The HCRC Map Task Corpus*

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ABSTRACT

This paper describes a corpus of unscripted, task-oriented dialogues which has been designed, digitally recorded, and transcribed to support the study of spontaneous speech on many levels. The corpus uses the Map Task (Brown, Anderson, Yule, and Shillcock, 1983) in which speakers must collaborate verbally to reproduce on one participant's map a route printed on the other's. In all, the corpus includes four conversations from each of 64 young adults and manipulates the following variables: familiarity of speakers, eye contact between speakers, matching between landmarks on the participants' maps, opportunities for contrastive stress, and phonological characteristics of landmark names. The motivations for the design are set out and basic corpus statistics are presented.

INTRODUCTION

This paper describes a research tool, a corpus of dialogues, which is available on CD-ROM both as digitized speech and as verbatim orthographic transcription. The corpus is a response to one of the basic difficulties of work on natural language: while most language use is in the form of unscripted dialogue, much of our knowledge of language is based on prepared materials.

The direct study of real dialogues serving real communicative goals can, of course, be methodologically dangerous. One obvious drawback is *quantitative*: Phenomena of theoretical interest may be so sparsely represented in naturally occurring speech that huge corpora may still fail to supply sufficient instances to support robust conclusions. Underlying this difficulty is a *qualitative* problem: Many linguistic phenomena depend heavily on the linguistic and extralinguistic contexts in which they appear, and in corpora of spontaneous speech, critical aspects of context may be either unknown or uncontrolled. As a result, much research employs a safer approach, depending not on spontaneous dialogue, but on carefully scripted monologues of various lengths or on extended texts. These may be anything but spontaneous, and in the case of texts, may not even be intended to be spoken. Although such materials assure that the needs of the particular research are met, they often serve to exaggerate the problem of the blind men and the elephant. What the resulting research examines is not so much different parts of the same living creature but elegantly crafted non-contiguous plaster casts of parts of the animal.

The intention behind the present corpus is not to detract from ‘cast’ materials which allow rigorous study of linguistic phenomena, but to attempt to supplement them with a more than usually amenable elephant in the form of a corpus of dialogues large enough and controlled enough to permit profitable simultaneous study from a number of points of view. While the dialogues in the corpus are unscripted, the corpus as a whole comprises a large, carefully controlled elicitation exercise.

The dialogues were produced during the performance of the Map Task (Brown, Anderson, Yule, and Shillcock, 1983). Each of the two participants in this task has a schematic map which the other cannot see, but both collaborate to reproduce on one of the maps a route already printed on the other (see Figures 1a and 1b). Although the participant with the pre-printed route is designated the Instruction Giver, and the other as the Instruction Follower, no restrictions are placed on what either can say.

Part of the current design derives from the characteristics of the task as Brown *et al.* devised it:

1. All Map Task dialogues have a similar *goal which is known to the observer independently of what can be gleaned from participants' utterances*: reproducing a route of known form and controlled complexity on a map with comparable numbers of landmarks.
2. Because the goal can be achieved only by means of what the participants say to one another, *successful communication is important*.
3. Because the correct solution to the cooperative problem is well defined, *successful communication can be measured* in terms of the extent to which the achieved route corresponds to its model.
4. Because the map route and landmarks are set in advance, *the entities referred to in the dialogues are also known to the observer independently of what is said*. Consequently, the observer can determine not only whether the speaker communicated effectively, but also whether the form of expression might have been ambiguous or misleading under the circumstances in which it was uttered.
5. Because mismatches between landmarks, their names, or their locations on a pair of maps are easy to arrange, the experimenter is in *control of information initially shared by participants* and can alter the difficulty of the task.

The current version of the Map Task exploits its inherent design features via three further embellishments:

1. Because the range of map landmarks is constrained only by the ingenuity of the artist, *the names of the landmarks can be designed to be of phonological interest*.
2. Because the pairing of participants is under the experimenters' control, *the familiarity of speakers can be varied* systematically.
3. Because the physical setting is arranged so that participants can hear each other but not see each other's maps, other channels of communication can also be controlled. In this case, placing or removal of a small barrier permitted *control of eye contact between participants*.

INSERT FIGURES 1A AND 1B ABOUT HERE

Although the present corpus is suitable for many other kinds of research, it was designed specifically to furnish a common set of materials for the simultaneous study of several different linguistic phenomena. In the next section, the issues which motivated the design of the corpus are outlined. The third section gives a brief summary of the corpus design and the method for collecting speech. Finally, there is a description of the resulting materials.

BACKGROUND

Communicative Success and Communication Strategies

Our understanding of the strategies which speakers can use to achieve communicative goals is hampered by the difficulty of determining which strategies are successful. In the Map Task, however, the overall success achieved by any pair of speakers is measurable in terms of the deviation between the original route found on the map of the Instruction Giver and that reproduced by the Instruction Follower. To measure such route deviations, a 1cm grid is used on which the route is represented by filled grid squares. A deviation score in grid cells gives an objective non-linguistic estimate of communicative success. With this we can determine the effects of various communicative strategies employed by the task participants.

This approach has already been used with earlier versions of the Map Task to determine components of communicative success in young speakers (Anderson, Clark and Mullin, 1989, 1991). To date, it has been possible to demonstrate great variability in the communicative skills of young subjects aged between 7 and 14, and to identify several interactive skills which characterize the dialogues of the more successful communicators at all the ages studied. These skills have to do with speakers' ability to establish sufficient "mutual knowledge" (Clark and Marshall, 1981) to understand one another's contributions to the conversation. Any mismatch between landmarks on Giver's and Follower's maps makes this requirement particularly salient and gives rise to different strategies in more and less successful communicators. More successful communicators are distinguished by the forms of referring expressions chosen to introduce new items in the dialogue, the sequencing of questions and answers, the ways in which information provided by a partner is assimilated, and the ways in which communication problems are signalled and responded to.

In each of the strategies identified, however, successful interactions depend on contributions from *both* speakers. The Map Task makes it possible to study such collaborations because it generates extended and comparable speaker-determined dialogues. The present Map Task Corpus makes it possible to determine whether adults exhibit a range of communicative strategies similar to those displayed by child speakers, and to examine variables which affect the nature of the collaboration.

The Map Task also allows us to explore two further aspects of the collaboration: its development, and the channels through which it is achieved. When the same speaker is observed performing the same tasks with familiar and unfamiliar partners, some account can be given of strategies which are used generally by a given speaker and those which appear as unfamiliar participants build the bases of their collaboration. By examining collaborations between partners who have eye contact, -- as they might in the most natural situations, -- with those who have only auditory contact, -- as they might over a telephone link, or as a person might have with a machine, -- we can determine which of the speakers' natural strategies are used successfully across situations and which are linked to visual contact.

Speaking and Writing

Consistent syntactic differences between spoken and written language (Poole and Field, 1976; Kroll, 1977; Chafe, 1982; Stubbs, 1980; Beaman, 1984; Biber, 1986, 1988; Halliday, 1989) not only require explanation, but also raise the issue of what it is that linguistic theories must account for. The fact that there are differences is now relatively uncontroversial. What is controversial is the nature of these differences. Beaman (1984) suggests that differences in the types of data which have been analysed provide one reason for disagreements among researchers. In particular, the spoken/written dimension has been confounded with functional factors such as register, purpose, and formality. The Map Task dialogues offer insight into factors affecting spoken language which have not yet been explored elsewhere (Biber, 1988).

In particular, the Map Task Corpus provides spoken language data from informants of known, and fairly constant, age and educational background. Previous studies of spoken British English concentrate on the English spoken by university-educated adults (the informants who contributed to the London-Lund Corpus, which Biber analyzed, or the academic speakers recorded by Chafe and Halliday) who are fluent users of the formal, written language. There is good reason to believe that the everyday conversation of the bulk of native English speakers in Britain, who use the written language less, differs even further from the written language. This speech may be better approximated by the informal speech of undergraduate informants.

In addition, the Map Task allows us to consider to what extent a genuinely co-operative communicative task affects language use. Intensive involvement with the task in hand distracts speakers' attention away from their language. It has been shown (Kary, 1981) that speech between adults simultaneously collaborating in simple physical tasks (washing dishes, tidying a classroom) more closely resembles the 'simplified' speech of the same adults to young children than it resembles the adults' speech to adults under other circumstances. Appropriately, the Map Task dialogues display characteristics typical of informal Scottish speech (Brown and Miller, 1980; Macafee, 1983; Macauley, 1985). As syntactic subordination is replaced by discourse subordination, syntactic structure becomes shallower. *If*- and *(be)cause*-, and headless relative clauses occur without main clauses and often serve functions quite different from those associated with these forms in written or formal spoken discourse. Independent *if*-clauses, for example, function as directives.

Moreover, by controlling the participants' goals and pertinent background knowledge and making them independently available to the observer, the task can reveal how goal-directed spoken language achieves particular goals, -- how, for example, this variety of spoken language allows the participants to introduce, focus on, and keep track of entities; how speakers describe the location of entities and movement in relation to them; how types of clauses and phrases function and combine.

Variability in Speech

One of the characteristics of speech which distinguishes it from printed text is that in speech no two tokens of a word are ever identical, even if they are uttered by the same speaker repeating the same utterance. Variations in the duration, amplitude, and spectral composition of spoken words dictate some of the complex characteristics of linguistic, psycholinguistic, and technological models of speech production and recognition. Were we to understand which factors condition which particular differences, we would be able to further both our models of human behavior and the related technologies.

Although particular phonetic environments permit the phonological modifications which change the form of words (Brown, 1977; Gimson, 1980; Lass, 1984), they do not determine to what extent modifications will operate. Some of the determinants are syntactic (Cooper and Paccia-Cooper, 1980). Others are part of a general system whereby the communicative burden of a word token determines how easy it is to recognize on the basis of its acoustic shape. Differences between words show a relationship between length and information discovered by Zipf (Zipf, 1935; see also Bard and Anderson, 1983; Fowler and Levy, 1991): Lexical items which bear more information tend to be longer. Similarly, referring expressions which introduce new entities into a discourse are longer than their anaphors. Longer words, those which carry more information, are easier to recognize in speech (Rosenzweig and Postman, 1958). The system also extends to different pronunciations of the same words: As Lieberman (1963) showed, words are given longer and more intelligible pronunciations when they occur in contexts which do not predict them (*The number which you are about to hear is <u>nine</u>.*) and shorter, less intelligible pronunciations when they are predictable from context (*A stitch in time saves <u>nine</u>.*) (see also Hunnicutt, 1985; Bard and Anderson, 1983; Fowler and Housum, 1987).

In fact, a word token appears to be more susceptible to degradation the more its identity can be recovered from its context, whether linguistic or extra-linguistic. Shortening and loss of intelligibility accompany second, coreferential mentions in extended discourse (Fowler and Housum, 1987; Bard, Lowe, and Altmann, 1989; Bard and Anderson, 1991), reference to objects visible to speaker and listener (Bard and Anderson, 1991), and informal or close relationships between speakers (Bard and Anderson, 1983; McAllister, Sotillo, and Bard, 1991).

Phonological modifications appear to create some of the degradation effects. Word boundary phonological processes may affect spectral composition (for instance the assimilation of alveolar to bilabial nasals : *phone book*, [foun # b k], becomes [foumb k]) or reduce duration (*list some*, [l st # sUm] becomes [l sUm]), creating tokens which are segmentally unlike the careful citation form of the word. Certain of these modifications, like reduced intelligibility, characterize parents' speech to their children (Shockey and Bond, 1980) and spontaneous rather than read speech (Shockey, 1983).

Interestingly, because these effects are part of the speaker's means for transmitting a message to the listener, they occur only in speech which conveys meaning. The effects of repetition, for example, range from no duration loss in word lists, through a significant effect in readings of transcribed spontaneous speech, to a stronger effect in the original spontaneous speech itself (Fowler, 1988).

Fertile materials for more detailed studies of these phenomena will therefore consist of spontaneous conversations in which it is possible to control the relationship between the participants and the linguistic and extra-linguistic information available to each. The Map Task provides such materials. Landmark names can be selected so as to offer sites for phonological reductions or assimilations. Participants may read out lists of the landmark names at the end of the task sessions for comparison with tokens in running speech. Critical landmarks may be excluded from one or other map to test the effects of visual support for lexically conveyed information. Participants may be old friends or strangers. The same participants may be observed in several cells of the design or at various points in a dialogue so that individual differences need not confound the other comparisons.

Conversational Structure and Intonation

It is an aim of much semantic and pragmatic research to relate speakers' intentions to particular linguistic devices used to express those intentions. This enterprise can all too easily become circular unless intentions can be determined independently of the linguistic means used to express them. In the Map Task, however, we can use the maps and the information already conveyed in dialogue to assess both the participants' immediate goals and their state of knowledge when an utterance is made. For this reason we are usually able to say with some confidence what the speaker's purpose was in producing the utterance. While we can look for indications of the conversational role of an utterance at other linguistic levels, as well, we are particularly interested in pursuing the hypothesis (Houghton and Isard, 1987; Houghton and Pearson, 1988) that the conversational role of an utterance is reflected in its intonational tune, that is, that the intonation will help us determine not only what a speaker means by an utterance but also what s/he means to accomplish by it.

To carry out such a program, we need a formal account of conversational structure, and we have adopted an analysis (Kowtko, Isard, and Doherty, 1991) which builds on the work of Houghton (1986), Houghton and Isard (1987), and Power (1979), and views conversations as consisting of conversational games, which may nest and loop, and within which participants make conversational moves.

Both Power and Houghton attempted to produce a theory of how non-linguistic goals give rise to conversation. The theory was presented in terms of an AI model in which a pair of "robots" conversed in order to achieve simple goals which neither was capable of achieving on its own. In Houghton's model, conversation was integrated with the rest of the robots' capacities for interacting with their world. The robots knew that successful conversational games could result in the transfer of information or the performance of some non-linguistic act by their partner. A robot wanting to know whether a door was bolted could consider looking at the door, pushing it, asking Fred if it was bolted, or even asking Fred to push the door as an alternative means of finding out. Here "asking Fred" and "asking Fred to push the door" are used as shorthand for "engaging Fred in the FIND_OUT conversational game" and "engaging Fred in the GET_DONE conversational game". The actual asking is only the first move in the relevant game. The significance of seeing asking as part of a game lies in the askee knowing what sort of response is required, in the asker knowing what to make of the reponse, and in both players knowing that getting the response is the point of starting the game in the first place.

The robot conversations generated in this way were sensible and coherent, if somewhat stilted. The Map Task can be viewed as a form of the robots' door problem interesting enough for human participants, and we have extended the repertoire of games and moves used by the robots to cover new conversational forms that arise in Map Task dialogues. For instance, Map Task participants often seek to confirm their understanding before launching a new game ("So you're just below the swamp, right?"), whereas the robots had no such tactic in their repertoire. We have begun assessing the adequacy of the extended analysis for the map dialogues (Kowtko, Isard and Doherty, 1991).

The purpose of such an analysis is to make it possible to test a theory of intonational pragmatics in which the role of an intonational tune is to signal purpose in the form of the move being made in a conversational game. We might, for example, expect to find a clear distinction in intonation between making one of the small number of *scripted* moves which the structure of a game provides at a given point (e.g., giving a direct answer to a question that has just been posed) and making an (equally legitimate but) *unscripted* move which interrupts, abandons or otherwise modifies the participants' shared understanding of the current game. Ultimately, game and move structure should offer more accurate predictions of intonational patterns, and accordingly, the possibility of more useful interpretation, than an account of sentence types alone.

METHOD

Materials and Design

Materials. The materials consisted of 16 pairs of maps, four pairs following each of four different basic plans. The plans were devised on grids much like the one used for scoring to provide routes of roughly equal complexity. Each pair of maps included an Instruction Giver's map, like the one reproduced in Figure 1a, which showed the intended route, and the Instruction Follower's map, like Figure 1b, which did not. The four map-pairs based on any given plan differed in the particular landmarks which occupied the landmark positions imposed by the plan. All landmarks were portrayed as line drawings and all were labelled with their intended names. All the maps were reproduced on A3 paper.

Landmark types. All map routes began with a starting point marked in the same way on Instruction Giver's and Instruction Follower's maps and ended with a finishing point marked only on the Giver's. Intermediate landmarks along the route alternated between those that were *common* to the Giver's and Follower's map, that is, identical in name, form, and location for both (see *seven beeches* in Figure 1a and 1b), and those that differed in some way. Of the landmarks not common to both, each map contained at least one of each of the following types.

- *Absent/Present* landmarks were found on the Follower's map but not the Giver's (*blacksmith* in Figure 1b).

- *Name Change* landmarks have different names but identical forms and locations on the two maps (*reclaimed fields* in Figure 1a as opposed to *old flood plain* in Figure 1b).
- The *2:1* landmarks appear twice on the Giver's map, once in a position close to the route and once far away (*vast meadow* in Figures 1a and 1b). The Follower has only the one far away from the route.
- Finally, each basic plan was associated with a *Contrast Feature*, a pair of landmarks with similar names which might elicit contrastive pronunciations (*Green Bay* and *Crane Bay*). Over the four map pairs for each basic plan, all the possible combinations of matching and mismatching contrast were represented: Giver's and Follower's maps have both members of the contrast, both maps have only one member, Giver's has both and Follower's one, Giver's has one and Follower's both.

In addition, each map contained an *Odd Man Out*, a landmark which was alien to the stereotypical location to which all the other landmarks might easily belong (*crashed spaceship* in Figure 1b), as well as a number of other landmarks located at a distance from the route.

Phonological Modifications. Landmarks close to the route included those whose names offer sites for one or other of the following modifications: *t-deletion* (*vast meadow* may be pronounced [vAs # mEdou]); *d-deletion* (*reclaimed fields* pronounced as [riklEim # fildz]); *glottalisation* (*whitewashed cottage* as [wAi?w St # k t dJ]); *nasal assimilation* (*crane bay* as [krEim # bEi]). Each type of phonological modification provided the Contrast Feature for one of the basic map plans and over the four map-pairs based on each plan, each type of modification was applicable to one Common landmark, to each sort of mismatch, and to the Odd Man Out. Except for the Contrast Feature, all the other examples of phonological modifications changed from map to map, giving altogether 22 lexically different sites for each of the modifications.

Other landmarks on the route included polysyllabic names the first two syllables of which were either *Strong-weak* (*chapel*) or *Weak-strong* (*attractive cliffs*). Landmarks elsewhere on the maps varied in character.

Design. Each Subject was recruited with a Familiar partner who knew him/her well and tested in coordination with another pair of Subjects who were Unfamiliar to him/her. The two pairs formed a quadruple of Subjects who used among them a different set of four map-pairs, one from each of the basic plans, and one from each of the Contrast conditions. Maps were assigned to quadruples by Latin Square.

Every Subject participated in the Map Task four times, twice as Instruction Giver, twice as Instruction Follower, once in each case with his or her Familiar partner, once with an Unfamiliar partner.

As Instruction Giver, each Subject used the same map twice; as Follower s/he used a different map each time. Half of the Subjects gave instructions to a Familiar partner first, half to an Unfamiliar. Half the Subjects performed all four tasks while able to see the other participant's face (With Eye Contact), half while unable to do so (Without Eye Contact).

Thus Subjects were nested in pairs, in Eye Contact condition, in Familiarity Order, and crossed with Giver/Follower role, and Familiarity. Basic map plans were crossed with Contrast condition, Eye Contact, Familiarity, and Familiarity Order. Individual map-pairs (and, therefore, individual landmark names) were nested in basic plans but crossed with Familiarity, Familiarity Order, and Eye Contact. With 64 subjects in all, this design allowed opportunities for different speakers to utter each of the landmark names offering a phonological modification site: Each of the four more frequent Contrast landmark names was available to 16 different Instruction Givers and 32 Followers; each of the four less frequent Contrast landmark names to 12 Givers and 24 Followers; for each potential phonological modification 20 lexically different landmark names were available to each of 4 Givers and 8 Followers.

Procedure

Subject pairs belonging to a quadruple were isolated from one another between recordings. Subjects were tested in a recording studio facing one another across a pair of drawing boards arranged back to back, which hid each one's map from the other. Subjects in the With Eye Contact condition could see one another's faces over the drawing boards; an additional barrier prevented this in the No Eye Contact condition. Subjects were told that the goal of the task was to enable the Giver's route to be drawn on the Follower's map, that the Giver's and Follower's maps might be different in some respects, and that both participants could say whatever was necessary to complete the task, but that neither could use gestures.

After finishing all their Map Task problems, each Subject read aloud a list of all the landmark names used in the maps employed by his/her quadruple and a short list of sentences used as accent diagnostics (Barry, Hoequist, and Nolan, 1989). All the dialogues were orthographically transcribed.

All materials were digitally recorded on DAT (Sony DTC1000ES) using one Shure SM10A close-talking microphone and one DAT channel per participant. Split-screen video recordings were also made.

Subjects

Sixty-four undergraduates at the University of Glasgow (32 male and 32 female) took part. Subjects had known their partners for various lengths of time before the recordings were made, with an average of 2 years and a range from 6 months to a lifetime. Subjects' ages ranged from 17 to 30, with a mean of 20 years. Of the Familiar pairs, 13 were all female, 13 all male and 6 female-male. Sixty-one of the 64 subjects were Scottish, 56 of them from within a 30 mile radius of the center of Glasgow. The remaining subjects were English (2) or American (1).

CHARACTERIZING THE CORPUS

Standard Scottish English

Because the Standard Scottish English of Glasgow and the surrounding area is so predominant in the corpus, it may be worthwhile explaining how it differs from more widespread varieties of English. Because more detailed accounts of SSE are readily available (Abercrombie, 1979; Aitken, 1984; Macafee, 1983), only a few notes on characteristics particularly pertinent to the Map Task Corpus will be offered here.

Phonologically, Standard Scottish English (hereafter SSE) is treated as a variety of Northern English. The segmental phonology of SSE lacks contrasts possessed by British Received Pronunciation (RP) and has contrasts lacking in RP. Where RP has different vowels in the pairs *bad/balm*, *not/nought*, *pull/pool*, SSE has only one vowel for each pair: respectively /a/, /O/, and /u/. But in certain instances where RP has one vowel, SSE has several: /Ui/ in*side* v. /ae/ in *sighed*; / / in *bird* v. /U/ in*word*, and /E/ in *heard*; and /O/ in *cord* v. /o/ in *board*. Whereas RP does not distinguish *where* from *wear*, in SSE these are a minimal pair, contrasting /•/ with /w/.

The realizations of individual phonemes also differ from RP: /u/ is typically realized as a centralized and even fronted vowel; / / is lower than in RP and in many local varieties has been lowered to /U/; /E/ as in *bed* is generally higher than in RP, and a small number of words - such as *never*, *ever*, *seven* - have a vowel that is higher than /E/ and slightly retracted; /r/ is realized as a tap, a retroflex fricative or a retroflex approximant; /l/ is typically velarized; post-tonic /t/ is often realised as a glottal stop. In Glaswegian SSE, /p/ and /k/ may also be realised as glottal stops in reduced forms.

The syntax of SSE diverges from that of Standard English, sharing features with the English of

Northern Ireland and with the English of the southern United States (for greater detail, see Miller, 1992, or Wilson, 1915). In general, the incidence of SSE syntax decreases for any individual in direct proportion to exposure to written English and formal education. In the current Corpus, non-standard forms are rare, although the shallow syntactic structures described earlier are much in evidence. The following are the most notable SSE forms in the Corpus: negation indicated by *no* or *not* ("I've no/t got a castle on my map") and cliticized as -*nae* ("The route doesnae go past the castle"); a general purpose tag *eh*, roughly equivalent to American English *huh* ("The route goes past the castle, eh?"); *whereabout(s)* or *where....about* as the equivalent of *where* ("Where is the bridge about?").

In all, the Corpus contains few words which will be unfamiliar to speakers of other varieties of English. Out of a total of nearly 2000 word types in the orthographic transcription of the Corpus, only 17 Scottish word forms were rejected by the UNIX *spell* dictionary and these account together for only 46 word tokens. The words are cliticized forms with -*nae*, *cannae*, *didnae*, *doesnae*, *havenae*, *wasnae*, *wouldnae*; other closed class items, *nae* ("no, not"), *doon* ("down"), *fae* ("from"), *gonnae* ("going to"), *och* ("oh"), *roond* ("around"), *tae* ("to"), *thae* ("those"); and *coo* ("cow"), *stramash* ("mess"), and *totty* ("tiny"). It should be understood, however, that the orthographic distinction between Scots words and their similar English counterparts, like *doon/down* or *fae/from*, is not completely systematic. Either spelling may correspond to a range of pronunciations.

CORPUS STATISTICS

The corpus consists of digital recordings of 128 unscripted dialogues (approximately 15 hours of dialogue) and 64 lists of landmark names. Of the 128 dialogues, 32 belong to each of four categories: familiar speakers with eye contact, familiar speakers without eye contact, unfamiliar speakers with eye contact, unfamiliar speakers without eye contact. All dialogues have been transcribed verbatim in the standard orthography, but with indication of filled pauses, false starts, repetitions, interruptions etc. in a variant of standard mark-up notation. Table 1 reports the amounts of material involved.

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PROSPECTS

The Map Task Corpus is already in use for studies outlined earlier, in particular for studies which relate the concerns of several fields. Although our own work is still very much in progress, the corpus is available to other researchers. National and international data collection exercises are an indication of the need felt by the speech and language communities for extensive machine-readable corpora. Moreover, there is a particular value in using the same materials for many different kinds of research: like the participants in the Map Task, the more sure we can be that we are talking about the same things, the more we are likely to reach our mutual goals[1].

FOOTNOTES

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Table 1. Map Task Corpus statistics

	Total	With Eye Contact	Without Eye Contact
Number of conversations	128	64	64
Number of word types	1,939	1,489	1,469
Number of word tokens	146,855	66,729	80,126
Instruction Giver		46,629	54,665
Instruction Follower		20,100	25,461
Average word tokens per conversation	1,147	1,043	1,252
Transcription size (kbytes)	987	449	538
Digitized speech size (kbytes)	6500		
Duration (hours)	20	10	10
Dialogues	15		
Word lists and diagnostics	5		

FIGURE TITLES

Figure 1. Samples of maps used in the Map Task

a. Instruction Giver’s map

b. Instruction Follower’s map

Notes

[1]The corpus is available on CD-ROMs and consists of spoken dialogues, accent diagnostics, read word lists, time-stamped orthographic transcription of the dialogues, and basic documentation. Please address enquiries to the correspondence address for this paper and mark them "Map Task Corpus Distribution". Also available from this address is more detailed documentation on the Glasgow HCRC Database, which includes Map Task transcriptions (Boyle, 1990), and on the design of the Map Task Corpus itself (McAllister, Sotillo, Bard, and Anderson, 1990)