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Analysis

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4 Analysis

This chapter presents the results of my FSP analysis of the selected texts. The first five sections of this chapter describe some aspects of functional sentence perspective related to patterns and development of paragraphs and communicative fields, dynamic semantic scales, and scene dynamics. Section 4.6 deals with the basic types of thematic progressions identified in the texts.

4.1 Information Contour

As outlined in the preceding chapters, the FSP analysis was carried out in respect to the *mezzostructural* level of text organisation, in other words, to the level of the clause. Although the analysis at the level of paragraph (a macrostructural level) has not been set as one of the objectives of this study, I shall use the level of the paragraph as the starting point of my discussion. The reason is threefold.

First, the paragraph is in literature recognized as not only “a graphic and a content phenomenon” (Daneš 1994: 16), but also as “a communicative distributional macrofield, which follows the same structural principles as their lower communicative counterparts (a clause, a noun phrase)” (Adam 2009: 117).

Second, the two examined texts are divided into almost the same number of paragraphs. This makes the paragraph a particularly convenient type of a common denominator, allowing us to concentrate more on its internal structure which, under the circumstances, should have more direct effect on the information build-up of the whole text.

Third, my previous investigation into the matter (Drápela 2000) yielded interesting results regarding the information structure of articles representing the news register. The results suggested that if looked upon as information structures composed of clausal communicative fields, paragraphs or, more precisely, their succession in a text may reveal a certain type of information contour characteristic of the given text. In the 2000 study, the analysis of succession of paragraphs in three news articles pointed to a relatively uniform information contour in all of them.

Therefore, a question arises as to what types of information contour can be revealed in texts representing different registers. In order to find out, I

shall consider, in accordance with what has been said above, a paragraph as a communicative field formed by clausal communicative fields functioning as its communicative units. Seen from this point of view, paragraphs may display different degrees of information density. In a succession of paragraphs, the information density will translate into a distinct information footprint or contour of the text.

The data collected from my analysis point to two different characteristics. The first is a purely quantitative one and can be formulated as follows: the average number of communicative units constituting the communicative field of a paragraph in the academic article is notably higher (8.91 clausal communicative fields per paragraph) than in the news article (4.17 fields per paragraph). The second characteristic is indicated by graphical means in the following two charts. The charts visualize the occurrence of clausal communicative fields in the succession of paragraphs, in other words, the information density of the paragraphs:¹

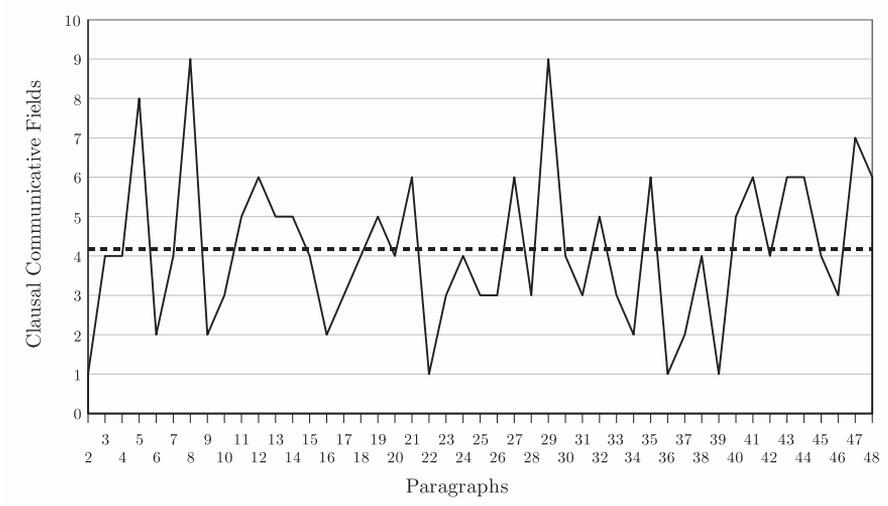


Figure 4.1: Information contour of text (news article)

¹The bold dashed line in the charts represents the mean value.

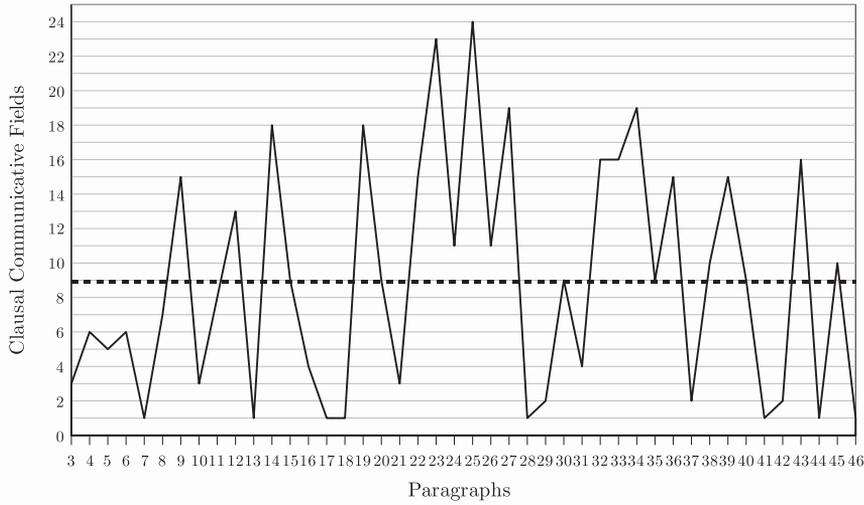


Figure 4.2: Information contour of text (academic article)

As can be observed from the charts, the information contour of the news article appears to be less dynamic than the contour of the academic article. In the first chart, the information density of only three paragraphs (5, 8, and 29) substantially exceeds the average value. The situation is quite different in the chart representing the academic article. The number of spikes exceeding the average value is higher (paragraphs 14, 19, 23, 25, 27, and 34), and, what is more interesting, a certain degree of paragraph clustering can be observed. At least four paragraph clusters can be recognized. Within the first paragraph cluster (paragraphs 3 to 6), the average number of clausal communicative fields per paragraph equals 5, which is well below the average 8.91 representing the whole article. On the other hand, the third cluster, formed by paragraphs 19 to 27, significantly exceeds the average: 14.78 clausal communicative fields per paragraph. The average information density of the two remaining clusters, formed by paragraphs 8 to 16 and 29 to 46, equals 8.67 and 8.72 clausal fields per paragraph, respectively, and comes very close to the average number representing the whole text (8.91 clausal fields).

The clustering in the academic article is even more pronounced in the following B-spline² version of the chart. For comparison, a B-spline version of the chart representing the information contour of the news article is appended as well.

²In B-spline version, the curve passes by the intermediate points that are obtained from connections between the first and the last point.

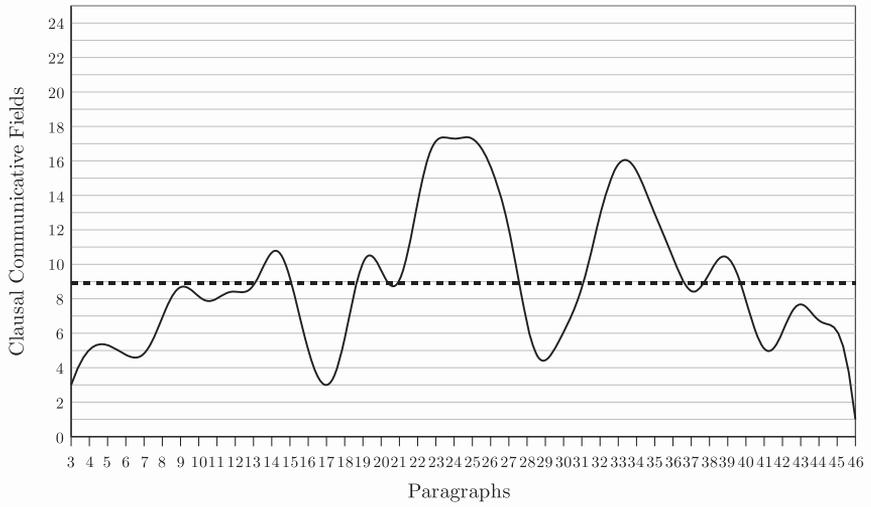


Figure 4.3: Information contour of text (academic article, B-spline version)

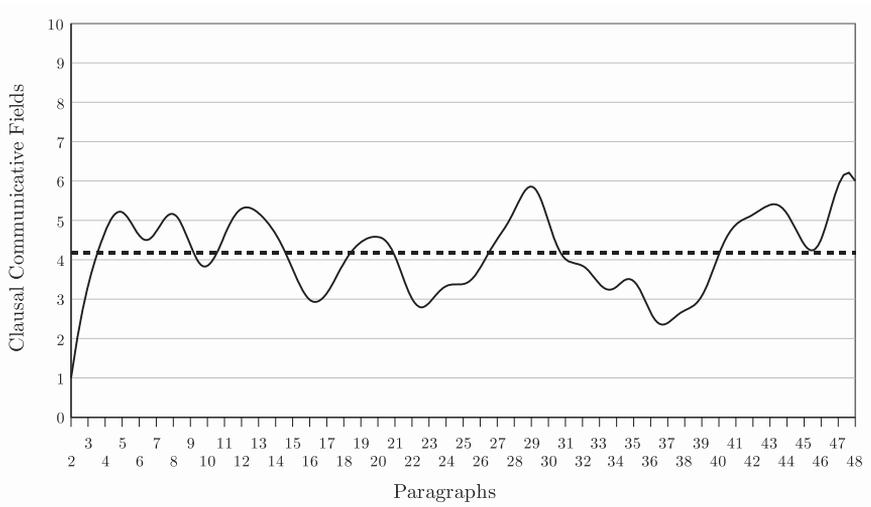


Figure 4.4: Information contour of text (news article, B-spline version)

Is there an explanation for the paragraph clustering in the academic article? Can this type of clustering be reflected also in the internal structure of the clausal communicative fields that constitute the paragraph clusters?

The answer to the latter question will be given in section 4.5 below. The answer to the first question has to be sought in the overall organisation of the text, i.e. the segmentation of the text into units that are hierarchically above the paragraph level. While no such segmentation exists in the news article, it is present in the academic article. The academic article is further divided into four sections that more or less correspond with the paragraph clusters depicted in the charts. The sections of the academic article are as follows:

- an introduction (paragraphs 3 to 6),
- *What do Economists do?* (paragraphs 7 to 17),
- *Why Outsiders Dislike Economic ‘Formalism’* (paragraphs 18 to 27), and
- *Was Marshall right?* (paragraphs 28 to 46).

It seems to be evident that there exists a certain kind of information relationship between the macrostructural organisation of the academic text into sections and the information density of paragraphs forming these sections.³ Compared with my previous study (Drápela 2000: 54), the information contour of the news article analysed in the present study does not seem to confirm a tendency to place the information peak of the news story into the fifth or the sixth paragraph.

To conclude this section, the results of the analysis of the examined texts suggest that a paragraph in the academic register contains a noticeably higher number of clausal communicative fields than a paragraph in the news register, which inevitably increases the information density of the academic texts. Speaking of information contour, if based on the information density of paragraphs, it may be a useful concept for making comparisons of information build-up of texts pertaining to different types of registers, and for identification of the registers in various types of texts. However, further research will be necessary to confirm this hypothesis, as well as the presented findings that seem to support it.⁴ So far, the conclusions offered here relate, of course, only to the texts that I investigate in the present study. What may be considered a general rule, however, is that the segmentation of texts into paragraphs viewed as communicative fields has some influence on the overall information build-up of the texts by giving them a distinct information contour.

³In a way, the information contour of the academic article could be likened to the structure of the tone unit, i.e. consisting of the information pre-head (formed by the first cluster), information head (formed by the second cluster), the nucleus (formed by the third cluster), and finally the tail (formed by the fourth cluster). The information contour of the news article does not appear to follow this pattern, though, and further investigation will be necessary to ascertain the feasibility of making such a comparison.

⁴The issues of text macrostructures and FSP have been recently studied in detail by Adam (2009) and Pípalová (2005).

4.2 Representative Communicative Field

An obvious question regarding a comparison of articles of two different registers is what types of clausal communicative fields are associated with the articles in general. It emerges from the statistical evaluation of my analysis that the representative communicative field pattern common to both articles under examination is a pattern consisting of the following four communicative units:

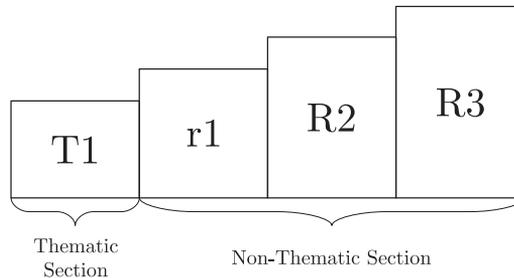


Figure 4.5: The pattern of a typical communicative field in both articles

The pattern can be found, for example, as clause 00412

```
{some}T1
{say}r1R2
{any deception on the part of the banks did
little more than help the auditors appear to be
rigorous even if they were looking the other way}R3
```

(00412)

in the following sentence of the news article:

```
At the same time the investigation stops short of clearing
Andersen of wrongdoing at Enron, and some say any deception
on the part of the banks did little more than help
the auditors appear to be rigorous even if they were looking
the other way.
```

In the academic article, the pattern can be identified, for example, as clause 11121

```
{The American Economic Association's John Bates Clark Medal}T1
{is}r1R2
{a highly coveted award}R3
(11121)
```

in the following stretch of text:

```
The American Economic Association's John Bates Clark Medal
is a highly coveted award; it is therefore an indicator of
what the profession values.
```

The *T1r1R2R3* pattern shows a gradual increase of communicative dynamism. It should be noted, however, that in the two clauses just presented, it is virtually impossible to determine the mutual ordering of the *r1* and *R2* communicative units since these two units are bound to a single form, the verb *say* in clause 00412 and the verb *is* in clause 11121.⁵

The most characteristic communicative field (pattern) of the corpus was determined in two ways:

1. on the basis of frequency of occurrence of communicative units
2. on the basis of frequency of occurrence of communicative fields

While the first approach can point to the representative communicative field only indirectly, it may, nevertheless, point to some differences in the information composition of the two articles. What is more, it will be shown that even at a relatively low percentage occurrence, this approach seems to corroborate the results obtained from the second approach, i.e. the assessment of the frequency of occurrence of communicative fields.

4.2.1 Occurrence of Communicative Units

The occurrence rates for each type of communicative unit identified in the news article and the academic article are summarised in the following table:

⁵For more explanation of this, see Firbas (1992: 18).

Table 4.1: The occurrence of communicative units in the examined texts

Communicative Function	News Article	Academic Article
t1	70 (7.93%)	186 (9.98%)
t2	8 (0.91%)	17 (0.91%)
T1	123 (13.93%)	199 (10.68%)
T2	66 (7.47%)	132 (7.09%)
T3	14 (1.59%)	28 (1.50%)
T4	1 (0.11%)	1 (0.05%)
r1	202 (22.88%)	451 (24.21%)
R2	194 (21.97%)	397 (21.31%)
R3	170 (19.25%)	336 (18.04%)
R4	31 (3.51%)	96 (5.15%)
R5	4 (0.45)	17 (0.91%)
R6	-	3 (0.16%)
Total	883 (100.00%)	1863 (100.00%)

As can be clearly seen from the table, the units performing the *R5* and *R6* communicative functions are very rare, the *R6* function has not been identified at all in the news article. The presence/absence of the *R5* and *R6* functions thus determines the maximum length of the communicative fields in these two texts, and, quite possibly, in the news and academic registers in general. Analysis of much larger text corpora will be necessary to confirm this finding.

The following are examples of communicative fields with the *R5* and *R6* communicative units realised in the news and academic articles, respectively:

```
B{Some of the world's biggest banks}T2f Q{worked}r1R2f
S{closely}R3f F{with executives of Enron Corp.}R4f
F{to hide the true nature of shady transactions
from Chicago's Andersen accounting firm,}R5f
s{according to a bankruptcy-court investigation}T1f.
(00221)
```

```
B{Multinational corporations and other investors}T1f
Q{are}r1f Q{massively}R2f Q{relocating}R3f S{capital}R4f
F{to low-wage countries}R5f, F{undermining traditional
employment in the advanced countries}R6f.
(12242)
```

An interesting case presented in the table is, certainly, the occurrence of the *r1* communicative units, i.e. the transitions proper. In both texts their occurrence is higher than the number of clausal communicative fields in the texts. An explanation can be seen in frequent use of adverbials functioning semantically as setting⁶ but interpreted as parts of transition proper due to their modal character, for example,

B{The company}t1d q{was}r1R2f s{essentially}r1f Q{an empty shell,
set up as a middleman to give the impression [02312;{that}
B{Enron}T1e Q{was selling}r1R2f S{a lot of oil and gas}R3f.]R3f

(02311)

B{Bad economists}T1f, s{of course}r1f, Q{do}r1R2f
S{bad economics}R3f

(10431)

In relation to other communicative units, the percentage values representing the *r1* communicative units are almost comparable (22.88 per cent in the news article vs 24.21 per cent in the academic article). The communicative units that seem to set the two articles apart from each other are to be found within the thematic section. The following two charts make it more obvious:⁷

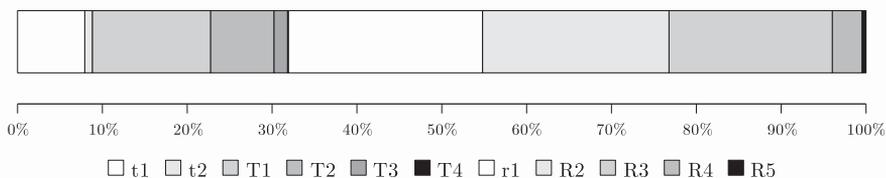


Figure 4.6: Overall occurrence of communicative units (news article)

⁶A question arises whether it is possible to analyse the adverbials of this type as *s*-type units of the DSF subset of FSP tags, i.e. *setting* in the traditional FSP terminology. While performing an *r*-type function, these adverbials may be considered to come very close in nature to thematic units that express concomitant circumstances, i.e. *setting*. This view is, in my opinion, advocated by Svoboda (1989: 73) and it was also adopted for the analysis of the two texts. Even though first attempts to describe systematically the FSP behaviour of sentence adverbials have already been made, for example by Chamonikolasová (1987), a thorough investigation of this issue, especially the DSF character of these adverbials, remains pending.

⁷Only one grayscale is used in the charts, but independently for the thematic and the non-thematic sections. The segments representing the T4 communicative function are barely visible in both of the charts because of its very low occurrence in the text. The distribution of communicative dynamism within the thematic section of the charts is shown separately for the *t* and *T* units.

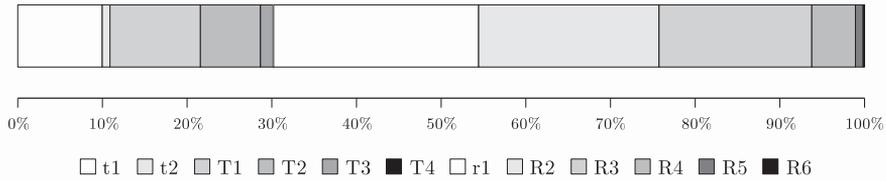


Figure 4.7: Overall occurrence of communicative units (academic article)

The most noticeable difference between the two charts can be found in the width of the segments representing the t1 and T1 communicative units and in the diathematic section as a whole. The occurrence of diathematic elements in the news article is more frequent (23.10 per cent) than in the academic article (19.32 per cent). This could be, in my opinion, another aspect distinguishing the news register from the academic register. The higher proportion of the Tx communicative units in the news article can probably be explained by the fact that one of the three principal functions of diathemes is to “bring new information into the thematic section of the clause, which may be conceived of as conveying new information of secondary importance (in relation to information conveyed by rhematic elements)” (Svoboda 1981b: 64).⁸ Thus, the function of the news articles to deliver the news to the audience seems to be directly reflected in the frequency with which the diathematic communicative units occur in the news articles.

As far as the academic article is concerned, it seems that the tx and rx sections are wider at the expense of the Tx section. A possible explanation for the more frequent occurrence of rx communicative units in the academic article has already been suggested – a much greater use of modal expressions such as *surely*, *perhaps*, *actually*, or *probably*, giving the text a more dubitative mode than in the case of the news article. The wider tx section can be explained functionally: in a piece of prose whose function is not only to inform the reader, but also to explain⁹ complex ideas and concepts, the writer of an academic article frequently uses the tx section to store a concept or an idea in the foreground for a number of successive communicative fields, which allows the writer to develop (ascribe new qualities to) it continually. This should be, in fact, also reflected in a greater number of thematic progressions with continuous theme in the academic article.

It has to be stressed, though, that the charts in Figure 4.6 and Figure 4.7 should not be viewed as *representative communicative field patterns* of the respective articles (registers). For one, the rates of occurrence shown can merely be

⁸The citation concerns the diatheme. Diatheme oriented theme, which in my notation can be any other Ty unit when ($y < x$) in the presence of a Tx unit, has also been found to perform the described function, cf. Svoboda (ibid.: 61).

⁹Cf. the communicative purpose (field) of academic prose (Table 2.2 on page 38).

interpreted as *probabilities* with which the listed types of communicative units usually appear in a communicative field. For instance, the pattern in Figure 4.5 seems to reflect occurrence rates of 10 per cent or more. For two, if annotated correctly, a communicative field cannot contain the t1 and T1 units at the same time. Therefore, the communicative field(s) that truly represent(s) the two articles can only be determined using the second approach listed above – the one based on the frequency of occurrence of concrete communicative fields. This approach, which yielded also the pattern in Figure 4.5, is described in the next subsection.

4.2.2 Occurrence of Communicative Fields

When applying the frequency analysis to communicative fields, one important aspect has to be kept in mind. The search for a representative communicative field can be related either to *the actual linear arrangement* of sentence elements or to the order known as *the interpretative arrangement*, i.e. “the arrangement of the sentence elements in accordance with a gradual rise in CD” (Firbas 1992: 12). For the sake of clarity, I shall distinguish between them by using the term *surface distribution of communicative dynamism* for the former and the term *deep distribution of communicative dynamism* for the latter.¹⁰

Figure 4.8 illustrates the conceptual difference between the terms by using clause 12222 of the academic article:¹¹

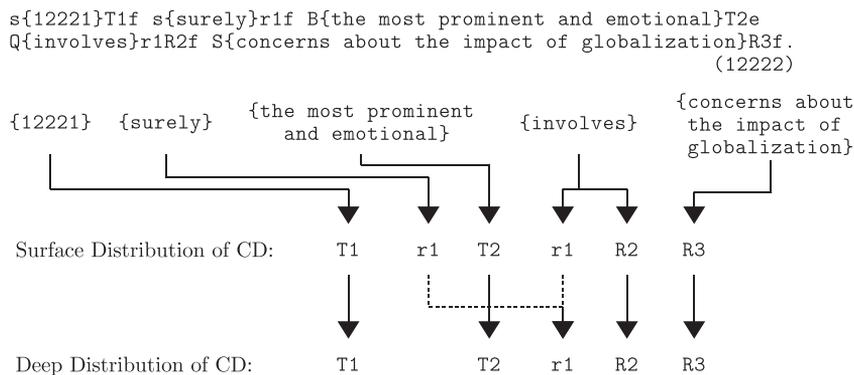


Figure 4.8: Surface vs deep distributions of CD

¹⁰Cf. the term *deep word order* used by Libuše Dušková (2008: 222): “In the deep (interpretative) word order the clause elements are arranged according to gradual increase in the information load (i.e. the degree of communicative dynamism).”

¹¹Within the clause 12222, the number 12221 stands for adverbial clause *While a number of issues motivate outsider critics of the economics profession.*

While the surface distribution of communicative dynamism faithfully reflects the actual word order of the sentence elements, in deep distribution of CD, the communicative units are aligned according to the gradually increasing level of communicative dynamism. The *r1* communicative units appear as a single unit in the pattern of deep distribution of CD. This is because of the level of analysis adopted in the present study. It is not impossible that a pattern of deep distribution may also distinguish more degrees of CD within the *r*-part of the communicative field. In this study, however, only the *r1* value is recognized as a descriptor for the sum of degrees of CD conveyed by temporal and modal exponents of the verb.

As mentioned above, the *T1r1R2R3* pattern has been identified to be the most frequently occurring pattern in the two articles. This holds true for both levels of distribution of CD, surface and deep. The following two sentences are additional examples of this pattern:

“B{Andersen}T1e Q{was scapegoated}r1R2f S{in a lot of ways}R3f.”
(00912)

when B{outsiders}T1f Q{criticize}r1R2f S{formalism in economics}R3f,
(10511)

Table 4.2 reports the occurrence of this pattern in numbers. The table also includes numbers for the second and the third most frequent pattern of surface distribution of CD, as well as the totals (110 and 249) representing tokens of other patterns identified at the surface level. As can be seen from the table,

Table 4.2: Three most frequent patterns of surface distribution of CD

Pattern	News Article	Academic Article
<i>T1r1R2R3</i>	54	68
<i>t1r1R2R3</i>	21	52
<i>T2t1r1R2R3</i>	11	
<i>T1r1R2R3R4</i>		23
Other	110	249

the second most frequent pattern of surface distribution of CD (*t1r1R2R3*) is also shared by the two articles:

B{they}t1d Q{were looking}r1R2f S{the other way}R3f
(00414)

because B{they}t1d q{are}r1R2f Q{formalistic}R3f
(10514)

It is only at the level of the third most frequently occurring pattern that we find noticeable differences between the two articles, mainly due to a more extensive non-thematic section in the academic article:

S{who}T2d B{he}t1d Q{depicts}r1R2f F{striking dozens of
secret side deals behind the backs of the auditors [00713]}R3f
(00712)

B{that}T1d q{are}r1R2f Q{crystal clear}R3f S{if you can
stand algebra}R4f
(11926)

The most striking difference between the two articles can be seen in the totals 110 and 249. These numbers are token totals of other unique patterns (types) of surface distribution of CD, 55 in the news article and 134 in the academic article. The much greater variability of the pattern in the academic article, due partly also to the availability of the *R6* communicative unit, derives most probably from the fact that the main communicative purpose of the academic register is not only to provide the audience with information, but also to show a certain degree of argumentation. Of the other 55 unique patterns in the news article, only two have more than nine instances in the text. They are given below and each of them actually represents 10 tokens of the 110:

T1r1R2R3R4

B{which}T1d Q{has dwindled}r1R2f S{to just 250 employees}R3f
F{from a peak of 85,000 worldwide}R4f
(00814)

T1T2r1R2R3

s{Before it signed off on Enron's plan to report the deals
as trading credits instead of long-term debt,}T1f
B{Andersen}T2e Q{sought}r1R2f S{proof
that Mahonia was independent from the bank}R3f
(02612)

In sharp contrast, the academic article featured four additional patterns of ten or more text tokens each. These four patterns, shown below with their examples, represent 49 text tokens of the 249 presented in Table 4.2.

T1T2r1R2R3

a{Why}T1f B{outsiders}T2f Q{dislike}r1R2f
S{economic "formalism"}R3f

(11811)

T2t1r1R2R3

if s{it were}T2f B{this}t1d Q{would delegitimize}r1R2f
S{the opinions of people who had not studied algebra
when young and were now too old to retool}R3f.

(11935)

t1r1R2

B{we}t1d Q{will see}r1R2f

(10971)

t1r1R2R3R4

s{there}t1d A{is}r1R2f PB{no way to save the story}R3f
S{while getting the accounting right}R4f.

(12524)

The following two charts present an overall picture of the occurrence of the three most frequent patterns of surface distribution of communicative dynamism in the two articles:

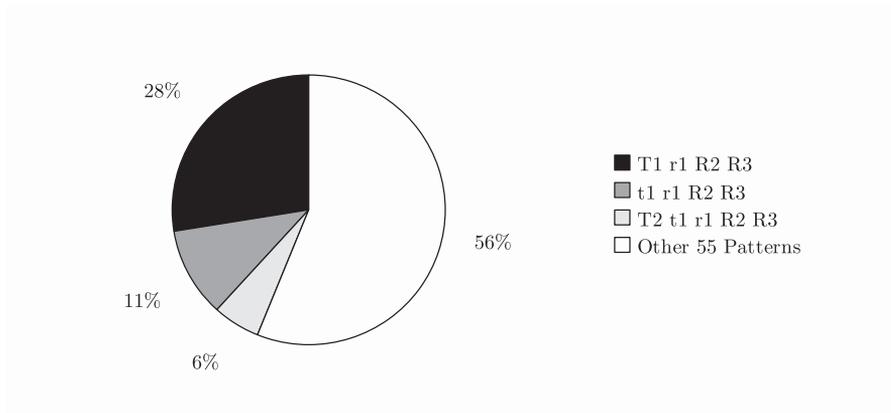


Figure 4.9: Most frequent patterns of surface distribution of CD (news article)

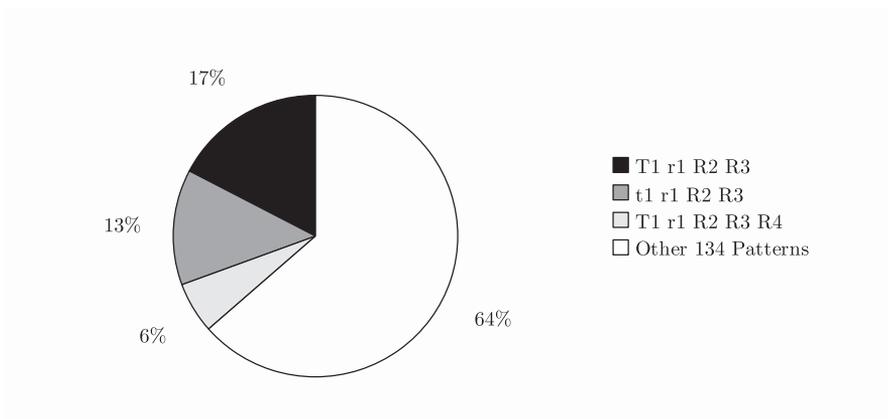


Figure 4.10: Most frequent patterns of surface distribution of CD (academic article)

If transformed into deep distribution of communicative dynamism, the three most frequently occurring patterns are the same in both articles:

Table 4.3: Three most frequent patterns of deep distribution of CD

Pattern	News Article	Academic Article
<i>T1r1R2R3</i>	65	88
<i>t1r1R2R3</i>	24	66
<i>T1T2r1R2R3</i>	19	36
Other	88	202

The first two patterns in this table are identical with the first two patterns in the previous table. The numbers 88 and 202 are token totals that represent 25 and 42 unique patterns (types) of deep distribution of CD. In comparison with Table 4.2, we can observe that the number of unique CD patterns is much lower if the patterns are aligned to reflect gradual rise in communicative dynamism. Still, the variability of the pattern remains significantly higher in the academic article than in the news article.

Below are two examples of the pattern *T1T2r1R2R3*, since the pattern does not appear in Table 4.2:

```
's{As a general rule}T1f, B{Andersen}T2e
Q{understood}r1R2f S{what was going on}R3f.'
```

(00522)

```
And since s{[12031]}T1f B{this whole business of using
mathematics to think about economics}T2e q{must be}r1R2f
Q{a bad thing}R3f.
```

(12033)

Similarly to Figures 4.9 and 4.10, the following two charts provide an overall view of the three most frequent patterns of deep distribution of CD in the two articles:

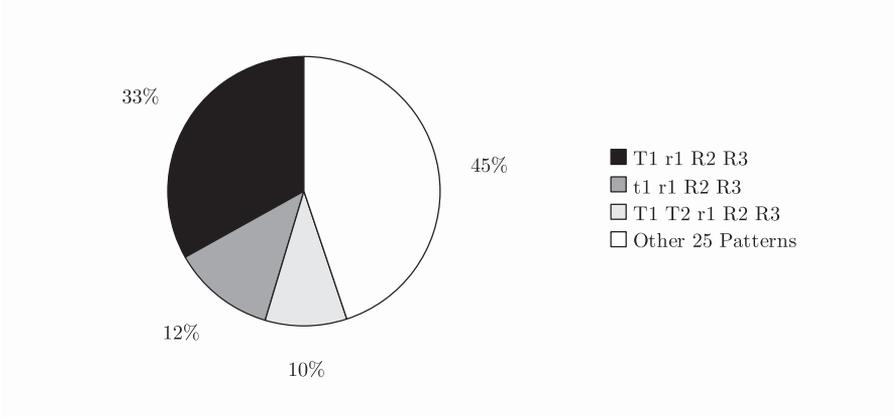


Figure 4.11: Most frequent patterns of deep distribution of CD (news article)

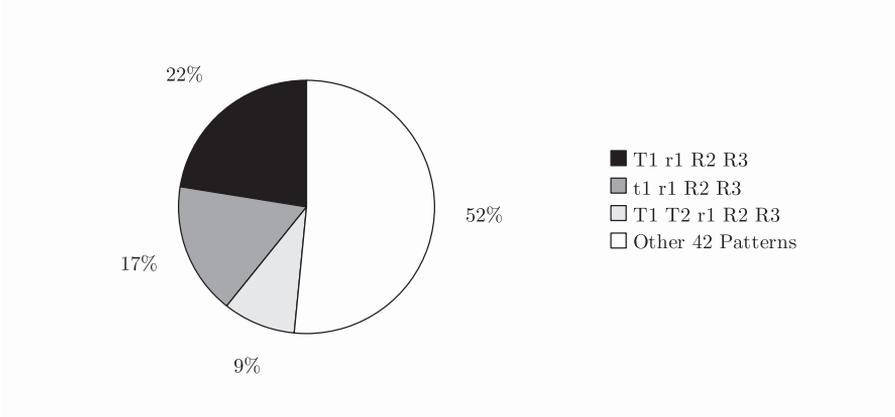


Figure 4.12: Most frequent patterns of deep distribution of CD (academic article)

To conclude the present section, the data arrived at above cannot, of course, be applied to the news and academic registers in general, given the fact that only two articles are compared in this study. Nevertheless, the data indicate quite unequivocally that the distributional pattern $T1r1R2R3$ occurs most frequently in the examined texts. From the point of view of surface distribution of communicative dynamism, this pattern represents 28 per cent of communicative fields in the news article and 17 per cent of communicative fields in the academic article. In deep distribution of CD, the pattern represents 33 per cent of communicative fields in the news article and 22 per cent of communicative fields in the academic article. The sequence $t1r1R2R3$ is the second most frequently occurring pattern of CD at both distributional levels.

The analysed articles, and presumably also the registers they represent, differ significantly in the variability of the communicative field. While in the news article 58 distinct patterns of surface distribution of communicative dynamism were identified, as many as 137 patterns of surface distribution of CD were recognized in the academic article.

Abstracting from the actual arrangement of sentence elements, i.e. describing the level of deep distribution of communicative dynamism, these numbers translate into 28 unique CD patterns in the news article and 45 unique CD patterns in the academic article. Further research will be necessary to confirm these results.

4.3 Violation of the FSP Linearity Principle

The notion of *surface distribution of communicative dynamism* introduced in the preceding section can be applied to the investigation of objective/subjective word order, as introduced into linguistics by Vilém Mathesius (Mathesius 1947: 241), summed up in Firbas (1992: 117-125), and to the idea of “ordo naturalis” and its relationship to FSP, explained also by Firbas:

“...the model order advocated by the ancient and medieval grammarians – Subject, Predicative Verb, Items of Verbal Complementation – tallies with the order of basic instance level sentences in English, German and Czech and very likely in most, if not all, Indo-European languages.”

(Firbas 1979: 56)

In a manner that derives from these ideas, I shall use the notion of *surface distribution of CD* as a basis to compare the degree of violation of the *FSP Linearity Principle*¹² in the two examined texts, i.e. the principle of arranging sentence elements into the T - R sequence.¹³

¹²See Firbas (1992: 118 and 120) for a discussion of the term.

¹³Please note that in this section, the T and R abbreviations are used to denote also the t and r communicative units respectively. Thus, the surface distributions of CD in which only

Usually, violations of the FSP Linearity Principle are triggered by syntactic requirements

a{What sort of equations}T3f Q{are}r1f B{we}t1d Q{talking about}r1R2f s{here}T2e?
(12111)

or, as one might expect, by contextual conditions:¹⁴

B{they}t1d Q{asked}r1R2f S{for the letter}t2d
(02922)

Not infrequently, the violations occur in passages containing direct speech and its accompanying reporting clause:

S{The actions of the banks as well as the accounting firm in the Enron case reflected a general erosion in ethical standards,}R3f PB{he}t1d AQ{said}r1R2f.
(03412)

S{“The nature of things in the nineties was that if you didn’t get rich, you were stupid,”)R3f PB{Kullberg}T1e AQ{said}r1R2f.
(03514)

A case that was mentioned in one of the preceding sections, involving an adverbial that functions as a component of transition proper, may also constitute a cause for violation of the principle:

s{12221}T1f s{surely}r1f B{the most prominent and emotional}T2e Q{involves}r1R2f S{concerns about the impact of globalization}R3f.
(12222)

On the whole, though, the communicative fields with violated $T-R$ sequence do not outnumber the communicative fields in which the sequence is correct:¹⁵

Table 4.4: Violation of the FSP Linearity Principle

T-R Sequence	News Article	Academic Article
correct	151	301
violated	45	91

These numbers can be transformed into a single chart:

the t and T or r and R communicative units are swapped, i.e. not aligned according to their relative communicative value, are not treated as violations of the $T-R$ sequence, understood in this section as the sequence in which *the theme* is followed by *the non-theme*.

¹⁴The notion of *the letter* mentioned in example clause 02922 was introduced into the discourse earlier in the news article, more precisely, as a rhematic unit in clause 02713: P{a letter}R3f A{should be sent}r1R2f.

¹⁵The designation *correct* (or *correct T-R sequence*) is to be interpreted in the sense of “**a tendency** to put the most dynamic sentence element (the element conveying the highest degree of CD) at or towards the end of the sentence” (Svoboda 1981a: 2), emphasis by M. Drápela.

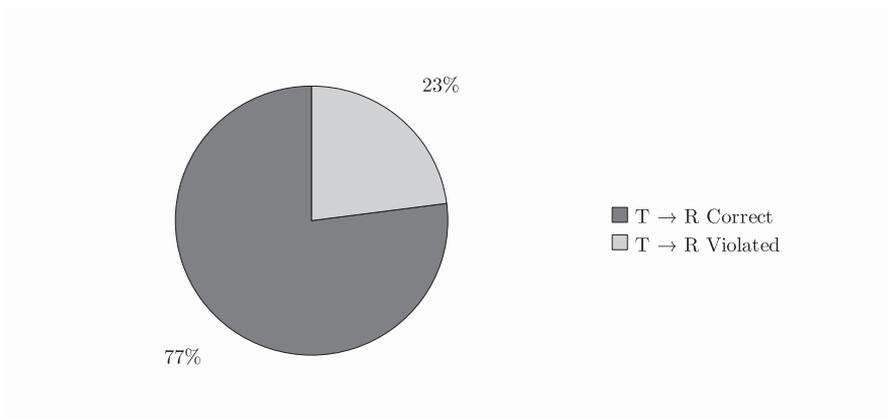


Figure 4.13: Correct and violated T-R sequences (both articles)

Once again, violations of the FSP Linearity Principle existing only in adjacent thematic or adjacent non-thematic communicative units, for example the $T2$ and $t1$ communicative units in the following clause,

S{who}T2d B{he}t1d Q{depicts}r1R2f F{striking dozens of
secret side deals behind the backs of the auditors [00713]}R3f
(00712)

are considered as local and not affecting the global $T(=thematic) - R(=non-thematic)$ ordering of the whole clause. If they were treated as types of the global $T-R$ violations, the percentage (the segment) representing the T-R violations in Figure 4.13 would be higher.

4.4 Dynamic Semantic Scales

In trying to determine the most prominent FSP features characterizing the news and the academic register, the analysis of the semantic factor of FSP provides only a partial image of the information build-up of a text since the semantic factor does not function as a sole indicator of the resulting functional perspective. Usually, it determines the resulting FSP in co-operation with other FSP factor(s).¹⁶ In my analysis, I use the DSF subset of FSP tags for annotation of three types of semantic scales:

¹⁶For the scope of operation of the three FSP factors in written language, see Firbas (1979: 46).

- the Presentation Scale,
- the Quality Scale, and
- the Combined Scale.¹⁷

In contrast to the traditional definition of the Combined Scale, I use the term *Combined Scale* also for semantic multifunctionalities occurring in the reporting clauses (Cf. Section 3.2).

All of the three types of semantic scales were attested in the corpus. The following table and pie charts show the occurrence of the scales in the texts:¹⁸

Table 4.5: The occurrence of dynamic semantic scales

Scale Type	News Article	Academic Article
Presentation	6	16
Quality	171	374
Combined	19	2

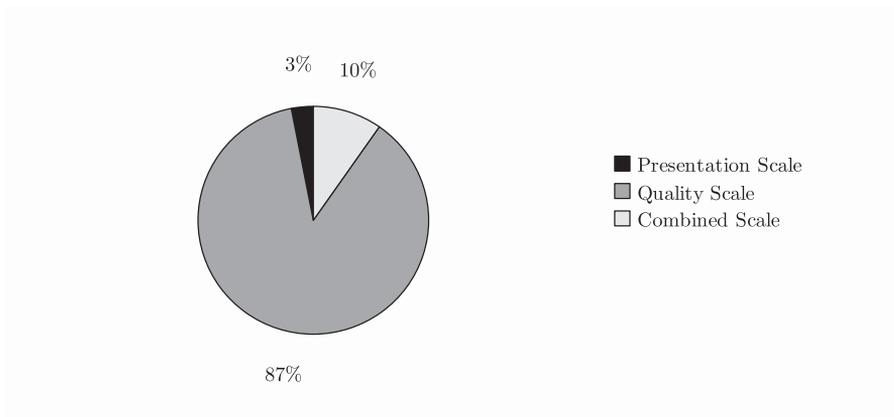


Figure 4.14: Dynamic semantic scales (news article)

¹⁷More information on the concept of dynamic semantic scales can be found, for instance, in Firbas (1979, 1992) and Svoboda (2005). Chamonikolasová (2005 and 2010a) presents a revision of the three scales and suggests a system of dynamic semantic scales containing the Quality Scale, the Presentation Scale, and the Extended Presentation Scale.

¹⁸The percentage labels in Figure 4.15 are 4% and 1% for Presentation Scale and Combined Scale respectively, which is less clearly visible due to the very narrow Combined Scale segment.

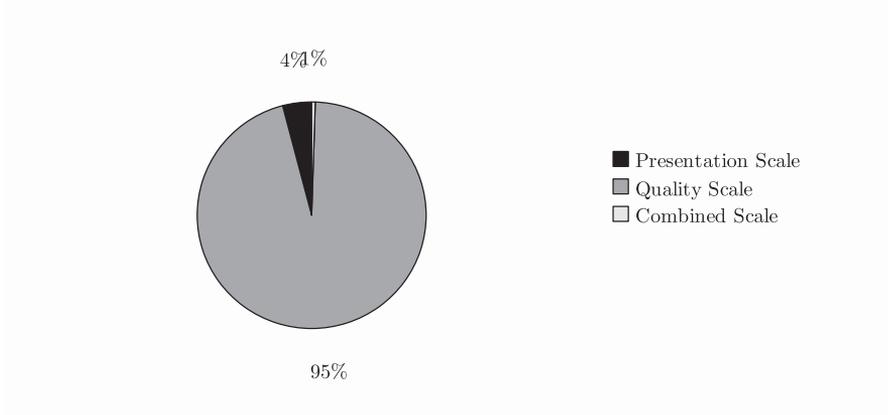


Figure 4.15: Dynamic semantic scales (academic article)

The results support an observation that the frequency of the Quality Scale is “markedly exceeding” the frequency of the Presentation Scale (Firbas 1992: 69). The increased number of Combined Scales in the news article can be explained by an increased number of reporting clauses appearing in it. Therefore, the most typical example of the Combined Scale is as follows:

S{The investigation leaves unanswered whether
Andersen was actually deceived or if it “knowingly blinked,”}T1f
AQ{said}r1R2f BP{John Coffee, a Columbia University
law professor who has followed the Enron case}R3f.

(00514)

In the academic article, the Combined Scale was identified in structures other than reporting clauses:¹⁹

s{there}t1d A{is}r1R2f B{no way to save the story}R3f
S{while getting the accounting right}R4f.

(12524)

Presentation Scales were found in both articles and in configurations that violate the FSP Linearity Principle and those that comply with it. The first two examples below are taken from the news article, the third and the fourth come from the academic article. All of the examples are in no way related to each other as they belong to different parts of the texts:

¹⁹As was correctly pointed out to me by Libuše Dušková, a question may be raised whether the communicative field (12524) really represents a realization of the Combined Scale, considering Firbas’ definition(s) of this type of scale, cf. Firbas (1979: 50) and Firbas (1992: 67-68).

P{A flurry of activity between the bank and Enron}R3f A{ensued}r1R2f
(02711)

s{that}T1d A{resulted in}r1R2f P{improper accounting}R3f.
(00713)

P{Many manifestos denouncing the conventional views}R3f
A{had been published}r1R2f.
(13671)

s{Here}T1e A{is}r1R2f P{a simple reality check}R3f.
(11111)

The Quality Scales, of course, occur very frequently and in varying patterns. For this reason, I append below only two examples.

s{In one e-mail}T1f, B{a J.P. Morgan executive}T2e Q{describes}r1R2f
S{to a colleague}R3f F{how Enron's reliance on "balance-sheet
advantaged" transactions meant they could charge "premium" fees
for their services.}R4f
(01521)

B{I}t1d q{am}r1R2f Q{a great admirer of Marshall}R3f,
(14021)

The first example is interesting: it could be interpreted as a type of the Combined Scale. The subject "a J.P. Morgan executive" of the clause may be seen as performing the dynamic semantic function of new *Phenomenon* appearing on the scene. At the same time, it appears to function as a *Quality Bearer*. A similar case is put forward in Firbas (1992: 67) for the sentence "Ages ago a young king ruled his country capriciously and despotically." However, following Chamonikolasová (2005), I interpret the sentence as an implementation of the Quality Scale.

The possibility of analysing the structure in two ways points to the fact that the process of determining the types of dynamic semantic scales is not always a straightforward task. As has been convincingly shown, for example, by Svoboda (2005: 226-228) and years earlier by Firbas (1981: 64), the resolution of dynamic semantic functions may be in some cases influenced also by factors other than the immediately relevant context and semantic character of the communicative units. Ultimately, further research will be required to make the processes of DSF recognition more streamlined.

4.5 Communicative Field Dynamics

By communicative field dynamics I understand “the progression of all the thematic spheres and the progression of all the non-thematic spheres” (Svoboda 1981a: 166) in a text. In order to evaluate the field dynamics in the examined texts, I shall apply two FSP concepts: *the narrow scene* and *the broad scene*. These are defined in two ways in Svoboda (1981a) and I shall use the definition in which the narrow scene of one clause is “constituted by the thematic elements of that clause” (Svoboda 1981a: 93) and the broad scene of one clause “is constituted by all the thematic and the non-thematic elements of the particular clause” Svoboda (ibid.).

The dynamics of communicative fields in the examined articles is presented below in the form of charts showing

1. the changing breadth of the successive broad scenes,
2. the changing breadth of the successive narrow scenes, and
3. the changing breadth of the successive narrow scenes with delineation of the *t* and the *T* sections within the narrow scene.²⁰

4.5.1 Broad Scene Dynamics

I shall first provide the charts showing the broad scene dynamics and then append a commentary. The solid curve in the following two charts represents the number of communicative units (thematic plus non-thematic), the straight dashed line represents the mean value.

²⁰For the sake of clarity, the charts are set-up in B-spline form again.

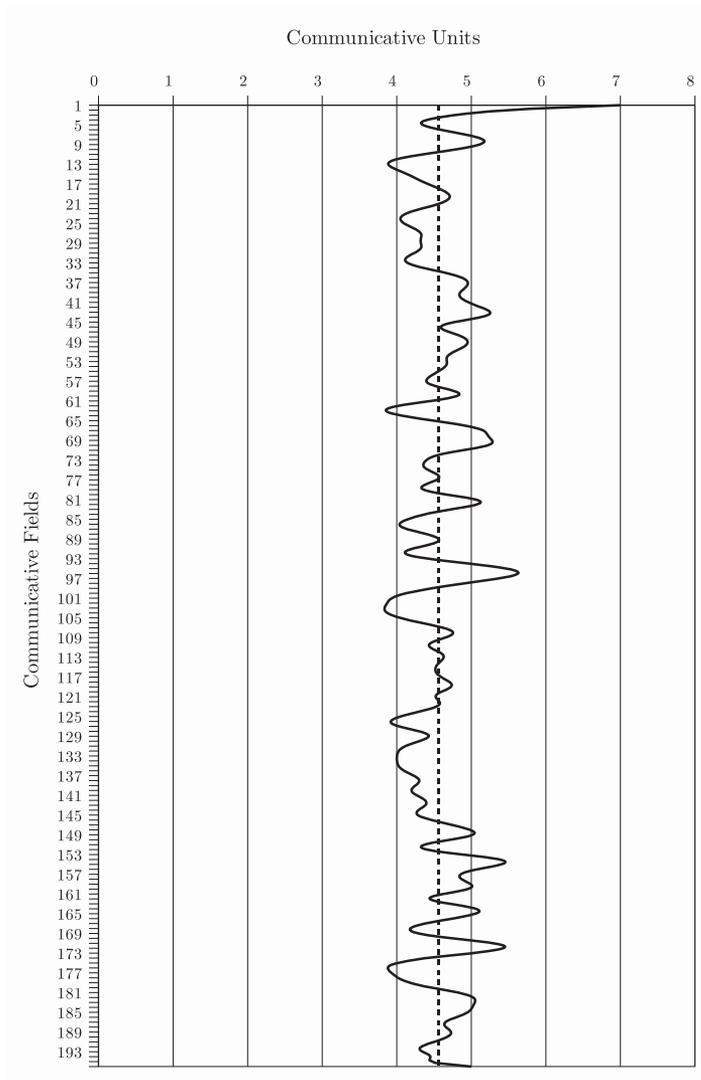


Figure 4.16: Broad scene dynamics (news article)

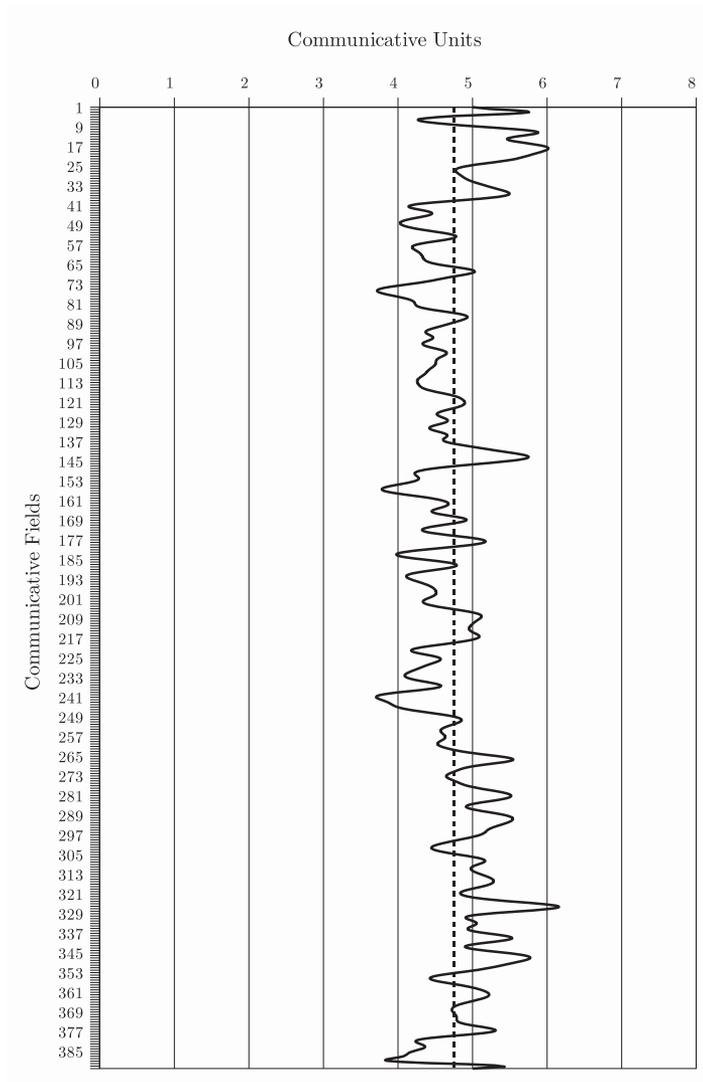


Figure 4.17: Broad scene dynamics (academic article)

The mean value is 4.57 communicative units in the news article and 4.75 communicative units in the academic article. The mean values represent the average number of communicative units per clause in the given text. We might expect that these numbers will represent the news and the academic registers in general, but owing to the fact that only two articles were analysed, their validity is rather low and will have to be confirmed by further research.

While it is not easy to give a conclusive comparison of the two curves, there is, nonetheless, a noticeable difference between the two charts. Unlike in the news article, the broad scene of the academic article seems to exceed the mean value in two observable clusters: at the beginning (from approximately the communicative field 1 to the communicative field 37) and at the end (the communicative fields 245 to 382). In terms of communicative units per clause ratio, this translates 5.3 at the beginning and 5.0 at the end, which is significantly more than the mean value representing the whole article (4.75 communicative units).

This brings me back to the question raised in Section 4.1 in connection with information density of paragraphs: Can the paragraph clustering be reflected also in the internal structure of the clausal communicative fields? If yes, then we would expect to see four dynamically different types of broad scene in clusters of communicative fields 1 to 20, 21 to 177, 178 to 234, and 235 to 392. These four clausal communicative field clusters represent the four sections of the academic article. What we can observe, in fact, is that in at least the initial field cluster (fields 1 to 37) and the ending cluster (fields 245 to 385), there is some degree of correspondence visible between the segmentation of the academic article into sections and the dynamics of the broad scene.

Thus, seeing an article section as a common denominator, there seems to be a tendency in the academic article for its paragraphs to be informationally lighter (i.e. consisting of fewer clausal communicative fields) and its clauses to be informationally heavier (i.e. consisting of more communicative units) at the beginning and towards the very end of the article. The middle section of the academic article displays the opposite tendency: informationally lighter clauses and informationally heavier paragraphs. However, investigation of a much larger corpus of texts will be necessary to confirm this characteristic for the academic register as a whole.

4.5.2 Narrow Scene Dynamics

The charts showing the narrow scene dynamics have been modelled on the broad scene charts with the exception that, of course, the curve represents the number of *thematic* communicative units:

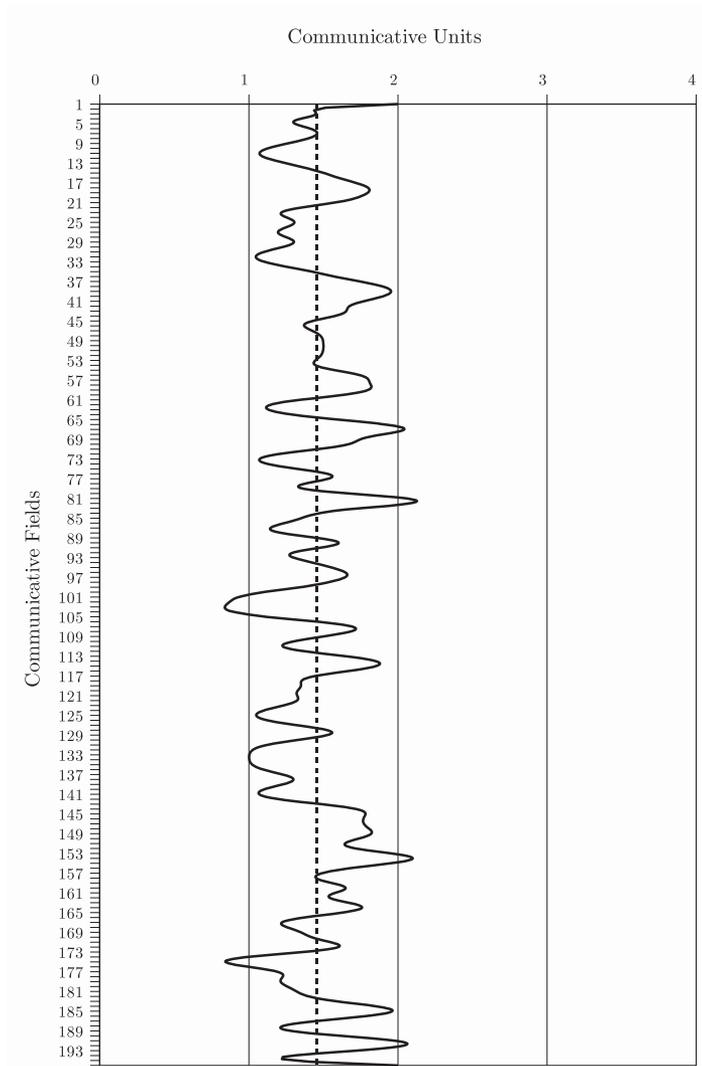


Figure 4.18: Narrow scene dynamics (news article)

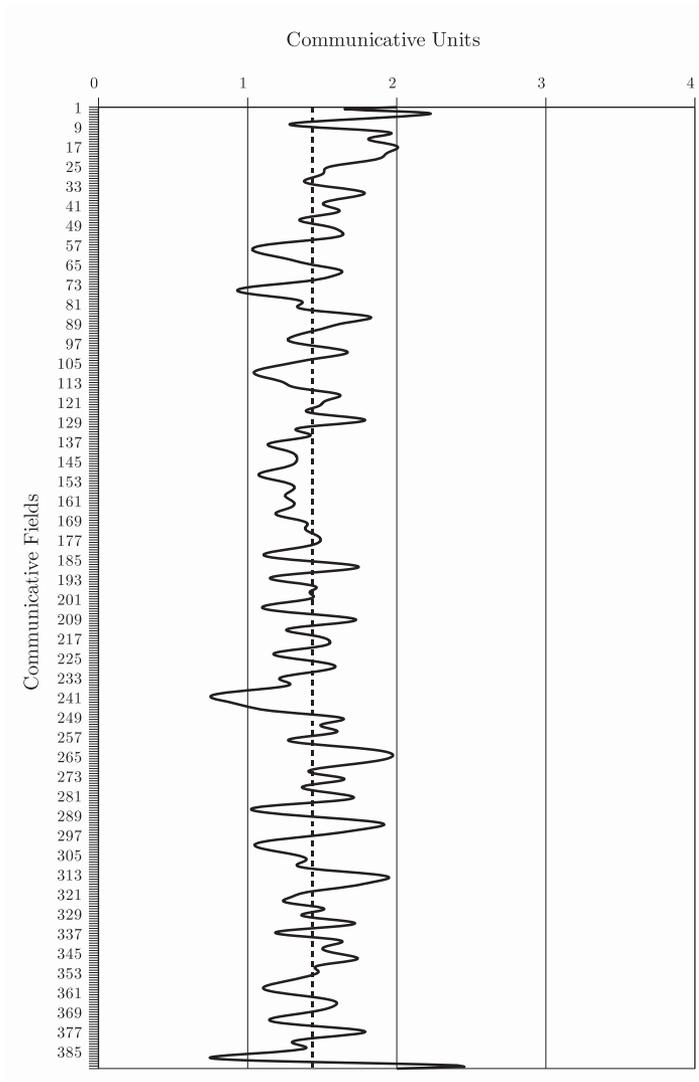


Figure 4.19: Narrow scene dynamics (academic article)

The interpretation of these two charts is slightly more difficult. The average number of thematic communicative units per clause is almost the same: 1.45 in the news article and 1.44 in the academic article. Little can be described about the chart presenting the news article apart from the fact that the dynamics of the narrow scene curve appears to follow the dynamics of the broad scene curve shown in Figure 4.16 and that the communicative fields from, approximately, the beginning of the article to the field number 30 are slightly narrower (1.39 thematic units per clause) than the average (1.45 units) characterizing the whole text.

Compared with the narrow scene development at the beginning of the academic article, the narrow scene of the news article tends to contain fewer communicative units. In communicative fields 1 to 26, the narrow scene of the academic article displays the opposite tendency – to contain more thematic units per clause (1.81) than the average. This difference may suggest that, generally speaking, the beginning of an academic article will be informationally heavier than the beginning of a news article. However, a much larger text corpus would have to be FSP analysed to make any stronger claim concerning this point.

In the chart presenting the narrow scene dynamics of the academic article, it is questionable whether we can *convincingly* recognize a narrow scene cluster at the end. With the exception of the very end, the troughs of the curve in communicative fields 245 through to 390 do not exceed the mean value as clearly as in the case of the broad scene troughs in communicative fields 245 to 392 in Figure 4.17. Still, it may be argued that in the academic article, the dynamics of the narrow scene seems to reflect the dynamics of the broad scene.

It should be added that the average number of thematic communicative units per clause in the news article (1.45) does not confirm the assumption made in Drápela (2000: 30) that the average of 1.40 thematic units per clause forms a borderline between two registers: news (1.40 and below) and fiction (above 1.40).

4.5.3 Narrow Scene Dynamics with t/T Sections

This subsection describes the narrow scene dynamics from the viewpoint of development of the tx and the Tx sections in the narrow scene, i.e. the section of theme-proper or theme-proper oriented themes, on the one hand, and the section of diatheme or diatheme oriented themes, on the other. The charts detailing the development of these t/T sections within the narrow scene are provided below. In the charts, the dashed curve represents the number of tx units whereas the solid curve represents the Tx units stacked on top of the tx units.

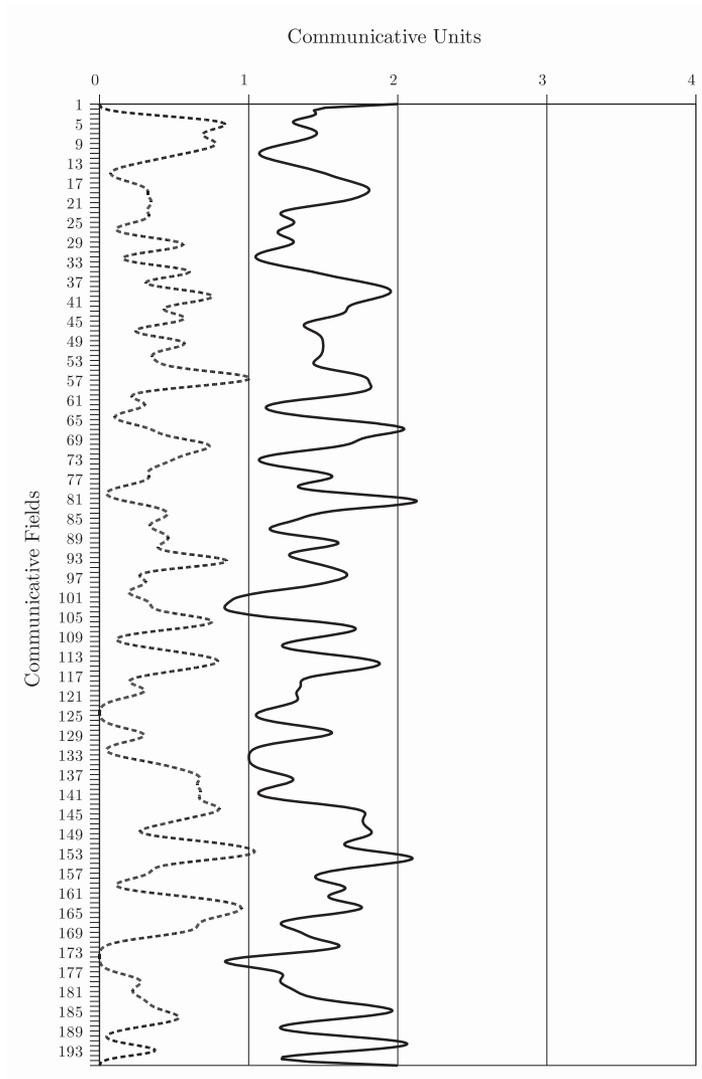


Figure 4.20: Narrow scene dynamics with tx and Tx sections (news article)

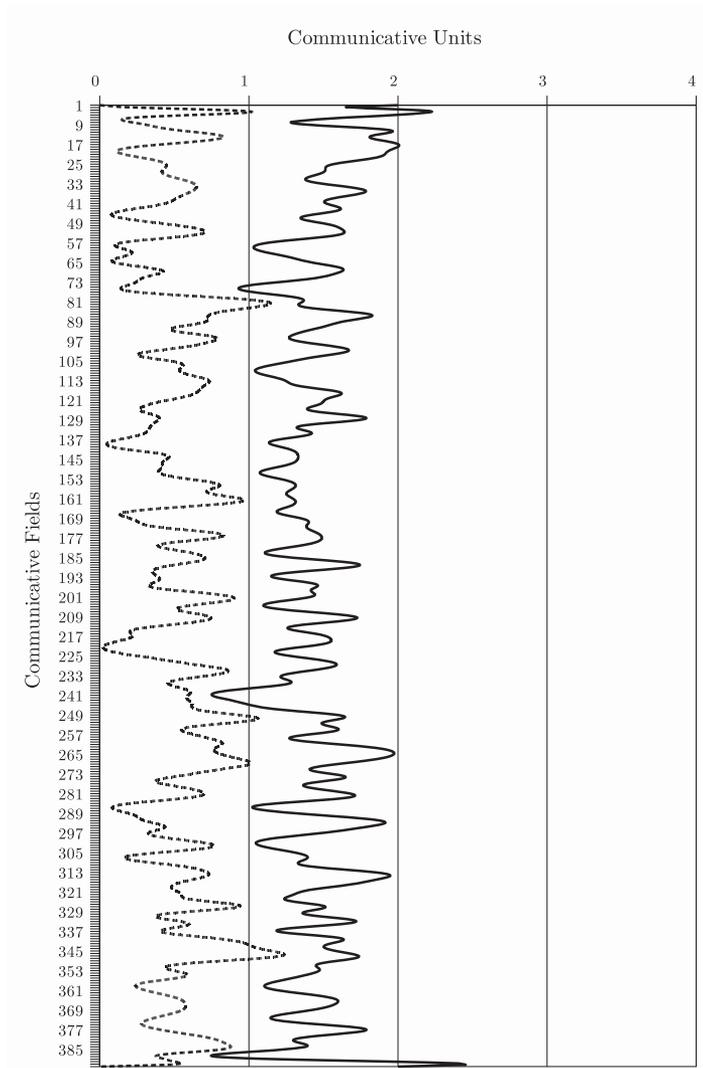


Figure 4.21: Narrow scene dynamics with tx and Tx sections (academic article)

The key point to be noted here is the size of the area between the two curves. The area appears to be larger in the news article than in the academic article. Obviously, this has a direct connection with the percentually higher number of the Tx units in the news article and the percentually higher number of the tx units in the academic article.²¹ The following table shows the tx -per-clause and the Tx -per-clause ratios in detail:

Table 4.6: Average number of tx and Tx units per clause

	News Article	Academic Article
number of tx units per clause	0.4	0.52
number of Tx units per clause	1.06	0.92

This table and the two preceding charts indicate that the narrow scene of the news article, and possibly the news register in general, tends to have a more diathematic character than the narrow scene of the academic article. This, in my opinion, bears on the chiefly informative function of the news prose. The larger Tx section in this way provides “more space”, so to speak, for the influx of new information into the thematic section (*the basis*) of the communicative fields in the news article than in the academic article.

The relatively larger tx section in the narrow scene of the academic article is, in my opinion, a reflection of the more expository character of the academic register, in other words, of more space reserved to retain known or well established information for a much longer stretch of consecutive communicative fields than in the news article. However, analysis of a significantly larger corpus will be necessary to confirm the results presented above.

4.6 Thematic Progressions

In this last section of the present study, I present statistical findings related to the three major types of thematic progressions identified in the two texts, i.e. simple linear thematic progressions, progressions with continuous (constant) themes, and progressions with derived themes.

4.6.1 Thematic Progressions in General

Before presenting the occurrences of thematic progressions, I would like to emphasise once again the important methodological constraint stated in Section 3.2: the thematic progressions were examined *separately* for each paragraph of the two texts. For this reason, the thematic progressions described in the figures below are, in fact, mostly segments of considerably longer and more complex thematic ties running through the texts. This can be partly illustrated, for

²¹Cf. Table 4.1.

example, using paragraphs 36 and 37 of the news article. Abiding the above stated rule, only a single thematic progression was identified in my analysis in respect to paragraphs 36 and 37:

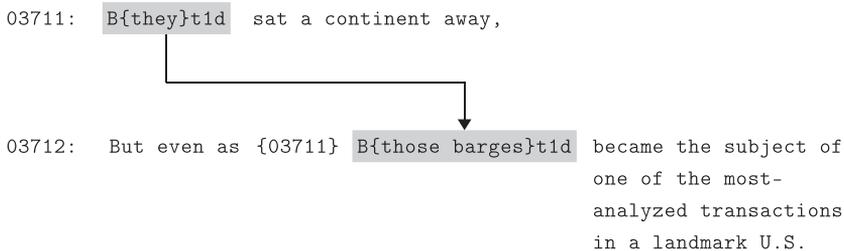


Figure 4.22: Thematic progression in paragraph 37 (news article)

However, disregarding the within-the-bounds-of-a-paragraph constraint, the progression would have to be seen as originating at least in paragraph 36, resulting eventually in a progression consisting of not just two, but three thematic nodes, as is shown in the following figure:

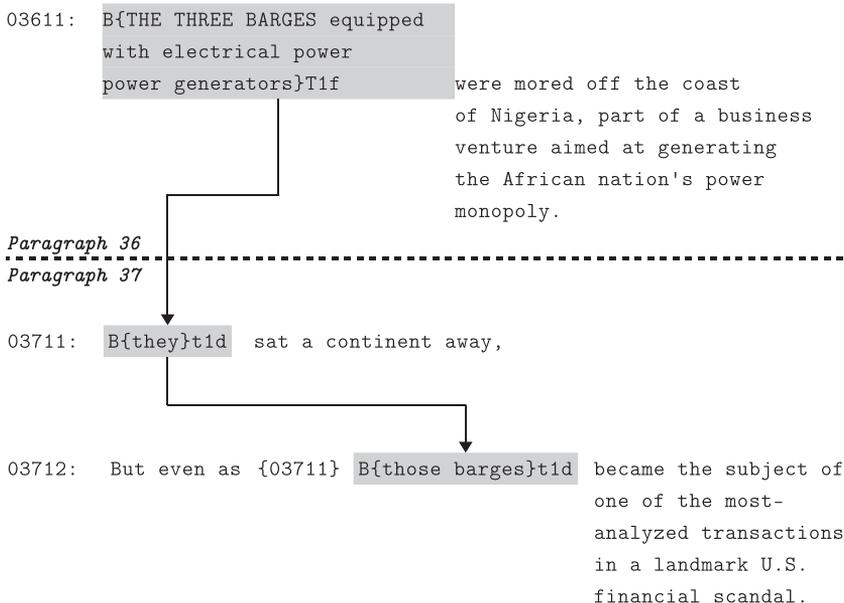


Figure 4.23: A progression running through paragraphs 36 and 37 (news article)

Observing the paragraph constraint, there were 209 thematic progressions identified in the corpus, 69 of them in the news article and 140 in the academic article. If we take into consideration the number of paragraphs in each text, the academic article features more than twice as many thematic progressions per paragraph than the news article:

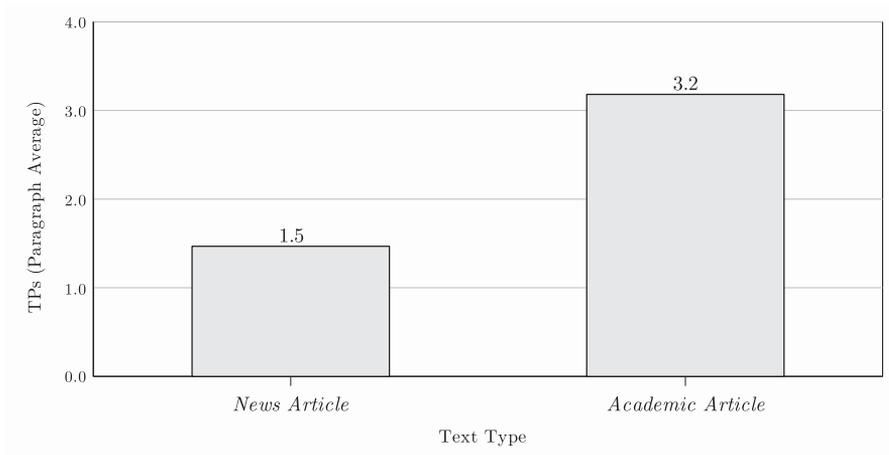


Figure 4.24: Average number of thematic progressions per paragraph

The higher average number of thematic progressions per paragraph in the academic article is, in all probability, a direct consequence of the fact that the academic article contains twice as many clauses as the news article, which virtually doubles the potential to anchor communicative units into thematic section of its communicative fields. Of course, the average numbers (of 1.5 for the news article and 3.2 for the academic article) in Figure 4.24 do not distinguish between the three TP types: linear TP, TP with continuous theme, and TP with derived theme(s). In regard to these three types, the average numbers are lower:

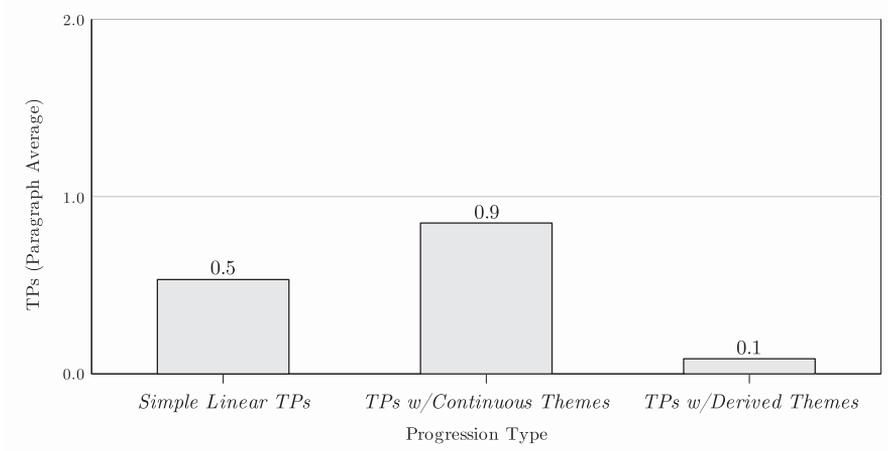


Figure 4.25: TP types per paragraph (news article)

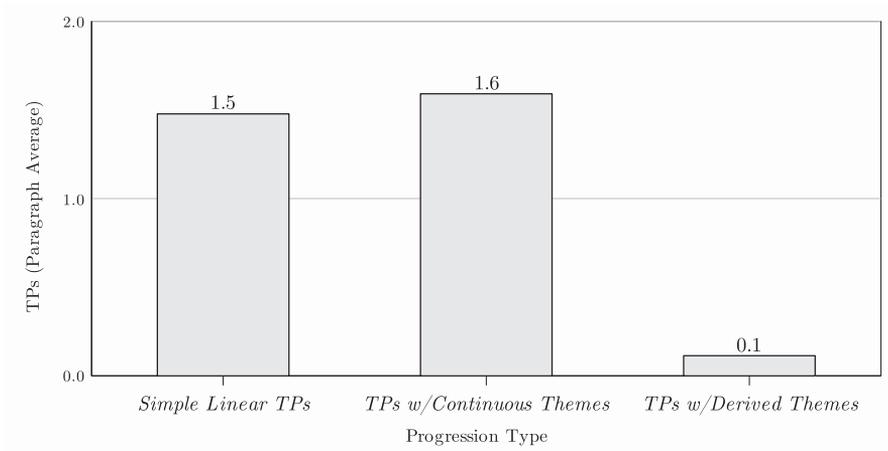


Figure 4.26: TP types per paragraph (academic article)

In both articles, the thematic progression with continuous theme appears to be occurring most frequently. Compared with the progressions with continuous theme, the occurrence of simple linear thematic progression is significantly more frequent in the academic article than in the news article. The very low occurrence of thematic progression with derived theme(s) (0.1 progressions per paragraph in both articles) seems to confirm Svobodová's (1971: 89) results suggesting that this is a very rare type of thematic progression.

In absolute numbers, the individual TP types can be listed as follows:

Table 4.7: The occurrence of TP types in the corpus

TP Type	News Article	Academic Article
Simple Linear TPs	25	65
TPs w/Continuous Themes	40	70
TPs w/Derived Themes	4	5

A question arises as to how to explain the relatively higher number of *t*-type communicative units²² found in the academic article compared with the news article, since the number 65 in the above table suggests that the more frequent occurrence of simple linear progressions in the academic article should rather result in an increase in *T*-type communicative units, for these are, generally speaking, usually performing the function of “a newly introduced scenic element”²³ within the linear thematic progression, i.e. a diathematic (*T*-type) function.

While there may exist other factors influencing the increase of *t*-type communicative units, an answer to the question can be found, in my opinion, by looking at the following figure, showing development of an extensive non-thematic element (in clause 10812) into thematic elements of three successive communicative fields (clauses 10821, 10831, and 10841):

²²Cf. Table 4.1 on page 66.

²³Cf. Svoboda (1981a: 42).

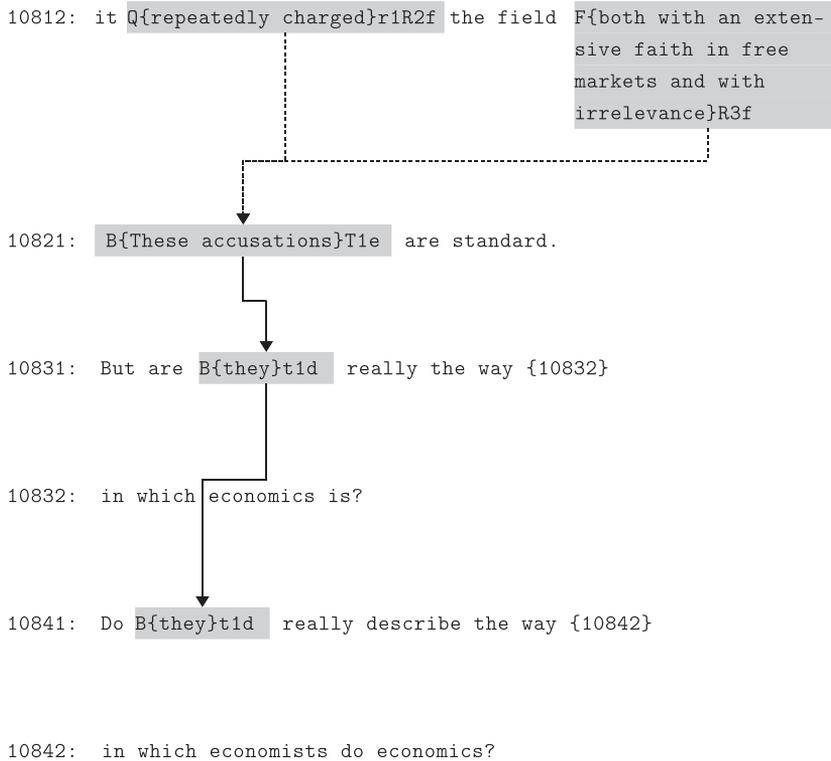


Figure 4.27: Simple TP and TP with continuous theme (academic article)

The main point to be noticed in this figure is that while there are two thematic progressions developing the extensive non-thematic element of the clause 10812, there are two *t*-type communicative units (“they”) and only one *T*-type communicative unit (“These accusations”). The more expository character of the academic register allows the author of the article to retain a newly introduced notion (“These accusations”) in the foreground a little longer in the form of two or more *t*-type communicative units. Thus, compared to the news article, the noticeable increase in the number of simple linear TPs in the academic article is accompanied by a not insignificant increase in the number of *t*-type communicative units, appearing as members of a TP with a continuous theme which usually attaches to the simple linear thematic progression.

In the two subsections that follow, I present the occurrence ratios of the individual TP types for each of the articles separately. The pie charts indicating these ratios are derived from the data appearing in Table 4.7. Examples for each type of thematic progression are also provided.

4.6.2 Thematic Progressions in the News

The occurrence rates of the three examined basic types of thematic progressions in the news article are shown in the following pie chart as percentage values:

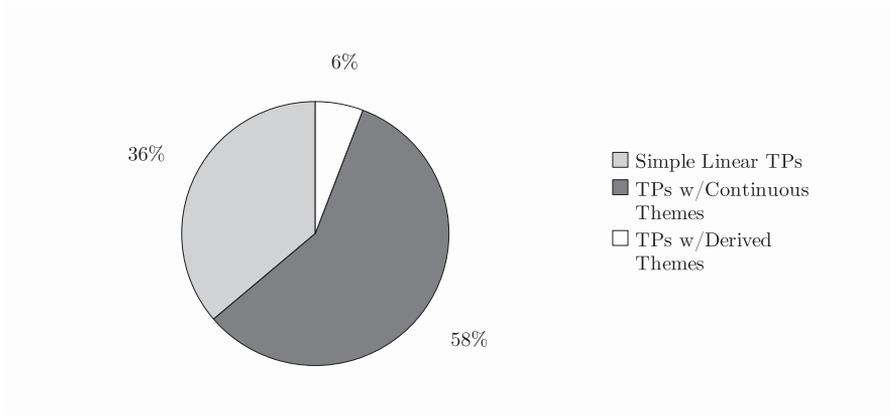


Figure 4.28: Occurrence rates of the three basic TP types (news article)

A clear majority (58 per cent) of thematic progressions in the news article are thematic progressions with continuous theme. The following figure presents an example of this thematic progression:

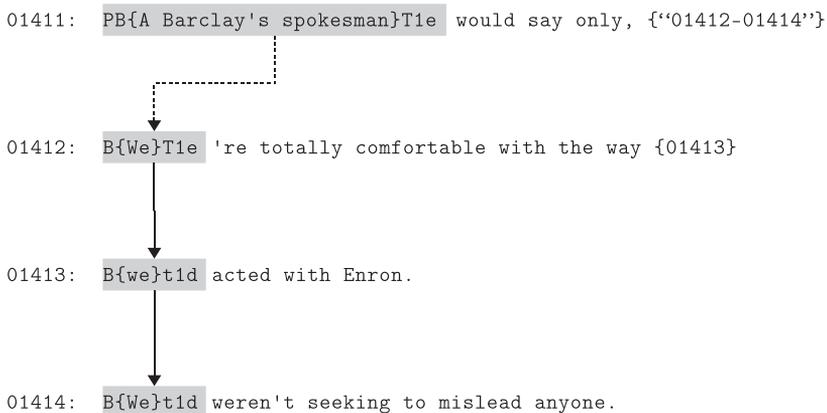


Figure 4.29: Thematic progression with a continuous theme (news article)

At the occurrence rate of 36 per cent, the simple linear thematic progression comes as the second most frequent type in the news text. The following example

containing a relative clause is a very typical representative of this TP:

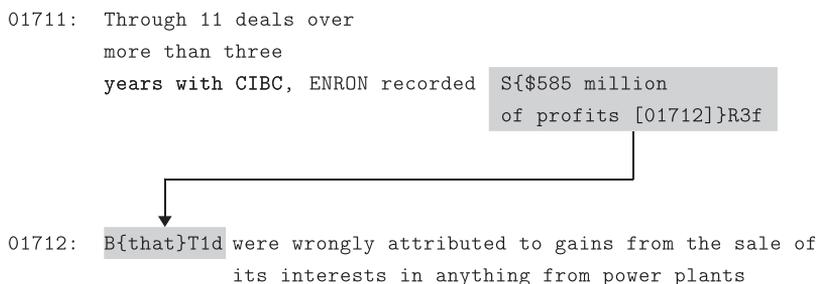


Figure 4.30: Simple linear thematic progression (news article)

The third TP pattern, the thematic progression with derived theme(s), representing a mere 6 per cent of all thematic progressions in the news text, was identified, for instance, in the following set of four communicative fields:

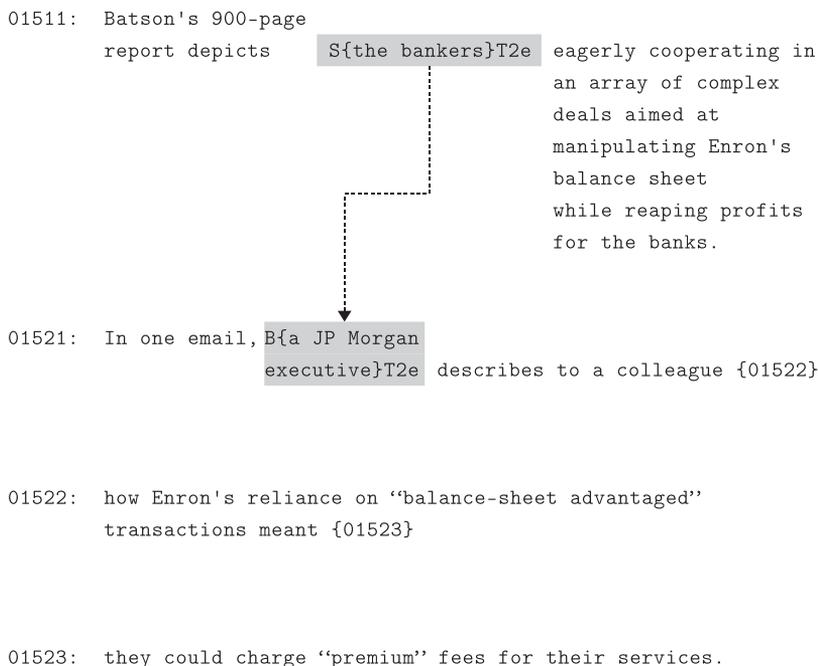


Figure 4.31: Thematic progression with a derived theme (news article)

The diathematic element “a JP Morgan executive” in clause 01521 is regarded as derived from the diathematic element “the bankers” representing, on the one hand, institutions rather than individuals, and on the other hand, a group of six different banks (Citigroup, JP Morgan Chase, Barclays, BT/Deutsche, CIBC, and Merrill) rather than just JP Morgan.

4.6.3 Thematic Progressions in the Academic Prose

As far as the academic article is concerned, my analysis yielded the following percentage ratios for the three basic types of thematic progressions:

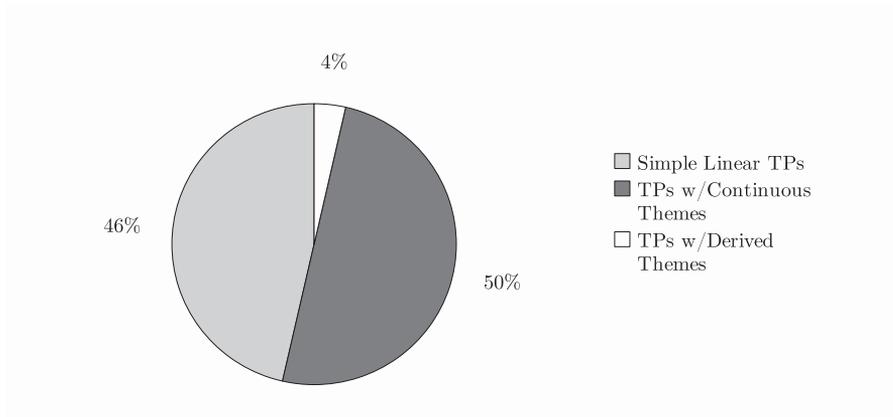


Figure 4.32: Occurrence rates of the three basic TP types (academic article)

Exactly 50 per cent of the thematic progressions are thematic progressions with a continuous theme, which is a slightly lower number than in the case of the news article. Below is an example of this thematic progression identified in the academic article:

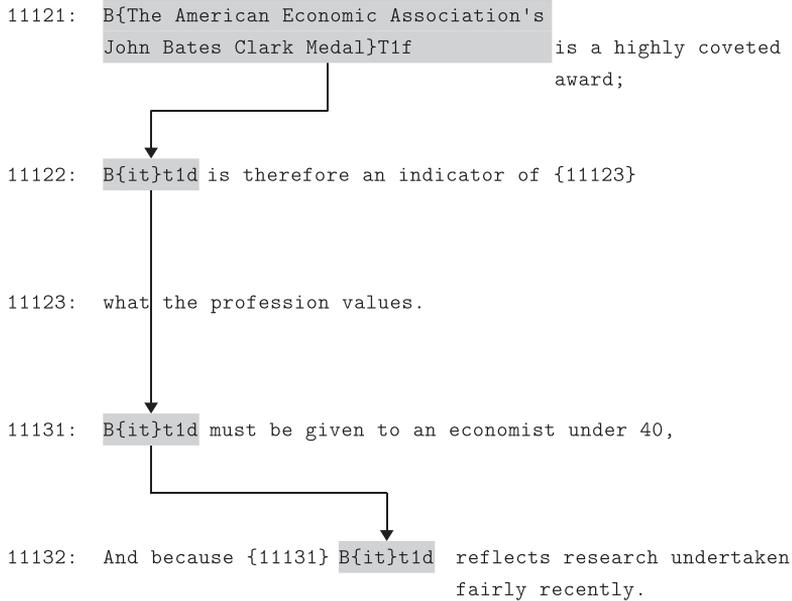


Figure 4.33: Thematic progression with a continuous theme (academic article)

Representing the second group, i.e. the simple linear thematic progressions, with occurrence rate of 46 per cent in the whole academic article, the example below contains a relative clause just as the example in Figure 4.30 above:

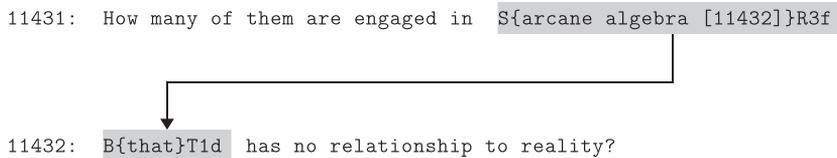


Figure 4.34: Simple linear thematic progression (academic article)

Finally, the figure below shows an instance of a linear progression with derived themes. As already mentioned before, this type of thematic progression was found to be quite rare in both articles, with 4 per cent frequency of occurrence in the academic article:

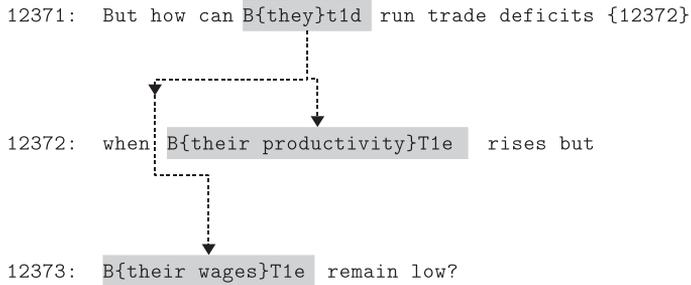


Figure 4.35: Thematic progression with derived themes (academic article)

The hyperthematic element “they” in clause 12371 has a thematic antecedent “newly industrializing economies” in clause 12353, where it opens a thematic progression with a continuous theme:

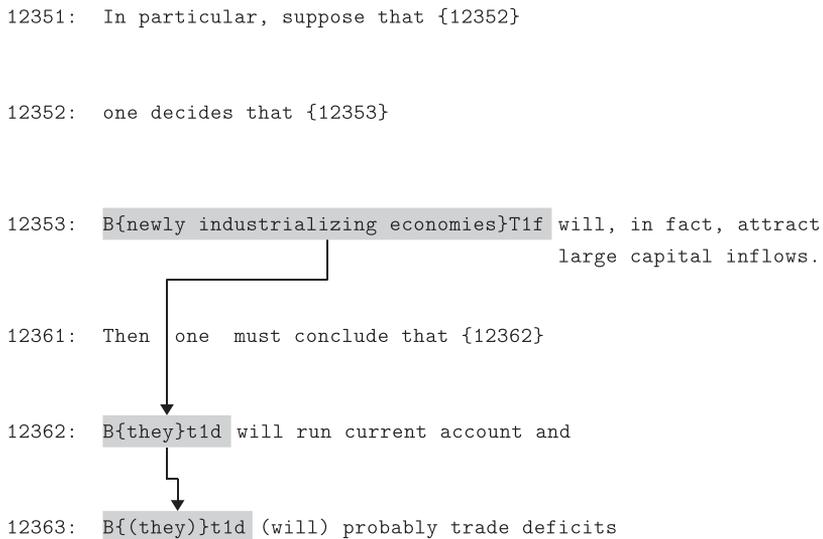


Figure 4.36: Development of a prospective hyperthematic unit (academic article)

It is in clause 12371 of Figure 4.35 in which the well-established thematic communicative unit “they” becomes hyperthematic in respect to its two thematic successors in clauses 12372 and 12373.

The quantitative data describing the occurrence of thematic progressions in the academic text appear to corroborate the results obtained by Libuše Dušková in her investigation of thematic progressions in academic texts.²⁴

Without any doubt, the above provided results of my analysis of thematic progressions and other FSP aspects of just two articles cannot exhaustively describe the registers of news and academic prose in general, as the titles of subsections 4.6.2 and 4.6.3 may suggest. To accomplish a task of this kind, i.e. to account, in general terms,

“...for differences between different standards or substandards of one language, or for stylistic differences within one of such standards or sub-standards,”²⁵

borrowing once again the words of Professor Jan Firbas, will require a systematic and lengthy investigation of large-scale electronic language corpora, an essential methodological aspect that current research into the phenomena of functional sentence perspective still, in my opinion, has not fully embraced.

Nevertheless, I am convinced that this task can successfully commence at any time from now and I hope that the ideas presented in at least some chapters of this study will prove useful to anyone willing to undertake this daunting but exciting task, to anyone willing *to attack the formidable fortress* called *language*.²⁶

²⁴Cf. the references made earlier in this study on page 40.

²⁵From Firbas (1974: 32).

²⁶See Firbas (1992: xii).

