Smash Bang
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At first glance, the verb <u>smash</u> appears to differ in meaning from <u>break</u> in much the same way that <u>shatter</u> does. A reasonable <u>rough</u> account of the meaning difference between (1a-c) is that (1b-c) are intensive versions of (1a). However, while (1a-b) have intransitive counterparts, (1c) does not, (2c) being strikingly unacceptable.

1.a. Mary broke the vase
 b. Mary shattered the vase
 c. Mary smashed the vase
2.a. The vase broke
 b. The vase shattered
 c.?*The vase smashed

This would seem to be a major difficulty for the many frameworks which derive transitive usages of state-change verbs from intransitive usages, if we are correct in analyzing <u>smash</u> as a state-change verb. Transitive <u>smash</u> would simply have no source. However, there is considerable good reason for analyzing <u>smash</u> not as a state-change verb like <u>break</u>, but rather as <u>a collision</u> verb (of a subtype to be identified below).
 First note that there are transitive usages of <u>smash</u> which do have corresponding intransitive usages. If <u>there</u> is an oblique (i.e. prepositional) phrase of the appropriate sort in the VP, <u>smash</u> can appear optionally transitively or intransitively. Here there is an apparent parallelism with <u>break</u> and <u>shatter</u>.

3.a. Mary broke the vase against the wall
 b. Mary shattered the vase against the wall
 c. Mary smashed the vase against the wall
4.a. The vase broke agaist the wall
 b. The vase shattered against the wall
 c. The vase smashed against the wall (contrast 2c)

The parallelism here is, however, only apparent. To see this, compare the semantically anomolous (5a) with the nonanomolous (5b).

5.a.+Mary shattered the vase aginst the wall, but it didn't break
 b. Mary smashed the vase against the wall, but it didn't break

The fact that (5a) is contradictory while (5b) is not immediately suggests that while <u>shatter</u> and <u>break</u> have change of state as part of their semantics, any state-change sense associated with <u>smash</u> is there as a matter of conventional implicature. Further evidence for this is provided by the fact that assumptions as to which object changes state in an event denoted by <u>smash</u> is relativised to real world expectations. In (6-7), the (a-b) sentences clearly entail that it is the hammer which is the broken/shattered object, while the (c) sentences allow, though don't force, one to assume that the more fragile vase is the object which suffers on impact (if anything does).

    6.a. Mary broke the hammer against the vase
      b. Mary shattered the hammer against the vase
      c. Mary smashed the hammer against the vase
    7.a. The hammer broke against the vase
      b. The hammer shattered against the vase
      c. The hammer smashed against the vase

Note also that if <u>smash</u> is not a true state-change verb, it would not be expected to carve itself a tightly defined niche in the semantic field of state-changes. And indeed, while <u>break</u> and <u>shatter</u> are quite restrictive as to what their patients can be, brittle objects which turn into pieces of brittle objects (ignoring for the moment that objects with functions are said to be broken when they can't perform their function; broken engines, broken radios, etc, might simply be gummed up and not in pieces at all), <u>smash</u> is, on the other hand, extremely liberal as far as possible patients are concerned.

    8.a. ?Mary broke the cake
      b. ?Mary shattered the cake
      c. Mary smashed the cake

There is at least one usage that <u>smash</u> has in which the object assumed to have suffered is obligatorily NOT the transitive direct object or intransitive subject. If the PP in the VP is penetrative, like <u>through</u>, instead of impactive, like <u>against</u>, it is the object of this PP which is taken as the suffering object. Here there is no parallelism with <u>break</u> or <u>shatter</u>. The (a-b) sentences (9-10) are senseless, unless one can force a locative sense out of the <u>through</u>-phrase.

    9.a. ?Mary broke the hammer through the window
      b. ?Mary shattered the hammer through the window
      c. Mary smashed the hammer through the window

10.a. ?The hammer broke through the window
   b. ?The hammer shattered through the window
   c. The hammer smashed through the window

On the basis of these data, I conclude that smash does not belong to the same class of verbs as break and shatter. This leaves us with several questions. What class does smash belong to? Where does this implicature carried by smash come from? I will turn to these questions immediately and will also have some observations and comments on the strengthening of the implicature in certain argument arrays.

I already stated above that I believe smash to belong to a subclass of collision verbs. To see the initial plausibility of this, consider how closely another collision verb, bang, parallels smash in distribution.

11.a. Mary banged the vase (cf 1c)
   b.?*The vase banged (cf 2c)
   c. Mary banged the vase against the wall (cf 3c)
   d. The vase banged against the wall (cf 4c)

Even more striking are the facts in (12). While (12a) and (12b) are acceptable when together is interpreted to mean "at the same time", (12c) and (12d) have a "mutual" interpretation (i.e. sword A smashed/banged against sword B and sword B smashed/banged against sword A). This interpretation is unavailable for (12a) and (12b). Note also, by the way, that (13) is not redundant, as it would be if smash had a breakage sense as part of its semantics.

12.a. The sword blades broke together
   b. The sword blades shattered together
   c. The sword blades smashed together
   d. The sword blades banged together

13. The sword blades smashed together and shattered

The most striking usage that smash shares with bang, and not at all with break or shatter, is as an interjection. Note also that there are several collision verbs   also impossible as interjections (e.g. hit or strike).

14. Mary was carrying the vase upstairs, when...
   a. smash!/bang! it fell down the stairs
   b.*break!/*shatter! it fell down the stairs
   c.*hit!/*strike! it fell down the stairs

Not all interjections of this class are equally natural as verbs, e.g. thud. However, given a sufficiently literary context, a sentence like (15) is by no means

impossible. So the derivational direction appears to be
from interjection to verb. This gives us a class of deint-
erjectival verbs to which both <u>smash</u> and <u>bang</u>, along with
some others, e.g. <u>slam</u> and <u>crash</u>, belong.

> 15. Mary listened as the rain thudded against the
>   roof of the car.

But where does the damage implicature carried by
<u>smash</u>, which is responsible for the illusion that <u>smash</u>
is a state-change verb, come from in the first place? An
interesting suggestion given to me by Jerry Sadock (per-
sonal communication) is that it may be derived from the
sound symbolism of interjective <u>smash</u>. Notice in this
regard that interjections have their own appropriacy con-
ditions. For instance, the sentences in (16) are decidedly
odd.

> 16.a. Bang! the feather fell on the floor
>   b. Smash! the students slept

More interesting for the problem at hand is that
<u>smash</u> seems more appropriate than <u>bang</u> in sentences which
describe situations in which an object is destroyed in a
collision, while <u>bang</u> seems more appropriate than <u>smash</u>
in sentences which describe situations in which two mas-
sive objects collide but remain intact. Note too, however,
that <u>smash</u> is not as clumsy in (17d) as <u>bang</u> is in (17b).
The fact that interjection <u>smash</u> prefers but does not
demand destruction correlates nicely with the fact that
the verb <u>smash</u> implicates but does not entail destruction.

> 17.a.   Smash! the wrecking ball drove through the wall
>   b.??Bang! the wrecking ball drove through the wall
>   c.   Bang! the wrecking ball bounced off the wall
>   d. ?Smash! the wrecking ball bounced off the wall

The correlation is robust and I believe the hypothesis
to be correct that the implicature that <u>smash</u> carries is
derived from its interjective usages. However, while there
has been some work on formalizing implicatures (cf Gazdar
1979 and works discussed there) and considerable work on
relating the semantics of derived forms to the semantics
of basic forms, I am unaware of any attempts to formally
derive conventional implicatures of verbs from the appro-
priacy conditions of interjections. It is not immediately
clear what such rules would even look like. I will not
offer even a tentative solution and leave the question for
those more knowledgeable of the lexicon and the nature of
lexical rules.

A problem very different from the one just discussed
concerns the difficulty in cancelling the damage implica-
ture in simple transitive sentences. This is a major pro-
blem since there would be no content to a claim that a
sense associated with a word is an uncancellable conven-
tional implicature. Consider (18).

18.??Mary smashed the vase, but it didn't break

Even sentence (19), a transitive sentence augmented
by an instrumental PP instead of what I called above an
"impactive" PP (i.e. a PP headed by a P like against),
sounds quite odd at first blush.

19. ?Mary smashed the vase with a hammer, but it
    didn't break

There are several steps in the (partial) unravelling
of this mystery that I will propose here. The first is to
point out an insight had by Fillmore (1977). Fillmore
noticed that for verbs with optional direct object sel-
ection, whichever object is chosen as direct object is
taken as the more affected object. For example, in (20a)
the fence and in (20b) the stick is taken as the more
affected object.

20.a. Mary beat the fence with a stick
   b. Mary beat the stick against the fence

I believe, however, that Fillmore is only partly
right. I believe that in (20a) the fence, as notional
goal and (shallow) direct object, is more of an undergoer
than the stick is in (20b). Sentence (20b) seems to be a
more neutral discription of an event and, I would claim,
is the sentence one would use if one didn't want to take
the perspective (Fillmore's term) of either object. (There
may be a conversational implicature of perspective resulting
from the fact that the alternative construction was not
employed). Some slight evidence in favor of my claim is
that if one inserts an adverb like viciously into the sen-
tences in (20), it must be associated with the fence in
(a) but can be associated with either object in (b).

21.a. Mary beat the fence viciously with the stick
   b. Mary beat the stick viciously against the fence

The point here is that to utter (19) a speaker has
made a choice to put the vase in a strong undergoer pos-
ition which is a choice at odds with a desire to cancel
the implicature if there is no further elaboration. In
(18) the speaker has gone so far as to suppress mention

of the other object involved in the collision, with the (intuitively unsurprising) effect of strengthening the undergoerhood of the direct object and thus the implicature that it has suffered in the collision.

While I believe this line of reasoning to be correct, we are still faced with the unsatisfactory result of uncancellable conventional implicatures, unless it can be shown that despite such strengthenings of the implicature it can yet be cancelled under certain circumstances. The obvious thing to look for is a way to load the (linguistic) context in ways that counteract the implicature strengthening effects of the choice of argument structures in (18) and (19). Fortunately for the hypothesis being proposed here, constructions with the desired effect can be found.

One construction which immediately improves sentences with the argument structure in (19) is to add an aspectual adverb phrase like <u>again and again</u>. Such adverbs have the effect of drawing the attention away from the results of actions and putting it on the action itself. Since the damage implicature carried by <u>smash</u> is an implicature of result, it is not surprising that such adverbs have the effect of (re)weakening the implicature. Further, by replacing <u>didn't</u>, which is a neutral negative, with <u>wouldn't</u>, which conveys a sense of refusal to give in, the sentence becomes even more natural. Finally, by using an anaphor like <u>the damn thing</u> instead of a simple pronoun, a sense of frustrated objectives very compatible with the use of <u>wouldn't</u> crops up, making the sentence more natural still. For purposes of comparison, note that none of these strategies prevents (23), a sentence headed by a semantic state-change verb, from remaining a contradiction.

22.a. Mary smashed the vase again and again with a
      hammer, but it didn't break
   b. Mary smashed the vase again and again with a
      hammer, but it wouldn't break
   c. Mary smashed the vase again and again with a
      hammer, but the damn thing wouldn't break

23. +Mary shattered the vase again and again with a
    hammer, but the damn thing wouldn't break

The additional problem posed by (19) was that mention of the second object involved in the collision was totally suppressed with the effect that all the attention seemed to be thrown onto the implicature, thereby strengthening it severely. One might hypothesize that if there is some way of mentioning all the participants in an event other than by employing a fully fleshed out argument frame, the effects of this sort of implicature strengthening could be directly counteracted. And, indeed, this seems to be the

case. In sentence (24) the second object involved in the
collision is mentioned in a conjoined VP. If all the tricks
developed in (22) are employed, the result is a natural
and noncontradictory sentence.

> 24. Mary grabbed the hammer and smashed the vase
> again and again, but the damn thing wouldn't
> break.

So although the damage implicature carried by smash
can be severely strengthened in certain argument frames,
it remains cancellable.

The signifance of an intensely empirical paper like
this one in the greater linguistic scheme of things must
be evaluated in terms of the questions it raises and areas
it opens up to investigation. By far the most perplexing
question raised in this paper is how to derive conventional
implicatures of verbs from appropriacy conditions of inter-
jections. It will be interesting to see if current theories
of the lexicon and lexical rules can come to deal with
such phenomena. The issue of how implicatures can be made
stronger or weaker played a large role in this paper. A
more systematic investigation of this phenomenon than
could be offered here would be welcome. Finally, this
class of verbs has been fairly ignored in the literature.
The argument structure properties investigated in this
paper should be of interest to case grammarians, rela-
tional grammarians and lexical functional grammarians.

References

Fillmore, Charles (1977)"The case for case reopened"
in P. Cole and J.M. Sadock (eds.) Syntax & Semantics 8:
Grammatical Relations. Academic Press: New York.
Gazdar, Gerald (1979) Pragmatics: Implicature, Presuppo-
sition and Logical Form. Academic Press: New York.

TYPOLOGICAL PARALLELISM DUE TO SOCIAL CONTACT: GUATÓ AND KADIWÉU

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The purpose of this paper is to show that two genetically un-related languages spoken on the upper Paraguay basin in South America, Guató and Kadiwéu, share the same way of expressing reference to the addressee and that the source of this fact may be found in the contact held in the past by the speakers of both languages.

The Guató people have traditionally lived on the banks of the upper Paraguay, including Gaíba and Uberaba lagoons, as well as along the Cuiabá (São Lourenço) river, a tributary of the Paraguay. Their presence there has been recorded since the 16th century (cf. Schmidt 1905, Métraux 1942, 1945b). For some centuries the Guató have had the Guaikurú (Mbayá, Kadiwéu) as their principal southern neighbors (Métraux 1945a, maps 4 and 5).

The Guató language,[1] apparently a linguistic isolate, in any case without perceptible genetic relationship with Guaikurú, has a system of personal affixes which is characterized by, among other things, the absence of a specific marker for the second person plural: the same prefix gʷa- (and its suffixal counterpart -hi) marks both the second person singular and the second person plural. Although distinction is made by means of different personal prefixes between third person singular and third person plural as well as between first singular and both inclusive and exclusive first plural, the plurality of the addressee is regularly expressed at the level of the nominal or verbal phrase by means of the quantifying word mehẽ, which may be glossed as 'pluralizer of second person'. Thus, for the nominal stem -rɛ 'eye', we have the following possessed forms:

(1)a. i-rɛ 'his eyes'
   b. bi-rɛ 'their eyes'
(2)a. a-rɛ-ru 'my eyes'
   b. gi-rɛ 'our (incl.) eyes'
   c. haǰi-rɛ 'our (excl.) eyes'
(3)a. gʷa-rɛ 'your (sg.) eyes'
   b. gʷa-rɛ mehẽ 'your (pl.) eyes'

With verbs we have:

(4)a. na-ki-hi 'you (sg.) are fishing'
   b. na-ki-hi mehẽ 'you (pl.) are fishing'
(5)a. na-gʷa-ǰo-yu 'you (sg.) are seeing me'
   b. na-gʷa-ǰo-yu mehẽ 'you (pl.) are seeing me'

The Kadiwéu are the only surviving section of the Mbayá or

Guaikurú people, which dominated in the 17th and 18th centuries a
large extension of the Chaco, just south of the Guató. The Kadiwéu
language[2] is a member of the Guaikurú linguistic family, which in-
cludes other languages spoken in the Paraguayan and Argentinian
Chaco more to the south and to the west, such as Payaguá, Pilagá,
Toba, Mocoví. As to the person markers Kadiwéu presents a situation
analogous to that of Guató: it has also person marking prefixes
which do not distinguish the second person singular from the second
person plural, and like Guató it expresses the plurality of the
addressee by means of a quantifying word in the nominal or verbal
phrases. Thus, for the nominal stem -opitenigi 'bow' and for the
verbal stems -dopi 'to return' and -owooqo 'to think' we have:

(6)a. ɢadopitenigi 'your (sg.) bow'
   b. ɢadopitenigi tiwaʝi 'your (pl.) bow'
(7)a. adopili 'you (sg.) return'
   b. adopili tiwaʝi 'you (pl.) return'
(8)a. owooqoni 'you (sg.) think'
   b. owooqoni tiwaʝi 'you (pl.) think'

The quantifier tiwaʝi occurs systematically as a pluralizer
for the second person, but (differently from Guató mehẽ) it may
also occur with the first and third persons plural, meaning in
these cases 'a larger group' (Griffiths 1976:84):

(9)a. ʝalokodaɢa 'we (two or three) run'
   b. ʝalokodaɢa tiwaʝi 'we (a larger group) run'
(10)a. oyoqole 'they (two or three) throw it'
    b. oyoqole tiwaʝi 'they (a larger group) throw it'

Personal markers in Kadiwéu are prefixes as may be inferred
from the comparison of (7) above with (11) and of (8) with (12):

(11)a. idopi 'I return'
    b. dopi 'he returns'
(12)a. ʝowooqo 'I think'
    b. dowooqo 'he thinks'
    c. nowooqonaɢa 'they think'

In Kadiwéu verbs, which are somewhat more complex than those
of Guató, there is a suffix immediately following the stem which
occurs when the subject is second person (singular or plural), first
person plural, or third person plural, but never occurs when the
subject is either first or third person singular. This suffix shows
up as -ni, -li, -mi, -∅, or as lengthening of the final vowel of the
verbal stem. In example (7) it is -li and in (8) it is -ni, whereas
in (9) and (10) it is -∅ and in (12a) it is -ni again, but having
dropped its vowel before the initial vowel of the following suffix
-aɢa; examples (11a, b) and (12a, b) are the cases where it does
not occur. Examples (13a-f) exhibit the lengthening of the last
vowel of the stem in contrast with its absence:

(13)a. aloo 'you (sg.) play'
    b. aloo tiwaɟi 'you (pl.) play'
    c. ɟalooɢa 'we play'
    d. nalooɢa 'they play'
    e. ɟalo 'I play'
    f. dalo 'he plays'

Griffiths in his study of the Kadiwéu verb (1976) considers this suffix -- which I call for brevity's sake suffix -ni -- to be a subject suffix, without further explanation. I assume that it is more specifically a mark of number agreement to plural subjects and that its occurrence in the forms for the second person singular should be due to an extension of the use of the second person plural. That is to say that I suppose that forms like (7a), (8a), and (13a) were originally, in a historically earlier stage of Kadiwéu, second person plural forms marked by the pluralizer suffix -ni, and that other forms, no longer in use, without that suffix, existed for the second person singular. Then specific social conditions led the speakers of the language to use forms of the second person plural systematically in place of the forms of the second person singular, to the point where these latter disappeared. The situation should have been somewhat analogous to the English case, where the pronoun you and the other forms of the second person plural replaced the pronoun thou and the other forms of the second person singular.

That in Kadiwéu society such conditions could have developped, which would have favored that type of sociolinguistic change, seems to be rather possible, since it is known that the Mbayá society, from which the Kadiwéu descends (Ribeiro 1950:146), was stratified into social classes: chiefs and nobles at one extreme and serfs and slaves at the other. Métraux (1945a:304), who analyzed the historical sources, states that

"In contrast to the democratic organization of the Pilcomayo River tribes, Mbayá society was rigorously stratified. The a-doption of the horse gave this tribe a decided advantage over its neighbors, which contributed to the formation of a system of classes and even of castes. Unable to absorb its countless prisoners, as most Chaco Indians do, each group maintained its individuality and hegemony by stressing blood purity and the privileges of the conquerors. The subjugated tribes were re-duced to the condition of serfs and slaves, and the heads of the extended Mbayá families constituted a new aristocracy".

Such a complex social organization was being developed even before the adoption of the horse:

"A military order composed of outstanding warriors seems to have existed among the pre-equestrian Mbayá, when they were known as Guaicurú" (Métraux 1945a:309).

On the other hand, there is historical information on the use of special linguistic address forms or other sociolinguistic dif-

ferentiation among peoples who spoke other languages of the Guaikurú family. Thus, of the Mocoví it is reported that they distinguished noblemen and plebeian and that "special grammatical forms were used to address a nobleman" (Métraux 1945a:304). As to the Abipón it is said that their

"noblemen differentiated themselves from other people not by special ornaments, but by certain mannerisms of speech or the profuse use of redundant syllables which gave their language a "noble" turn. Those who addressed them had to add the suffix "in" to words. Moreover, the members of the [noble or military] society had some words peculiar to themselves." (Métraux 1945a:309).

Very little is known of the social organization of the Guató, among whom it is less probable that there existed a social stratification which resembled that of the Mbayá. Chiefdom, however, was hereditary (Métraux 1945b:417). On the other hand, it is known that at least a part of the Guató came to be dominated by the Mbayá and were held as slaves by them (Métraux 1945a:307).

Summing up, it seems that we are confronting an interesting case of typological parallelism in languages genetically independent, but neighbors geographically and, what is more, we have a possible sociolinguistic explanation for it: in the Kadiwéu (Guaikurú) language the nominal and verbal forms of the second person plural came to be used in a ceremonial way to single addressees of higher social classes and then were generalized to all kinds of addressees, having replaced the older singular forms, which disappeared from the present-day language; in Guató the same usage and similar consequences could have developed as a result of the strong social interaction and partial integration of the Guató people as slaves in the network of Guaikurú intertribal dominion.

Footnotes

1. The Guató linguistic data were recorded and are being analyzed by Adair P. Palácio, to whom I thank for discussions on the morphology of this language.
2. The data on the Kadiwéu language were analyzed and published by Glyn and Cynthia Griffiths (1976), but the interpretation given to them in this paper is due to a partial reanalysis by Rodrigues and Sílvia L. B. Braggio (cf. Braggio 1981).

Bibliography

Braggio, Sílvia Lúcia Bigonjal. 1981. Aspectos fonológicos e morfológicos do Kadiwéu. Unpublished master's thesis. Universidade Estadual de Campinas, Brazil.
Griffiths, Glyn and Cynthia. 1976. Aspectos da língua Kadiwéu. Brasília: Summer Institute of Linguistics (Série Lingüística, N° 6).

Métraux, Alfred. 1942. The Native Tribes of Eastern Bolivia and
    Western Matto Grosso. Washington: Government Printing Office
    (Bulletin 134, Bureau of American Ethnology, Smithsonian Insti-
    tution).
Métraux, Alfred. 1945a. Ethnography of the Chaco. Handbook of
    South American Indians (J. H. Steward, ed.), Vol. 1:197-310.
    Washington: Government Printing Office (Bulletin 143, Bureau of
    American Ethnology, Smithsonian Institution).
Métraux, Alfred. 1945b. The Guató. Handbook of South American
    Indians (J. H. Steward, ed.), Vol. 1:409-418. Washington:
    Government Printing Office (Bulletin 143, Bureau of American
    Ethnology, Smithsonian Institution).
Ribeiro, Darcy. 1948. Sistema familial kadiuéu. Revista do Museu
    Paulista, n. s., 2:175-192. São Paulo: Museu Paulista.
Ribeiro, Darcy. 1950. A arte dos índios kadiuéu. Cultura 4:147-
    190. Rio de Janeiro: Serviço de Documentação do Ministério da
    Educação e Saúde.
Schmidt, Max. 1905. Indianerstudien in Zentralbrasilien: Erleb-
    nisse und ethnologische Ergebnisse einer Reise in den Jahren
    1900 bis 1901. Berlin: Dietrich Reimer.