

Error: Some Problems of Definition, Identification, and Distinction

PAUL LENNON

University of Kassel

This paper provides various procedural criteria for performing error analysis, and introduces two new dimensions of error, 'extent' and 'domain', which serve to differentiate errors systematically. Section 1 examines previous approaches to error analysis (1.1), offers a working definition of error (1.2), and considers the problems involved in error identification, particularly of a spoken corpus (1.3), with regard to both 'global' and 'local' errors (1.4). Attention is drawn, too, to the middle ground of advanced learner performance, which is neither fully erroneous nor fully nativelike (1.5). Section 2 examines an advanced learner spoken corpus for error; subjects, methods, and aims are presented (2.1, 2.2); the definition in 1.2 is applied (2.3); error identification by a native speaker panel is reported (2.4), and procedural criteria for distinguishing between 'type' and 'token' are developed (2.5); the most borderline error cases are scrutinized, and it is suggested that proximate cumulation of infelicity may make for perceived error in some cases (2.6). Section 3 introduces and defines error extent and domain (3.1, 3.2), illustrated by examples from the corpus. The concepts are applied to define three distinct types of lexical error (3.3), to deal systematically with error embedded within error (3.4), and to distinguish between type and token (3.4).

1. BACKGROUND

1.1 Approach

In his discussion of Error Analysis, Ellis (1985) notes that from a pedagogical perspective there has long been an interest in the collection, description, and classification in a rather unprincipled way of commonly occurring errors. French (1949) is cited as an example. However, in the 1950's and 1960's the pedagogic approach became closely associated with Contrastive Analysis, which was less concerned with defining, identifying, and distinguishing error in performance than with predicting error occurrence on the basis of formal divergence between the linguistic systems of the mother tongue and the target language. Ellis (1985) notes that investigation of the psycholinguistic causes of error was scanty since behaviourist learning theory neatly accounted for error in terms of interference. At best, error was regarded as the manifestation of those 'interlingual identifications' which, according to Weinreich (1953:7), bilinguals are assumed to make between phonemes and between grammatical and semantic features in two languages.

It was Corder (1967) who focused, or refocused, attention on error from a

language processing and language acquisition perspective. Long and Sato (1984) note that an important feature of Corder's (1967) ideas is that the learner makes a significant cognitive contribution to learning. Corder (1967) introduced the idea that errors are a necessary part of linguistic development, and that errors are of significance because they may represent the discrepancy between the grammar of the learner's 'transitional competence' and that of the target language. It was he who suggested learners might have an 'inbuilt syllabus' which determines the order in which the grammar is acquired, and that studying learner error might provide clues to this order. However, precisely because performance errors were to provide a window on learners' 'transitional competence', Corder (1967) felt it necessary to distinguish between those errors which did reflect competence and 'mistakes' which were 'the product of "chance circumstances"', analogous to such native speaker slips of the tongue' (Corder 1967:166). In a later article Corder (1971) maintained the scope of error analysis should be widened to include not only formal ('overt') error but also 'covert' error involving well-formed language that was semantically or stylistically inappropriate.

Corder (1974) elaborated the procedure for Error Analysis, distinguishing five stages, as follows:

1. selection of a corpus of language
2. identification of errors in the corpus
3. classification of the errors identified
4. explanation of the psycholinguistic causes of the errors
5. evaluation or error gravity ranking of the errors.

This paper is concerned chiefly with stage 2, error identification, which has been somewhat neglected since Corder (1974), compared to the interest which has been shown in error classification, explanation, and gravity ranking (stages 3–5), while stage 1, selecting the corpus, is not specific to error analysis as such, but pertains to the larger issue of data sampling in language studies, discussed, for example, by Woods, Fletcher, and Hughes (1986).

This paper will explore the problems of performing error analysis, both practical and theoretical. It contends that for investigation of any L2 corpus a working definition of error must be established by reference to which potential errors can be assessed (definition); that criteria must be established to determine how many error types a specific text contains (identification) and what constitutes a fresh error type in contrast to multiple tokens of a single error type (distinction). By elaborating two new perspectives on error, namely 'extent' and 'domain', an attempt will be made to provide underpinnings which enable the pragmatics of error analysis to be conducted in a principled manner.

1.2 *Error definition*

Notwithstanding native-speaker intuitions, errors do not constitute as easily recognizable a feature in production as might be imagined. There are, in fact, great problems in unambiguously defining error, and considerable variation is

to be found even among native speakers in error identification. For example, Hughes and Lascaratou (1982) presented what they considered to be thirty-two erroneous and four correct sentences to a panel of thirty judges, ten of whom were Greek teachers of English, ten native-speaker teachers of English, and ten native-speaker non-teachers. They found that one of the 'correct' sentences (*Neither of us feels quite happy*) was judged erroneous by two Greek teachers, three native-speaker teachers, and five of the non-teacher native speakers. Another of the 'correct' sentences, which was taken from the *Oxford Advanced Learner's Dictionary of Current English*, namely, *The boy went off in a faint*, was judged erroneous by two Greek teachers, nine native-speaker teachers, and nine native-speaker non-teachers.

In light of this, apparently clear-cut definitions of L2 error in spoken English such as, 'the use of a linguistic item in a way which, according to fluent users of the language, indicates faulty or incomplete learning' (Chun *et al.* 1982:538) or: 'An error occurs where the speaker fails to follow the pattern or manner of speech of educated people in English speaking countries today' (Liski and Puntanen 1983:227) are by no means unambiguous. A more cautious definition will be employed in this study, namely:

a linguistic form or combination of forms which, in the same context and under similar conditions of production, would, in all likelihood, not be produced by the speakers' native speaker counterparts.

1.3 *Error identification*

Apart from problems of defining error it is likely that in the spoken rather than the written mode particular difficulties in identifying error will arise, and will increase with the degree of informality of the discourse. Raupach (1983) has drawn attention to the fact that even apparently fluent and grammatical native speakers exhibit vagaries of syntax and abound in discontinuity, false starts, incomplete clauses and the like, features which are only highlighted when detailed transcriptions of recorded speech are made. In speech, the second language learner, too, may repeat and self-correct, may be discontinuous and illogical, and very great problems may arise in deciding what he or she intended to edit out of production. Sometimes the learner may appear to prefer to maintain two possible parallel versions, paraphrasing in rather redundant fashion. On the other hand, colloquial speech allows many forms of telegraphic syntax and omission of morphemes which would be considered erroneous in (formal) written production. Most native speakers' ideas of correctness are probably based on the written language.

Many a learner 'error' could indeed occur in native speaker production as a 'slip of the tongue' (cf. Corder 1967). However, apart from such cases, much that occurs in native speaker colloquial speech does not conform to native speaker ideas of correctness. On the other hand, some items in learner production will not be judged as full-blown error by native speakers, but as not conforming to usage conventions. Azevedo (1980), for example, presented papers in Spanish as a foreign language written by US university students to

Spanish native speakers for acceptability judgements. They could readily identify morphological error involving articles, prepositions, concord, tense, and mood, which could be described in terms of violating what Krashen (1982:17) calls 'an easy rule'. However, there were other cases where they were unable to pinpoint the error source, but reacted to a larger syntactic unit, typically the sentence or clause, with the comment: 'It's not wrong but you don't say it.'

1.4 *Global versus local errors*

Burt and Kiparsky (1974), in studying L2 writing, identified both 'global' and 'local' errors, which they defined as follows:

Global mistakes are those that violate rules involving the overall structure of a sentence, the relations among constituent clauses, or, in a simple sentence, the relations among major constituents. Local mistakes cause trouble in a particular constituent, or in a clause of a complex sentence. These are relative notions; something that is global in one sentence may become local when that sentence is embedded in a bigger sentence. (Burt and Kiparsky 1974:73)

Burt and Kiparsky (1974) argue that the more serious barriers to communication are caused by global mistakes, typically involving connectors, tense continuity across clauses, parallel structure in reduced co-ordinate clauses, and distinctions between relative and co-ordinate clause constructions. Some support for this contention is forthcoming from Tomiyama (1980), who found that native speakers could more easily identify the target utterance for sentences with article errors (a local error) than for sentences with connector errors (a global error).

If error analysis is to be properly conducted, it is essential that both sorts of error be accounted for. And the evidence is that, without more specific guidelines, different sorts of corrector may react differently to the two sorts. Both Hughes and Lascaratou (1982) and Davies (1983) found that, in general, native speakers, particularly non-teachers, judged error gravity according to global communicative criteria, while non-native speaker teachers based error gravity on local formal accuracy criteria. Additionally, Davies (1983) found that, although her non-teacher native speakers tended generally to be more tolerant of local error than a group of Moroccan teachers, for local error involving transfer from French or Arabic the situation was reversed, the native speakers being less tolerant, probably because they did not understand what was meant.

1.5 *The middle ground of advanced learner performance*

Studies of both written and spoken production find that advanced learners continue to make errors (Larsen Freeman and Strom 1977; Chun *et al.* 1982). On the other hand, there is evidence that what is characteristic of advanced learners, compared to beginners and intermediates, is non-nativelike features which are not necessarily completely erroneous (Kasper 1982; Bialystok 1983; Haastруп and Phillipson 1983; Thomas 1983; Færch and Kasper 1986; Firth

1988). At the advanced level highly localized morphological error is less prevalent than error involving usage, lexical choice, stylistic appropriacy, and various sorts of global discourse error. It is precisely such errors that traditional error analysis is ill-equipped to deal with, especially in a spoken rather than written corpus where problems of identification are in any case compounded (1.3, above). It was for these reasons that a spoken corpus at the advanced level was chosen for analysis. Only 6 per cent of errors turned out to be morphological.

According to Hymes (1972), to be fully nativelike language must be not only grammatical but also appropriate; Canale and Swain (1980) proposed three 'competences': 'grammatical', 'sociolinguistic', and 'strategic'. Advanced learner speech may be infelicitous in any of these ways. Williams (1979) argued that while deficits in the 'mechanical rules' of language will produce Corder's (1967) 'overt error', deficits in the 'meaningful rules' (form-meaning matchings) will produce 'covert error'. Kasper (1982) found advanced learners performing role-play produced grammatically acceptable but situationally inappropriate language. Færch and Kasper (1986) found advanced learner discourse was limited in terms of speech act realization. Bialystok (1983) found advanced learners sometimes lacked strategic competence in 'negotiating meaning', to use Brumfit's (1984) phrase. It is, therefore, particularly important in analysing advanced learner error that rigorous procedures be established, both so that full-blown error can be distinguished from situational and strategic infelicity, and so that attention can be focused on this middle-ground of performance which is neither fully nativelike nor fully erroneous. Ultimately, it might be possible to replace dichotomous notions of right and wrong by a continuum model.

2. INVESTIGATION OF A SPOKEN ADVANCED LEARNER CORPUS

2.1 *Subjects*

It was against this background that I investigated a spoken L2 corpus of approximately 21,000 words for error. The corpus consisted of recordings of narrations based on picture story sequences. These narrations were produced by four female advanced German learners aged 20–24 years who were German university students of English. They were spending six months at the University of Reading, England, as exchange students. Each subject produced fifteen such narrations at weekly or two-weekly intervals over the six-month period (60 narrations in all). Recordings were made under language laboratory conditions and later transcribed. Picture story sequences were taken from Timms and Eccott (1972).

2.2 *Aims*

Aims were as follows:

1. Definition: to set up a working definition of error for the corpus in hand (2.3 below).

2. Identification: to assess to what extent it was possible to identify error unambiguously, and what proportion of cases were problematic (2.4, below).
3. Distinction: to assess the problems involved in distinguishing separate error types from multiple tokens of a single type, and to develop procedural criteria for dealing with this issue (2.5, below).
4. Re-examination: to examine the most problematic or 'borderline' cases for insights they might provide into the distinguishing features of advanced learner speech of which full-blown error may be a less integral part (2.6, below).
5. Classification: Building on earlier classifications into 'overt' versus 'covert' error (Corder 1971) and 'local' versus 'global' error (Burt and Kiparsky 1974), to suggest more rigorous descriptive criteria, in terms of error 'extent' and 'domain'. This constitutes the central proposal of the paper (3.1–3.4 below).

2.3 *A corpus-specific definition of error*

The definition set out in section 1.2 above was employed. The subjects' native-speaker counterparts were defined as the young, adult, educated native speakers of British English who comprised the majority of the student body in Reading with whom the subjects had daily contact.

It was found that only by setting up such a corpus-specific error definition, tied to reference group, mode and situation, and probabilistic rather than deterministic, could attempts be made to identify error. In particular, the appeal to native speaker intuitions alone was found to be inadequate as a criterion for error.

2.4 *Error identification*

Employing the above definition it was possible for me to identify 568 unambiguous error occurrences. However, 208 doubtful cases remained, and these were submitted to a panel of six native speakers for acceptability judgements. All panel members were students at British universities, aged 20–24 years, two were male and four were female. They were, then, typical of the subjects' native-speaker counterparts. Each doubtful error was presented orally by myself to the panel embedded in its linguistic context. The amount of linguistic context necessary varied with the sort of error, as will be discussed below. To provide panel members with the extra-linguistic context, they were given the relevant picture story as a handout. For each example they were shown to what picture in the sequence it referred. Panel members were not shown the transcriptions to avoid their being prejudiced by their ideas of correctness in written English. They were asked to judge each case with reference to the above error definition (1.2, 2.3). They did not consult with each other.

Results showed disagreement in many cases among panel members. Table 1 presents results and Appendix 1 presents the 14 most problematic cases, where panel members were split three against three.

Individual panel members tended to abide by their original decisions in

Table 1: Reactions of native-speaker panel of six to 208 cases of 'doubtful' acceptability

Cases rejected by all six members	103
Cases rejected by five members	53
Cases rejected by four members	22
Cases rejected by three members	14
Cases rejected by two members	5
Cases rejected by one member	7
Cases accepted by all six members	4
<i>Total</i>	208

- (1) Each panel member made his/her decision privately, without consultation.
- (2) The criterion for unacceptability was that the linguistic form or combination of forms in question would, in the same context and under similar conditions of production, in all likelihood, not be produced by the speakers' native speaker counterparts, namely the young, adult, educated native speakers of British English who comprised the majority of the student body in Reading with whom the subjects had daily contact.

subsequent discussion, implying that the divergences in Table 1 do represent firm differences in judgemental decision. However, panel members recognized the problems and reported they had often found it difficult to decide. Like Azevedo's (1980) judges they tended to distinguish in their own minds between correctness and acceptability in terms of usage, and were sometimes torn between the two criteria, regarding some examples as not fully correct, but nevertheless likely to be produced by native speakers, and some as correct but unlikely to be said by the native-speaker counterparts.

2.5 *Distinction (types and tokens)*

The error count figures so far discussed represent error types rather than tokens. The type—token distinction is usually applied to lexis in a corpus. The lexical type—token ratio is defined by Vorster (1980) as 'the relation between the number of different words and the total number of words in a speech sample' (Vorster 1980:12). Vorster (1980:31) sets out criteria for making lexical type counts from transcriptions of recorded speech. Each word that is spelt differently in the transcription is counted as a separate type. Thus *child* and *children* are separate types, as are *play*, *plays*, *playing*, and *played*. An exception to the spelling rule is that when two identically spelled words are used as different parts of speech with different functions and meanings, then they are counted as separate types. Thus *that* (conjunction), *that* (relative pronoun), and *that* (demonstrative) are each separate types, as are *talk* (verb) and *talk* (noun). Contractions are not regarded as constituting an additional type, so that for count purposes *it's* and *it is* are regarded as identical.

Extending the concept to error, for two errors to be distinct types, they must,

in general, be distinct at the level of lexical realization. If two errors are lexical replicas they are regarded as tokens of a single error type. There is, however, an important exception whereby two lexical replicas (or more) are counted as distinct error types, namely when the posited target utterances are lexically distinct. Thus *he is lucky* (for *he is happy*) and *he is lucky* (for *he is ugly*) are regarded as separate types.

Decisions must be made as to how large a 'chunk' of language around the error has to be identical at the lexical realization level for two errors to count as tokens of a single type. Clearly, this will vary according to what sort of error is involved. The following criteria are suggested:

—for morphological error the identity must extend over the whole word involved. For example, the following represent two separate error types:

1. *the children look very *angry* towards the pot of honey
2. *he's driving on quite *normal*

—for prepositional choice error identity must extend over the whole prepositional phrase. Thus the following represent two separate error types:

3. *suddenly the baby awakes and laughs and smiles *to the mother*
4. *well, she leans back *to a wall*

—for article errors identity must extend over the noun phrase. Thus the following represent two separate error types:

5. *he wants to put it into *the pocket* (for 'his pocket')
6. *the little boy is sitting between *the parents* (for 'his parents')

—for errors of noun phrase pre- and post-modification, in general, identity must also extend over the whole verb group.

—for errors involving clause linkage, word order within the clause, and sentence structure, the whole unit or units involved would have to be identical at the level of lexical realization for two errors to be tokens of a single type. This is unlikely to occur.

—for errors of lexical choice only the lexical entry need be identical: differences in inflectional morphology do not prevent two lexical choice errors from being tokens of a single type.

Where two co-ordinated structures contain error in both parts, and identity exists between the two erroneous morphemes or words themselves, but not between the larger phrasal units—as the above criteria would demand—then nevertheless this is regarded as a case of lexical identity, so that the two errors are regarded as tokens of a single type. There were just a very few occurrences in the corpus:

7. *mugs of beers or ales (for 'mugs of beer or ale')
8. *on the hands and on the arms (for 'on their hands and on their arms')
9. *the policeman come and arrest the pickpocket (for 'comes and arrests')

Special criteria have to be set up to handle verb tense error within a narration, where subsequent tense choices are, of course, largely dependent on previous

ones. The following procedure was adopted: The first instance of incorrect tense usage was counted as an error. Subsequent uses consistent with this (erroneous) choice were not regarded as fresh error types, nor was a shift back to 'correct' usage regarded as a fresh error type, *provided this shift back occurred in the same sentence as the initial erroneous use, or as the first tense usage of the following sentence*. Thereafter, however, the erroneous set of tenses was regarded as established, and any shift back to 'correct' usage was regarded as a fresh error type.

2.6 Re-examination

Results presented in Table 1 show that there is a set of cases about whose acceptability native speakers were unsure. The fourteen most problematic cases, where the panel was divided three against three, presented in Appendix 1, will now be considered. The most enigmatic case is number 13 in Appendix 1, namely:

There is a dam wall which should protect the village from flood.

Those panel members who found this unacceptable were unable to specify exactly what was wrong with it, whether the problem lay in *dam wall* rather than *dam* (lexical), in *should* rather than *is meant to* (modality), in *from* rather than *against* (preposition), or in *flood* rather than *flooding* or *floods* (lexical). Now, none of these items can be described as anything more than the most minor of infelicities; in isolation all would surely be acceptable; but it seems that it was their cumulative effect which produced a sense of disquiet in three panel members. This implies that the idea of error as necessarily locally identifiable and traceable to a particular linguistic element may be mistaken.

Even in the other thirteen cases, where the panel could identify the problem area, it was possible to influence their attitudes to acceptability somewhat by producing variants of the sentence which did not alter the apparently problematic item but rather its environment. For example, sentence number 1, *she makes some gestures when she calls*, became more acceptable for panel members if an adjective such as *agitated* or *expressive*, was placed before the noun *gestures*. Yet the panel had identified the problem as residing in *when* (versus *while*) and/or *calls* (versus *is calling*).

This is to emphasize once more how error becomes blurred at the edges, and it would seem that a far more promising approach to the sentences in Appendix 1 would be to assess them in terms of their success or otherwise in mobilizing the resources of the language to communicate, rather than puzzling over their linguistic acceptability. It is precisely such sentences which should not be discounted in describing advanced learner speech. To dichotomize production into erroneous versus non-erroneous sentences is to ignore the middle-ground, namely those sentences—for the advanced learner probably the majority—which are neither obviously erroneous nor completely nativelike. Rather, meaning is communicated but with some loss of expression, clarity, focus, precision, etc.

3. NEW PERSPECTIVES ON ERROR

3.1 *Towards more rigorous descriptive criteria*

Discussion of error analysis usually refers to 'erroneous forms' and sometimes elaborates distinctions between (1) errors of omission, where a linguistic unit or units would have to be supplied in order to eradicate the error; (2) errors of over-suppliance, where a linguistic unit or units would have to be deleted to eradicate the error; (3) errors of permutation, where the order of linguistic units would have to be changed to eradicate the error; and (4) errors of substitution (a combination of 1 and 2), where a linguistic unit or units would have to be deleted and another or others supplied to eradicate the error.

Now, for practical purposes of identifying and counting errors such a model is quite inadequate. It is based ultimately on a pre-Chomskyan linear model of language production involving minimal incremental units, perhaps the word or morpheme, which are added on serially, like beads to the existing string. It takes no cognizance of the fact that language is hierarchically organized through a scale of linguistic units from morpheme, word, phrase or group, clause, sentence, and larger discursual units as yet incompletely specified. Speech planning proceeds in parallel fashion at a number of levels in the hierarchy. At any one time some speech may be being planned at the word by word or morpheme level, but the speaker may also be drawing on larger pre-packaged units available in storage. The speaker will also be applying rules for combining lower-level units into higher-level units, words into phrases, phrases into clauses, and so on. Equally, the speaker will exploit the possibilities for embedding or rank-shifting, by means of which higher-level units such as sentences and clauses may be embedded within lower-level units such as phrases.

Now, error may intrude at any rank or level of production from the morpheme upwards, and indeed from the phone upwards if pronunciation mistakes are also to be taken into account.

Most 'erroneous forms' are, in fact, in themselves not erroneous at all, but become erroneous only in the context of the larger linguistic unit in which they occur. Thus, if a learner produces the past tense morpheme *-ed* this in itself is not an erroneous form; one needs to look at the larger unit, the next level in the hierarchy, namely the word, to ascertain whether *-ed* is acceptable, as it is in *covered*, but not in **splitted*. Similarly, if the learner produces the words *a* and *scissors*, these are both acceptable words, but the group or phrase **a scissors* is, of course, unacceptable. Moving up the hierarchy further we see that *Tom and Mary* and *is going to eat* are both in themselves acceptable phrases (groups). But **Tom and Mary is going to eat* is unacceptable as a clause. The higher up the hierarchy we proceed the more difficult it is to tie error down to a specific 'form' as traditional error analysis would demand. Consider this example from the corpus:

10. **As far as the parents had seen this happening, they went down to the little boat.*

Here both clauses are in themselves acceptable, but in combination they make for an unacceptable sentence. The reader/hearer probably only decides that something is wrong after taking in at least some of the second clause. The first clause, though perhaps rather unusual, is not definitely erroneous: certainly one cannot point to any erroneous form in it. It is rather the combination of the two units which makes for error of a pragmatic nature as the reader/hearer struggles to find a semantic representation for the whole sentence which does not conflict with the semantics of each of its two component clauses.

The following example from the corpus shows how error can intrude during the embedding or rank-shifting operation:

11. *And he seems to be very pleased with playing with the cat.

And he seems to be very pleased with + NP is perfectly acceptable as a structure. Also acceptable is the non-finite clause *playing with the cat*. The unacceptability of the utterance derives from the rank-shifting of the non-finite clause to fill the NP slot after *with*. It seems that after *pleased with* a pronoun or noun is preferred as head of the NP, not a rank-shifted clause, though the reasons for this are probably semantic rather than grammatical, and the reader may be able to produce some counter examples.

Errors such as examples **10** and **11** are 'global' as opposed to local, and it is often difficult to decide which is the erroneous unit, since meaning may be unclear and the unacceptability derives from infelicitous combination of larger units which are in themselves acceptable. Thus, in example **11**, it would be possible to regard the non-finite clause (*playing with the cat*) as erroneous, replace it by a noun phrase with noun as head (for example, *the game he is playing with the cat*). On the other hand, one might regard the error as residing in the preceding verbal group and replace *be very pleased with* by *enjoy*. This is to say, there are at least two structurally distinct targets which may underlie the error.

Indeed, it may be an oversimplification to assume that a single target necessarily underlies a particular error. In a recent investigation of advanced learner written production, Dechert and Lennon (1989) found that many errors may have derived from blends between competing syntactic structures, as in:

*Today motoring offences are punished *along similar laws* in most European countries.

The syntagmas *according to similar laws* and *along similar lines* appear to underlie this error.

To return to the present spoken corpus. Even in the apparently rather straightforward example, **a scissors*, either *a pair of scissors* or *a knife* might be acceptable, unless one invokes the larger context of the discourse, which is about knitting, or the extra-linguistic context (the picture story, which shows a pair of scissors). This example demonstrates that a sentence may be formally correct yet erroneous in terms either of the larger context of the discourse, or with reference to the real world. This is Corder's (1971) 'covert' error, of course. An example from the corpus is:

12. *the thief is lucky.

This is revealed to be a (probable) error for *happy* (presumably influenced by L1 German *Glück* = 'happiness', 'luck') only by the context, which is that of a pickpocket relaxing in a pub with a broad smile on his face, having stolen money at the races in the afternoon.

3.2 *Two new dimensions of error: 'domain' and 'extent'*

Any discussion of error and any attempt at error analysis must, then, take account of the breadth of context which is adopted as criterial for whether error has occurred. I shall call this variation in criterial contextual focus 'error domain', which may be defined as: the rank of the linguistic unit which must be taken as context in order for the error to become apparent. Such units may extend minimally from the morpheme to the sentence and beyond to include larger, as yet largely undefined, units of discourse. The extreme case would be where, as in some sorts of lexical and style error, the linguistic context does not at all reveal the error, which only becomes apparent with reference to the extra-linguistic context (truly 'covert' errors).

Account must also be taken of what I shall call 'error extent'. This refers to how far up the hierarchy of linguistic units in which text is organized the error has permeated. It may be defined as: the rank of the linguistic unit, from minimally the morpheme to maximally the sentence, which would have to be deleted, replaced, reordered, or supplied in order to repair production. There is no theoretical reason why the maximum unit should not extend beyond the sentence. However, in the present corpus no errors occurred which involved repairing units beyond the sentence.

It should perhaps be noted that if the above definitions of 'domain' and 'extent' are to include phonological error, then the minimum unit involved would be the phone rather than the morpheme.

Another way of looking at 'domain' and 'extent' is to regard 'domain' as reflecting the hearer's perspective, and extent the speaker's. Domain refers to the amount of (linguistic or non-linguistic) context the hearer needs to recognize the error. Extent refers to the amount of linguistic context which the speaker needs to refashion in order to repair the error.

Traditional error categories may be described in terms of extent and domain. For example, morphological error, preposition choice error, article choice error, and pro-form choice error are united by the fact that, although domain may vary, their extent will usually be limited to the word: this is the unit that would have to be replaced, deleted or added to repair the error. For such errors, consequently, the correction process is mechanically simple, but recognition that an error has been made may be more complex, in the sense that large amounts of intra- or extra-linguistic context may, in some cases, be required.

If we regard English as having only two tense forms, a past and a non-past form, then errors involving tense choice will also have as their extent the word, with variable domain. This would cover errors such as *comes* for *came*, *has come* for *had come*, *will come* for *would come*, *may come* for *might come*.

Extent and domain also help to differentiate more finely within traditional error categories. Consider verb error: unlike the above examples of erroneous tense choice, some verb errors may be 'erroneous forms' in terms of morphology, for example, **camed*. These errors will have as domain (the rank at which the error becomes recognizable) the word, and as extent (the rank of the unit which has to be deleted, replaced, added, or re-ordered) the morpheme (here, *-d*).

For any given error, domain will be at a higher rank than or equal rank to extent, but never at a lower rank. Errors which involve wrong choice of a form which is in itself acceptable will have domain at a higher rank than extent:

13. **a scissors*.

Here, extent is the word (*a*) and domain the phrase (*a scissors*). Local errors of morphological, article, preposition, and pro-form choice will normally have as extent the morpheme or word, and as domain a higher-rank unit.

By contrast, global errors involving word order and sentence structure will have extent at a high rank, often with domain at the same rank. Consider:

14. **well, it's a great hurry around*,

where domain and extent are at the same high rank, namely the sentence. One has to hear the whole sentence in order to recognize the error (domain), and it is necessary to reformulate the whole sentence in order to repair the error.

It will be rare for domain and extent to be both at the word level for any given error; this would normally imply an unsuccessful attempt at word coinage, or perhaps a blend of two words, or a mispronunciation. In any case, a word would have been produced which does not exist in the language, nor is obviously derivable from any existing word. This would be a special sort of lexical error. We will now consider how extent and domain may help to differentiate other more common forms of lexical error.

3.3 *Lexical error and extent/domain*

With regard to errors of lexical choice, the domain and extent concepts help us to distinguish three broad categories:

Collocational restriction violation: An example from the corpus is:

15. **Behind him stands a man, well, who looks somewhat naughty*.

Here the error derives from the violation of collocational restraints: *man* and *naughty* do not collocate well. The extent is the word (*naughty*), which must be replaced by, for example, *suspicious*, *evil*, or *dangerous*. The domain is the sentence. In other examples of collocational error, the domain might be the clause or the phrase.

Lexical error revealed only by extra-sentential discourse: Consider example 12, above:

12. **The thief is lucky*.

Here, there is no violation of collocational restraints within the sentence: *thief* and *lucky* are collocatable. This is, then, a rather different sort of error; the extent is once more the word *lucky*, but the domain is that of the larger discourse.

Lexical error revealed only by extra-linguistic context: There is a third, insidious category of lexical error, namely where the error is not detectable from the larger discourse, but only by reference to the real world, in this case the picture sequences:

15. *she goes to the corridor . . .

Here, only by reference to the picture is it apparent that *corridor* is an error for *hall* (possibly influenced by German *Flur* = (variously) corridor, hall).

3.4 Error counts and extent/domain

Embedded error: The fact that error extent and domain may vary poses problems for error analysis and highlights the point that error may disrupt surrounding language (extent) and impede communication to various degrees (domain). Since this variation is not merely linear, it cannot be measured in, for instance, number of words; it has to be assessed in terms of the paradigmatic embedding which is characteristic of language. A particular problem for error analysis is that error may be embedded in units which themselves are erroneous choices. In such cases the perspectives of domain and extent are helpful. Consider:

16. *and erm he seems to be drunken . . . (for 'he seems to be drowned')

Here, there is, firstly, a morphological error, namely *drunken* for *drunk*, the domain of which is the phrase (*to be drunken*) and extent the morpheme (*-en*). Yet the extent of this error lies within that of a lexical choice error, namely *drunken* for *drowned*, the domain of which is the extra-linguistic context (the picture is of a baby lying submerged in its bath), and extent the word (*drunken*).

Criteria have to be set up to deal with such cases of embedded error. A suggestion might be: the error which occurs at the higher level of analysis in terms of extent should be counted, whereas any error whose extent is contained within that of another error should be ignored for error count purposes. The point being made here is not that such a policy is the only one tenable, but rather that unless a firm policy is formed, any attempt at consistency in error type counts will be vitiated.

Type-token distinction: The domain/extent perspective also helps to systematize the criteria set up in 2.5, above, for distinguishing between error type and token. In terms of domain and extent, the error is identified in terms of its extent, but identity at the lexical realization level must comprehend the whole domain if two occurrences are to be taken as tokens of a single type.

4. CONCLUSION

This paper has suggested more rigorous procedural criteria for conducting error analysis. It has maintained that, if consistency is to be achieved in error identification and distinction, such criteria are necessary. A working definition of error has been formulated, and attention has been drawn to the middle-ground of advanced learner performance, which may be 'infelicitous' rather than fully erroneous. Any attempt to describe advanced learner performance must take account of this middle ground. Indeed, scrutiny of sentence 13 in Appendix 1 suggests that the idea of error as necessarily always locally identifiable may be mistaken. In some cases it may be various infelicities occurring in close proximity which persuade the native speaker he or she has recognized an error. This would be an interesting area for future research.

Two new dimensions of error, extent and domain, have been introduced, which take account of the fact that language is hierarchically as well as linearly structured. They also claim a psychological reality, in that domain reflects the listener's viewpoint (error recognition) and extent the speaker's (error repair).

Error domain and extent function as dual measures to classify and differentiate errors systematically without recourse to speculation about the psycholinguistic causes of error, yet in a way that is rooted in both linguistic and psycholinguistic description. In particular, it has been shown how they define three distinct categories of lexical error and enable principled criteria to be set up to deal with error embedded within error and with distinguishing between error type and token.

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APPENDIX

'Doubtful' Errors, where the panel was divided: 3 against 3

1. She makes some gestures when she calls
2. On the next picture . . .
3. she goes to the corridor . . .
4. . . . in order to answer the telephone call
5. he has a bag with his medicine with him

6. he's very glad *at having caught* that big fish
7. he is disturbing the two lovers *so that* they become very angry
8. you can see a gentleman ringing *at* the doorbell
9. the bank manager was not able to hold him back so this man *could* escape
10. he's coming out *from* the bank
11. he's just collecting the money from the *so-called* bookmaker
12. *eventually in the night* the thief returned
13. There is *a dam wall which should protect the village from flood*
14. he's pulling the communication cord in order to *fetch some people*