

## COMPUTERS, STYLISTICS, AND ENGLISH LANGUAGE TEACHING

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John Swales' monograph, *Aspects of Article Introductions*, written ten years ago (1981) indicated a direction in language study—discourse analysis—that has had considerable significance for many of us who are involved in the teaching of English for Academic Purposes (EAP). His work came out of a tradition in applied linguistics that can be traced through (among others) John Sinclair and Malcolm Coulthard (1975), Ray Williams (1978), Ellen Spolsky (1981), and Elaine Tarone (Tarone, *et al.*, 1981) and which has continued—frequently recorded in the pages of *The English for Specific Purposes Journal (ESPJ)* or resulted in publications such as *Writing Laboratory Reports* (Dudley-Evans, 1985).

Swales began his work at a time when the computer was a room-sized monster that ate punched cards and spewed out binary code. The domestication and miniaturization of the machine and the development of large scale text corpora (Sinclair, 1987, 1991; Garside, Leech, & Sampson, 1987), have made it possible not only for teachers and materials writers to carry out the sorts of investigations that Swales and his colleagues initiated, but also for ESOL students to become fruitfully involved in discourse analysis.

In my own work (Tribble 1989, 1990a, 1990b, 1990c; Tribble & Jones 1990), I have reported ways in which students working with personal computers can develop significant insights into how language is patterned, insights that have direct implications for their performance in the target language. In this short paper I would like to discuss some of the techniques that I have been using in the Bell English Language and Study Skills Unit at Queen Mary and Westfield College (University of London) and to present some of the findings that my students and I have been coming up with.

### STYLISTICS

Much discourse analysis has dealt with the structures and relationships that exist within and across spoken and written texts (Winter, 1982; Hoey, 1983; Crombie, 1985). At the same time, there has also

been a developing tradition in which the quantitative techniques common in text linguistics (see, for example, the work of de Beaugrande & Dressler, 1981) have been applied to works of fiction. Leech (1969), Chatman (1973), Halliday (1973), Widdowson (1975) and Leech & Short (1981) have all presented ways of dealing with literary writing from a linguistic standpoint. Techniques developed in the course of this work have now been re-applied to the natural language of spoken discourse and to the artificial constructs of written English (see Halliday, 1985, and Martin, 1989).

What I have found fruitful has been to apply to the referential language of academic writing some of the techniques that have formerly seemed specific to literary text study, notably the approach developed by Leech & Short in *Style in Fiction* (1981). By describing these texts from the point of view of style, I have been able to present to my students a way of describing written English across a variety of disciplines, and to get them involved in their own linguistic explorations as a way of preparing them for their own writing.

Style was chosen as a significant component of text structure because, according to a Hallidayan model of language description, through style the writer develops a relationship with the reader, establishing intimacy or authority and creating the effects of subjectivity or objectivity. If ESL students are ever going to be fully functioning members of an academic discourse community, they are initially going to have to identify the norms that obtain within that community. They will then need to conform to those norms, before ultimately establishing a unique voice that best realizes the reader/writer relationships they seek as practitioners in their chosen field.

### EAP APPLICATIONS

Leech & Short (1981) proposed a framework for text description based on a checklist of lexical, grammatical, rhetorical, and textual features which can be counted in short samples of text. They used manual

techniques and were restricted to small scale studies, but they had access to the *LOB Corpus of Written English* (1 million words in computerised form; see Garside, Leech, & Sampson, 1987) as a yardstick against which deviations from external norms could be assessed.

While it would be inappropriate to oblige students on an EAP program to undertake full-scale linguistic research, it has proven particularly interesting to get them to employ some of the techniques used by Leech & Short. Investigation that I did for the MA dissertation (Tribble, 1986) showed that several linguistic features are particularly salient as differentiators between texts that have contrasting audiences and communicative purposes. A small scale study of writing having photography as its field of discourse demonstrated a considerable shift in style between, for example, texts addressing an amateur audience in a popular magazine and texts addressing a professional readership. These contrasts were concentrated in the following areas:

- a. sentence theme and subject noun phrase;
- b. noun phrase post-modifiers (especially participles);
- c. verb phrase form; and
- d. verb phrase semantics.

I have taken these features as parameters that students can use in the analysis of stylistic contrasts among various types of academic writing and as a means of studying differences between native and non-native English writing. This work is perforce "rough and ready" and uses none of the sophisticated

statistical methodology of the multivariate approach developed by Douglas Biber (1988). It does, however, have the virtue of opening students' eyes to a range of contrasts that they may have intuited in the past, but which they were not able to exploit effectively in their own writing. Once the students see the contrasts, it then becomes possible to work with them on the development of their own style.

A description of work that some of my students have done will allow discussion of this approach through a real-world example. The original research exercise took place with a group following the Academic Writing Programme at the QMW/Bell Language Institute English Language and Study Skills Unit. They had been having problems establishing an appropriate style for papers they were writing, and we undertook to get a clearer idea of how some aspects of style are created through the choices a writer makes.

#### INFORMAL AND FORMAL TEXTS

Students were first asked to consider two contrasting pieces of writing to decide if they could identify any major differences between them. The examples used in this case are given in Figure 1.

Although the students were able to recognise that the texts were written in very different styles, they had considerable difficulty when it came to saying why they were so different. As both of the texts were available in electronic form, we then decided to analyze them using the *Longman Mini Concordancer* (for a discussion of this program see

FIGURE 1: Contrasting Texts

Ray was more forthcoming, until he got sick. He was a fitter with the RAAF somewhere up there but after his first leave he never went back. He just stayed around the house in his dressing gown, getting thinner. He used to let me stand on his feet while he walked me around. The game was called Giant Steps. I loved it. Then the day came when he didn't want to play it any more. My mother told me he wasn't strong enough. [83 words]  
(Clive James, 1980, *Unreliable Memoirs*. London: J Cape)

The assumption that the marginal physical productivity of a variable factor used in conjunction with one or several fixed factors will diminish is important. Such an idea has always had a place in economics. In the past, it has usually been known as the 'law of diminishing returns', or, more recently, 'the law of variable proportions'. One can state the 'law of diminishing returns' thus: "An increase in the amount of a variable factor added to a fixed factor causes, in the end, a less than proportionate increase in the amount of product, given technical conditions." [96 words]  
(A. Stonier & D. Hague, 1983, *A Textbook of Economic Theory*. London: Longman.)

Tribble & Jones, 1990), which we had been using for some time in vocabulary study.

We decided to see if the stylistic features I had isolated as significant in differentiating between texts of high and low formality would be helpful for students to use in defining styles. In order to do this we needed to establish effective text-handling tools that would let us get at information without committing ourselves to an over-sophistication which we would not be able to maintain. "Quick and dirty" became the watch-word of the whole project. We worked out the following ways of getting at the information in which we had an interest.

### I. NOUN PHRASES AND POST-MODIFICATION

In order to find examples of post-modification we needed to isolate nouns. In an un-tagged corpus this involves either identifying each noun manually or finding nouns and post-modifiers by making a generalised search with a text concordancer and then isolating those nouns which are post-modified. With the LMC, this involved searching for {*alan/the*} and then using the proximity search facility to isolate the post-modified noun phrases using a {*\*ing/\*ed/\*en/which/who/where*} pattern. (For more information on concordancing techniques, see Tribble, 1990d, *Longman Mini Concordancer Handbook*.)

This search produced data samples like those in Figure 2, from which it was then possible to get frequency counts that could be used in a contrastive analysis. However, this search technique was very crude, getting samples like "the relation between productivity" where *\*en* is picking up irrelevant data. Therefore, another search pattern was also deployed, this time taking only nouns occurring more than 50 times in the text. The word-list feature in the LMC

was used to get at this data, and the nouns then identified were manually incorporated into searches.

### II. VERB PHRASE STRUCTURE

Verb phrases could be looked at by using a word list that made it possible to identify the verbs with frequencies of over 50, and by studying passivization via the lemma of *be* + {*\*ed/\*en*}. (See Figure 3 for an example of a concordance on passive forms.) The search for frequently used verbs produced the data in Figure 4, clearly demonstrating the contrast between the two texts in question: the first lexical verb in the economics text is *assume* with 75 occurrences, followed by *let* with 52, *make* with 50 and *pay* with 50. None of these words was a constituent of a multi-word verb.

FIGURE 4 - Frequent Verbs

<u>Economics text</u>		<u>Clive James</u>	
is	1075	was	1108
be	568	had	414
are	362	were	276
can	218 (modal)	would	219 (modal)
have	200	be	189
has	125	could	185 (modal)
may	106 (modal)	have	180
would	89 (modal)	like	142 (often adv.)
assume	75	been	131
shall	71 (modal)	is	82
given	64	being	80
been	60	got	72
increase	58 (nominal)	made	58
rise	54 (nominal)	came	57
fixed	53 (adjectival)	went	54
was	53	looked	53
let	52	did	53
make	50		
pay	50		

FIGURE 2: Post-Modifying Participles

ons placed upon the closed systems	considered	here,* imply
ny of the limited class of systems	considered	in this book.
owing how the behaviour of systems	consisting	of a chemica
They are also satisfied by systems	consisting	of a mixture

FIGURE 3: Passive Forms

raphical representations	are described.	Finally, the spec
nature of thermodynamics	can be outlined	it is necessary to
of the system has yet to	be determined;	for this a knowledge
some characteristic that	can be measured,	and it must have

FIGURE 5: Clive James - Verbs

deprived area. By the time she	got	back from Oatley I was already i
enty of red-backs and actually	got	bitten by one, luckily not on th
my turn to sing. Conversely, I	got	caught drinking my daily bottle
ns. Any one of them, if it had	got	close enough even to spit at her
e way, except that the one who	got	closest to the wall stacked all
hin that limit sooner or later	got	done. Overwhelming temptation wa
ooked like the Bismarck if you	got	down near enough. I built roads
an to Jungle Jim. As Tarzan he	got	fatter and fatter until finally
d by magic. From day to day it	got	fuller and fuller, generating ma
ld hold her own when my mother	got	going on the subject of her wonde
ary was exceptionally good an	got	his picture in the papers for sw
champion, a boy named Newell,	got	his stations mixed up and steppe
I could borrow them and when I	got	home I cut them up and pasted th
d me he wasn't strong enough.	got	into trouble at the dinner table

In the Clive James text, the first lexical verbs were *got* 72, *made* 58, *came* 57, *went* 54, and *looked* 53. Most of the verbs in the Clive James text occurred in phrasals, as is clear from the concordance sample for *got* in Figure 5.

### III. THEME/GRAMMATICAL SUBJECT

Information on sentence theme and grammatical subject were obtained by using a piece of lateral thinking. The question "What do all sentences begin with apart from the very first sentence in a text?"

produces the answer "A full stop." Concordancing on full stops builds a very clear profile of the sentence themes and grammatical subjects in the different texts under consideration. Figure 6 shows a small sample from Clive James followed by a sample from the economics text. A cursory glimpse at the examples in Figure 6 gives a good idea of the sorts of contrast that exist between the texts. It is apparent that there is a very low level of human reference in the academic text and a predominance of grammatical subjects such as "the conditions of demand and supply for labour."

FIGURE 6 - Sentence Themes/Grammatical Subjects: Initial Letter C

#### Clive James

Candidates	for my tunnel club had to go through a probationary period o
Certainly	I told my mother it was. Once again the site of the wound was
Changing	schools was certainly no great wrench. There were no playmates
Children	in Australia are still named after movies and sporting events.
Coated	with black crumbs and custard, the zac streaked out of his mouth
Collecting	chairs, cushions, bread-boards and blankets from all over th
Coming out	first in the term tests attracted accusations of being teach
Contact	was perfect. She dropped as though pole-axed-which, to all inte
Conversely,	I got caught drinking my daily bottle of milk in the lavato
Crawling	somewhere down around Level 7 leading off Shaft 4, he brushed
Crazes	came one after the other. There was a craze for a game of marble

#### Economics Text

Can	it then be said that the powers of the soil are 'indestructible'
Capital	is unique among the factors of production in that man exercises
Changes	in climate, farming methods or the introduction of irrigation ca
Clearly,	the conditions of demand and supply for labour are altered in
Column	2 does assume that there will be some difficulty in getting the
Competition	between farmers establishes an appropriate difference betwee
Competition	between farmers wishing to farm on the cheaper land would th
Consequently,	a reduction in hours may raise output as well as enabling
Consequently	one may say that 'the confident expectation of coming quas
Consequently,	the higher agricultural prices are, the higher are rents o
Consider	the case of visits to the theatre. Higher wages or salaries mak

## RESULTS

Putting this information together demonstrated some revealing contrasts between the two pieces of writing. If the statistical information obtained is tabulated it becomes possible to profile the two texts as described in Figure 7.

text they were now able to identify these specific features and see how they contributed to a specific stylistic effect. Figure 8 shows these contrasting features very clearly.

When confronting problems of style in their own writing, the students in the group are now much

FIGURE 7: Statistical Comparison

text	total words	sentence length in words	post-modification: high frequency words and their % of total words	passives and their % of total words
ECONOMICS	41,459	22.53	105 0.25 (%)	506 1.22 (%)
C.JAMES	42,396	17.03	5 0.01 (%)	310 0.73 (%)

We found that the economics text book, which is immediately intuited as the more formal of the two texts, is also the text with the lowest number of "dynamic" verbs, the longest sentences, the greatest number of extended grammatical subject and abstract/non-human reference grammatical subjects, the largest number of post-modified nouns and the largest number of passive verbs. There is certainly a reasonable indication, based on these quick and dirty measures, that these text elements are closely related to the perceived formality of the writing.

better equipped to identify where they might wish to change their text to pull it up or down a cline of formality. They have a shared meta-language and a way of looking at text and wording that enables them to be effectively engaged with the writing process with fuller control over the meanings and reader relationships they are attempting to realize.

## APPLICATIONS

The students who had started this study unable to provide a reasoned explanation for their intuited perception of relative formality, now had a clearer sense of how style might be a product of selection within the language system. Returning to the original

## CONCLUSION

This short paper has dealt with only one aspect of an extended course of instruction in writing for academic purposes, and it has been necessary to ignore a wide range of other components, all of which directly contribute to the creation of successful text. I have not mentioned discourse organisation or writing process (including effective reading, effective research techniques and note-making), nor have I mentioned the enormous need for vocabulary

FIGURE 8 - Text Contrasts

- underlined words = grammatical subject phrase
- boldfaced** words = finite verb phrase
- words in italics* = post-modifying participles

### Clive James

Ray **was** more forthcoming, until he **got sick**. **He was** a fitter with the RAF somewhere up there but after his first leave **he** never **want back**. **He** just **stayed** around the house in his dressing gown, getting thinner. **He used** to let me stand on his feet while **he walked** me around. **The game was called** Giant Steps. **I loved** it. Then **the day** came when **he didn't want** to play it any more. **My mother told** me **he wasn't** strong enough.

### Economics Text

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expansion, grammar awareness, and familiarization with orthographic conventions—all of which face so many ESL students (and native students, for that matter) beginning courses of study in British universities. What I have attempted to show is some practical techniques that exploit the potential of computers for text analysis, and which students can use and learn from as part of their overall development as writers in English for Academic Purposes.

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Acknowledgement: this paper began life as a presentation at TESOL 1991 in New York and was developed as a result of an invitation to speak in a seminar on Text Analysis in Computer-Assisted Language Learning: Applications, Qualifications and Developments. A version of the paper will appear later in the Proceedings of that seminar edited by J.C. Milton and K.S.T. Tong, Hong Kong University of Science and Technology. I would like to acknowledge the generous support of HKUST, The British Council, and Bell Educational Trust that made it possible to attend this very interesting gathering. I strongly recommend the Proceedings to colleagues interested in this area of computer applications.

## REFERENCES

- Biber, D. (1988). *Variation across speech and writing*. Cambridge, UK: Cambridge University Press.
- Chatman, S. (Ed.) (1973). *Literary style: A symposium*. Oxford: OUP.
- Crombie, W. (1985). *Discourse and language learning: A relational approach to syllabus design*. Oxford: OUP.
- De Beaugrande, R. & Dressler, W. (1981). *Introduction to text linguistics*. London: Longman.
- Dudley-Evans, T. (1985). *Writing laboratory reports*. Melbourne: Nelson Wadsworth.
- Garside, R., Leech, G., & Sampson, G. (1987). *The computational analysis of English*. London: Longman.
- Halliday, M. (1973). *Explorations in the functions of language*. London: Edward Arnold.
- Halliday, M. (1985). *An introduction to functional grammar*. London: Edward Arnold.
- Hoey, M. (1983). *On the surface of discourse*. London: Allen and Unwin.
- Hoey, M. (1991). *Patterns of lexis in text*. Oxford: OUP.
- Leech, G. (1969). *A linguistic guide to English poetry*. London: Longman.
- Leech, G. N. & Short, M. (1981). *Style in fiction: A linguistic introduction to English fictional prose*. London: Longman.
- Martin, J.R. (1989). *Factual writing: Exploring and challenging social reality*. Oxford: OUP.
- Sinclair, J. & Coulthard, R.M. (1975). *Towards an analysis of discourse*. London: OUP.
- Sinclair, J. (1987). *Looking up: an account of the COBUILD project in lexical computing*. London: Collins.
- Sinclair, J. (1991). *Corpus concordance collocation*. Oxford: OUP.
- Spolsky, E. (1981). The language of the academic community. *Proceedings 1, AILA, 81*. Lund, Sweden.
- Swales, J. (1981). Aspects of article introductions. *Aston ESP Research Reports 1*. Language Studies Unit, University of Aston in Birmingham.
- Tarone, E., Dwyers, S., Gillette, S. & Icke, V. (1981). On the use of the passive in two astrophysics journal papers. *The ESP Journal, 1*.
- Tribble, C. (1986). Style and purpose: Or why things get written in different ways. Unpublished MA diss. London: University Institute of Education.
- Tribble, C. (1989). The use of text structuring vocabulary in native and non-native speaker writing. *MUESLI News* (June), 11-13.
- Tribble, C. (1990a). Computers, corpora, language teaching: A practical introduction to the use of concordancing in language teaching and learning. *Neuren Sprachen, 89*(5), 465-75.
- Tribble, C. (1990b). Concordancing and an EAP writing programme. *CÆLL Journal, 1*(2).
- Tribble, C. (1990c). *Longman mini concordancer handbook*. Harlow, Essex: Longman.
- Tribble, C. (1990d). Small scale corpora in ELT: An investigation into vocabulary use. *CÆLL Journal 1*(3).
- Tribble, C. & Jones, C. (1990). *Concordancing in the classroom*. Harlow, Essex: Longman.
- Widdowson, H.G. (1975). *Stylistics and the teaching of literature*. Oxford: OUP.
- Williams, R. (1978). EST—is it on the right track? *MALS Journal*. University of Birmingham.
- Winter, E.O. (1982). *Towards a contextual grammar of English*. London: Allen and Unwin.