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On the pragmatics of contrast*†

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ABSTRACT

In this paper, I review properties and consequences of the PRINCIPLE OF CONTRAST. This principle, which I have argued from the beginning has a pragmatic basis, captures facts about the inferences speakers and addressees make for both conventional and novel words. Along with a PRINCIPLE OF CONVENTIONALITY, it accounts for the pre-emption of novel words by well-established ones. And it holds just as much for morphology as it does for words and larger expressions. In short, Contrast has the major properties Gathercole (1989) proposed as characteristic of her alternative to Contrast.

INTRODUCTION

The PRINCIPLE OF CONTRAST, in its most succinct form, goes as follows: Every two forms contrast in meaning. This principle has been assumed, tacitly or explicitly, at least since Bréal (1897) and Paul (1898) in their work on language change, as well as by de Saussure (1919/1968) in his synchronic analysis of language use. This principle captures the insight that when speakers choose an expression, they do so because they mean something that they would not mean by choosing some alternative expression. Speaker choices in any domain mean what they do in part because they contrast with other options both in that domain and in the language as a whole. As a result, speakers do not tolerate synonyms in language.[1] This principle applies to words, affixes, grammatical functors, and even constructions.

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[†] This article concludes a discussion initiated in *JCL* by Clark (1988) and continued by Gathercole (1989). *Ed.*

[1] As Bréal (1897: 30) pointed out, 'Ayant le sentiment que le langage est fait pour servir à l'échange des idées, à l'expression des sentiments, à la discussion des intérêts, [le peuple] se refuse à croire à une synonymie qui serait inutile et dangereuse. Or, comme il est tout

In her recent paper, Gathercole (1989) argued that Contrast is a semantic rather than a pragmatic principle. She therefore proposed to account for some of the consequences of Contrast in a Gricean framework instead. She also argued that Contrast fails to account for children's regularizations of irregular forms in morphology, and for the acquisition of allomorphs where different shapes have the same meaning. In the present paper, I argue that the Principle of Contrast is indeed a pragmatic principle; that it accounts for the acquisition of irregular forms in morphology; and that it plays a crucial role in the acquisition of allomorphy.

Contrast is a pragmatic principle

What type of principle is Contrast? From the beginning, I have argued that it is pragmatic (Clark & Clark, 1979, and, for example, Clark, 1980: 1; Clark, 1981: 308–9, 323; Clark, 1983: 820—2; Clark, 1987: 3; and Clark, 1988: 319). It works in conjunction with another pragmatic principle, *conventionality*, namely, 'For certain meanings, there is a form that speakers expect to be used in the language community'. That is, Conventionality in the lexicon is taken to work in the same way as conventions in general (see Lewis, 1969). The two principles together have specific consequences for language use. Speakers make use whenever possible of established word-forms with conventional meanings. They assume that addressees make use of the same conventional meanings as themselves in interpreting such expressions. As a result, each conventional expression CONTRASTS in meaning with all other conventional expressions that might have been chosen instead. This applies to words (as in the choice of *osprey* rather than *heron* or *grebe*), to affixes (as in the choice of singular *boy* rather than plural *boys*), to grammatical functors (as in *the* rather than *a*), and to constructions (as in the choice of the passive rather than the active). Finally, where conventional expressions prove inadequate to express a particular meaning, speakers often have recourse to innovative expressions. These contrast with conventional expressions as well as with other innovations.

à la fois le dépositaire et l'auteur du langage, son opinion qu'il n'y pas de synonymes fait qu'en réalité les synonymes n'existent pas longtemps: ou bien ils se différencient, ou bien l'un des deux termes disparaît.' This motivated Bréal's law of differentiation (répartition): that a single meaning with several surface forms typically becomes associated with only ONE of those forms; the remainder take on other meanings (see also Haiman, 1980; Horn, 1989). Some examples from English are the differentiation of *fox* and *vixen* (originally from two different dialects) to designate the male and female of the species; and, after the Norman invasion, the differentiation of French terms for many animals from their English counterparts by assigning the French member of each pair the meaning 'meat of X that is eaten' and the English member, '*X* on the hoof', as in *beef/cattle*, *veal/calf*, *venison/deer*, *mutton/sheep*, and so on (e.g. Gruber, 1976).

In what way are Contrast and Conventionality pragmatic? As noted in Clark & Clark (1979), they are closely related to Grice's (1975) COOPERATIVE PRINCIPLE.[2] Speakers assume in using whatever expression they have chosen on a particular occasion that, for their addressees, they are denoting a situation, object, property, or relation that the addressees can readily arrive at or compute on that occasion. In using a verb, for instance, a speaker assumes that he or she is denoting: '(*a*) the kind of situation (*b*) that he has good reason to believe (*c*) that on this occasion the listener can readily compute (*d*) uniquely (*e*) on the basis of their mutual knowledge' (Clark & Clark, 1979:787). Assumptions (*a*) to (*e*) of this contract are general pragmatic conditions on the use of language.[3]

One consequence of this contrast is PRE-EMPTION, which we illustrated for innovative denominal verbs in English such as *to porch a newspaper*, *to Houdini one's way out of a prison*, *to enfant-terrible*, or *to wrist a ball over the net* (in tennis). Such verbs can only be interpreted if they CONTRAST in meaning with conventional verbs already familiar to speaker and addressee. If they do not contrast with conventional verbs, they are typically rejected as uninterpretable, because established meanings pre-empt or take priority over them:

> The rationale [for pre-emption] can be illustrated for *hospital*, an innovative verb intended to mean 'put into a hospital'. By conditions (*b*)–(*d*), the speaker must have good reason to believe the listener can readily compute the intended sense uniquely. Thus the listener would 'reason' as follows: Suppose my interlocutor had intended to convey the sense 'put into a hospital'. If he had, he would have used the well-established verb *hospitalize*, which means precisely 'put into a hospital', because then he would have had good reason to think I would compute the intended sense uniquely. Since he used *hospital*, he must have meant something distinct from 'put into a hospital'. Yet the only reasonable sense I can come up with is 'put into a hospital', which I already know to be impossible. Thus I find *hospital* to be uninterpretable, and therefore unacceptable. (Clark & Clark, 1979:798).

Pre-emption applies, then, wherever there is already some established term that carries just the meaning that an innovative expression is intended to

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[2] Although the Principles of Contrast and Conventionality were not labelled as such in Clark & Clark (1979), they were invoked there to account for a large range of phenomena in language use. The two principles were explicitly named in Clark (1980), in an extension of the arguments in the 1979 paper to the domain of acquisition.

[3] As Clark & Clark (1979: 787) put it: 'At the heart of this theory is a convention, in Lewis's sense, about the use of language... This convention is obviously akin to Grice's cooperative principle (1975).' For further discussion of mutual knowledge, see also H. Clark (1983), Clark & Carlson (1982), and Clark & Marshall (1981).

have, and hence is the only one computable by the addressee of the relevant utterance.

As noted in Clark & Clark, the rationale for pre-emption also applies to DIFFERENTIATION. When a speaker uses an innovation that is a potential synonym of an established term, it must be used with a different meaning. For example, *to palm someone's face* is quite acceptable as long as it contrasts with *to slap* (e.g. by meaning 'brush with one's palm'), as is *to sweeper the floor* as long as it contrasts with *to sweep the floor* (e.g. by meaning 'clean by means of a carpet-sweeper'). Differentiation and pre-emption, then, are two sides of the same coin.

This characterization of pre-emption and differentiation is clearly close kin to Gathercole's (1989) alternative to Contrast. Consider her version of differentiation designed to specify how a child-addressee might reason upon hearing an unfamiliar term, as in Carey & Bartlett's (1978) study where a child is introduced to the unfamiliar word *chromium* with a request like, 'Bring me the chromium tray, not the red one'. It goes as follows:

> (1) That person is using a word I don't know, *chromium*, in reference to those two trays.
> (2) The only difference between the trays is that they are of different colours.
> (3) *Chromium* must, therefore, refer to a colour.
> (4) The colour of that one tray is called 'red'.
> (5) I assume that person is trying to communicate with me.
> (6) That person must not have meant the red tray or she would have asked me for the 'red' one.
> (7) Therefore, she must want the other tray, and *chromium* must refer to the colour of that other tray.
> (Gathercole, 1989:694)

Her argument is almost a direct paraphrase of the rationale for Clark & Clark's pre-emption and differentiation:

> If there is a convenient word readily available for use for a particular meaning, then the speaker will not choose an alternative means for encoding that meaning. If the speaker chooses something other than a readily available means for encoding a message, he or she must mean something other than what is usually encoded by the word that has not been used, unless he or she elaborates otherwise. (Gathercole, 1989:694)

Gathercole appeals here to both Conventionality (in the first sentence) and Contrast (in the second). In sum, it seems incorrect for her to describe the Principle of Contrast as semantic, when the rationale for it, offered from the beginning, is exactly the rationale she accepts in her own formulation as pragmatic.

Alleged synonyms

At first, one might think there are clear counter-examples to Contrast, namely terms that are synonyms. Indeed, Gathercole (1989) offered a whole list of alleged synonyms. But her examples all appear to have meanings that contrast in denotation, in dialect, or in register.

Many of her pairs differ in denotation, as is readily confirmed in the Usage Notes for the American Heritage Dictionary (1970) or the Oxford English Dictionary (see also such detailed analyses as those in Cassell, 1971 and Room, 1981). For example, *oblige* and *obligate* overlap in meaning when one speaks of indebtedness or constraint as the result of having been done a favour, but they differ in that only *obligate* is used for talking about someone who is legally bound (constrained) to do something. To take another example, *medicine* is broader in scope ('the art of medicine') than *medication*, and tends to be used of internal aspects of treatment and cure, while *medication* is typically used of external treatments. In the pair *flammable* and *inflammable*, *flammable* is preferred in warnings and in technical writing, while *inflammable* is commoner in non-technical writing, and, unlike *flammable*, can be used non-literally, as in 'an inflammable nature'. In another example, the verbs *loosen* and *unloosen* differ in intensity, with the prefixal *unloosen* being more emphatic. The intensifying *un-* also appears on such verbs as *thaw*, for *unthaw*, with a similar intensifying force.

Still other pairs of words in Gathercole's list differ in dialect. By dialect, I mean a group of speakers who observe a common set of conventions, where a convention marks a regularity for a specific group of people (Lewis, 1969). Such a group can be large (speakers of U.S. English compared to speakers of U.K. English) or small (members of a local club), or belong to a particular generation or occupation. So although one might be speaking of words that are all English, one has to be careful about which English one is talking about. Terms like *vest* and *undershirt*, *scone* and *biscuit*, or *lorry* and *truck* differ in dialect (U.K. versus U.S. English), and are generally recognized as doing so. Other distinctions may not be as obvious. *Purse*, in U.K. English, is used for a small container for money, typically placed inside one's handbag, while a *pocketbook* is a pocket-sized book or wallet; in U.S. English, both *purse* and *pocketbook* are used to denote handbags, but there is a generational distinction: *pocketbook* is largely pre-World War II, often encountered in Raymond Chandler novels, but rarely used by speakers under 40 or 50 today. (A similar generational difference can be seen in U.S. English for *davenport* versus *couch*.) Another example of a dialect difference can be seen in *syntactic*, conventional among linguists, versus *syntactical*, conventional among philosophers.

What is important here is to establish which terms are used in which dialects. Only then can one make more detailed analyses of how they contrast

in meaning. For instance, in Spanish dialects where both the *-ra* and *-se* forms of the imperfect subjunctive are still in current use, speakers in fact use them, roughly speaking, to mark the degree of the speaker's involvement in a potential activity. As Bolinger (1956) has pointed out, the *-ra* form connotes the speaker's desire to achieve the action or state mentioned, while the *-se* form connotes less involvement, with greater distance on the speaker's part, and less authority. Contrary to Gathercole, the two forms are not synonymous and do not occur in free variation.

Still other pairs of words differ in register. As dictionaries typically point out, many terms in a language differ in formality. Abbreviations like *gas*, *plane* or PC (from the more formal *gasoline*, *airplane*, and *personal computer*) are the usual forms expected in casual or colloquial speech. (Informal terms like these often arise via Zipf's Law – the general preference for shortening words that are in common use (Zipf, 1949).) Sometimes specific senses of one word that overlap with another word are also marked as colloquial. For example, *dumb*, as in 'that was a dumb thing to do', overlaps closely with *stupid*, but *dumb* in this sense is colloquial or familiar, while *stupid* is more formal in register. The distinctions speakers make are often subtle, and they may differ from one speech community to the next. What is crucial is how speakers *within each single community* actually use the terms in question. (For some insightful case studies of this type, see Bolinger, 1956, 1967, 1968, 1972, 1977; and on the multiplicity of communities, see Clark & Marshall, 1981.)

The Principle of Contrast has clear consequences for the lexicon as well as for other domains of language. If each form carries a meaning that contrasts with the meaning of other forms in the same domain (and in the language as a whole), the speaker's choices allow the addressee to arrive more easily at the intended meaning by immediately eliminating a host of possibilities that could not be eliminated otherwise. This is because the addressee in turn assumes that the speaker has chosen the particular term, expression, or construction for a reason and in the expectation that the addressee CAN readily arrive at the intended meaning, on that occasion, on the basis of their mutual knowledge.

Contrast in acquisition

Children observe the Principle of Contrast from a very early age (Clark, 1983, 1987, 1988). Discovery of Contrast, I have suggested (1988:324), may well develop

> ...with the recognition of intentions as part of rational behaviour. To discover Contrast as a pragmatic principle, children would first have to see the underpinnings of rational behaviour – that people do things intentionally, and they always have a reason for choosing one word, *x*, on a particular occasion, rather than another, *y*. From this it would follow that

x could not be equivalent to *y*, and so must contrast with it in some way (Clark & Clark, 1979).

That is, Contrast is pragmatic in children from the very first.

Some major predictions made by Contrast are that (*a*) children, like adults, will give priority to known (i.e. familiar conventional) words over other expressions that fail to contrast with those known terms. That is, children will give up their own coinages in favour of the conventional terms used by adults: they replace innovative verbs like *to sand* ('grind into powder' [of pepper]) or *to crack out* ('to crack a shell and get out' [of chicks]), from two-year-olds, with conventional *grind* and *hatch*, and they replace innovative nouns like *far-see-er* or *sleepers* with conventional *telescope* and *pyjamas* (see also Clark, 1987). How long it takes for children to pre-empt such innovations undoubtedly depends on the circumstances. Where the child coins a word and is immediately supplied with the appropriate conventional form by an adult, the uptake of that form and the pre-emption of the coinage may be immediate. Where the child has assimilated some term to a paradigm and thereby regularized it, recognition that the coinage has just the same meaning as another term may take longer to work out. The critical point is that the child has first to recognize that the two terms have the same meaning; only then can he or she choose to retain only one of them – the conventional, established one.

(*b*) Children will assign unfamiliar words they hear to gaps in their current lexicon. They will treat an unfamiliar word as being pertinent to an unfamiliar object or action in a setting where the other objects or actions are familiar and carry known labels. For example, when presented with three or four familiar animals with familiar names (e.g. *dog*, *pig*, *sheep*), plus an unfamiliar animal and an unfamiliar label (e.g., *skunk*), children will infer that the unfamiliar label designates the unfamiliar animal. If they already have terms for all the objects they see, they infer that an unfamiliar label designates a subkind, a superordinate, or a part, but not that the new label has the same meaning as one already known (see, for example, Lyamina, 1960; Carey, 1978; Dockrell, 1981; Golinkoff, Hirsh-Pasek, Baduini & Lavallee, 1985; Au & Markman, 1987; and Markman & Wachtel, 1988). Contrast itself makes no predictions about which further step children will take in assigning meanings to unfamiliar words, only that they will assign a meaning that contrasts with the meanings of terms already familiar.

(*c*) When wishing to talk about objects or events for which they have no conventional terms, children will coin new words, using the most appropriate word-formation options mastered to date. In talking about objects, for example, English-speaking two-year-olds often construct new nouns from nouns already known to them (e.g. *tea-sieve* 'small strainer' from *tea* and *sieve*, in contrast to *water-sieve* for a large one); *bubble-hair* 'curly hair' from

bubble and *hair*; or *baby-towel* 'face-cloth' from *baby* and *towel*). And in talking about actions, they typically use nouns as a source for new verbs, just as adults do (e.g. *to marble* 'roll like marbles' from *marble*; *to wrench* 'undo with a wrench' from *wrench*; or *to wind* 'blow away on the wind' from *wind*).[4]

Each of these predictions has received extensive support from both observational and experimental research in language acquisition (Clark, 1987). But Contrast clearly does not only make prediction about word-forms and word-formation. It also makes predictions about syntax and inflectional morphology. (For some detailed analyses of contrast in syntax, see further Bolinger, 1968, 1971, 1972, 1977; Borkin, 1984; and McCawley, 1978.)

Contrast in morphology

Children appear to violate Contrast in the acquisition of morphology when they 'replace' irregular forms by regularized ones with the same meaning. Indeed, Gathercole (1989) made just this argument. The problem is this: superficially, the past tense of an irregular verb like *go* in English has the following order of acquisition: (*i*) children use only the bare stem, *go*; (*ii*) they make sporadic use of the conventional irregular past form, *went*; (*iii*) they begin to produce a regularized form for the past, *goed*; and (*iv*), sometimes only several years later, they drop the regularized past tense *goed* in favour of *went* (e.g. Cazden, 1968). This account is often taken for granted, with no explanation for why children initially pick up *went* and then reject it in favour of regularized *goed*, a different form with apparently the same meaning. But is this really what happens?

This account assumes that children at stage (*ii*) have recognized that *went* is in the fact the past form of *go*. This assumption is probably incorrect. An alternative is that children at stage (*ii*) have not recognized that *went* is some other tense of *go*, even if they have assigned some motion-related meaning to it. Children at stage (*iii*), therefore, in producing the form *goed*, are simply constructing the past tense form on the regular model of *jump/jumped*, *work/worked*, etc. In this account, children do not follow the sequence *go – went – goed – went*, but instead simply follow the sequence *go – goed – went*. Support for this alternative proposal comes from how some children have been observed to use irregular past forms: they treat them as verb stems in

[4] For English, see further Bowerman (1982), Clark (1981, 1982), Clark & Cohen (1984), Clark, Gelman & Lane (1985), Clark & Hecht (1982), Clark, Hecht & Mulford (1986). Similar data have been collected for many other languages as well; for example, for French, Aimard (1975); for German, Stern & Stern (1928); for Hebrew, Berman & Sagi (1981), Clark & Berman (1984, 1987), Berman & Clark (1989); for Hungarian, MacWhinney (1973); for Icelandic, Mulford (1983); for Italian, Lo Duca (1988).

their own right. At stages (*ii*) and (*iii*), they treat *went* as just another verb, producing *wents* and *wenting* in the present, and *wented* as a regular past tense form. In fact, this pattern of acquisition is attested in my own longitudinal data as well as in Kuczaj (1977). This suggests that investigators have been misled by children's uses of occasional irregular past tense forms at stage (*ii*) into attributing to those forms the adult meanings. In short, children do not initially pick up conventional, established past-tense forms of such verbs (*went*) because they do not even realize at first how these forms are related to the pertinent present-tense forms (*go*).

Another apparent problem for Contrast, Gathercole suggested, is the length of time children take to replace *goed* by *went*. But for pre-emption to apply, children must first establish that two different forms in fact have exactly the same meaning. This discovery can easily take a long time. First, if children observe Contrast, they should assign different meanings to different forms. Even when they realise that *went* carries the same 'core' meaning as *go* and that it has to do with past time, they may continue to contrast *goed* and *went*, with one for recent past and the other for distant past, as some children indeed do (Clark, 1987). To get rid of *goed*, children must be able to establish that *goed* and *went* have exactly the same meaning. This is both difficult and time-consuming, since they have to establish that wherever they would have used *goed* (and *went*), adults use only *went*. It is tantamount to proving what I have called the NULL HYPOTHESIS–that form *x* and form *y*, though different, have the SAME meaning. This is why to ASSUME the Null Hypothesis (that any unfamiliar word has the same meaning as other familiar words) and then to have to eliminate it for each word in turn would impose a tremendous burden on children acquiring a lexicon; by comparison, assuming Contrast allows them to start working on the actual meaning of an unfamiliar word straight away (see further Clark, 1988).

Rather than posing a problem for Contrast, then, the length of time children take to resolve such problems in morphology is a direct consequence of what children need to do to identify violations of Contrast. Violations can only surface where children have concluded that two forms have the same meaning. At that point, they have to make a choice: they cannot retain both forms. Their choice is determined by Conventionality, and the conventional, adult form wins out. This pre-emption of over-regularized forms by established ones holds not only for English, but has been widely attested for other languages as well (Slobin, 1985*b*).

Contrast in allomorphy

Another apparent problem for Contrast is posed by allomorphy. Some grammatical morphemes have several realizations or allomorphs, depending on the phonological shape of the stem they are added to. In English, for

example, the plural morpheme takes one of three shapes: /-s,/,/-z/, or /-ɪz/ depending on the final segment of the stem, but the meaning is the same. In Finnish, back vowels and front vowels can never appear in the same word, so each suffix has one realization for stems with front vowels, and another for stems with back vowels. The meaning of each pair of front- and back-vowel realizations is the same. In other words, phonology, and not meaning, accounts for the variations in shape of certain morphemes. If Contrast predicts that different forms contrast in meaning, are these allomorphs the same form or different forms?

When children hear two allomorphs of the same morpheme, like /-z/ and /-s/, they could follow one of two possible paths. On path A, they could hear the two as 'the same' from the start, and so, in applying Contrast, they would treat them as a single form with two realizations. On path B, children could hear the two allomorphs initially not as different realizations of a single morpheme, but as different forms. In this case, children would look for differences in meaning that were not there. How children actually treat alternative realizations of the same morpheme is an empirical issue. If they do not have the right phonological rules by the time they start to identify the two allomorphs, they should find it harder to identify them as allomorphs because they will apply Contrast where there is no difference in meaning. Gathercole (1989) seems to assume that all children proceed by path A but that Contrast predicts they follow only path B. In fact, Contrast makes no prediction about which path they follow, and there is evidence that children sometimes follow one path, and sometimes the other.

Let us assume path A. To assign meanings to grammatical morphemes, children must be able to identify different realizations as 'the same form'. This requires them to establish phonological rules that will account for different realizations. For English plurals, the rules will specify that final voiced segments call for the voiced /-z/, while voiceless segments call for the voiceless /-s/. (The allomorph /-ɪz/ calls for a more complicated rule.) Although children hear both /-z/ and /-s/, they know they are realizations of the same morpheme. And the Principle of Contrast applies to distinguish the meaning of that morpheme from other grammatical morphemes.

Some support for path A comes from children's early acquisition of simple phonological rules. Children acquiring English make no errors in their choices of /-s/ versus /-z/ for plural nouns, which suggests that here they follow path A. They also appear to follow path A in their acquisition of the /-d/ and /-t/ allomorphs of the regular past tense in English, allomorphs that likewise depend on the voicing of the final segment in the verb stem. Or consider another case: children acquiring languages with vowel harmony have typically mastered the alternate realizations of each morpheme by age two or earlier (e.g. MacWhinney, 1973; Toivainen, 1980; Aksu-Koç & Slobin, 1985). When they encounter an unfamiliar suffix containing a back

vowel, therefore, they know it also has a front-vowel realization. This, then, is another instance where children follow path A. Phonological rules arrived at early pose no problem for Contrast in morphology. Instead, they eliminate the differences of form among allomorphs. At the same time, when children follow path A, it is difficult to find out what they do with the relevant forms PRIOR to allomorphs being identified as the same.

Path B offers a different scenario: here children would identify some forms as affixes before acquiring the necessary phonological rules. Path B, then, should be followed where the phonological rules for allomorphs are complex and so harder to discern. In applying Contrast under these circumstances, children would assume that allomorphs differ in meaning since they differ in form. This could be true for the /-ɪz/ allomorph of the English plural. It is not part of the initial phonological rule children use, so they could think it was a different form that in fact contrasts with the plural. And they could even think that such words as *horse* or *rose* were already plural. This should also hold for the /-ɪd/ allomorph of the regular past tense in English. Like the plural /-ɪz/ allomorph, past tense /-ɪd/ could well be treated as a morpheme distinct from the allomorphs /-d/ and /-t/ (see Bybee & Slobin, 1982).

Where children follow path B, Contrast predicts that they should try to set up different meanings for each allomorph. Do they? English-speaking children take much longer to work out the conditions for the /-ɪz/ allomorph of the plural than they do for the /-z/ and /-s/ ones; they also take longer to work out the conditions for the /-ɪd/ allomorph of the past tense than for the /-d/ and /-t/ ones (see further Anisfeld & Gordon, 1968). This suggests that here they follow path B, but it is unclear what meaning they might have attributed to the affixes /-ɪz/ and /-ɪd/ in the interim.[5] Such analyses require detailed attention to children's own systems in order to detect which non-conventional distinctions they make (see, for example, Budwig, 1986, 1989; Gerhardt, 1988).

Do children follow path A or path B for particular morphemes? To distinguish this, one needs to pay more attention to the meanings children attribute to each form they produce. But earlier studies suffer from two defects here: (*a*) most research on the acquisition of morphology has focused on the production of forms with little attention to the precise meanings children have attached to them. And (*b*), when children produce adult forms, they are nearly always credited with the adult meanings. What is needed now are studies that weigh meaning as heavily as form, and that take into account the role played by children's phonological rules. In domains with simple

[5] Notice that children will have greater difficulty still in dealing with the past tense of irregular verbs in English, where the relation of present tense to past tense forms is still more complex (e.g. *bring/brought*, *dig/dug*, *sit/sat*, *sing/sang*).

rules, children should follow path A and apply Contrast to morphemes by treating different realizations as the same 'form'. In domains with more complex rules, children should also apply Contrast, but they will do so to different realizations of a single morpheme. Once they acquire phonological rules for such cases, though, they should again treat allomorphs as the same form.

In summary, Contrast should apply to allomorphs just as to any other forms that differ.[6] But, I propose, Contrast is affected by children's phonological rules. Where these apply to specific realizations (allomorphs) of a single morpheme, children will use phonological information as they apply Contrast. Hence there is no reason to change the formulation of the Principle of Contrast as proposed in Gathercole (1989). Rather, what is needed is empirical research on how Contrast INTERACTS with phonological rules to identify allomorphs as realizations of the same morpheme. Prior to this, children should offer evidence of trying to find contrasting meanings for allomorphs, just as they do elsewhere.

Conclusion

The Principle of Contrast has been considered pragmatic since its inception. Pragmatic principles like Contrast have consequences that may affect lexical, morphological, or syntactic domains in language. In the present paper, I have detailed some of the antecedents of the Principle of Contrast; I have documented how proposed synonyms in fact differ in denotation, in dialect, or in register; I have shown how Contrast accounts both for children's regularizations of irregular morphological forms, and for how slow they are to give up such regularizations; and I have shown how children's phonological rules affect their application of Contrast to allomorphs of a single morpheme.

Contrast may be difficult to test on its own, but it can be tested through its interactions with other principles. One of these, as I have shown, is Conventionality. But there are many other principles that place constraints on various domains of language acquisition. Some affect the formation of conceptual categories; others the mapping between words and categories; others still the analysis of word-forms; and so on. The challenge is to specify the role each such principle plays, and how these principles interact in the PROCESS of acquisition itself.

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[6] Slobin (1985*a*: 5) also appeals directly to a version of Contrast in considering allomorphy: 'The problem for the learner is to figure out the bases for such variation, since children seem to follow a basic operating principle that variation in form must be MOTIVATED. That is, they do not expect to find synonyms, and will seek reasons – phonological, syntactic, semantic, or pragmatic – for variations in forms with a core of basic meaning.'

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