Introduction

ROGER BROWN[1]

Department of Psychology, Harvard University,
33 Kirkland Street, Cambridge, Massachusetts 02138, USA

Let us begin by offending all those good souls who deplore the increasing dehumanization of our lives. The human infant may, I put it to you, be represented, without significant remainder, as a conjunction of values of binary features. Something on the line of Fig. 1. Of course, I do not know just what features should be entered in Fig. 1 nor even that binary features make a better representation than a set of continuous dimensions, and so Fig. 1 is not to be taken seriously. Except insofar as it makes a general point that helps to place baby talk with reference to talk of other kinds.

[+ inspiring affection
+ inspiring tenderness
+ inspiring intimacy
− verbal production
− verbal comprehension
− cognitive competence]

Fig. 1. The human infant represented as a conjunction of values of binary features.

THE PLACE OF BABY TALK IN THE WORLD OF LANGUAGE

None of the features in Fig. 1 is specific to the human infant. They, all of them, apply also to other classes of human beings as well as to

some animals, and it is only the conjunction that is unique. If the features marked with the minus values are all switched to positive values and the positive features left as they stand, we transform the infant into an approximation of the adult lover – still inspiring affection, tenderness, and intimacy, but verbally and cognitively competent. If we let the negative values of Fig. 1 stand as they are and neutralize the positive values, then the human infant is transformed into a rough representation of the adult second-language learner; someone who is not highly proficient at language production or comprehension, but who inspires no special affection, tenderness, or intimacy. The same pattern, with a first language substituted for a second, will serve as an approximate representation of an adult retardate, conceivably someone afflicted with Down's Syndrome. If we do nothing to Fig. 1 but add the feature '–human' we have a representation that would roughly fit either Animal Pet or Household Plant, and the psychological nearness of these categories to the Human Infant has some truth in it.

In some such fashion, allowing ourselves to play fast and loose with features, we can easily represent many categories of persons, animals, plants and even inanimate objects as they are conceived by an unspecifiable but clearly large and familiar population. The only value of the featural form of representation is that it makes salient major differences and similarities among these categories. The categories all have also the property of eliciting speech from some or all persons; instances of human infant, adult lover, second-language learner, retardate, animal pet and household plant all sometimes function as addressees of speech. Talk to members of one of these categories – the human infant – is the focus of this volume, and the special features of this talk are called the baby talk (BT) register.

Grimshaw (this volume)[2] expresses some understandable puzzlement at the number of descriptive studies of BT which omit the most elementary of controls (though he must except so elegantly controlled a study as Garnica's). How can we know that some feature or other of talk addressed to babies is peculiar to such talk and not to be found with every sort of addressee? Oddly enough, it would seem that we can sometimes tell, and that no control is necessary. Simplification of consonant clusters, *Ammenton* or 'nursery pitch', the use of proper names or kin terms in place of pronouns, hypocoristic affixes, rising terminals on imperatives and so on can surely be tested against the investigator's intuition and reliably judged to be peculiar to the BT register.

Still, I think that Grimshaw is basically right, but that the problem

of controls is neither simple nor primarily methodological in interest. Our intuition works, I would guess, by testing the hypothetical BT characteristic against the imagined speech of a Generalized Adult Other speaking to another of the same. Such adults will not say *pwetty* for *pretty* or *faw down* for *It fell down* or *Make pee-pee* for *Spend a penny* (British English). They will not use nursery tone or speak very slowly and with exceptional clarity. We know all these things for sure and could judge as confidently another 100 or so features of BT. Nor does this picture change if control data of an appropriate sort are actually collected, as they have been by Garnica, Snow and others. This is because the most accessible adult–adult control on adult–infant speech is casual conversation between normal native-speaking adults who are acquainted but not intimately so, quite often one mother to another or a mother to the investigator. That sort of speech seems to approximate very closely to what is to be expected from a generalized adult other, and the results are much the same whether it is imagined or transcribed. This minimal control does serve to show that the characteristics of BT are not also to be found in adult speech, at least not in adult speech of a certain kind, the speech between generalized others, the common coinage of linguistically competent adults who stand in no specific relation to one another.

But surely there would be something inconsistent in the student of BT supposing that anything like a single control could be ultimately sufficient. The mother–child dyad is not the only social relation in the world, and the human infant as we have indicated is only one of many major classes of addressee. In this volume, it is Ferguson, the senior scholar in the modern study of BT, who gives the greatest attention to what he calls the 'extended functions of the register'. BT itself, he sees as one of a set of simplified registers for use with people felt to be unable to understand normal adult speech. He even names another of these: the 'foreigner register'. Voegelin & Robinett (1954), we learn, found that, in the BT of an adult informant who was a teacher, pronunciation was clarified in much the same way as when that same informant was dictating Hidatsa in his field seminar. In English and in Marathi it is attested that BT is used to animals. Alexander Woolcott used BT in addressing his dice at backgammon. In the 1840 presidential election in the United States, Harrison's political opponents mocked him by speaking BT to him. Wills notes that the use of *let's* or *we'll* in place of the singular *I* or *you* is common not only in BT but also in politician talk. Rūķe-Draviņa tells us that Latvian BT may be used between lovers and to young domestic

animals. Bynon enters the only contrary report. Berber BT, it seems, has no secondary uses; it is not spoken by lovers nor addressed to animals.

It begins to be difficult to reconcile all these reports with one another and with my own observations. Clearly, we have no more than a start on the detailed data that would serve to place BT in the world of language generally, but it is worthwhile describing a possible outcome if only in hope that the problem will interest investigators in the future. Ervin-Tripp, with her sharp eye for the missing piece in a puzzle, calls for studies of the co-occurrence of the many features of BT. I take her to mean co-occurrence in the speech of many mothers speaking English to many babies. How often when you have feature 'A', say high pitch, do you also have feature 'B', exceptional clarity of pronunciation, and are 'A' and 'B' more reliably linked with one another than either is with 'C', which is the use of the diminutive as in *doggie*? If this is the kind of analysis Ervin-Tripp has in mind, it is essentially a procedure for doing a componential analysis of BT. Surely, the 100+ features that constitute English BT are not all equally likely to be found in conjunction.

Ferguson has really made a kind of impressionistic componential analysis, not of English BT alone, but of BT generally. He does not present it as such, but rather as a system for classifying the different kinds of processes found in BT. These processes are of three major types: 'simplifying' (as in replacing difficult consonants with easy ones or eliminating inflections or replacing pronouns with proper names); 'clarifying' (as in speaking slowly, clearly and with many repetitions); and 'expressive' (as in the use of hypocoristic affixes, 'cute' euphemisms and 'nursery tone'). I suggest that these three processes would collapse into two 'components' in a co-occurrence analysis and that the features in question would cluster together not primarily because of the derivational processes involved, but rather because processes belonging to the same component spring from the same sentiment and are intended to accomplish the same sort of function. Simplifying processes derive possibly from a desire to communicate, to be understood, with, perhaps, some interest also in teaching the language to the child. Clarifying processes, so far as I can judge, have the same purposes behind them, so I suggest that there is but a single component of simplification–clarification which has as its motive the desire to be understood and, possibly, to teach. The 'expressive' processes look to me like a clear second component which has as its chief motive the expression of affection with the capturing of the addressee's attention as a secondary goal.

The suggestion until this point is that BT is created by the conjunction of two principal components: communication–clarification (hereafter COMM) and expressive–affective (hereafter AFF). Can we, on this assumption, make any sense of the relation of BT to the rest of a language? There seem to be two principal kinds of phenomenon to explain. One of these is the 'extended' use of BT as a register for addressing persons or things other than babies. If the observations in question are correct, and the two-component analysis is also correct, then we should find BT maintaining its two-component formula. What have we been told? That beloved animal pets and household plants and Alexander Woolcott's dice all are or were addressed in the BT register and that lovers use BT between themselves. In all of these cases, feelings of affection are reasonably assumed. But in none of these cases is it reasonable to assume that being understood or teaching language would play any part. Animals, plants and dice can never comprehend or speak whereas lovers can do so but need no instruction. The results seem then to contradict our assumptions at some point, for our assumptions must lead us to anticipate not the extension of two-dimensional BT in these cases, but rather of only one component of BT, the AFF component.

Yes, but can we be sure of the facts? All of them, after all, are anecdotal in nature. May it not be the case that the AFF features are more noticeable? They are, after all, the 'kitchy-koo' features that are the hallmark of BT, whereas slowed speech, clarified pronunciation, deleted inflections, repetitions, etc. are less distinctive. Perhaps Bynon, working in a careful deliberate way with an exotic language, has drawn a conclusion correct for all: BT is not extended to any other social relation, not to animals and not between lovers. If we understood BT to be the two-component register described, his statement may be entirely correct even for English. It may only be the AFF component that is extended to lovers, pets, and plants.

There is another quite different possibility. It may be that the BT register is so powerfully integral that both components, which in conjunction define the register, are organized together in the brain and invariably are extended as a unit even though only one of the two components makes any sense at all. I find that these questions are too fine-grained to be answered out of my experience of English. My intuition does not supply an answer, but, of course, empirical research could find the answer.

There is a second phenomenon to consider. Ferguson described BT as only one of a set of simplified registers for use with people felt to be unable to understand normal adult speech, and he even

named one of these: the 'foreigner register'. The implication, if the two-component theory of BT is adopted, is that one-component extensions of the COMM factor do exist. Just above, we have spoken of the possibility of extending the other component alone, the AFF factor. In general then, the second question, already discussed in part, is the possibility of extending either of the two components alone, and the first question, already discussed, was the possibility of extending both components together or, since in conjunction they define BT, of extending BT.

I began this Introduction with some fanciful social categories described in featural terms. The features were not verbal features, but rather features in the conception of the persons in question. Looking back at them, we see that they divide neatly into features concerned with affection (affection-inspiring, tenderness-inspiring, intimacy-inspiring) and features concerned with communicative competence (verbal production, verbal comprehension and cognitive competence). Putting together the features for the conception of persons with the two-component analysis of BT, I suggest that: persons, animals and things whose primary characteristic is cognitive and linguistic incompetence will be addressed in a one-dimensional COMM register; and that persons, animals and things whose primary characteristic is the inspiration of affection will be addressed in a one-dimensional AFF register; and that persons combining cognitive and linguistic incompetence with the inspiration of affection and intimacy will be addressed in the two-dimensional COMM–AFF register which is, in fact, BT. That is the full hypothesis.

We have already considered two categories in which the inspiration of affection and intimacy is strong without there being any question of cognitive or verbal incompetence: lovers, on the one hand, and pets and plants on the other. The question as to whether the speech register is a one-dimensional AFF or a two-dimensional BT, I have already acknowledged to be beyond the resolving powers of my intuition. Let us then consider the contrasting cases of incompetence without special affection: the adult second-language learner and the adult retardate. In these cases, interestingly enough, my intuition comes through loud and clear. They will be addressed in the one-dimensional COMM register. Perhaps Ferguson thought the same since his 'foreigner register' suggests a COMM register. It is unthinkable that one would address an adult second-language learner with such diminutive forms as *doggie* and *kitty* or with such euphemisms as *tummy* or *make pee-pee*, or with 'nursery tone' and so on. It is unthinkable because it would be insulting. Between adults and

infants, all else being equal, there is a status difference, and so to use the COMM–AFF register, which is BT, would be offensive. The same does not apply to pets, plants and dice because the status difference is evident from the start and of no concern to the lesser member. Between lovers, the possibilities are more complex. There could be a difference of social status, the BT register might be reciprocal or might be asymmetrical. No wonder my intuition was silent.

There is a more complex general set of possibilities than we have considered, and it must at least be acknowledged. Consider Ferguson's 'foreigner register' as an example. Very possibly he does not conceive of this as simply the COMM component of the BT register. It is very likely that the many features of BT proper change their co-occurrence relations when they are extended to other addressees. It is also very likely that quite new features are added and that some, found in BT, are dropped. In short, the relations between BT and other registers may be vastly more complicated than I have admitted.

With BT and its components, as with every sort of register, complex possibilities of mockery, irony, humor and the like arise when the register that would normally be used in a certain kind of relation is not used. We already have heard of the mocking use of BT to a presidential candidate. It is my impression that when an adult young woman in the status of mistress to an older man adopts full BT and, seeing her lover fall into a drunken stupor, says 'Ooh, Daddy, go s'eepy bye', this combination of a false kin term, a hypocoristic suffix, an all-purpose auxiliary and a reduced consonant cluster is, at best, 'kittenish'.

To sum up, I think that the BT register can be thought of as a complex clot in the linguistic blood stream. Many more than 100 features have come together around the human infant. I do not think this is the only standardized register in English or any other language. Why is it, however, that BT has reached a level of general consciousness beyond any other register I know of. The great importance of babies is obvious. The possibility that BT constitutes a superior set of what Cross calls 'language lessons' is tantalizing. But there is also the universality of infant status. With respect to any other speaker of the language, an infant, and indeed every infant, is less competent linguistically and cognitively, and is an object of some affection. As a result, BT can be widely useful; it is the way to talk to babies. Compare the lover who is only a lover to one other and for a limited time; the foreigner who is not a foreigner to everyone. Perhaps the hospitalized adult comes closer than any other human category to the

generalized status of the infant. I should not be surprised if 'sick-room English' proved to be a rather stable register.

WHERE DOES BABY TALK COME FROM?

In one sense of the question the answer is obvious. BT comes from the standard adult language. By reduction, clarification, overgeneralization, repetition and so on. There are only a very few attested examples of the utilization of sounds or morphemes not in the standard language. Latvian offers such an exception; Rūķe-Draviņa reports that a bilabial vibrant not present in adult speech is used in a few BT words as are several diminutive suffixes. Several of the authors in this volume write rules deriving BT forms from adult sources. Wills, for example, writes the most complete and elegant description of deixis in English BT that I have ever seen. Her rules employ the roles: Sender, Receiver and Other. The rule: Receiver → *we* (*let's*), for example, describes such familiar sentence types as: 'Let's be gentle with the pages, all right?' Ferguson, using 'AS' for adult speech, writes for Japanese, the rule: AS [s] → BT [tš] which summarizes the replacement in BT of the polite suffix *-san* by the familiar, and affectionate *-chan*. Bynon, writing about 100 BT words in the language of the Berbers of Central Morocco, derives them all from adult sources by such processes as 'mutation', 'deletion', 'gemination' and 'reduplication'. Deletion, the most important of these, simply drops the initial and/or final segment(s). In only two cases is the internal segment dropped. In general, then, there is ample documentation for the fact that BT forms can be derived in a lawful way from adult sources.

The exact status of rules such as those reported is a puzzling matter. Ferguson points out that they are synchronic rather than diachronic rules. They are not like the rules of historical linguistics showing how some Latin form, for instance, was replaced by or 'became' a similar form in Spanish. In fact, the derivational rules of BT are plausible notations for mental processes. It is not inconceivable that the Japanese adult thinks *-san*, but then, noting his child addressee, says *-chan*, making use of a completely general rule of replacement. Nor is it inconceivable that an English-speaking adult first thinks, 'You be gentle with the pages, all right?' and then substitutes *let's* for *you* by a general rule that has the effect of softening the imperative.

However, Ferguson goes on to add something, not usually noted, which I believe is of great importance for the conception we form of

the psychological process by which adults generate BT. Consider the rules for generating BT *tummy* from AS *stomach*. With 'C' for consonant and 'V' for vowel, '*y*' for the semi-vowel, they are as follows:

AS #CCV → BT#CV	In effect: *sto* → *tv*
AS VC# → BTV#	In effect: *ach* → *a*
AS CV# → BTC-*y*#	In effect: *a* → *y*
	In effect: *stomach* → *tummy*

As an alternative to this derivation one could, of course, write an entirely specific but trivial rule directly converting AS *stomach* into BT *tummy*. Ferguson's derivation is convincing because each of the single rules has other uses well-attested for the creation of BT. The first rule is a usual process of initial consonant cluster reduction, the second is for final consonant deletion, and the last replaces final vowels by the diminutive suffix *-y*. The use of three rules in conjunction, all of which have other uses in deriving BT from AS, is convincing as an *ad hoc* derivation never can be. Furthermore, it is general rather than specific, and so more than a trivial restatement of a known fact. However, the point I find so interesting is associated with this same generality.

The rules deriving *tummy* from *stomach* are general and, in principle, allow for the creation of a great many BT words. But, as it turns out, the rules are *not used* generally. English BT does not use *toppy* in place of *stopper* or *pinny* in place of *spinach*. And this is the case for most or all of the serious rules that can be written to derive BT from AS. This seems to be an argument against the view that such rules represent the psychological processes by which adults today create BT. My guess is in agreement with Ferguson's own interpretation: the rules may well have functioned once when the word *tummy* was created, but were not generalized to all possible cases then and are not used now at all.

It seems plausible to me that many BT forms have something in common with frozen metaphors in the adult language. When the expression 'hit the nail on the head' was first used to describe a proposal perfectly designed to meet a need or a statement ideally expressing a shared thought, I am sure the aptness of the concrete reference was alive and functioned as a psychological process. It probably was alive for quite a time but is so no longer, and a special effort would be required to bring the concrete origins to a speaker's attention. It may be just so with many BT forms; they were originally, perhaps, derived by rule from AS but by now are not psychologically related at all to their adult origins.

If BT forms were, originally at least, lawfully derived from AS, it is essential to ask what guided the formulation of the derivations. If, for example, there are many rules for the simplification of initial consonant clusters, it is necessary to ask what guided the conception of simplification. For whom are the reductions simpler than the AS originals? The answer, of course, is – for babies. How do we know? Not originally from any general principles of phonology, but from the fact that babies, themselves, created the simplified clusters. In attempted imitation of AS consonant clusters, babies produced systematic reductions which were then adopted by adults and became features of BT. To put it succinctly, the baby talk of adults seems to have originated in the talk of babies to adults (TB). That fact, when you ponder on it, is distinctly paradoxical.

Because not every aspect of BT is based on TB it is necessary to list a small sample of the very many features that are, so that the dimensions of the paradox may be appreciated. A sample is easily drawn from just the papers in this volume. Both Sachs and Garnica have shown that BT and TB alike use a higher fundamental pitch than talk between adults. Wills and others have shown that both BT and TB substitute proper names for pronouns in certain contexts. Cross has shown that, among the many features characteristic of both BT and TB, are imitation, repetition, low MLU, a low upper bound on length and low semantic complexity. Snow, in a review of seven major studies, verifies all of these similarities and many others. Snow has also shown that Dutch mothers, like the mothers representing eight other languages reviewed by Brown (1973), largely limit their first multi-morphemic utterances to the expression of just eight semantic relations. Snow adds that the mothers in her sample also make frequent use of Dutch equivalents of the wh- questions, *What is that?* and *Where* NP (*go*)*?* She wonders at their absence from Brown's (1973) report on Stage I. If I may be allowed to respond here, the forms were as frequent in Stage I English as in Stage I Dutch, but I deferred their discussion for a later stage (Stage III) when they could be related to the creation of every sort of wh- question.

Perhaps we have had enough examples to motivate us to take the paradox seriously. It is as follows. Babies already talk like babies, so what is the earthly use of parents doing the same? Surely it is a parent's job to teach the adult language. A kind of parallel paradox arises in connection with the linguistic relations between teachers who speak a culturally dominant dialect and pupils who know a minority dialect. In one Boston elementary school several years ago where most of the pupils were black, and the teachers white, the