidenfeld and Nicholson, 1963, 1989; P.A. Samuelson & W.D. Nordhaus, *Economics*, 14th Edition, NY, McGraw-Hill, 1992; G.F. Stanlake, *Introductory Economics*, 5th Edition, London, Longman, 1967, 1989; P. Wonnacot & R. Wonnacot, *Economics*, 2nd Edition, NY, McGraw-Hill, 1982.

then necessary to identify repeated semantic sequences. Different combinations of lexical units can be analysed in terms of repeated semantic units. Expressions such as *the paper discusses the model; the chapter examines the issue; the effects are discussed in the next chapter; the results are reported in section 3*, etc. can all be related to three main categories:

- a) Discourse units/participants (*section, paper, chapter; I, we, you* etc.)
- b) Research/discourse procedures (*discuss, report, examine* etc.)
- c) Cognitive constructs (*model, results, effects, issue* etc.)

4. Article introductions: Generic structure and framework sequences

The advantage of working with a small corpus of articles is that their rhetorical structure can be studied more closely, so as to illuminate the analysis of lexis with a consideration of the pragmatic context. A close reading of the corpus of introductions confirms that all introductions (40 out of 40) announce the present research, whereas a smaller number—25 (62.5%)—have an outline.

Outlines are highly standardized. They are mostly positioned after the presentation, as the final move of the introduction itself (only two examples were interspersed with the presentation). They are also highly formulaic in form. An analysis of key-clusters—strings of words repeated with higher frequency than in the reference corpus of the full articles—highlights metadiscursive nodes of this kind: clusters such as *is organized as follows* and *the rest of the paper* only occur nine and three times respectively, but only in introduction outlines.

The key clusters thus clearly point to the metadiscursive node “Presenting the paper outline”, but do not account for the full range of realizations. The outline itself is mostly introduced by a purely prospective unit with a recognizable semantic structure: reference to the text is typically associated to a verb that signals textual structure and is followed by a cataphoric element, as shown in Table 1.

Table 1. Outline introductory formulae

DISCOURSE UNIT	V-STRUCTURE	CATAPHORA
<i>This paper/ the paper/ the rest of the paper/ the remainder of the paper</i>	<i>is organized/ is structured/ proceeds</i>	<i>as follows/ in the following way</i>
<i>the structure of the paper</i>	<i>is</i>	

The rest of the outline is also constructed by clearly organized frameworks, which can be better described as combinations of a few basic patterns. On the one hand, we have the conventional form of *that*-reporting (*the model suggests that; we show that; it is argued that*, etc.). On the other hand, we have variations on this basic pattern, typically involving cognitive or research constructs in a “narrative” report of speech acts; what is introduced is not so much a proposition but rather a research or cognitive tool: *a model is presented; a possibility is examined; a case is considered*, etc. These are mostly explicitly related to a source, either personal (*We present the model*) or impersonal (*The model is presented in section 2; Section 2 presents the model*).

A “framework semantic sequence” is thus a combination of elements referring to a textual source—either personal or “locational” in Dahl’s terms (2004)—with verbal reference to the rhetorical structure of the text and nominal reference to a cognitive construct (*model, aspect, implication*, etc.) identifying the nature of the speculation reported. References to discourse units or participants, cognitive constructs and research or discourse procedures can vary noticeably from a lexical point of view, but they share the basic semantic value. The types of units and some typical lexical realizations of each category are illustrated in Table 2:

Table 2. Framework sequences: Semantic units

DISCOURSE UNIT/PARTICIPANT	RESEARCH/DISCOURSE PROCEDURE	COGNITIVE CONSTRUCT
<i>section, paper, chapter/ we, I</i>	<i>discuss, report, examine... discussion, examination...</i>	<i>model, results, effects, issue...</i>

The basic units can combine in different syntactic patterns and give rise to different types of framework sequences. Example 3 below shows the three basic patterns: the opening sentence combines locative reference to the discourse unit with attribution of the discourse procedure to the discourse participant (*in the next section we discuss the model*), whereas the second sentence attributes the discourse process directly to the discourse unit (*section 3 reports the results*) and the third adopts a passive construction with a locative reference to the discourse unit.

(3) In the next section we discuss the model in detail. Section 3 reports the results of measures imposed and changes in market structure for various degrees of cost asymmetry. The robustness of these results are checked in Section 4 where we consider extensions of the model. The welfare effects are discussed in Section 5, where the possibilities for rent shifting are examined. In line with the political economy of protection hypotheses, the issue of rent-seeking is touched upon in Section 6. The last section summarizes the main results and hints at some policy conclusions. (I-14, *European Economic Review*)

Reference to locational units can also be “non-integral” (with locative reference to the unit in brackets). This is very limited in the corpus of article introductions: there is, in fact, only one example:

(4) The paper consists of three sections. In the second section we use a simple model to derive the optimal feedback rule of a central bank which cares about output and inflation (Section 2.1). (I-16, *European Economic Review*)

Table 3 below illustrates the patterns, with examples and quantitative data from the CAI.

Table 3. Framework sequences: Units and patterns in article introductions

TYPE OF SEQUENCE	PATTERN	EXAMPLES	F
Personal	(In DISCOURSE UNIT) +(I)/ WE [PARTICIPANT]+ RESEARCH/ DISCOURSE PROCEDURE + COGNITIVE CONSTRUCT(In DISCOURSE UNIT)	- <i>In the next section we discuss the model</i> - <i>In Section 3 we turn to our empirical work</i>	21
Locational passive	(In DISCOURSE UNIT) + a /the COGNITIVE CONSTRUCT + is/are+ R./D. PROCEDURE (V-PP) (In DISCOURSE UNIT)	- <i>The welfare effects are discussed in Section 5- The empirical findings are presented in section 6</i>	20
Locational active	DISCOURSE UNIT + RESEARCH/DISCOURSE PROCEDURE + COGNITIVE CONSTRUCT	- <i>Section 3 reports the results</i> - <i>Section 7 presents conclusions and summarizes the findings</i>	87

The different patterns are realized by different combinations of (research/discourse) verbs and (cognitive construct) nouns. The range of lexicalizations is wide and the combinations are highly variable. The range and the potential combinations would increase even further if we looked at the same kind of patterns in a wider spectrum of rhetorical functions: the same basic combination can in fact be used to introduce basic assumptions (*a simple framework is adopted*) and definitions (*the rate is determined*) or in stating the purpose of the whole paper (*the analysis is extended*).

5. Textbook introductions

The analysis of textbook introductory chapters reveals functions and structures similar to those found in article introductions. Framework sequences can be seen at play both in the introduction to the chapter itself and in internal references to other chapters or to the structure of the whole book. Examples of both types of metatextual reference are provided in 5 (introduction to the chapter) and 6 (introduction to the book as an expansion of preliminary definitions):

(5) The first part of the chapter is intended to give you some idea of the types of problems that can be approached through economic analysis and the kinds of solutions that economic principles suggest. [...] The second part briefly introduces the methods of economic inquiry and the tools that economists use. (Baumol)

(6) As we will learn in Chapter 6, the failure to understand this principle has caused troubles for our tax laws, for the financial system, and for the housing and public utility industries. And in Chapter 16 we will see that it has even led to misunderstanding of the size and nature of the government budget deficit. (Baumol)

What is most noticeable is that—although introductory chapters are highly standardized in their need to provide the basic definitions and assumptions of economics—there is greater variation in the ways in which they frame their own discourse. The length of the unit may in part explain the fact that not only are the framework outlines diversified in reference (*book, section, part, chapter*), but also they are usually distributed throughout the chapter. The expositive nature of the genre may also explain the fact that references are more often given in terms of topic than purpose. Syntactically non-integral references are numerous (23), but they are limited to two textbooks only. They all map out cross-references in terms of content, pointing the reader to chapters where the same topic is dealt with.

When looking at framework sequences, both qualitative and quantitative differences can be noticed. As can be expected, the range of discourse units looks more varied (*chapter, book, text, textbook, section, part*). References to the whole (text)book and to individual chapters are almost equally frequent when there is no other personal source for the discourse/research process: 23 vs. 18 occurrences. But there is a great number of occurrences where reference to discourse participants is combined with reference to discourse units.

Personal sequences (*in the remainder of this chapter we will discuss some of the chief causes; in chapter 2 we look at the behaviour*) are not restricted to the use of *I* and *we* found in article introductions. Notice in particular the use of *you*, which is quite frequent:

(7) In the pages that follow, you will find a wide variety of analytical tools: supply and demand, cost schedules, and the like (Samuelson)

The use of second person pronouns is mostly limited to subordinate clauses of the kind exemplified above, or to a few more explicit sequences in which the reader is predicted to learn principles, find analytical tools or understand the role of factors or notions. If absolute use of *you* is frequent in introductory chapters (175), the vast majority of occurrences are involved in hypothetical examples (*Suppose you buy a*

hamburger) and only seven are part of full framework sequences. Framework sequences are more often attributed to the textbook writers themselves. The total occurrences of *we* are very high (454), but once again they are often used as general reference pronouns. Frameworks using prototypical forms of reporting are also common: *in Chapter 8 we show that*.

Framework sequences of the kind studied here are occasionally used to introduce single moves in the argument (*if we want to measure the impact of car prices on the number of cars purchased, we must examine the effect of changing car prices*), but more often to refer to higher discourse units which are pointed to forward or backwards (*we shall study changes of this kind more fully later; in this chapter we have attempted to explain the nature of economics*). Examples of the different types of sequences with their frequency in the corpus of textbook introductions are offered in Table 4.

Table 4. Framework sequences: Units and patterns in introductory textbook chapters

TYPE OF SEQUENCE	PATTERN	EXAMPLES	F
Personal	(<i>In</i> DISCOURSE UNIT) + (<i>WE/YOU</i> [PARTICIPANT]+ RESEARCH/DISCOURSE PROCEDURE + COGNITIVE CONSTRUCT (<i>In</i> DISCOURSE UNIT))	- <i>In this section we discuss three specific economic issues</i> - <i>In the remainder of the chapter we explain economic concepts</i>	88
Locational passive	(<i>In</i> DISCOURSE UNIT) + <i>a/the</i> COGNITIVE CONSTRUCT + <i>is/are</i> + R./D. PROCEDURE (V-PP) (<i>In</i> DISCOURSE UNIT)	- <i>the analysis of production is dealt with in greater detail in chapter 2</i> - <i>lessons are found on virtually every page of this textbook</i>	23
Locational active	DISCOURSE UNIT + RESEARCH/DISCOURSE PROCEDURE + COGNITIVE CONSTRUCT	- <i>Chapter 3 will provide an economic analysis</i> - <i>The first part of the chapter is intended to give you some idea</i>	15

6. Patterns and lexical combinations: Comparing sub-genres

On the whole, considering that the corpus of textbook introductions is double the size of article introductions, the frequency of framework sequences is more than double in article introductions: 128 in about 35,000 words (36.6 pttw) as against 126 in about 70,000 words (18 pttw). The type of pattern is also clearly marked for generic preference. Figure 1 below illustrates the difference between the three patterns (in non-

normalised numbers), showing that textbook introductory chapters definitely favour personal forms whereas articles introductions favour impersonal active forms.

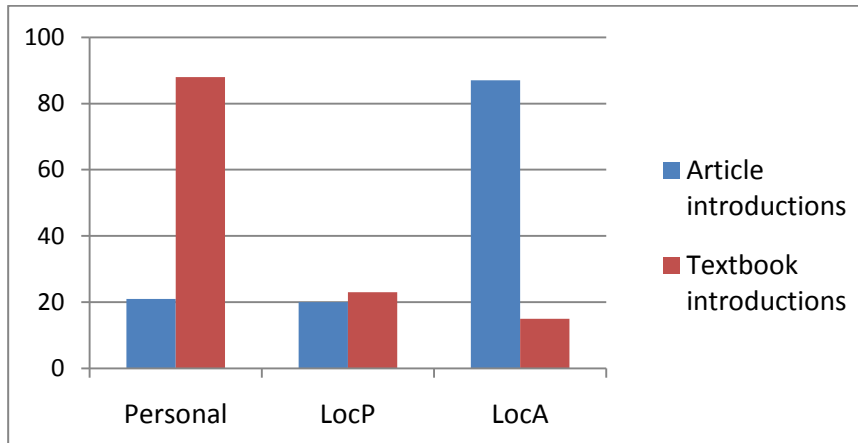


Figure 1. Types of framework sequences (Personal, Locational Passive, Locational Active)

The key patterns are identified by lexico-grammatical features (type of source and transitivity direction), but they are characterized by lexical choice and lexical combinations. Tables A, B and C in the Appendix report the full set of lexical items considered for each of the patterns isolated. The data show a high degree of dispersion in lexical distribution: if we consider the verbs, for example, the only element common to all the patterns in both corpora is *discuss*. The nominal elements that combine with the verb are also widely dispersed, and the only element common to both corpora and more than one pattern is *issues*.

Personal patterns show the widest range of verbs and nouns, including general cognitive constructs (*idea, concept*), meta-argumentative lexis (*reasoning, assumptions*), research-based constructs (*theories, methodology*), as well as basic causal relations (*effect, impact*) and specific economic notions (*frontier, inflation*). In article introductions, they are very limited and predominantly used to point to the model adopted or the results presented.

Locational passive patterns are the most restricted in range in both corpora. They are quantitatively balanced across the two genres,

although the only common elements are *discuss* and *model*. The data, of course, may simply be too limited to highlight other potential common elements. It shows, however, other general trends, such as the frequent association of the pattern with specific terminology and complex noun groups, especially in article introductions.

Locational active patterns are very limited in textbooks and mostly restricted to presenting topics. The verbs involved typically represent textual processes or general verbal processes. The nouns privilege meta-argumentative and research-based constructs, such as *implications*, *assumptions*, *models*, *literature*. The pattern also reveals a core of verbs and nouns that become prominent in frequency, for example verbs such as *conclude* (10 occurrences), *describe* (11), *introduce* (7), *present* (7), *provide* (8), *summarize* (6) and nouns such as *implications* (5), *model* (11) and *results* (8). These may identify core elements of the pattern, but they are more likely to point to core elements of the genre, given the quantitative prominence of article introductions in the pattern.

Moving on to a focus on the two part-genres, it is important to note that the lexical range of the verbs used in article introductions is wide: 44 verbal lemmas were found to be used in framework sequences, variously combined with 57 types of nominals.

The verbs cover the whole cline of research and discourse processes. They tend to vary widely in research processes (*analyze*, *apply*, *assess*, *check*, *compare*, *derive*, *estimate*, *formalize*, *measure*, *test*, etc.), while they are rather poor in references to pure discourse processes (e.g. *conclude*, *outline*, *summarize*). Some of these are relatively frequent (12 occurrences of the lemma *conclude* and 6 of *summarize*) but the range of verbs characterizing predominantly verbal processes is limited, when compared to the wealth of verbs describing predominantly research processes.

The most distinguishing feature of article introductions, however, is the wide range of nominals used, many of which can be related to the argumentative nature of articles, variously referring to argumentative premises or warrants (*literature*, *assumptions*, *theoretical basis*, *approaches*), argumentative procedures or techniques (*implications*, *extension*, *consequences*, *impact*, *observation*, *findings*). In terms of frequency, two lexical elements stand out as being particularly frequent: *model* (21 occurrences) and *results* (16), highlighting the methodological

reliance of mainstream economics on model-based reasoning and data analysis.

The lexical range of the verbs used in textbooks is even wider than in the articles: 54 lemmas were found to be variously combined with 69 types of nominals.

The verbs cover the whole cline of research and discourse processes, although they tend to include numerous examples of verbs referring to general discourse processes, mostly used to introduce the topic rather than purpose of the text: *build up, come back to, contain, deal with, develop, devote, encounter, focus on, get into, go into, highlight, include, introduce, list, look at, outline, plot, return to, set out, touch upon, turn to*. Most of the verbs are only used once or twice, but some prove to be rather frequent: *discuss* is the most frequent (with 15 occurrences), followed by *find* (9), *examine* (7), *look at* (7), *study* (5) and *explain* (5). The argumentative dimension of the text is largely downtoned: what can be “found” in textbooks, for example, are mostly *examples, concept, tools, summaries*, etc.

The range of nominals used in textbooks is wide and the distribution is more even. Nothing emerges as really outstanding in frequency. The most frequent elements are *concept/s* (7 occurrences), *issue/s* (6), *question/s* (6), *examples* (5), *assumptions, idea/s, principle/s* and *problem/s* (with 4 occurrences). These are surely related to the expositive nature of textbooks, but they also remind us of the important function that most of these introductory chapters have, i.e. introducing the novice reader to the main elements of the discipline.

On the whole, lexical variability in framework sequences does not reveal a significant difference in quantitative terms: when related to the number of types in the two corpora, the types involved in framework sequences represent more or less the same proportion, around 2% of the types. And yet this relative similarity becomes remarkable when set against the background of the general trends. The global type/token ratio varies greatly across the two corpora: 7.01 for the CAI corpus and 11.85 for the CTI. This shows that there is in general much greater lexical range in article introductions, whereas textbook introductions tend to rely highly on a common lexical core. When it comes to framework sequences, however, the difference in lexical range is mostly qualitative: article introductions focus more precisely on research verbs, while relying heavily on a very limited set of cognitive construct nouns;

introductory chapters, on the other hand, rely heavily on verbs referring to general discourse processes, while making more balanced use of nominal elements. This is in line with the impression that textbooks aim at introducing students to general argumentative procedures of the discipline rather than to a wealth of specific terminology.

7. Conclusions

The study has shown that phraseological analysis in terms of semantic sequences can help illuminate features of metadiscourse. Focusing on a single discipline—economics—we have studied references to purpose, topic and structure in article introductions and textbook introductions. We have looked at the types of framework sequences in which they have been realized in our small corpora. Framework sequences report discourse through a combination of a verbal element (referring to discourse or research procedures) and a nominal element pointing to a cognitive construct. Attribution to a source can be either personal (with reference to discourse participants: *I, we, you*) or locational (with reference to a discourse unit: *next, in section 2*).

The study of framework sequences has illuminated typical trends of the two genres examined. Discourse units, for example, were shown to be dominant as subjects of the framework sequence in article introductions, whereas textbook introduction outlines favoured different types of sequences, mostly involving discourse participants in an active role.

Similarities and differences between the genres were also seen through collocational and phrasal patterns. Textbooks do not only favour personal forms (*we discuss*), they also tend to adopt combinations highlighting topic-setting (*look at notions*) and the explanatory function of the genre (*provide examples; explain concepts*). Articles, on the other hand, favour non-personal forms (*Section 1 discusses*), together with combinations highlighting purpose (*present model*) and research structure (*test hypotheses; review literature; provide results*).

The combinations favoured clearly point at the textual structures of each genre as well as at the dominant epistemology of the discipline. Metadiscursive practices can be shown to reflect both the ethos of the *discipline*—e.g. the central role of model testing in economics—and the status of the *genre* within the discipline—research-based genres vs.

expositive educational material. The representation of academic discourse in textbooks (see also Bondi 2005) has been shown to down-tone the argumentative dimension of disciplinary knowledge, while explicitly or implicitly introducing the reader-student to the conventions of the discourse community. Article introductions have been shown to refer to the article itself and its textual structure as objects to be represented and interpreted in terms of argumentative and scientific coherence and value. In both cases, these reflect the purposes of the genres and the values of the community.

From a methodological point of view, this brings us back to the distinction drawn at the beginning between language, text and discourse perspectives. Discourse has been our starting point: looking for the moves that instantiate the metadiscursive practices of the discourse community, we have been able to identify recurrent sequences of semantic categories, together with the lexical elements that characterize them. Some of these have an inherent reflexive component, while others only become “metadiscursive” in the text. The elements thus identified can be studied more closely in terms of their lexico-semantic features and the textual (lexico-grammatical) patterns they become part of. The data can in turn be interpreted in terms of the values and beliefs of the discourse community.

A few tentative conclusions can also be drawn as to the role of phraseological units in the study of metadiscourse. The study of metadiscourse draws attention to the phraseological dimension of language and points at the need to integrate form and meaning, semantic and pragmatic associations in phraseology, beyond repeated strings of words. Looking both at word combinations (at the level of lexico-grammar) and semantic sequences (at the level of lexico-semantics) produces a much more varied picture of the language of textual units, as well as of their discourse function. The most typical metadiscursive “nodes” of various genres, in particular, can be used to illustrate assumptions of the discourse community: the role attributed to genres and the representation of academic discourse they offer.

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Appendix

Table A. Lexical combinations in personal patterns

VERB	CTI	CAI
APPROACH	problems	-
BUILD UP	examination	-
COME BACK TO	reasoning, question	-
CONCLUDE		Ø (2)
CONSIDER	variables, problem	-
DEAL WITH	analysis, welfare economics	-
DERIVE	principles	-
DESCRIBE	-	results (2)
DEVELOP	frontier (2), concept	specification, relation
DEVISE	list	-
DISCUSS	studies, issues (2), causes, areas, implications, problems, circumstances, tools	problems, model, results
ENCOUNTER	assumptions	-
EXAMINE	effect, behaviour, role (3)	-
EXPLAIN	nature, concept, construction, principle	-
EXTEND	-	Results
FIND	applications, tools, summary, examples, pits	-
FOCUS ON	prices, theories	-
FOLLOW	tradition	-
FORMALIZE	-	Link
GAIN	insight	-
GET INTO	policy issues	-
GO INTO	question, details	-
HAVE	idea	-
ILLUSTRATE	distinction, combinations	-
INTRODUCE	concepts, tool	-
INVESTIGATE	inflation	-
ISOLATE	impact, effects	-
LOOK AT	market, economy, numbers, table, distribution, issue, behaviour	-
MAKE	assumptions	-
MEASURE	impact	-
MEET	issues	-
NOTE	arguments	-
OUTLINE	methodology, reasoning	-

PLOT	combinations	-
PROVIDE	-	Extension
RAISE	questions	-
REFINE	notion	-
RELATE	-	results, model
REPRESENT	relationships	-
RESTRICT TO	relationships	-
RETURN TO	concept, question	-
RETAIN	assumptions	-
SET OUT	-	Model
SHOW	frontier (2), returns	-
SOLVE	-	Game
STUDY	changes, illustrations, behaviour, principles	-
TOUCH UPON	considerations	
TURN TO	task, consideration	Work
UNDERSTAND	damage	-
USE	concept, definition, graph (2)	model (2)

Table B. Lexical combinations in locational active patterns

VERB	CAI	CTI
ANALYZE	impact, distribution	-
BUILD ON	source	-
CONCLUDE	Ø (6), paper (3), discussion	-
CONTAIN	conclusions, direction, implications	-
DEAL WITH	impact, model, extensions	-
DERIVE	distribution, equilibrium	-
DESCRIBE	model (3), procedure (3), theory, results (2), sample, data	-
DEVELOP	concept (2), model (2)	-
DETAIL	hypotheses, empirical methods	-
DISCUSS	issues, dilemma, implications	issues, role
EXAMINE	competition, theoretical basis	implications, relationship
EXTEND	analysis (2)	-
EXPLORE	implications	-
FORMALIZE	role	-
GIVE	-	overview, idea
HIGHLIGHT	-	trade off
HINT AT	conclusions	-
INTRODUCE	policies, model (3), types, analytics	Economics

LOOK AT	impact	-
MAKE	remarks	Assumptions
MEASURE	costs	-
OFFER	comments	-
OUTLINE	literature	-
OVERVIEW	literature	-
PRESENT	results (2), conclusions, consequences, model, solution, approaches	-
PROVIDE	summary (2), concluding remarks, conclusions	examples (2), analysis
RAISE	-	Issues
REPORT	results (3)	-
REVIEW	literature	Pitfalls
SET OUT	techniques, methodology	-
SET UP	model	-
STRESS	disequilibrium	-
STUDY	-	workings
SUMMARIZE	∅, implications, observations, results, paper, findings	-
TURN TO	issue	-

Table C. Lexical combinations in locational passive patterns

VERB	CAI	CTI
ADOPT	-	principles
ANALYZE	differences	-
APPLY	model	-
ASSESS	exposure	-
CHARACTERIZE	equilibrium	-
CHECK	robustness	-
COMPARE	parameter	-
CONSIDER	aspects	-
CONTAIN	-	Ideas
DEAL WITH	-	Analysis
DERIVE	model	-
DESCRIBE	model	Conditions
DEVOTE	-	Study
DISCUSS	results, industry, effects	questions, curve, idea, topics
ESTIMATE	parameter	-
EXPLAIN	-	Concept
FIND	-	examples (2), answers, concepts
GIVE	-	Definitions

HIGHLIGHT	-	trade off
INCLUDE	-	Detail
LIST	-	paradox
OUTLINE	objection	-
PRESENT	results, findings, model, results	-
POSE	-	questions
SET FORTH	hypotheses	-
SET OUT	-	problems
STRESS	-	questions
TEST	hypotheses, theory	-
TOUCH UPON	issue	-
USE	-	diagrams, models (2)