A discussion of pragmatic choice in the use of the possessive pronoun or indefinite article (e.g., "I broke my finger" versus "I broke a finger," and "My leg hurts" versus "A leg hurts") looks at the constructions in the light of a theory of division of pragmatic labor that suggests a binary system of implicature. The theory cannot account for certain constructions concerning body parts, but the choice between a possessive determiner and the indefinite article is determined by an interaction of syntactic, pragmatic, and contextual factors. Specifically, the preference for "a" over "my" is found to increase with (1) the number of that specific body part (legs, teeth, etc.) that one is believed to possess, (2) prior mention of the agent, and (3) salient shared knowledge of possession (e.g., a visible cast or bandage). (MSE)
Possessives vs. Indefinites: 
Pragmatic Inference and Determiner Choice
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(abstract)

Horn (1984) accounts for the difference between (1) and (2) via a binary system of implicature: In (1a), the speaker may be assumed to have made the strongest truthful statement possible, thus Q-implicating (1b), while in (2a), the speaker may be assumed to have said no more than necessary, thus licensing the R-inference to the 'stereotypical' situation (2b).

(1a) I slept in a car yesterday. (Q) -> (1b) The car is not mine.
(2a) I broke a finger yesterday. (R) -> (2b) The finger is mine.

However, Horn's 'division of pragmatic labor' cannot account for the relative felicity of my in (3-5), which by his account should suggest that the speaker has only one leg or only one tooth; the felicity of a in (4), where if my is felicitous, a should implicate that the tooth does not belong to the speaker; nor the difference in determiner acceptability in (5) and (6), which his analysis fails to address.

(3) I broke my/a leg.
(4) I chipped my/a tooth.
(5) My/a leg hurts.
(6) I burst my/a blood vessel.

Rather, the choice between a possessive determiner and the indefinite article is determined by an interaction of syntactic, pragmatic and contextual factors. Specifically, the preference for a over my increases with: i) the number of X (legs, teeth, cars, etc.) one is believed to possess, ii) prior mention of the agent, and iii) salient shared knowledge of possession (e.g., a visible cast or bandage).
It has been argued that the four maxims of Grice's Cooperative Principle can be reduced to two opposing forces, one speaker-based and one hearer-based (Horn 1984). Briefly, the hearer-based Q Principle, "make your contribution sufficient; say as much as you can, given R," is a lower-bounding principle inducing upper-bounding implicata (thus, John ate two apples Q-implicates not four), while the speaker-based R Principle, "make your contribution necessary; say no more than you must, given Q," is an upper-bounding principle inducing lower-bounding implicata (thus, John ate the brownies R-implicates John ate all the brownies). Thus, according to Horn, "A speaker who says '...p...' may license the Q-inference that he meant '...at most p...'; a speaker who says '...p...' may license the R-inference that he meant '...more than p...'" (1984:14) Clearly the two are in conflict, and Horn proposes a method of resolving the conflict: his "division of pragmatic labor":

(1) The use of a marked (relatively complex and/or prolix) expression when a corresponding unmarked (simpler, less 'effortful') alternative expression is available tends to be interpreted as conveying a marked message (one which the unmarked alternative would not or could not have conveyed). (1984:22)

Thus, unmarked expressions induces R-inferences to the stereotypical situation -- an "inference to the best interpretation." (Atlas and Levinson 1981:42) In 2a, then, the R-inference to the stereotypical situation is 2b:

(2) a. I broke a finger.
   b. The finger is the speaker's.

One problem that is immediately apparent is that of defining what constitutes a marked expression. In 2a, the indefinite article presumably is to be considered unmarked, since it induces the inference to the stronger statement in 2b, and does not license the
inference to the marked situation, wherein the finger is NOT the speaker's. This latter inference, to the marked case, is in fact licensed by 3a, which induces the inference in 3b:

(3) a. I slept in a car yesterday.
   b. The car is not the speaker's.

However, if 2a is in fact unmarked, it is not clear how it differs from the putatively marked 3a, assuming that the stereotypical instance of sleeping in a car involves sleeping in one's own car. It is, moreover, unclear what additional information is contributed by the equally acceptable 4:

(4) I broke my finger.

If in fact 4 is no more informative than 2a, then by the R Principle ("say no more than you must"), it should be avoided. However, 2a and 4 are equally acceptable.

In attempting to explain this paradox, Horn points out that the speaker of 3a could have chosen the more precise possessive form, but did not, thus Q-implicating 3b, while to use the possessive 4 might suggest that the speaker has only one finger. However, this explanation is clearly inadequate if 2a and 4 are equally acceptable, with no evidence of a difference in interpretation.

In fact, an examination of the distinction between the use of possessive pronouns and the indefinite article points up the complexity of the interaction between pragmatic, syntactic and extralinguistic factors. Consider 5 and 6:

(5) It seems a little over-dignified to call what's going to happen "surgery." They're going to scrape a patch on my nose. [R. Reagan, quoted in the San Francisco Chronicle, 8/1/87, p. 12]

(6) That would have to be when I broke my knuckle. That was about a year ago. [T.L., on telephone, 12/16/87]

While by Horn's analysis the use of the possessive in 5 correctly predicts that the President has only one nose, presumably the speaker of 6 has more than one knuckle, yet the use of the possessive in this instance is equally felicitous. Moreover, assuming a null context, where the body part in question belongs to the speaker, there seems no clear-cut way to reconcile 7a-f with an unadorned theory of Q and R implicature:

(7) a. My arm is broken.
   b. #An arm is broken.
   c. I chipped my tooth.
   d. I chipped a tooth.
   e. #I burst my blood vessel.
   f. I burst a blood vessel.
The choice of a vs. my in such expressions appears to be a function of syntactic construction, context, and number of relevant body parts.

First, there seems to be a strong correlation between the number of relevant body parts and the relative acceptability of the possessive pronoun vs. the indefinite article. Very consistently, the fewer the body parts involved, the more acceptable the use of e possessive and the less acceptable the use of the indefinite article. For example, in 8a-e, it can safely be assumed that the speaker has one nose, two arms, ten fingers, many ligaments, and innumerable blood vessels; note the high correlation between the number of relevant parts and the gradation of my vs. a acceptability:

   {#a}
   b. I broke [my] arm.
   {?an}
   c. I broke [my] finger.
   { a}
   d. I tore [my] ligament.
   { a}
   e. I burst [my] blood vessel.
   { a}

While it is not entirely clear why this pattern exists, it seems likely that the possessive is preferred over a insofar as the body part under discussion is considered a unique individual rather than part of an unindividuated group. [1] Compare 9a-b:

(9) a. I slept in [my] car.
   {#a}
   b. I ate [my] pea.
   { a}

Since the speaker is likely to have only one or two cars, my is preferred over a in 9a; but since peas generally come in a mass, my sounds odd in 9b. Thus, the difference between the implicatures licensed by 2a and 3a is not one of Q- vs. R-implicature, but rather involves a numerical distinction: Since most people own one or perhaps two cars, 9a can be expected to pattern with 8a or 8b rather than 8c-e -- and in fact it does. Notice that if the speaker were the owner of a used car lot, and thus owned, say, hundreds of cars, then for him to say I slept in a car yesterday would sound fine, and would NOT implicate that the car was not his, as it seemed to when we considered 3a out of context.

Moreover, while the literature contains many discussions of syntactic and semantic phenomena involving alienable vs. inalienable possession in a number of languages (e.g., Seiler 1983; Fox 1981; Hyman, et. al., 1970), a comparison of 8a-f and 9a-b demonstrates that the question of determiner choice in the cases being discussed here is not subject to this distinction. Rather, sentences such as 2a and 3a are subject to the s _- set of considerations influencing determiner choice, and these considerations cannot be reduced to a simple Hornian
division of pragmatic labor.

The same pattern for my holds for the construction A or My N V, where the noun is a body part; in this construction, however, the use of a doesn't even achieve "questionable" status until much higher up the numerical scale, and in fact it never attains complete acceptability, as seen in 10a-c:

(10) a. {My} finger is broken.
   {{#A}}
b. {?My} ligament tore.
   { ?A}
c. {?My} blood vessel burst.
   { ?A}

Here the use of my is see to pattern as in 8c-e, but a, though it again becomes more acceptable as the number of body parts increases, never gains full acceptability. Thus, in most contexts a speaker will use an expression of the form NP V a(n) N in talking about these large-group parts.

The relative infelicity of uttering, for example, A tooth hurts is due to the lack of an identifiable "anchor" for the body part; that is, without prior attribution of agency, ownership of the tooth is not readily determinable. It is here that inference to a stereotypical situation is most likely to play a role. While a phrase like A bone broke is neutral regarding whose bone is being discussed, a construction like I broke a bone or I hurt a tooth evokes a discourse entity (that is, I) as an anchor; thus the hearer can appeal to the stereotypical situation -- wherein one draws one's own body rather than someone else's -- in interpreting the utterance. The utterance of 11a, then, will implicate that it was John's finger that was broken, while 11b will implicate that the torn ligament belongs to Mary:

(11) a. John broke a finger.
   b. Mary tore a ligament.

For this reason, a change of context can induce a change in acceptability judgments. When the context is altered such that it is clear whose body, and which part, is being talked about -- for example, if a cast or bandage is being worn that makes it obvious -- then judgments of the acceptability of utterances such as 12 rise markedly.

(12) A blood vessel burst.

Interestingly, the use of the possessive in this construction is also more acceptable in the new context, perhaps because the cast or bandage makes it clear which body part is being discussed, thus individuating it as a unique element.

Similarly, the status of the injury as old vs. new information can affect acceptability. [2] If the body part in question is already salient from a previous discussion, for example, my may become much more acceptable. For instance, in a context where both interlocutors
are aware of B's having torn a ligament, the following dialog is felicitous:

(13) A: Too bad you can't be in the big race tomorrow.  
    B: Yeah, I had hoped to win -- but that was before I tore my ligament.

Again, in this case the body part has already been individuated through the interlocutors' prior knowledge of the injury. [3]

Finally, for 14, which patterns as expected --

(14) I ripped {my} sleeve.

-- acceptability judgments for a vs. my are reversed if the sleeve in question is not being worn by the speaker, but rather is among a pile of shirts on a table. Here the problem is not so much one of attachment or inalienable possession, as has been suggested, but rather of number, in which case the patterning of intuitions falls out as expected. That is, since the number of sleeves in this case is no longer two but rather many, we would expect the judgments to reverse in favor of a.

Thus it can be seen that while an R-based implicature may perhaps be invoked to explain the inference from 2a to 2b, it is not at all clear that a Q-based implicature is responsible for the inference from 3a to 3b; and in fact it IS clear that there is much more than the Hornian division of pragmatic labor involved in the seemingly simple choice between the possessive pronoun and the indefinite article, and in what is conveyed by each. [4] A complex interaction of syntactic, pragmatic and contextual factors come together to determine our lexical choices, and in developing a theory of linguistic competence we must be prepared to address such interactions.
Notes

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[1] Larry Horn (p.c.) has pointed out the following possible counterexample:

(i) I hurt a ball.

however, judgments on the acceptability of (i) vary. It is likely that the difference between (i) and 8b above stems from the infrequency of a single ball being referred to; i.e., balls are generally less clearly individuated. This would constitute additional evidence that the effect is due to individuation status rather than being strictly numerical.

[2] I am grateful to Jim McCawley for pointing this out to me.

[3] It is not clear that all previously known information will show this effect. See Prince 1981 for an insightful discussion of the various types of "given" and "new" information.

[4] It should be noted that these results seem to be language-specific. For example, while the German data below largely parallel the English data in terms of distribution of the possessive pronoun and indefinite article, the potential for using a reflexive in combination with either a definite or indefinite article confounds the issue.

(i) Mein Fuss tut weh.
   my foot does sore
   'My foot hurts.'

(ii) Mir tut der Fuss weh.
    me(DAT) does the foot sore
    'My foot hurts.'

(iii) Ich habe mir {den} Fuss g rochen.
     I have me(DAT) {the} foot broken.
     I have broken my foot.'

(iv) Ich habe mir {ein} Band zerrissen.
    I have me(DAT) {a} ligament torn.
    'I have torn a ligament.'
(v) *Ich habe mein Band zerrissen.
I have my ligament torn.

Moreover, Alessandro Duranti (p.c.) has pointed out that in Samoan the possessive form is used more frequently for similar body-part expressions than in English. Clearly, more data are required before any cross-linguistic generalizations can made.
References


