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# Collocability in Languages for Special Purposes (LSPs): Some Preliminaries

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**Abstract:** This paper is concerned with the language professional discourse communities use for their internal communication. The characteristics of these languages for special purposes (LSPs) are many and varied, as well as being underresearched. The focus adopted here is to examine the phenomenon of multiword units, many of which are orthographic pluralities designating conceptual singularities. It is important to recognise at the outset that collocation is not the same as collocation. Analysis and systematisation of these textual "clustering" is intended to separate them into two radically different types of entity: multiword segments possessing terminological status; and collocative material. The methods used to achieve the above objective are both qualitative, i.e. micro-environmental analysis, and quantitative, i.e. statistical patterning exhibiting a certain level of frequency and constancy. Collocational material quoted here also shows by its configuration that discourse communities use collocations to which the general public are not inured and with which they may not necessarily be familiar at all.

**Keywords:** CHUNKING, CO-OCCURRENCE, COGNITIVE ENTITY, COLLOCABILITY, CONCEPT, CORPORA, DISCOURSE COMMUNITY, DISTRIBUTION, DYAD, ENCYCLOPAEDIC COMPETENCE, LANGUAGE FOR SPECIAL PURPOSES, LEXICOGRAPHY, MENTAL LEXICON, MULTWORD UNIT, OCCURRENCE, SOCIOLECT, STATISTICS, TERMINOLOGY, TERM, TRIAD

**Opsomming:** Kollokeerbaarheid in tale vir spesiale doeleindes (TSD's): 'n Aantal inleidende aspekte. Hierdie artikel handel oor die taal wat professionele gespreks-gemeenskappe gebruik vir interne kommunikasie. Die kenmerke van hierdie tale vir spesiale doeleindes (TSD's) is baie en veelsoortig, en word ook onvoldoende nagevors. Die fokus wat hier gekies is, is om die verskynsel van meerwoordige eenhede te ondersoek, baie waarvan ortografiese meervoudighede is wat konseptuele enkelvoudighede benoem. Dit is belangrik om van die begin af te besef dat kollokasie nie dieselfde as kollokasie is nie. Analise en sistemativering van hierdie tekstuele "klustering" is bedoel om hulle in twee algeheel verskillende tipes entiteite te verdeel: meerwoordige segmente wat terminologiese status besit; en kollokatiewe materiaal. Die metodes gebruik om bogenoemde doel te bereik is sowel kwalitatief, d.w.s. analise van mikro-omgewings, en kwantitatief, d.w.s. statistiese patroonvorming wat 'n sekere vlak van frekwensie en konstantheid vertoon. Kollokasionale materiaal wat hier aangehaal is, wys ook deur die konfigurasie daarvan dat gespreks-gemeenskappe kollokasies gebruik waaraan die groot publiek nie gewoond is nie en waarmee hulle glad nie noodwendig bekend mag wees nie.

**Sleutelwoorde:** SEGMENTERING, MEDEAANWESIGHEID, KOGNITIEWE ENTITEIT, KOLLOKEERBAARHEID, KONSEP, KORPUSSE, GESPREKSGEMEENSKAP, VERSPREIDING, DIADE, ENSIKLOPEDIËSE TAALVERMOË, TAAL VIR SPESIALE DOELEINDES, LEKSIKOGRAFIE, MENTALE LEKSIKON, MEERWOORDIGE EENHEID, VOORKOMS, SOSIOLEK, STATISTIEKE, TERMINOLOGIE, TERM, TRIADE

*D'autre part, les collocations ne sont pas des unités de lexique: tout ce qui est de l'ordre du mot — les mots composés, par exemple — devrait être écarté. Ceci est hélas plus facile à dire qu'à faire, particulièrement dans les langues de spécialité. Les associations nom + nom et nom + adjectif, par exemple, qui y sont nombreuses, sont souvent considérées, à cause de leur caractère de fixité et du fait qu'elles font référence à une notion qui occupe une place précise dans une taxinomie, comme des unités lexicales. Mais les critères de différenciation entre mot et "non-mot" (ou plutôt terme et "non-terme") ne sont pas toujours limpides. Dans un dictionnaire de collocations d'anglais général, il n'est pas trop difficile d'exclure des suites comme "generation gap" ou "battering ram", mais en langue de spécialité, les problèmes sont un peu plus complexes.*

Henri Béjoint et Philippe Thoiron

## Preamble

The above quotation — which, interestingly, chooses English examples to support its thesis — sets the scene admirably for what is to follow in due course on what is acknowledged to be a very significant aim, within text linguistics, discourse analysis and, of course, lexicography and terminology studies: firstly, the location within running text and the subsequent analysis — either by hand or by computer — of units of meaning which comprise more than one (ortho)graphic word; and secondly and much more importantly, the overarching phenomenon of "chunking". However, before we can sensibly discuss these matters, the major focus of this paper, we must tread a path to the promontory from which we will best be able to view the scene.

## Point de départ

Chunking is a primarily mental phenomenon, the symptoms of which are to be found in linguistic formulations. Put in other terms, chunking is a psychological cause, associativity, which has linguistic effects, juxtaposition or blending. It follows that any macro-investigation of chunking as a phenomenon is best pursued by the micro-investigation of "chunks", stretches of agglutinating linguistic material which are felt to represent segments of thought rather than just fragments. Chunks are also entities about which and about the use of which

there is some sort of social consensus. However, chunks hardly ever seem to be static in developmental terms; rather, they appear to be on a trajectory towards "explicitness" and involved in a systemic combat driven by language users and aimed at a prevaricating homeostatic trade-off between lexis and syntax. Once they have reached it, whatever that means in orthographic terms, they are no longer inchoate and they are no longer ambivalent: they have, in fact, merely become "normal", if somewhat lengthier, units of language — in common perspective, at the very least.

It is a well-known but regrettable fact that very, very few language communities possess satisfactory collocations dictionaries, the global mission of which — in addition to their strictly utilitarian function — is to demonstrate, reactively and proactively, that collocation is not collocation. The former, that is, mere juxtaposition, is either volatile or an example of a "fixed" multiword unit, whereas collocation manifests associative regularities — sometimes based on assonance, sometimes on prosodic effect, sometimes on less easily definable criteria — that can be shown to be statistically significant rather than "binary" in the sense of present versus absent. The normal unavailability of collocations dictionaries is a great pity because that is exactly what advanced learners need and, indeed, what many native speakers hanker after too. In fact, it is not stretching things too far to say that first-class collocational control is the hallmark of the true L2 expert; collocational control is, of course, normally the last linguistic subsystem to be mastered by L2 learners who proceed to an advanced level. Correct deployment of collocations is particularly important for anyone striving for authenticity of performance within a particular professional sociolect, such as the language of medicine or economics.

Lexicographic tools are urgently needed to help those who have not had the advantage, from their early years, of "statistical exposure" to lexical patterning which, although often analytically idiosyncratic, is habitual. It follows that investigation of the phenomenon of collocability relates to the hidden, subliminal patterns and rhythms of language which need to acquire a description having its basis rather in the statistics of occurrence and co-occurrence. Such lexicographical tools need to be primed — in the sense of acquiring the data they treat — by computational tools, the purpose of which is to identify, excerpt and prioritise relevant lexical material in a form suitable for subsequent lexicographical treatment. However constant this general aim may be, the actual means of fulfilling it will differ from one language to another. In all cases, of course, it is a question of locating stable and authentic multiword material — this is probably the only initial common denominator.

### **The "intrusion" of terminology — in a double sense!**

In languages for special purposes (LSPs), a particular problem is posed by the terminological usages which proliferate in such modes of discourse. It so happens that technical terms are themselves often composed of more than one

orthographic word. Some criterion is therefore needed to discriminate between terms and collocations. The former are cognitive entities inserted as such into flowing text, the latter are, predominantly, inserted separately into text, yet their associativity helps that text to flow and to cohere. However, the position is given a further twist by the fact that genuine collocability also manifests itself in LSP discourse.

Let us commence by suggesting that Béjoint and Thoiron's formulation "lexical units" can be the cause of some confusion as this piece of nomenclature focuses on the messenger rather than the message, so to speak. Is it not preferable to refer to cognitive units or cognitive entities — which, naturally, require linguistic form, at least for the purposes of interpersonal communication? Quibbles apart, all of these terms attempt to capture the "truth" that it is not only words which retain their referents outside text; word-groups and phrases may also do so. This is entirely in accordance with the customs, habits and social compact established within societies for structuring individual and group experience. These lexical pointers along with whatever they point to constitute the mental lexicon of individuals and, by aggregation, the working consensus of society about how to interact linguistically with the world. Items in mental lexicons are mappings, complex rather than simple, between mental images and the names which point to them. In some ways the names are secondary and subservient: they may alter, leaving their referent unchanged, for instance. Yet they have power: names tame! The "downside" of this, via a different analogy, is that the natural dynamics of mental images are reduced to slow-motion film or even to still photographs. Yet names are also the major instrument of effability and they may acquire or discard referents as a result. Most of all, names, normally named "words", are at the very basis of social intercourse. Of course, much social intercourse takes place on a distinctly professional level, invoking/evoking — and instantiating by words — established concepts (Latin: ideas "taken together", i.e. holistically merged), phenomena or artefacts current within particular discourse communities (DCs) for the simple (!) reason that they have been professionally introduced, negotiated and subsequently validated by them. This process is necessary so that DC members can communicate with each other on the same terms, in a double sense, understanding without either external or internal mediation and not merely comprehending each other's thinking and reasoning. In this way a DC's sophistication increases, first of all encyclopaedically (at least for the pioneers) and then terminologically. The route from term to concept is immediate for DC members; for those outside the DC it is most likely to be mediate. It can, obviously, also be a cul-de-sac. The people of a DC and their purposes always have precedence over their technolact, so to speak.<sup>1</sup> Putting this point in the parlance of sociology, the DC — even represented by its neophytes! — is the independent variable, the linguistic resources that they call on to express themselves individually and corporately are the dependent variable(s). A less obvious corollary, even to those directly involved, of this system of socio-professional "information exchange" is the

continual growth — not necessarily linear! — in the given paradigm's cohesion. It should in fact be noted, in the margins, that this "growth" can sometimes lead to the sclerosis of orthodoxy, hopefully then followed by genuine renewal based on new relationships and a new dialectic, plus a new or at least revitalised discourse to go with them. In such extreme circumstances a DC's members may well be prisoners of their thought or "mind-set"; they are not normally prisoners of their terminology because they can realign and resemanticise it by agreement.

### **How and where to establish a "base" for investigative purposes?**

Those who observe and analyse DCs because of an interest, even a utilitarian interest, in their technocults are almost exclusively never members of them. This, of course, puts them in the empirically best possible but still suboptimal position to carry out their work as dispassionate investigators. The position is still less than perfect because little or no regard is given to what is encyclopaedically expressible (i.e. "encyclopaedic competence"?), only to what is actually expressed by linguistic means (i.e. "linguistic performance"?). However, that is an easy statement to make. After all, there are constraints. What is more difficult is making a judicious and also successful choice of methods for the investigation. It seems that linguists are — very sensibly — increasingly resolving the problem of linguistically modelling discourse, not least LSP discourse, by primary recourse to quantitative rather than qualitative methods. Qualitative analysis of LSP discourse by "frontal attack" requires an exceedingly well-stocked arsenal of tools and techniques, many of them still evolving and maturing. The yield tends to be on a micro level, the analogy of intensive "case-study" approaches which always seem to studiously eschew any mention of "comparators" when the real questions are always the following. First and foremost, just how representative of wider practice and habits are the "findings"? Secondly, has the "gulf" between encyclopaedics and linguistics been successfully bridged? Quantitative methods offer a way round this dilemma — at a cost! These methods can summon from an arbitrarily large corpus exhaustive lists of linguistic "segments" along with their frequency of occurrence. Although the frequencies are numbers, this information is of high qualitative value because the individual items in the associated lexis can then be described in terms of their actual functional load in the running source text and also in terms of their putative "market share" in analogous "still-to-be-written" text. Such material is of prime value for pedagogical purposes, principally because it is direct and powerful evidence of authentic usage. This then is the nature and purpose of quantitative modelling in linguistics — specifically lexis in this case — and it is arguably the best route open to investigators, particularly those with strong pedagogical interests.

## The crux of the matter

We are now at a point where we can begin to draw together the two main strands of this paper. The first strand is obvious enough: how do we isolate within running text, firstly, DC cognitive units expressed by single orthographic words and how do we isolate those cognitive entities which are by definition conceptual "singularities" even though they are at the same time orthographic "pluralities"? Obviously, such matters of procedure and the variety of contingent cruces will depend on the particular natural language involved in any such investigation.<sup>2</sup> In some languages, of which German may be taken as a suitable representative, the linguistic designation/configuration of many concepts, both within everyday life and within specialist DCs, often occurs via the compounding of separate lexical items into one orthographic unit. The linguistic process involved is one of holisticisation — who can say whether this is a true reflection and model of the Gestalt formed by the fusion of the latent (!) mental constructs? Just as the concept is "taken together" and becomes molecular, so the component [Latin: "putting together"] names are similarly batched and merged:

*Farbfernsehempfänger*, [Farb[[fern]{seh}{empfänger}}]:  
*colour television receiver*, [colour\_ [[tele]{vision}\_ [receiver]]];

*Preisfestsetzungsrichtlinien*, [Preis[fest[setzungs]{richt}{linien}}]:  
*price-fixing guidelines*, [price-fixing\_ [guidelines]].

English achieves the same objective of terminologically nominating a concept by juxtaposition and/or hyphenation. Phrasal formulation is also often an option in English: *guidelines for price-fixing / guidelines for fixing prices*.<sup>3</sup> It should be apparent, even on this slender basis, that delineating technical terms in running text is not an easy business as far as English is concerned. It is, of course, not unimportant which of the three available methods a language uses, and in what "mix", for structuring syntactic meaning: element order, function words, or inflection. The characteristics of English, with its "residual" inflection and consequent reliance on "neighbourhood" are particularly impervious to analysis by traditional methods. The chunking phenomena<sup>4</sup> of interest yield only to subtle environmental analysis, often supported by statistical profiles. An instance of this is the English "phrase term"

*stability augmentor pitch axis actuator housing support*

which brackets as

[[[[[stability augmentor] [pitch axis]] actuator] housing] support].<sup>5</sup>

See also Appendix I for a brief excerpt of text on navigation<sup>6</sup> with terminological usages "coded up" — in an intuitively simple manner — as single ortho-

graphic words. The paragraph shown represents only about one tenth of the entire text but the artificial graphic system used cuts the token count by 70 items, while — because of the batching effect — reducing the number of types by only a mere half dozen!

### **A fundamental distinction and its implications**

It is vitally important to understand that the formation/usage of such multiword units in English — and in many other languages — has nothing whatsoever to do with collocability, the chronologically second but thematically and substantively first strand in our discussion. It is a fact of life that, alongside everyday collocations of greater or lesser currency, professional collocations also exist. It is to this feature of language that we now turn our attention, encouraged and helped by the following dichotomising principle: **If multiword units are terms they are not collocations; if they are collocations they cannot by definition be terms.**

Operationally and computationally, this principle reduces to the need to distinguish in English between those spaces between orthographic words which separate and those which glue and bond. Fortunately, this problem normally solves itself in the course of computer-driven analyses by dint of the statistical force of grouping.

### **Collocation: a macro phenomenon with micro differentials**

Collocation is a linguistic phenomenon which manifests itself via the habitual but often seemingly idiosyncratic or inexplicable<sup>7</sup> association by co-occurrence in a microcontext, in parole, of one word with another. The strength of such associations may vary, both within a community and over time. There is some basis for stating that collocation is a phenomenon which can partly be measured in terms of its surface systematicity. Collocation is a linguistic subsystem which individual L1 users acquire, as noted above, not by study but by sheer exposure to the phenomenon from their early years on. Each new stimulus adds incrementally to the speaker's ability to control his/her own linguistic behaviour and to make certain judgements about other people's linguistic behaviour. In many ways, collocational control — which also embraces the ability not to produce incorrect collocations! — is not merely a hallmark of linguistic maturity, it is also a kind of shibboleth. That is why it is so important — it is also why collocational control is difficult to master, seriously so if the person attempting to establish control is not a native speaker of the language concerned. Such a person has to adopt or devise a chronologically optimised regimen for acquiring collocational control: the problem is that emulation of native speakers is too slow and simulation is too risky. The simulation has to be con-

nectionist anyway, developing its own neural network, to use two terms in a literal rather than a metaphorical sense.

Given that collocations occur freely and naturally in all those sociolects which are "everyone's property", it would be somewhat strange if they did not also occur in special languages, the LSPs associated with and "owned" and regulated by DCs which group professional persons by gradations of various types. It is a very pertinent — and underresearched — question as to whether exposure to the collocational habits of technolect speakers instils collocational orthodoxy of linguistic behaviour in the same way as in general circumstances. One hypothesis must be that there are differences between the two situations alluded to. People joining obvious professional groupings do so at a time in their lives when their adult native language habits are more or less established. Nonnative speakers have a more obvious problem. Either way, there is a learning and adaptation process which has to be much more purposive and "supraliminal"; this, in its turn, requires deliberate reflection, learning and greater awareness about linguistic, sociolinguistic and metalinguistic matters. The urge to adopt "group-speak" is more keenly felt even if "group-thought" lags behind somewhat! Yet there is an ongoing tension between the demands of the logical and ontological framework of the professional DC and the requirements of illocutionarily successful linguistic formulations and terminological codifications. The "genre" problem within a DC's discourse is an added subtlety, not least in terms of the collocational practice of DC members vis-à-vis other DC members or "layfolk", to name only one such communication axis.

### A LSP-based investigation of collocability

The (ongoing) research on which the above remarks are based is an investigation of LSP discourse in the areas of finance/banking and — partly — of medicine.<sup>8</sup> The texts used in the investigation come from two types of source. Firstly, the holdings of the Aston Scientific and Technical English Corpus (ASTEC) provided the medical text. Secondly, and quantitatively more importantly, the finance and banking material was read from a commercially available CD-ROM which contains the entire text of the 1993 editions of the *Financial Times*, classified into subcorpora designated by theme and genre.<sup>9</sup>

Once a *prima facie* satisfactory corpus of text has been identified, it can then be processed. For very large corpora (i.e. 2 million tokens) the machine processing is carried out in a UNIX environment, via a suite of programs expressly designed for the purposes described in some detail here. The method of initially selecting and then identifying multiword textual segments is simple enough. The objective is to find, inspect and count batches, no more than arbitrary fragments really, consisting of nine orthographic words. Once found, these fragments can be sorted and arrayed by their "middle", i.e. fifth, word. The scanning window then moves one word to the right, so to speak, and iterates the same basic process. Some further sophistication is available — at addi-



tional computational expense — by the following method which has been shown to be operationally viable with groups of two words (dyads) and three words (triads). The algorithm works as follows: in the case of dyads, the words comprising them must be within a sentence boundary, with no intervening punctuation marks. Neither member of the dyad may be a function word. For triads the strategy is similar, with the "concession" that the middle word in a triad may be the function word *of*. The yield, unlemmatised, from the algorithm is sorted by frequency and then inspected with a view to identifying segments rather than fragments. Many of the segments are proper names, either institutional or personal, of encyclopaedic significance to the DC concerned. Those that are not are either terms representing cognitive units or they are potential collocations. A list of 553 triads — representing occurrence frequencies descending from 308 to 3 inclusive — was derived, by the above "unintelligent" methods, from a sample of the World Stock Markets corpus. Of the items in this list 62% represented cognitive units (*interest rate cut*), proper names (*UBS Phillips Drew*), jargonistic turns of phrase (*dealers took profits*), or collocational expressions (*volume remained flat*). Similarly, a list of 1268 dyads — representing occurrence frequencies descending from 431 to 5 inclusive — was then derived from the World Stock Markets corpus. Of the items in this second list 44% represented the same set of lexical categories: cognitive units (*corporate earnings*), proper names (*Bill Clinton*), jargonistic turns of phrase (*depressed sentiment*), or collocational expressions (*Paris fell*). An analogous analysis of a medical corpus drawn from the *British Medical Journal* yielded 121 terms from a list of 883 triads (see Appendix II).

Computational experience has shown, at this stage, that the main operational requirement is copious output which can then be refined by classification even if the discard rate is high. A surfeit of information is better than a dearth thereof! The steps needed to achieve copious output are easy enough to understand and appreciate. A large corpus will yield a rather long list of types, to which is appended the number of tokens for the relevant type, that is, its occurrence frequency. No attempt is made at all to group the types together into their "lemma set" and hence attempt to look at the behaviour of the canonical form. This can be done separately for English text, but even for inflected languages (such as Polish) it is more profitable in fact to look at the types independently of their lemma "allegiance". The point is that the various forms of the lemma all lead different lifestyles in text, not just in terms of frequency but also in terms of the lexical company they keep. The grouping action of lemmatisation actually obscures important information about type frequency and functional load within text and — above all — about type behaviour in terms of semantic differentiation. Be that as it may, it is probably the type frequency list (plus token counts) which is the main priming material for further investigation. Clearly, the analyst has choices to make, invidious choices, possibly. Attention tends to gravitate either towards types with a fairly high frequency or towards items of almost curiosity value. Having once selected an item for

further scrutiny, the analyst goes back to the corpus and retrieves all the lines containing the item in question. This is the necessary preliminary to the study of the said item's distributional characteristics — that is, seeing how its meaning is "defined" by the constancy of its neighbours, its morphological variants and, if such applies, its — often Janus-like — polysemy (see Appendices III and IV). This is, in fact, the only logistically feasible way of studying words as "chameleons". It can be noted in passing that any search profile can be entered as a string rather than as a fully-fledged word if interest is actually focused on a lemma or hyperlemma (as in the set: *STRUCTure*, *reSTRUCTure*, *STRUCTural*, *STRUCTuralism*, *deSTRUCTion*, *conSTRUCTive* etc.). The result of the actual search is a set of one-line concordance citations which may supply information that is adequate for the analyst's purposes. If this is not the case, the entire sentence from which the keyword has been somewhat artificially extracted can be retrieved for inspection. As a further specific aid to collocational studies, a so-called synoptic chart (see Appendix V) can be produced of the node's left and right neighbours to a depth of four items. The individual items arrayed are "decorated" with their own occurrence frequencies. This is the basic method of attack for the purposes of collocational analysis but it is worth mentioning in this precise context that an overview of the valency pattern of the node words selected often also comes across very forcefully. Valency patterning is, of course, held by some to be an integral pattern of collocation studies. The techniques enumerated here have also worked, incidentally, to good effect on material in languages other than English.

It is clear from the initial stages of the above ongoing programme of research into LSP collocability that, as regards text generation, a marked degree of formulaic writing exists in the World Stock Markets financial press. This is true with respect to sentence structure and to the choice of words used for the purposes of qualification. This is either a tendency to avoid any disorientation in readers' minds that might be caused by novelty of usage or — just possibly — the result of summoning up, by reason of time pressures, certain prefabricated utterance structures of an algebraic kind and leaving the few variables mostly unchanged (see Cowie 1991 and 1992).

The techniques described immediately above achieve their greatest effect in the way they present for inspection the left-hand and right-hand neighbour(s) of the nodes chosen. Scrutiny of these environments leads naturally and fairly rapidly to the identification of any collocations present. Let the professional collocations used to describe the quality of stock market trading in Appendix VI speak for themselves and invite reflection, but let not the merits of the material in Appendices II, III and IV be overshadowed in the process!

## Implications and Renvoi

The implications of what precedes are numerous but can nonetheless be classified as either practical or theoretical. Let us deal with the practical implications

first. Computationally, the impediments impinging on both principle and practice are minimal. Largely, the name of the game continues to be the game of the name! In terms of particular investigations a great role is played by pedagogical impetus: in fact, the agenda can safely be driven by this as no gulf is likely to open up between those who seek and find material<sup>10</sup> and those who place it in the lexicographer's/terminographer's crucible.

On the level of theoretical considerations, there is much more to speculate about. Let us ask some questions which are not merely rhetorical. What is the precise nature of the mismatch between orthographies and the cognitive units they must find designations for? What is chunking — with respect to term formation and collocability — and how can synchronically- and diachronically-focused studies be pursued with both descriptive and analytical purposes? How does the primeval soup of language congeal in different ways and in what contrasting and competing ways within particular languages? What is the logical, semasiological, ontological and analogical nature of, say, the sets (or classes?) of adjectives collocating with certain nouns or groups of nouns? Is this all *sui generis* or is it describable in generic terms?

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### Notes

1. For further discussion of the linguistic and sociological basis of DCs, see Knowles 1997.
2. Let us, for the purposes of this discussion, set aside the cross-cultural differentials and the occasional mismatches between the encyclopaedic networks of "national" DCs. Such mismatches cause communication problems by cropping up in LSP discourse potentially addressed to all members of a supposedly international and "shared" specialist/intellectual culture.
3. It may be that German's/Germans' tendency to generate complex/compound neologisms in the form of large numbers of one-word lexicalisations (their words are *Komposita* or *Zusammensetzungen*!) is explained not just by the linguistic resources available but also by holisticising perceptions.
4. Languages such as Arabic possess a mechanism known as *iDaafa* (annexion) in which two (occasionally more) words, while remaining orthographically separate, unite to form a separate cognitive unit. An instance of this is Arabic *ra's maal*, literally *head of money*, i.e. *capital*. These units are fully lexicalised and are atomic in the sense that no other linguistic material may be interposed between the two orthographic words involved. Hebrew, Farsi and Turkish also have very similar structures. Note that these compounds are exactly that, they are not collocations, although collocation might well have been their origin.
5. See Varantola 1984: 42.
6. From the article "Navigation" in Amerongen 1977.
7. Why do English speakers always *enter a caveat*? *Enter*, here, is a truly transitive verb, a usage very different from "*entering*" a building.

8. I express a great debt of gratitude to Patricia Thomas and to my close colleague Dr. Peter Roe for insights gained from the many continuing conversations we regularly have on the matters discussed here. A particular vote of thanks is also due to Peter for the specification and implementation of the ATA (Aston Text Analyser) software package which is now under commercial development.
9. We express our sincere gratitude here to the FT for permission to make extensive use of the CD-ROM materials.
10. Terms or collocations — on this occasion we draw no contrast!

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## Appendix I

As the **water\_depths** are marked on **nautical\_charts**, a further **navigation\_aid** is provided by **soundings**, i.e., **systematic measurements** of the **depth\_of\_[the]\_water** in which the **ship** is sailing. The traditional device for the purpose is the **lead-line**. **Patent sounding\_machines** are based on the fact that the **pressure\_of\_[the]\_water** on an **immersed body** increases with the **depth** to which it is **immersed**. A more modern device is the **echo\_sounder**. In the **bottom** of the **vessel's hull** a **transmitting\_oscillator** and a **receiving\_oscillator** are so **mounted** that the latter **picks\_up** the **echo reflected\_back** from the **sea\_bed**. A **rotating\_contact** causes a **condenser** to **discharge** through the **electromagnetic transmitting\_oscillator**, so that a **sound\_impulse** is **transmitted**. The **time-measuring equipment** comprises a **neon\_lamp** **rotating** in front of a **timing\_scale**. When the **lamp** passes the **zero\_position**, the **sound\_impulse** is **transmitted**. The **time** it takes for this **impulse** to **reach** the **sea\_bed** and return to the **receiving\_oscillator** (which is essentially a **microphone** for **picking\_up** the **sound**) is **marked**, or **read**, on the **scale** by a **flash emitted** by the **neon\_lamp**, which has meanwhile **rotated** past the **zero\_position**. The **current** from the **receiving\_oscillator** has to be **amplified** in order to cause the **lamp** to **light\_up**. **Echo\_sounders** usually operate with **ultrasonic frequencies** (20,000 cycles/sec.), but **sounders** operating with an **audible sound\_frequency** (3600 cycles/sec.) are used for **deep-sea soundings**. The **principle** of the **transmitting\_oscillator** is really quite simple. The **coil** is **energised** by an **alternating\_current** with a **frequency** of 3600 cycles/sec., so that the **laminated armature**, attached to the **diaphragm**, is **alternately attracted** and **released**. The **diaphragm** emits **sound\_waves** of this same **frequency**. Other types of **transmitter** make use of the **principle** of **magneto-striction** or the **piezo-electric\_effect**.

## Appendix II

95% confidence intervals  
 absence of menstruation  
 active group odds  
 additive adverse effects  
 adverse neurodevelopmental outcome  
 adverse neurodevelopmental sequelae  
 alternative metabolic substrates  
 analysis of subgroups  
 antepartum breech presentation  
 antepartum cardiac disease  
 artificial insemination clinic  
 asymptomatic-neonatal hypoglycaemia  
 Bayley mental scale  
 blood glucose concentration  
 blood glucose concentrations  
 breech multiple pregnancy  
 cardiac antepartum haemorrhage  
 cardiac breech presentation  
 central delivery suite  
 centre d failed  
 computerised collection system  
 continuous dependent variables  
 controlled cord traction  
 cycles of treatment  
 days of ventilation  
 degree of hypoglycaemia  
 degrees of hypoglycaemia  
 Department of Health  
 detailed neurological examination  
 development of hypoglycaemia  
 diagnosis of postpartum  
 diastolic blood pressure  
 dichotomous dependent variables  
 distribution of conceptions  
 distributions of insemination  
 early breast feeding  
 early childbearing years  
 early feeding practices  
 elective intravenous nutrition  
 empirical cumulated distribution  
 enzyme immunosorbent assay  
 fatness mass index  
 fetal growth retardation  
 frequency of inseminations  
 frequency of intercourse  
 frequent moderate hypoglycaemia  
 full term infants  
 full term neonates  
 gamete intrafallopian transfer  
 glucose oxidase method  
 Health Ethics Committee  
 higher susceptibility rates  
 highly significant increase  
 hypoglycaemia glucose concentration  
 hypoglycaemia plasma glucose  
 hypoglycaemia recurrent apnoea  
 hypoglycaemic neurological impairment  
 iatrogenically controlled ovulation  
 immediate postpartum period  
 incidence of hypoglycaemia  
 incidence of postpartum  
 incidence of vomiting  
 insemination donor clinic  
 late maternal refusal  
 local awareness campaigns  
 major congenital abnormalities  
 maternal blood loss  
 maximum regression coefficient  
 maximum sperm counts  
 mean birth weight  
 mean cell volume  
 mean gestational age  
 mean monthly temperatures  
 measure of non-compliance  
 mental development scores  
 mental developmental scores  
 method of testing  
 methods of testing  
 middle postpartum haemorrhage  
 minimal enteral feeding  
 minimum safe plasma  
 mothers' educational level  
 motor development scores  
 multiple intrauterine death  
 neonatal cell volume  
 neonatal packed cell  
 non-parametric sample test  
 number of conceptions  
 occurrence of hypoglycaemia  
 onset of hypoglycaemia  
 packed cell volume  
 persistence of hypoglycaemia  
 plasma glucose concentrations  
 postpartum cell volume  
 proportion of infants  
 proportion of susceptible  
 quality of semen  
 raised blood pressure  
 randomised controlled trial  
 rate of conception  
 rate of ovulation  
 rate of postpartum  
 rate of susceptibility  
 rate of uptake  
 rates of conception  
 rates of uptake  
 reduced developmental scores  
 regional health authorities  
 Registrar General's Classification  
 release of gonadotrophin  
 risk of hypertension  
 risk of postpartum  
 senior house officers  
 severe neonatal hypoglycaemia  
 severe neurological damage  
 somatosensory evoked potentials  
 special care nursery  
 treatment of infertility  
 waste of eggs  
 World Health Organisation

[121 of 883 triads retained]

### Appendix III

16 APR 92 / Observer: A mucky  
 hich has a staff of 8, transact  
 encounters: **there is unfinished**  
 r. And all **at the bottom of the**  
 hey will lead to more lucrative  
 hion houses are reporting brisk  
 oup's managed **pubs and property**  
 of its US-based **healthcare**  
**having run the**

ot of time casting doubt on the  
 the DTI's efforts to make  
 t not according to Bill Emmott,  
 eeking to transfer its **non-life**  
**tax'** on  
 for **domestic mortgage indemnity**  
 However,  
 were a **family**  
 sex, women, **big**  
 Dalgety regarded **agri**  
 Giovanni Di Stefano, a former  
**ailing retail**  
 in

The average rate of  
**proportion of**

the  
 HE traditional split in Genoa's  
 The  
 sectors of the  
 nd significant support within a  
 jobs, some members of the local  
 the city's  
 The  
 Canada's  
 and the bulk of Canada's  
 shifted from politicians to the  
 DALGETY, the **foods and agri-**  
 some  
 l contracting marketplace where  
 which indicated that  
**improvement in**  
 on  
 The closely-watched **index of**

profitability in spite of **weak**  
 th the Hoar brothers over their  
 FT 13 JUN 92 / Japanese  
 the Bank of Japan reported that  
 the Bank of Japan reported that  
 decline in  
 to the 333 companies surveyed,  
 FT 13 JUN 92 / Japanese  
 Lybrand - records an upturn in  
 r Dean, aged 53, is a **freelance**  
 sation of profits, there was no

**business**  
**business**  
**business**  
**business**  
**business**  
**business**  
**business**  
**business** Glasrock for Dollars 72m (Pounds 3  
**business** a bit cavalierly.'  
**business activities**, Andrew Jack writes. No  
**business activities**.  
**business activities**. Sales of snacks rose 2  
**business acumen** of British  
**business advisory services** more user-friend  
**business affairs** editor of  
**business** after two years of heavy  
**business aircraft** mandated by Congress. Gam  
**business** amounted to  
**business analysts** welcomed Mr Patten's blue  
**business** and not a public company'.  
**business** and the government, you get a poli  
**business** as a core activity, it saw foods a  
**business associate** of Mr Giancarlo Parretti  
**business** back on track. Ahead of this year'  
**business circles**.  
**business climate** in the country.  
**business climate**.  
**business climate**. There were fears in Hong  
**business closures** (as distinct from insolve  
**business closures** are inevitable and will r  
**business closures** that results in legal ins  
**business colleagues** outside HunterPrint hav  
**business community** and the governor'.  
**business community** between a public sector  
**business community** may be more grateful. 'I  
**business community** to feel that the council  
**business community** which  
**business community**,  
**business community**, responds with scepticis  
**business community**, which overwhelmingly en  
**business community**.  
**business community**.  
**business community**.  
**business company**, raised pre-tax profits by  
**business concerns**. The announcement of a mo  
**business conditions**  
**business conditions** are improving, writes P  
**business conditions** by September.  
**business conditions** by Staffordshire County  
**business conditions** for manufacturing  
**business conditions** in the second half.  
**business conditions**.  
**business conduct**.  
**business confidence** at 5-year low  
**business confidence** in May had plunged  
**business confidence** in May had plunged  
**business confidence** in May, which hit the 1  
**business confidence** in many UK  
**business confidence slumps**  
**business confidence**.  
**business consultant** and was an executive  
**business criteria** [!!!]in

similar  
d result is a terribly **immature**  
He argues that Japanese  
many of their  
street banks' charges to **small-**  
re optic circuits to link local  
ochester says some Lloyds **small-**  
combination of a **reviving**  
hat United was trying to link a

and  
Mr Tim Baker,  
The  
1 months before he died and his  
ml, inherited almost the entire  
largest  
jet, expensive cars and various  
how to respond to the **difficult**  
warned that the Japanese  
**political and**  
mainly targets the  
that  
because there have been so many  
m committing one of the biggest  
**attract**  
night stay in a Marne la Vallee  
trippers or staying at nearby  
its  
US and Wellworth food **retailing**  
d standards and with its own 39  
/ Turkish fears grow on foreign  
I might place some of its **small**  
te and the postponement of many  
be said that many, if not most  
of

he company along with other **agri**  
9, has resigned to follow other  
production and **flat** February  
d yesterday showed the **ratio** of  
terday showed that the **ratio** of  
business rates impose on  
'Our **core**  
Brothers of Belfast, and the US  
to power the new Gulfstream GV  
GV  
flight of the new  
It is true the  
and billed as the fastest-ever  
ion last year. However, the 186  
o find an education pundit or a

However,  
Mr Hata was responding to  
A timely combination of new **pro-**  
though  
the  
company that once had a **booming**  
een told that his **parliamentary**  
'The **government's**  
**GERMAN**  
will help **government's**  
tactics by banks in the **small**  
ple is commonplace in the **small**  
fares may benefit the  
asset. They are **steeped** in the  
it will be the  
in monitoring the

**business culture** and language. In 1980-88,  
**business culture** in which discipline  
**business culture** will change to allow other  
**business customers** - a question highlighted  
**business customers** are  
**business customers** directly to  
**business customers** would save at least 20  
**business cycle** and fiscal stimuli from a ne  
**business deal** with  
**business debts** do not together make a stabl  
**business development manager** with Norwich U  
**business development unit** of Manchester Bus  
**business empire**  
**business empire** except for Seibu  
**business empires** in Italy (Agnelli's Juvent  
**business enterprises**. Only Pounds  
**business environment** has  
**business environment** would become increasin  
**business ethics** being called into question.  
**business executive** and conference market.  
**business failures** early this year were runn  
**business failures** in the sector) to  
**business frauds** of the  
**business from Taiwan.**  
**business hotel.**  
**business hotels** at cut-price weekend rates.  
**business hours** to encourage more trading. B  
**business in Northern Ireland.**  
**business indicators.** 'Unless an  
**business influx**  
**business initiatives** with the shops if  
**business initiatives.**  
**business insolvencies**  
**business insolvencies** throughout the period  
**business interests** in the under-developed r  
**business interests** to concentrate on core  
**business interests,** writes Terry Hall in  
**business inventories** - were in line with  
**business inventories** to  
**business inventories** to  
**business investment** in buildings and the co  
**business is** the development, production and  
**business jet**  
**business jet** aircraft. The order  
**business jet** at Farnborough to meet the nee  
**business jet** is due in late 1995.  
**business jet** market held up rather better t  
**business jet.**  
**business jets** sold, although 10.7 per  
**business leader** who agrees  
**business leaders** and conservative oppositio  
**business leaders'** disquiet as the Nikkei in  
**business legislation** and important  
**business levels** remained well below normal.  
**business lobby,** such as Mr Jacques Calvet,  
**business making** costly, top-quality sports  
**business managers**  
**business managers** will be desperate to bull  
**business managers,** unlike their national re  
**business managers.** However, it seems the st  
**business market,** and constant rumbles of  
**business market,** though. Other  
**business market.**  
**business of**  
**business of David Mellor,** the new minister;  
**business of government.** He promised more op

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months, net profit from normal for Unilever's agri profits from normal

industrial wasteland into a permission for a large a permission for a large leisure district, most of the 22

promoting promoting t company specialising in large in large at least seven

Mr Jaffe is an old friend and One customer orders with their own Britain's battered small s that 'there are many Japanese they are ative fundraising efforts among on

company News: R. H. Macy unveils urgently reviewing its

at the new look at the project when the could look at the project if the nformation we will finalise our part of the airline's five-year unveiled a five-year reached Pounds 1.65bn. The istory have yet to complete their As part of JAL's imoto, general manager of Asian

'put together 15 of the last 16 standing commission on laws and ftware company who says: 'Their To counter the proved itself a useful their lending margins. So basic ough trading conditions cut agri domestic and vey says that uncertainty about acco and insurance group's good uniform

The Councils pay their ear 95 per cent of the assessed government grant and the government grant and the

pointing out that whatsoever for stripped out to avoid capital-intensive when customer retail decisions and would not affect stacle in building constructive t the well-publicised series of

business operations business operations recently put up for sal business operations would be about half the business opportunity.

business park for smaller industrial and se business park in partnership with the Churc business park, industrial areas and housing business park.

business parks are on the periphery. business parks in the north-east, are not p business parks in the north-east, are not p business parks,

business parks, has asked National Westmins business parks, there are hundreds of acres business partner of Ms Lansing's. business partner reporting on the ripeness business partners.

business people need is panic action to ref business people who business people, judges or politicians.

business people, led by its deputy business performance confirmed the broad we business pessimism, and the political hiatu business plan

business plan and may decide to sell core o business plan for the company, says that th business plan once it was complete and had business plan to lenders later this month a business plan was complete.

business plan were business plan which business plan which it updates

business plan which, it claims, will 'retur business plan written in spring last year h business plan, in spite of business plan, the airline plans to open at business planning at Itochu,

business planning has been based on very co business plans business practices

business practices are reminiscent of business problems, the company has plans to business product with a finite constituency business profits for the year

business profits to Pounds 11.9m from business property costs such as rent levels business prospects is still holding business prospects prompted profit

business rate in 1990, brought in an estima business rate is set by the government, but business rate revenue into the national non business rate was collected

business rate. However, the Department of t business rate. This year, though, The Depar business rates - and council tax when that business rates - and council tax when that

business rates could lead to unexpected inc business rates had been cut by Pounds 1.25b business rates impose on business invest business rates non-payment'.

business rates were 'the tip of a nasty ice business rather than one which generates a business reached Pounds 1.154bn.

business relationships between the two business relationships'. business scandals in Ireland pointed

rsity of Strathclyde's graduate provided ach, both geographically and in As for the lucrative the apparent opposition of the

The tankan, reflecting poor Banking, insurance and BET, the PRE-TAX profits at BET, the

FT 16 APR 92 / Boost in and The latest review of dy progress on all parts of our department of y important role in galvanising cant upper floors can now grant lord and Tenant Act which gives anything in things are profitable in general fall in a decline in

ds to attract more tourists and In 1989 Dan-Air's charter The new e US has formed a new worldwide

'The new GPT has set up a many 'strategic

In the life insurance sector, There was also a slight rise in increase in d today. However, it warns that ncial services companies expect

A sizeable amount of the day's core of the ales at the Darchem engineering side of the health ating profit for that sector of traditional way of doing Women hoping to set up in mphasing that any recovery in embargo on lient has tried to carry on the time they are chasing us to do in its extraordinary losses was rritory might remains 'the most Wirtschaft in Cologne, a The proportion of and exclude Spencer's niche foods clear signs of an upturn in from its mainstream full, and doing a thriving involved in lending to a small group was looking to buy a core

business school. business schools across the world with a cl business sector terms, to take business sector, 'which has earned a massiv business sector. business sector. business sentiment, out next week, before m business sentiment, prompted a fall in the business services 13.4% business services conglomerate, is likely t business services group, could have been al business services have both recovered lost business spending forecast business strategy for years to come - is no business strategy goes further than a simil business strategy.' business strategy. business studies, business support in recent weeks. business tenancies to housing business tenants the right to business terms,' he reckons. Meanwhile he i business terms.' business travel and tourism. business travel caused by the Gulf war and business travellers more choice. business travellers. business turned over about twice as much as business unit consists of three product ope business unit focused business unit to sell its new Canadair Regi business unit's mission is to build, on top business unit, GPT Cablecom, to tackle the business units beneath those groups in its business units' (SEUs) in Vevey for each Ne business units. business volume in the insurance industry, business volumes are still depressed and business volumes during the quarter, the business volumes in the next three months. business volumes remain well below business volumes to business was holding up, helped Great Unive business was reported to have come from the business was smokers' accessories. Today, p business were hard hit. They fell from business will attract competition, but is c business will be lower. Last year 54 per business will be threatened by the new law. business will have access to female busi business will start from business with Hanoi, the sensitive issue ma business with a view to business with us, not business writedowns and closure business-friendly location in business-orientated research institute, say business-related bankruptcies to total indi business-related individual bankruptcies ac business-related individual bankruptcies, w business. business. business. business. business.

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or from the Freemans mail order  
 nearby to handle the volume of  
 small  
 pending is put the way of black  
 that only gangsters are in the  
 they are still in  
 ers were informed, was open for  
 kely to remain in charge of the  
 y no comprehension of running a  
 this week, had we been in  
 unning a town is like running a  
 in turning round the UK banking  
 ince 'they are part of our core  
 everyone gets burnt in the film  
 are always soliciting new  
 go out of  
 omers) is something rare in our  
 in this country to sustain the

business.  
 business.  
 business.  
 business. 'You don't  
 business. But the success of Mr  
 business. But there are too few of them left  
 business. Foreign investors were  
 business. He will  
 business. So  
 business. To illuminate my purpose and demo  
 business. Unless you continue to  
 business. When he joined Midland in 1987  
 business.'  
 business.'  
 business.'  
 business.'  
 business.'  
 business.'

[278 citations retained out of 984]

### Appendix IV

ws: Harland Simon may sell core  
 istoric buildings with low tech  
 cretionary portfolio management  
 for small  
 peripheral  
 closure of loss-making  
 on which has sent so many small  
 Small scale family-run  
 owner-occupier  
 rticultural and consumer health  
 information technology  
 As one of the two core  
 interested in selling non-core  
 elling some of the private side  
 health insurance  
 portfolio of  
 oup noticed a pick-up in its US  
 lised approach to running their)

businesses  
 businesses  
 businesses  
 businesses and Midland the cheapest.  
 businesses and adding new ones to our core  
 businesses in Senegal and the Ivory Coast.  
 businesses to the [wall]  
 businesses which constituted the bulk of It  
 businesses will look elsewhere.'  
 businesses, Mr Scroggs said. Fisons  
 businesses, Quality Software Products and S  
 businesses, William Hill is an essential so  
 businesses, but  
 businesses, but promised the hole  
 businesses, is again meeting claims from po  
 businesses, some problem areas such as foot  
 businesses, the relative  
 businesses.

[18 citations retained out of 233]

## Appendix V

### SYNOPTIC CHART FOR 'BUSINESS'

51	the	71	the	91	the	business	59	and	53	the	45	the
42	of	62	of	45	of	business	36	in	27	in	21	to
32	to	30	a	27	a	business	29	is	23	to	17	a
23	in	29	in	26	in	business	25	of	21	and	16	of
14	its	20	to	19	its	business	22	which	18	a	14	and
13	a	19	and	17	and	business	22	was	13	not	10	its
11	is	17	its	15	new	business	18	has	13	has	10	be
10	and	10	for	13	that	business	16	to	12	for	8	it
8	for	8	on	13	The	business	14	with	10	of	8	in
7	that	7	or	12	small	business	13	plan	10	is	8	as
6	with	6	is	11	for	business	11	for	9	which	7	on
6	as	6	his	10	core	business	11	community	9	be	7	by
6	The	6	UK	7	their	business	10	will	8	been	6	with
5	on	5	up	7	our	business	8	would	8	are	6	is
5	core	4	out	7	on	business	8	rates	7	said	6	been
5	at	4	more	6	to	business	8	conditions	6	would	5	not
5	are	4	general	6	retail	business	8	as	6	at	5	has
4	who	4	at	6	hotel	business	7	confidence	5	he	5	Pounds
4	up	4	an	6	banking	business	7	It	5	had	4	will
4	may	3	writing	5	main	business	6	that	5	by	4	this
4	had	3	very	5	investment	business	6	rate	5	Mr	4	one
4	been	3	that	5	insurance	business	6	parks	4	with	4	for
3	will	3	specialist	5	his	business	6	jet	4	will	4	US
3	which	3	said	5	doing	business	6	had	4	only	3	years
3	we	3	political	5	clothing	business	6	by	4	from	3	year
3	was	3	own	5	agri	business	5	volumes	3	was	3	were
3	side	3	new	5	Japanese	business	5	the	3	up	3	up
3	set	3	link	5	British	business	5	says	3	there	3	says
3	part	3	growing	4	this	business	5	district	3	still	3	new
3	can	3	group's	4	some	business	5	customers	3	should	3	leaders
3	between	3	companies	4	pro-	business	5	The	3	on	3	into
3	an	3	The	4	most	business	4	unit	3	now	3	competition
3	UK	3	/	4	large	business	4	services	3	made	3	are
3	Pounds	2	within	4	family	business	4	sector	3	lower	3	an
3	But	2	win	4	engineering	business	4	people	3	have	3	after
3	92	2	which	4	derivative	business	4	park	3	an	3	May

2	years	2	weather-proof	4	customer	business	4	managers	2	you	2	would
2	when	2	vinyl	3	tile	business	4	it	2	writes	2	well
2	way	2	their	3	retailing	business	4	he	2	who	2	was
2	Australian	2	take	3	reinsurance	business	4	from	2	what	2	total
2	there	2	still	3	property	business	4	at	2	were	2	that
2	stopped	2	sport	3	own	business	4	a	2	well	2	still
2	some	2	shrink	3	many	business	4	He	2	want	2	start
2	project	2	running	3	management	business	3	until	2	two	2	sell
2	parts	2	run	3	local	business	3	though	2	their	2	sales
2	or	2	rise	3	helicopter	business	3	support	2	that	2	recent
2	more	2	reported	3	good	business	3	strategy	2	six	2	offset
2	margins	2	refrigeration	3	food	business	3	should	2	selling	2	much
2	loss-making	2	ratio	3	equipment	business	3	remained	2	restrictions	2	more
2	it	2	proportion	3	distribution	business	3	population	2	residential	2	manufacturing
2	into	2	paper	3	central	business	3	operations	2	reported	2	if
2	have	2	our	3	big	business	3	on	2	reorganise	2	housing
2	growth	2	other	3	battery	business	3	market	2	renewing	2	high
2	grant	2	not	3	aggregates	business	3	like	2	prompted	2	from
2	gradual	2	means	3	US	business	3	inventories	2	profits	2	existing
2	go	2	mail	3	UK	business	3	interests	2	over	2	end
2	from	2	lose	3	Irish	business	3	difficulties	2	outside	2	done
2	expansion	2	last	3	However	business	3	development	2	or	2	customers
2	domestic	2	into	2	wine	business	3	culture	2	once	2	continuing
2	development	2	international	2	way	business	3	could	2	manager	2	companies
2	closely-watched	2	interest	2	various	business	3	closures	2	make	2	but
2	build	2	insurance	2	up	business	3	climate	2	long	2	badly
2	assessment	2	index	2	transact	business	3	are	2	led	2	analysts
2	any	2	increase	2	tourist	business	3	activities	2	largely	2	always
2	all	2	help	2	systems	business	3	But	2	its	2	The
2	While	2	from	2	steel	business	2	year	2	it	2	Ms
2	Mr	2	floor	2	snacks	business	2	worth	2	industrial	2	Mr
2	Japan	2	existing	2	small-	business	2	world	2	increased	2	Ireland
2	I	2	drift	2	securities	business	2	while	2	impose	2	He
2	Halstead's	2	domestic	2	reviving	business	2	via	2	help	2	German
2	European	2	decline	2	protection	business	2	users	2	growing	2	Dollars
2	BDI	2	core	2	promoting	business	2	units	2	government		
2	'In	2	commercial	2	profitable	business	2	under	2	fell		
2	close	2	products	2	travellers	business	2	expected				
2	cement	2	private	2	travel	business	2	consumer				
2	car	2	pensions	2	terms'	business	2	computer				
2	by	2	order	2	survey	business	2	closed				

2	between	2	normal	2	space	business	2	between
2	automotive	2	no	2	she	business	2	being
2	as	2	music	2	sentiment	business	2	bankruptcies
2	US	2	manufacture	2	saw	business	2	as
2	Time	2	lucrative	2	said	business	2	about
2	Germany's	2	loans	2	prospects	business	2	The
2	Belstaff	2	lending	2	profits	business	2	Pounds
2	BET	2	leading	2	practices	business	2	However
2	The	2	instrument	2	plans	business	2	Britain
2	indemnity	2	planning	2	Unless	business		
2	holiday	2	partner			business		
2	health-care	2	owners			business		
2	government	2	overseas			business		
2	generics	2	out			business		
2	foods	2	last			business		
2	flooring	2	insolvencies			business		
2	five-year	2	individual			business		
2	film	2	increased			business		
2	export	2	failures			business		
2	drive	2	faces			business		
2	dough	2	ethics			business		
2	develop	2	environment			business		
2	construction	2	empire			business		
2	building	2	does			business		
2	black	2	director			business		
2	another	2	days			business		
2	among	2	but			business		
2	after-care	2	body			business		
2	One	2	back			business		
2	German	2	away			business		
2	GV	2	advisory			business		
2	Canada's	2	acquired			business		

## Appendix VI

0 1/4, Chrysler in continued **active trading**, slightly from Thursday's 38.938m s yet another day of extremely **active trading**. Elsewhere, Peugeot was knocked back more than Dollars 3 1/2 1/2 in **active trading** after the company said it backed Pr s less than Dollars 22 1/4 in **active trading**. Merck also saw heavy turnover, clo dipped 0.29 Dollars 49 3/4 in **active trading** after Merrill Lynch cut its long-te isregarding down 1/8 at 44 in **active trading**. Citicorp was up 7/8 at 21 5/8 in a icorp was up 7/8 at 21 5/8 in **active trading**. Canada ACTIVITY was limited, with ose 9.7 to TAIWAN advanced in **active trading** with the weighted index putting on g OSLO jumped 2.3 per cent in **active trading** as the economic outlook appeared na erage climbed 4.9 per cent in **active trading** on rumours that the last minutes of RONTO ended little changed in **active trading** boosted by a large block Nikkei in m A HELSINKI closed higher in **active trading**, as the HEX index closed 13.1 or SH ocks ended slightly higher in **active trading**. Based on preliminary Advances led t close off intraday highs in **active trading**. The STOCKHOLM gained in moderate t Toronto share prices lower in **active trading**. 1,889.5 in thin trading. Dealers a continued its recent rally in **active trading** on the first day of the Other state 2.1 per cent and saw its most **active trading** this month on before closing FFr13 and arbitrageurs, In spite of **active trading** by domestic investors, traders said ion. The TSE-300 fell 15.3 to **active trading**, writes Emiko Terazono in Tokyo. tr ding day, the longest winning **active trading** by public funds was prompted by fin

se Dollars 7/8 to Dollars 10 in **busy trading** after the company TORONTO stocks fi ed Dollars 7/8 to Dollars 17 in **busy trading** after FRANKFURT saw a flurry of act lars 3 3/4 to Dollars 55 3/4 in **busy trading** after the TORONTO stocks finished 1 Dollars 1/2 to Dollars 8 3/4 in **busy trading** ACTIVITY surged in the morning sess lars 1 3/8 to Dollars 32 1/8 in **busy trading** after Mr PARIS eased on profit-taki ollars 1/2 to Dollars 65 3/8 in **busy trading** after Merrill Lynch, TORONTO share vy trading session with most in **busy trading** TORONTO stocks ended slightly high e US SHARE prices held steady in **busy trading** yesterday as financial markets Hone

y at the end of a quiet and **cautious trading** adjusted positions and there has be ed Dollars 7/8 to Dollars 17 in **busy trading** after FRANKFURT saw a flurry of act g SINGAPORE closed lower in **cautious trading** as sentiment was dampened by Hong C ing TAIWAN remained weak in **cautious trading** ahead of Saturday's parliamentary B

ng demand for Astra made up for **dull trading** in other issues. The Affarsvarlden index slipped 1.09 to 279.36 in **dull trading**. Astra was the most in yet another Jax, JOHANNESBURG was firmer in **dull trading** with the overall index 14 higher at

cross-shareholding, issued a **gloomy trading** US share prices were flat-to-lower ted the market. The company's **gloomy trading** trading days it has lost more than PARIS dropped 2.9 per cent in **gloomy trading** on the last day of the account L6,0

of the per cent lower after a **heavy trading** session. The TSE-300 fell 15.3 to a stocks finished lower after a **heavy trading** session with most in busy trading T stocks finished lower after a **heavy trading** session marked by the afternoon tra rices ended mixed in continued **heavy trading**. Nikkei average gained marginally a months before the in extremely **heavy trading**. Although much of that rise was con d Wednesday's gains in further **heavy trading** as the JOHANNESBURG revived in late ram trading combined 24 3/4 in **heavy trading** on disappointing fourth-quarter ear ollars 3/8 to Dollars 9 5/8 in **heavy trading** after the A late selloff sent Toron 5 shares STOCKHOLM advanced in **heavy trading** as strong demand for Astra made up CKHOLM rallied 4.1 per cent in **heavy trading** on speculation, confirmed market. F e prices were flat-to-lower in **heavy trading** yesterday as the market trading. Lo sing FFr13 better at FFr506 in **heavy trading** of 129,325 shares STOCKHOLM advance -CHIP stocks jumped sharply in **heavy trading** on US stockmarkets Because of the ' ck markets rallied strongly in **heavy trading** on unexpectedly good trading patter f the last trading day for the **Heavy trading** in Westpac's new shares and options

HANNESBURG ended mixed in **lacklustre trading** ahead of today's public US SHARE pr days. The NEW ZEALAND saw **lacklustre trading** as the NZSE-40 index moved up just

omposite rose 2.79 to 637.16 in **late trading**. Shares in Tele-Communications led trading day before to L1,500 in **late trading**. The telecommunications company had

URT saw a flurry of activity in **late trading**, having moved in a narrow activity of 0.5 per cent. HONG KONG fell back in **late trading** after the Sino-British Joint Liaison Office. Peugeot was knocked back in **late trading** to close FF15 or 2.8 being delayed 0.25 to AUSTRALIA lost ground in **late trading** as the local currency weakened again. SINGAPORE closed higher in **late trading** as foreign institutions came into MING by overseas institutions in **late trading**. BOMBAY fell to a low for the 1992/93 as the JOHANNESBURG revived in **late trading**, helped by a better performance from the but recovered slightly in **late trading** to finish down 18.47 at 1,476.01, a

NG ended lower in volatile but **light trading**. The Hang Seng Index of the day's trading over the recent MANILA dipped in **light trading** as the composite index fell 7.35 to 20m shares. MANILA slid in **light trading** but brokers still said that they expect prices remained in easier vein in **light trading** yesterday as losses, and took its technical rebound led by Kepco **light trading** yesterday, writes Patrick Harverson 53, while the KUALA LUMPUR saw **light trading** continuing as the composite index d

into MANILA closed lower in **listless trading** as the composite index shed 10.92 to 10.92 in trading and the lower in **listless trading**: the all-share index shed 8 to 3,25

X dropped 7.52 to 348.75 in **moderate trading** PARIS dropped 2.9 per cent in gloomiest SEUL ended firmer in **moderate trading** on a technical rebound led by Kepco trading. The STOCKHOLM gained in **moderate trading** as domestic interest rates fell back. Declines SEUL rose in **moderate trading** but sentiment remained nervous ahead

US SHARE prices were mixed in **modest trading** yesterday as the Thanksgiving activ

ars 5/8 to Dollars 63 1/4 in **nervous trading** ahead of retailer's trading and imp the SINGAPORE fell sharply in **nervous trading** on talk, confirmed after the tradin

ing on AUSTRALIA was firmer in **quiet trading**. The All Ordinaries index rose 9.7 points moved marginally lower in **quiet trading** ahead of the release of low of 17,100. Mixed after drifting sideways in **quiet trading**. Gains in there was no discernible

PORE ended marginally lower in **slack trading** ahead of the holidays. The NEW ZEAL

X contract MILAN ended lower in **slow trading** and the Comit index fell 4.17 to 44

Y56 to Y695 on increased **speculative trading**, after rumours of at 142.9m shares

valuation of the crown 3,134 in **steady trading**. The gold index added 24 or 3 per c

in the morning session on **technical trading** related to the hands in the first h

gen was also boosted by a **short-term trading** buy The Tokyo Stock Exchange suspen

ency index rose 0.6 to 103.2 in **thin trading**. BUYING by public funds and dealers firm in active trading. 1,889.5 in **thin trading**. Dealers again blamed weekend polls by some institutional buying in **thin trading** and the lower in listless trading:

PUR drifted to a lower close in **thin trading** as investors remained market-makers lines to a fifth straight day in **thin trading**. The trading after a one-day halt, owed PARIS continued to fall in **thin trading**, and some sell orders from the UK V eased just 0.05 to OSLO fell in **thin trading** as speculation about a devaluation d by SINGAPORE closed firmer in **thin trading** as the Straits Times Industrial KUA firm but off the day's highs in **thin trading**. The thin trading in very thin trad to SKR33.5 MILAN ended mixed in **thin trading** and the Comit index eased just 0.05 sted by a large block Nikkei in **thin trading** HONG KONG closed sharply lower on p

that China TAIWAN retreated in **thin trading** as the weighted index lost 28.25 to ort policies. AMSTERDAM rose in **thin trading** with the CBS Tendency index gaining e fourth consecutive session in **thin trading** as many BOMBAY fell again in tradin the HONG KONG eased slightly in **thin trading**, as modest early gains were erased rading, genuine NEW ZEALAND saw **thin trading** as the NZSE-40 index eased 13.78 to ay's highs in thin trading. The **thin trading** in very thin trading, Reuter report four weeks. SEUL slid in very **thin trading** in a technical adjustment after the ading. The thin trading in very **thin trading**, Reuter reports from Tokyo. The New

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