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The emerging grammar of nouns in a first generation sign language

Specification, iconicity, and syntax*

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A first generation family homesign system, dubbed “Z”, from the Tzotzil-speaking township of Zinacantán, in Chiapas, Mexico, provides insight into how a new sign language can begin to distinguish formally different “part-of-speech” categories. After describing the small signing community, consisting of 3 deaf sibling and their intermediate hearing sister, plus a younger cousin — the entire set of fluent adult signers — plus the hearing child of the oldest deaf signer, and setting out some of the theoretical issues surrounding the nature of “part-of-speech” in sign languages, the paper considers three sorts of mechanisms the language has developed to help distinguish signs that refer to objects from signs that refer to actions. These include a set of size-shape specifiers that co-occur with presumed nominal signs, an iconic contrast between different sign formational elements that somewhat inconsistently signal a noun/verb distinction, and, perhaps most interestingly, a construction involving a clearly grammaticalized locative or copular element that allows Z signers to make clear that they are referring to (physical) objects rather than actions. The paper concludes by considering the overall effect of these quite different formal strategies on the evolving language structure.

Keywords: emerging sign language, grammaticalization, parts of speech, gestural origins of sign, Tzotzil, homesign

Words, things, and nouns

At the beginning of the *Philosophical investigations*, Wittgenstein famously quotes a passage from the *Confessions* where Augustine reminisces about learning how to talk.

When they (my elders) named some object, and accordingly moved towards something, I saw this and I grasped that the thing was called by the sound they uttered when they meant to point it out. Their intention was shewn by their bodily movements, as it were the natural language of all peoples: the expression of the face, the play of the eyes, the movement of other parts of the body, and the tone of voice which expresses our state of mind in seeking, having, rejecting, or avoiding something. Thus, as I heard words repeatedly used in their proper places in various sentences, I gradually learnt to understand what objects they signified; and after I had trained my mouth to form these signs, I used them to express my own desires. (Wittgenstein, 1958, p.2)

Augustine refers to a particular phase in the natural history of speech, characterized, as one commentator puts it, by a child's "self-interested attempt to control the world and other people, using whatever rough-and-ready tools were at hand" (Augustine, 1992). Augustine continues: "Thus I exchanged with those about me the verbal signs by which we express our wishes and advanced deeper into the stormy fellowship of human life ..." (Augustine, 1955: *Confessions*, I, 8, Outler's translation).

Wittgenstein takes Augustine to task for implying a potentially much more general "picture of the essence of human language".

It is this: the individual words in language name objects — sentences are combinations of such names. — In this picture of language we find the roots of the following idea: Every word has a meaning. This meaning is correlated with the word. It is the object for which the word stands. (1958, p.2)

As Wittgenstein goes on to argue at length in the *Investigations*, such a picture is not only oversimplifying ("thinking primarily of nouns like 'table', 'chair', 'bread', and of people's names, and only secondarily of the names of certain actions and properties; and of the remaining kinds of word as something that will take care of itself" [1958, p.2]); but, more insidiously, according to Wittgenstein Augustine's picture has "its place in a primitive idea of the way language functions. [...] it is the idea of a language more primitive than ours" (1958, p.3).

Zinacantec Family Homesign

Wittgenstein's reference to a "primitive language" and Augustine's direct appeal to "the natural language of all peoples" embodied in facial expression, gaze, and gesture lead directly to the empirical focus of my paper. Zinacantec Family Homesign, or "Z" for short, is a first-generation, spontaneously emerging sign-language developing in a single extended family in the Mayan community of Zinacantán — a

community of predominantly Tzotzil-speaking peasants and rural merchants in highland Chiapas, México, where I have been carrying out anthropological research for more than four decades. Since 2008 I have been studying this nascent sign-language, the joint invention of three deaf siblings, their hearing sister, and two nephews, none of whom have met other deaf people or had exposure to another sign language. In interaction with other hearing members of the extended household, this small group of signers has created a kinesic communication system that meets their quotidian needs. They constitute a tiny island of signers in the midst of a sea of Tzotzil speakers, themselves engulfed by the vast ocean of Spanish speakers (as well as speakers of other indigenous languages) in Chiapas more widely. Z is, in an obvious sense, a system of communication that derives directly from “bodily movements” of the sort Augustine mentions “which express [...] our state of mind in seeking, having, rejecting, or avoiding something”; and because Z is a system of communication with a history of a scant three decades, it can perhaps be expected to be “a language more primitive than ours”, if it is a language at all.

Figure 1 presents a miniature genealogy of the Z signing community. Jane, the oldest signer, was the only deaf person in the village for the first six years of her life. One can imagine her linguistic-life-history: growing up with no accessible language model in exclusive interaction with hearing parents and older siblings, who did not realize Jane was deaf until several years after her birth. In fact, the Tzotzil word that denotes her deafness, *uma* ‘, , primarily means that she never learned to speak; it shares the same unfortunate negative polysemy as its English gloss, ‘dumb’. Frank, born six years later, likewise did not learn to talk; nor at first did Terry, another four years younger, although around age three she suddenly started to spout well-formed grammatical Tzotzil. Growing up with signing siblings Terry did not apparently feel the urge to speak, although as it turned out her hearing is normal. Contrast now the linguistic biography of Will, born deaf into a household with three older siblings who were already using the system of signs Jane had begun to work out nearly thirteen years earlier; or the situation of Vic, Jane’s now 6-year-old son, hearing and in many ways a typical Tzotzil-speaking child, who started life with Z as his first language. Rounding out the group of the most fluent Z signers is Rita, daughter of another older sibling whose husband abandoned her when she was pregnant. Rita, brought up in her grandparents’ household, thus became the youngest of a cohort of five children whose principal means of communication was and remains the evolving homesign.¹

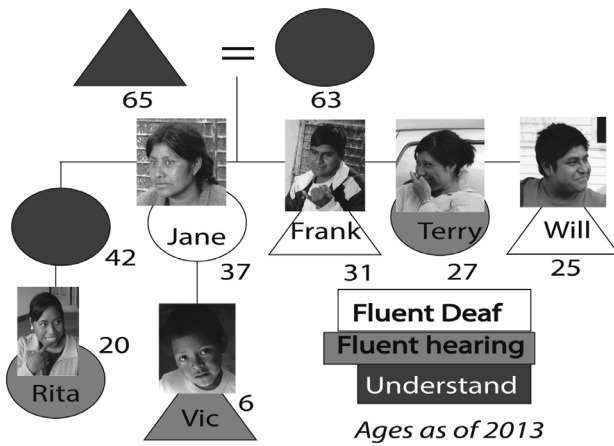


Figure 1. Simplified genealogy of Z signers

My initial exploration of Z has concentrated on emerging linguistic structure in the homesign, and in particular on what I have been calling “portability”. In such a tiny speech community, where people know almost everything about one other, how and why will they develop conventional linguistic tools that allow them to transcend the massive shared knowledge behind any particular speech event and create forms that can be moved from one situation to another? Since a possible source for visual raw material in Z which may become portable in this way is gesture among Tzotzil speakers, I have looked there for conventionalized emblems, and more importantly for systematic indexical and iconic mechanisms (Fusellier-Souza, 2006) which may contribute to the emerging forms and structures of Z.

I have known all the Z signers since they were born — coincidentally, around the same time that early reports about a new sign language in Nicaragua were beginning to appear (see, for example, Kegl & Iwata, 1989; Kegl et al., 1999). As a close friend of their family I have interacted with the Z signers all through their lives. Nonetheless, inspired by the work on ABSL of my colleague Carol Padden and her associates (see, for example, Sandler et al., 2005; Meir et al., 2007; Padden et al., 2010; and Padden et al., this issue), I only recently screwed up the courage to undertake research on their sign system, which they largely refused to use in the presence of non-family members. Although the preferred material for a linguistic anthropologist is, by default, spontaneous interaction and ordinary conversation, because of my ignorance of any sign language my initial forays into Z involved pseudo-experimental methods, including elicited — albeit interactive — descriptions of pictured objects, complex scenes, and videotaped action vignettes, some familiar to Zinacantecs, others alien and even bizarre. The ease with which Z signers were able to communicate about such stimuli was eloquent testimony to their signing skills; their occasional confusions and miscommunications were also

crucial points of discovery in my voyage through unfamiliar linguistic terrain in search of emerging grammar.

Theoretical background: Nouns in homesign

Augustine's reminiscence and Wittgenstein's critique lead directly to the central substantive focus of this paper: I explore several devices in Z for delimiting what in spoken languages is an essential and robust formal linguistic category: the noun.² Nouns, and the "objects" they "stand for" loom large in Augustine's picture of how language works; in fact, both the objects and the linguistic expressions are largely taken for granted. What constitutes a "thing" that, for example, can be "pointed at", or, indeed, how a linguistic element can be recognized as a "word" by which a thing is "called" are problems that Augustine does not grapple with. Ethnographers, however, are usually considerably less confident about the relationship between ontology and nomenclature. For example, when I first arrived in Chiapas to study traditional Zinacantec stringed instrument music, people would routinely ask me: *mi xana` vob?* "do you know (how to play) music?" They used the word *vob*, clearly classifiable as a Tzotzil noun using standard morphosyntactic tests — co-occurrence with specifiers, possessive clitics, numeral expressions, a kind of plural marking, and so on. A cognate root (*vab*) also appears in the word *jvabajom* 'musician', which was part of the nickname bestowed on me — hence the routine question, when people were told my name. But depending on the context *vob* can denote a kind of music, a kind of music-making or musical-knowledge (as it does in the question posed to me), an aspect of certain ritual events, or even a particular musical instrument (whether token or type) such as a harp or a violin. This sort of real-life ontological indeterminacy (Quine, 1960) is rampant and potentially confounding whenever one begins to learn an unfamiliar language.

Still, logicians also usually distinguish unproblematically between predicates — properties, qualities, or situations and actions—and arguments: the entities of which we predicate properties, actions, or states of affairs. For example, my genealogical chart in Figure 1 shows you a picture of Jane — a particular individual in the world whom you might be able to recognize from the different picture in Figure 2. (That is, the photograph in Figure 2 can stand for the same individual-in-the-world, Jane, represented by a different photograph in Figure 1.) The chart in Figure 1 also predicates several things about her (that she is about 37 years old, deaf, Frank's older sister, and so on). If we want to describe some situation in which Jane is involved, we need to refer to her — to pick her out from the universe of all possible entities one might refer to. We could do so by pointing to her if she were physically co-present, saying her name, showing her picture, or perhaps using a uniquely identifying

linguistic description (“the deaf woman who lives in Zinacantán” — since, as I have mentioned, she is the only one), and so on. In fact, usually we refer to entities with a combination of strategies — for example, pointing and saying some words that guide our interlocutor to understand the thing in question (see Clark, 1996). Matters can be more complex. I could, for example, point to the picture in Figure 2 and say: “this hairstyle...” — identifying a different argument — and then predicate something about it: “...is very common among Zinacantec women”; or I could simply say “this is a nice smile” referring to a quite different “object” depicted in the photograph. What the “objects” are (from individuals to hairstyles to smiles) to which nouns might refer is an ontological puzzle that has exercised thinkers from Aristotle to Whorf to Quine, not to mention Wittgenstein himself. The logical distinction between predicates and their arguments does not solve it.



Figure 2. “Jane”

There is a further formal conundrum for an emerging language like Z: if the raw gestural material for signs is very often what Jürgen Streeck (2009) calls “gesture-craft” — stylized action, the province in language mostly of verbs or predicates, then how do signers denote arguments, that is, make nouns that individuate not actions but entities? The answer is not obvious, especially if we try to imagine how the Z signers go about creating a new manual communicative system without access to a pre-existing language model.

A considerable body of research demonstrates emergent language-like structure in even the often ephemeral homesign systems developed by single deaf children and their hearing caregivers (Goldin-Meadow, 2003, 2012, and the many references therein) as well as in the relatively stable homesign systems of deaf individuals grown to adulthood apparently without regular contact with a signing community (see note 2).

In particular, formal distinctions between noun-like and verb-like elements have been shown to emerge early in the repertoires of homesigners (Goldin-Meadow

et al., 1994; Goldin-Meadow, 2003, pp.127–135).³ Goldin-Meadow derives the formal diagnostics she applies to homesign from studies of a possible noun-verb distinction in developed sign languages (Supalla & Newport, 1978).⁴ These studies, in turn, locate such a distinction in phonological properties of the signs themselves, in collocations with other morphosyntactic formatives such as specifiers and quantifiers (for nouns) or agreement markers (for verbs) (see Padden, 1988), and with such non-manual features as “mouthing” (thus presumably derived from neighboring spoken languages whose words are mouthed silently, especially for nouns).⁵ Nonetheless, note that even in the most explicit treatments of “parts of speech” categories in developed sign languages (for example, Schwager & Zeshan, 2008), notional (“semantic”) criteria, though rarely explicit, still form the basis for *assigning* part-of-speech categories to individual signs in the first place. For example, Sandler et al. (2005), in an early treatment of constituent order in ABSL, describe their classification of signs in the following terms:

Signs were assigned to constituents according to both semantic and prosodic criteria. The utterances were divided into sentences based on signs for actions or events, each of which was classified as the predicate nucleus of a sentence. We classified other signs as noun (N) arguments, adjectives, numerals, and negative markers, based on their meanings. (Sandler et al., 2005, p.2662)

That is, deciding that an individual sign is a noun or a verb (in the ABSL case a ‘predicate nucleus’) is based on “meaning” rather than any formal diagnostics — a procedure that would seem perilous, indeed, in documenting an unfamiliar spoken language.

In a much less confident spirit, in this paper I describe three formal strategies — specifier-noun constructions; contrasting iconic strategies in formation or phonology of Z signs; and syntactic marking via, among other things, a grammaticalized locative or copular “light-verb” — that Z signers appear to have developed to help distinguish nouns from verbs: devices for individuating referents as arguments as opposed to devices for predicating about such referents.

Z specifier-noun constructions

Descriptions of static scenes

Although the ideal way to identify grammatical devices in Z would be to base the analysis on a corpus of spontaneous discourse of the sort that one normally aspires to in descriptive linguistics, many of the examples of Z signing on which I draw in this paper come from pseudo-experiments of a sort familiar from recent field

linguistics: one speaker (here, signer or group of signers) sees a picture or a video clip and then describes it to others who must pick out a corresponding photograph or drawing from an array of possibilities. Such a method allows at least partial control of the putative “referential content” involved in the interaction between interlocutors, and it is a method which has proven congenial as a motivating starting point for the Z signers who, until I began working with them, were reluctant to sign at all around strangers. To give the reader a flavor of how such elicited interactions look, here is a sequence of stills culled from one of Will’s performances as he describes to his siblings a still photograph taken from the internet. The whole description includes seven distinct segments, delimited by Will’s brief pauses or returns to a rest position between them. Each segment has a particular well-defined configuration of hand-shapes and movement patterns (see Haviland, 2011).

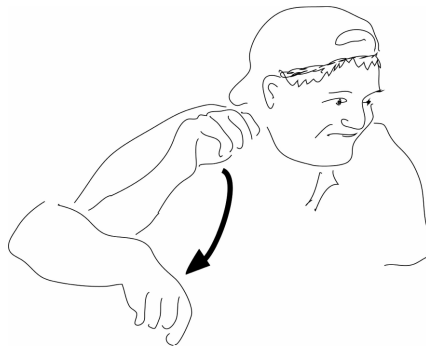


Figure 3. First sign

The first sign (Figure 3) involves a repeated sharp downward movement of the right hand held in a loose fist.

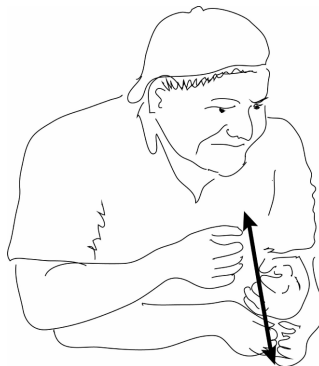


Figure 4. Second sign

The second (Figure 4) involves both hands, in gripping fists with a vertical orientation again moving up and down (and accompanied by slightly hunched shoulders), a sign repeated in the penultimate segment shown in Figure 8.



Figure 5. Third sign

The third gesture, also repeated as the final gesture of the sequence (Figure 9), consists of a hand with the first two fingers raised and its back oriented away from the signer, as shown in Figure 5.

The fourth and fifth signs (Figures 6 and 7) are similar to each other but contrastive, both starting with a horizontal flat hand held face down at about eye-height, and then moved either down to a mid-height, or up to a high height, and held briefly there (while the gaze moves fleetingly to the hand).



Figure 6. Fourth sign



Figure 7. Fifth sign

As mentioned, the last two signs in the sequence more or less repeat signs seen earlier.



Figure 8. Sixth sign



Figure 9. Seventh sign

As is no doubt clear, I have purposefully rendered these discrete “gesture units” (Kendon, 2004; Haviland, 2011) into verbal descriptions involving bare characterizations of the movements and configurations of Will’s body, deliberately to obscure what I myself see represented in his pantomimic performance. An alternative account of what he does on the video would be to ‘gloss’ his description of the original stimulus picture — shown in Figure 10 — in a way that is common in “transcriptions” of sign language, using categorically ambiguous English “sign-labels”.⁶ This would require putative interpretations of what I see as stylized enactions (in the case of gestures 1, 2, and 4), and of what appear to be at least partly conventionalized grammatical devices including a quantifier (gestures 3 and 7) and a specifier for ‘height’ followed by an indexically-supplied value (gestures 4 and 5).



Figure 10. Horse and foal

Such a categorically non-committal transcription could take the following form:

1. WHIP
2. REINS (or: RIDING HOLDING REINS)
3. TWO, (pause)
4. SP:Height SHORT
5. SP:Height TALL, (pause)
6. REINS
7. TWO

Note that Will’s signing appears to involve a characteristic way that a human (or at least a Zinacantec) actor interacts with a horse (whipping it, in Figure 3 or, perhaps more transparently, holding its reins in Figures 4 and 8). The original stimulus photograph, assuming that we can read it directly in the first place or make assumptions about how Will interprets it, seems to involve no horse-riding at all, only two horses of different sizes. The assumptions behind the experimental method, then, are partly what might lead us at least to want to posit that the

performances in Will's first two signs, "WHIP" and "REINS", are meant to refer to horses rather than to riding horses.

There are also hints of syntax here. If we tentatively take the signs labeled as WHIP and REINS as (possibly alternate) versions of a "word for 'horse'", Will's first and third phrases display a consistent ordering of Nominal + Numeral. Figures 6 and 7 suggest a further formal device: a stylized handshape (the flat horizontal hand — glossed SP, for specifier), which combines with the subsequent demonstrative to indicate a height for the referent of the presumed nominal phrase that it heads; thus the middle phrase seems to be a concatenation of two specifier expressions, something like "tall one, short-one".

Along the same lines, here is my favorite example of an apparent Z noun, which illustrates several important points about how the Z signers have gone about building a vocabulary. One can imagine many ways to devise a sign for the full grown hen pictured in Figure 11.



Figure 11. A chicken

Some of my hearing students, for example, when asked to dream up a possible "sign" for 'chicken' enact everything from flapping wings, scratching feet, and pecking beaks to wiggling coxcombs. Some of these inventions are, in fact, reminiscent of signs in established sign languages.⁷ The Z signers, on the other hand, consistently produce a rather different sign. For example, Will begins a description of the stimulus picture with a size-shape specifier (or SASS, in sign language parlance) that demonstrates how a Zinacantec typically handles a chicken (Figure 12), thereby indicating its size and shape, and probably something about its heft or weight.



Figure 12. Specifier for chicken-sized object

This is followed by a stylized depiction of the normal action Zinacantecs use to kill a chicken: a quick jerk to break its neck (Figure 13).

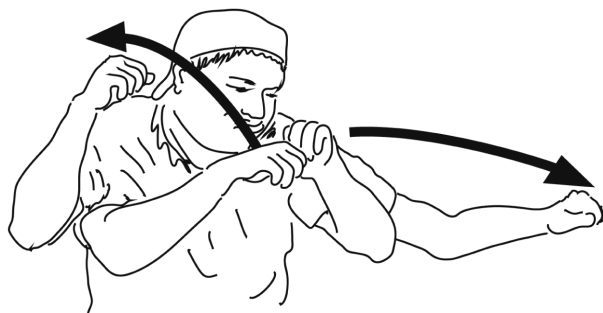


Figure 13. Chicken-killing jerk

Strategies of enactment

The ‘horse’ and ‘chicken’ examples illustrate several important features about motivation — especially iconicity — in the lexicon of a sign language. When, following Peirce (1894/1992), we say that Will’s signs for ‘chicken’ or ‘horse’ are “iconic” we mean that Will’s visible movements are meant to stand for whatever he is trying to convey to his interlocutors by virtue of some sort of “likeness”, that is “imitation” or “resemblance”. But ‘likeness’ between what and what? Unlike the flapping wings, or even the pecking beak of hypothetical invented ‘chicken’ signs, Will’s stylized pantomime bears no *resemblance* to the chicken pictured in Figure 11. The “likeness” is between the stylized enactment that forms the sign and a seemingly arbitrarily selected, although culturally evocative *action* that Zinacantecs characteristically perform with chickens. The sign deliberately re-enacts several aspects of that action: the configuration of the hands, and their gripping handshapes; the sharp movement and effort of the jerk — partly evoked by the effortful face Will adopts

as he makes the sign; probably also the suggestion of a characteristic body posture that affords the necessary leverage for the fatal motion, and so on. Moreover, naïve observers, both Zinacantec and foreign, usually recognize the movements as miming the breaking of a bird's neck. Thus, the iconicity or "likeness" that makes Will's movements work as a sign for 'chicken' is only part of a mediated set of interconnections that lead from the sign to its intended meaning. The sign embodies a multi-step strategy for bringing a chicken to an interlocutor's mind. One part of the strategy is to select a particular object or action which will be appropriately evocative — in this case, the characteristic action by which a Zinacantec kills a chicken. This is what Kendon (1980), following Mandel (1977), calls the "base" of a sign: "the object or action that the production of the sign is derived from" (Kendon, 1980, p. 83; see also Kendon, 1988, Ch. 6). The base can be realized in a sign in several different ways — for example, by presenting an exemplar of a base object, or pointing at one. (This, for example, is how Z signers sign colors, by presenting or indicating something which has the color in question.) Another common realization is what Kendon calls "enactment" — the representation or pantomiming of parts of a pattern of action that has been selected as the base. An enactment requires the signer to select for depiction only certain aspects of the base — enough to evoke it iconically — and this may involve varying levels of explicitness, completeness, and stylization.⁸ For Kendon, a third link in the semiotic chain must also be posited: a strategy that links the "base" action or object and an actual sense: how a sign relates semantically to any other sign in a given language, and what it is meant to denote in any actual use. In Will's case, for example, his mimed stylized killing motion must be taken to denote not killing (chickens), but a chicken itself (and in the experimental task to refer to a picture of one). Merely noting that Will's signs for 'chicken' or 'horse' are "iconic" obscures this complex chain of intermediations, and ignores the fact that iconicity (as well as other kinds of motivation or its lack) are properties of only certain relationships embedded in this chain. Thus for example, selecting the chicken-killing action as 'base' is surely arbitrary in itself. However, it is culturally motivated by Zinacantec practice; and it may be linguistically motivated insofar as the Z signers consistently adopt, as the bases for signs denoting objects of certain kinds, patterns of action that characterize how Zinacantecs routinely deal with or handle those same objects.

There is evidence that Z has conventionalized both the lexical item for 'chicken' and the mini-syntax — the combination of specifier and nominal descriptor. Consider how Will signs the picture in Figure 14 of two chicks — animals which are *not* generally dispatched by Zinacantecs with a quick jerk to the neck.

He starts again with a specifier, this time showing a tiny thing, followed by the 'chicken' lexeme, and the numeral 'two', as shown in Figure 15.



Figure 14. Two chicks

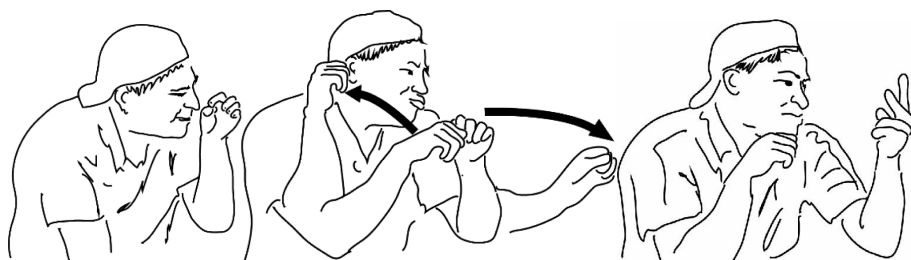


Figure 15. Will signs “two chicks”

Specifier + Noun concatenations

There are many kinds of specifiers in addition to those seen here (which use the hands to show how an entity might be handled or held — a second sort of “iconic” realization that Kendon [1980, p. 88] calls “body modeling”, i.e., using parts of the body in a sign to model selected aspects of the chosen base). Other specifiers, like those Will uses to characterize the height of the horses, just show dimensions — height, width, or length — or how something is gripped. Note that with such a mechanism signed “verbs” which mime stylized actions can also, in a semantic sense, “incorporate” logical patients visually by building into the actions suggestive handshapes and postures. (This is true of the sign for ‘chicken’ itself, which, as it were, evokes a visualization of the chicken’s neck via the mimed actions of holding and breaking it.)

As in the ‘horse and foal’ case, Will’s chicken again contains a provisional suggestion of syntax: the specifier element precedes the “characterizing” lexical item. Indeed, it can be taken as a syntagmatic signal that what is to come is meant to be conceived of as a nominal element. The quantifying element here follows, although it can also precede, the SP+Nominal combination.⁹ Note, furthermore, that the “characterizing” noun-like element need not be present at all, in certain discourse circumstances, when it has been, as it were, pronominalized by the

specifier itself. For example, to describe a video clip in which a little girl runs in a circle, Will refers to the little girl with nothing more than a conventional sign sequence denoting height. This deictic demonstration again canonically involves two parts: the conventionalized height “specifier” formed by the flat hand palm down raised to brow height (on the left, in Figure 16) to introduce the notion of height in general¹⁰, and immediately thereafter a movement to a position that indexes the relative height of the referent (on the right, in Figure 16).

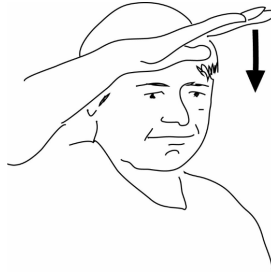


Figure 16. CL: height

Here the specifier phrase seems to denote simply ‘child’, with no further lexical elaboration required, and it is followed directly by an apparent Z verb ‘move in a circle’, performed with a downward oriented pointing hand moved counterclockwise (Figure 17).¹¹



Figure 17. Move in circle

More elaborate is Will’s description of a video clip in which the same little girl is brushing a woman’s hair. Here Will appears to use a sequence of “clauses”, separated by slight pauses (shown by semicolons in the following gloss), to describe the scene:

BRUSH_HAIR, CHILD; BRUSH_HAIR_Transitive, ADULT; BRUSH_HAIR_Transitive.

There are two different sign renditions for “BRUSH_HAIR”: in the first, Will uses both hands to mime brushing his *own* hair (Figure 18, left) — that is, he performs it on his own body (see Meir et al., 2007). In the other — glossed BRUSH_HAIR_Transitive — he performs the mimed brushing on the hair of his sister who is sitting next to him (Figure 18, right).¹²



Figure 18. Two signs for “BRUSH_HAIR”

Will also uses related indexical conventions to make clear who is doing what to whom. He denotes the girl in the scene with a height-specifier sequence (exactly like the sign sequence in Figure 16). This contrasts with the relatively taller stature of the adult woman in the vignette, signed as in Figure 19.

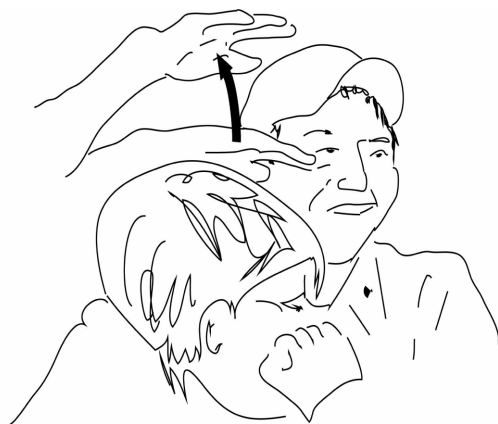


Figure 19. CL: height of the woman

It should come as no surprise that the same “specifier + height indexical” construction that can serve as a nominal can also be recruited as raw material for a proper name. The Z signers’ conventional name for Jane’s son Victor is, in fact, exactly this: just the height part of the specifier sequence, which taken alone serves as the default way to refer to Victor (Figure 20). This is a nice example both of how

a proper name can be produced (or made “portable”) from a highly context-bound indexical descriptor, and of how formal simplification (in this case maintaining just the height index without the conventional height specifier) can feed the conventionalization process that yields a proper name — a contextually specialized nominal, in itself.



Figure 20. Jane and Terry simultaneously sign ‘Victor’

Contrasting iconic strategies: phonological distinctions between nouns and verbs?

Handshapes and handling

Now, consider how a manual system like Z might distinguish a sign meant to refer to an argument from one (which might be “homonymous” or “homomorphic”) meant to denote a verbal action instead. As an analogy, think how we distinguish formally between English ‘hammer’ the noun (as in “He picked up a hammer”) and ‘hammer’ the verb (as in “In his job he has to hammer a lot”). The distinction is marked by the word’s role in a clause, by its morphology, and by syntactic configuration (‘hammered’ has to be a verb because of the tense marker; ‘hammer’ in the phrase ‘the hammer’ has to be a noun because of the preceding Determiner, and so on.) Are there parallel formal facts in Z?

In addition to concatenation with size-shape specifiers, just described, as a further diagnostic of a noun-like element, I have explored two further apparent strategies for making such a distinction in Z. The first, which I have described in somewhat more detail in Haviland (2011), I first encountered in Carol Padden’s observation (Padden, 2010) about a partly systematic formational pattern, across different sign languages, in signs which denote “instruments” (like a comb, toothbrush, or, indeed, a hammer). Padden first distinguished two rough types of sign

languages: those which seem to prefer instrument signs that depict “handling actions” (the hands move as if they were manipulating the objects) as opposed to those which prefer to depict them by profiling the objects themselves (the hands are presented so as to profile aspects of the objects themselves, especially shape and dimensionality). Since that initial formulation, the set of formal possibilities has been somewhat expanded (see Padden et al., this issue). Brentari et al. (2012, p. 18) propose a related distinction in ASL Classifiers — which they extend to the handshapes of homesigners and hearing pantomimers — between those which display a “‘hand-as-hand’ iconicity” (the handshape resembles that of a hand manipulating or otherwise acting on a given object) as opposed to a “‘hand-as-object’ iconicity” (where the handshape instead models the object itself — at least when the object is not a hand, presumably — and accordingly abstracts out such properties as size and shape). Similar contrasting iconic strategies for speakers’ gestures have been widely described (see Kendon (2004, p. 160) for a brief characterization and review). Thus the handshape distinctions just mentioned recall what Müller (2010, 2013a & b) contrasts as “acting” gestures (where the hands or other gestural articulators re-enact manual actions) and “representing” gestures (in which the hands, for example, ‘stand for’ objects that are *not* themselves hands).

More generally, in terms of Kendon’s proposals (1980) about iconicity in sign formation, the contrast relates to two alternate ways of “realizing” the selected base for an iconic sign, one of which — enactment of an evocative pattern of action — we have already met in Will’s ‘chicken’ and ‘horse’ signs. Insofar as Padden’s contrast relates to signs “based” (in Kendon’s sense) on a characteristic action with a tool (e.g., miming an action in which a tool is being gripped or handled in the normal way), the enactments embodied in such signs may be expected ordinarily to involve “handling”. Another iconic realization, mentioned briefly already in relation to Z size-shape specifiers, involves “body modeling”, in which “the body, or more usually a body part is used as a model of the sign’s base” (Kendon, 1980, p. 88). Kendon gives an example in which “body modeling is the most prominent device employed” (*ibid.*), namely the Enga sign for EYEGASSES, in which “the hands are formed into Os which are then held up in front of the eyes” (1980, p. 88); in Kendon’s corpus this occurs as part of a compound sign to refer a European person or government official. Note that “body modeling” in the hands provides the salient shape for the depiction of the selected base image (which Kendon suggests is, indeed, a pair of either eyeglasses or perhaps binoculars), but that the place of articulation of the sign (the eyes) indexically “presents” an equally significant (and “iconic”) aspect of the form.¹³ Kendon also provides examples in which body modeling plays only a part in the overall depiction of the base.

[I]n GARDEN (27), in which a cupped B hand is moved horizontally one or more times toward the body midline, the cupped hand can probably be regarded as a model of an implement used in cutting pit-pit grass. In TIE UP PIG (52), the uplifted forearm, which is grasped by the other hand, models the pig's leg, around which a string is tied. (ibid.)

Kendon's account, note, is more general than Padden's "handling/instrument" distinction in the sense that "body modeling" is not limited to the hands (for example, in the TIE UP PIG sign just described).

Moreover, Kendon's careful account of sign iconicity allows us to make several other useful distinctions. One can contrast cases like EYEGASSES (where just the double O handshapes articulated at the eyes can convey the "base" image desired), from cases where both an object (the cutting tool modeled by the cupped hand) and a characteristic mimed enactment (the lateral movement, depicting cutting) combine to conjure the base image which, in turn, denotes GARDEN (i.e., not a tool, in this case, but the characteristic place where that tool — and that action — are used). Indeed, Kendon's subsequent study of Warlpiri sign language — one of several "alternative sign languages" used largely among women in the Australian north central desert when cultural constraints prevent their using spoken language (Kendon, 1988) — makes exactly the key observation that underlies Padden's original distinction. He writes:

Modelling may also be combined with enactment. This is common in signs for implements, where the hand assumes a shape suggestive of some feature of the implement and it then performs an action which is characteristic of the pattern of action engaged in when the implement is used. (1988, p. 175)

He cites the following Warlpiri examples:

NJPINIPI 'scissors' (Index and second fingers extended to form a V, repeatedly closed and opened)

...YILJIRLI 'rake' (Fingers of hand fully spread. As hand is drawn toward signer, fingers flex slightly)

...TURURRU 'song sticks' (Right index finger fully extended taps left index finger repeatedly)

...KARLI 'boomerang' (Index finger is held curved. The hand is trembled, then moved left) (ibid.)

Such examples exemplify Padden's "instrument" type signs, as opposed to signs denoting tools which involve only "enactment" with no "body-modeling" by the signing hand(s), which would exemplify Padden's "handling" type. An example of the latter might be the following:

In the Warlpiri sign for *kurlarda* ‘spear’ ... the hand is held with the thumb up, the index finger held in a hook, and the hand is trembled ..., a form probably derived from holding a spear in readiness to launch it. (ibid., p.178)

In the more developed typology of Padden at al. (this issue), the Enga EYEGLASSES type of sign is said to exhibit an “object” type of form (in Kendon’s terms: body modeling without enactment — i.e., without an accompanying action pattern), and only the pattern exemplified by Warlpiri BOOMERANG or SPEAR, which combines a modeling handshape with some sort of enactment via a characteristic pattern of movement, is coded as exhibiting the “instrument” type.

Action and object in Z nouns

I have tried to detect this sometimes subtle distinction as an element in how Z depicts verbal actions as opposed to the objects characteristically involved in those actions. Provisional results suggest that often a Z noun is profiled as an object being handled, whereas a ‘cognate’ verb is depicted via a simulacrum of the handling action.

Consider, for example, how Jane signs a putative verb ‘to hammer’ in Figure 21. She is describing a stimulus video in which the protagonist is actually hammering something.



Figure 21. Jane signs “to hammer”

Contrast instead how she signs an apparent nominal referent, ‘a hammer’. She is describing a video in which the protagonist carries a hammer, but does not actually hammer anything. On first apparent mention of the hammer, she produces a specifier (Figure 22, left) to show gripping something with both hands, followed a “hammering gesture” (Figure 22, right). Notice the quite different handshapes and configurations involved. Instead of moving grasping hands up and down in a

hammering motion, as in Figure 21, she now pounds one fist (apparently representing the hammer, a moving figure) against another (apparently representing a hypothetical stationary ground). That is to say, if we take this as a signed equivalent of a noun like English ‘hammer’, it is not formally cognate at all with Jane’s verb ‘hammer’ in Figure 21.



Figure 22. Jane signs “a hammer”

On subsequent mention of the hammer, following well known discourse principles, Jane’s reference is formally reduced in the sense that the pounding motion it incorporates is itself reduced. (See Figure 23, where Jane performs a single, small stroke as opposed to multiple more expansive “pounding” gestures in Figure 22, right.)



Figure 23. Reduced pounding motion

Describing the same video stimulus involving a hammer being carried, and trying to correct the interlocutor’s mis-identification of the scene after Jane’s initial description, Will employs a similar body-modeling strategy in which the hand represents not the manual handling of the hammer but the hammer itself. He again starts

with a specifier, somewhat more transparent than Jane's in Figure 22 (left), since his grasping handshape shows iconically two things that Jane omitted or obscured: that the object is relatively big (it is, in the video, a small sledgehammer), and that it is *not* being held for pounding but simply held in a single hand (Figure 24, left). There follows again a stylized pounding action in which the moving hand appears to act as the hammer itself rather than as a hand holding a hammer.



Figure 24. Will signs 'a hammer'

In these examples, and many more like them, three different formal features seem to work together to suggest that a sequence of manual movements is meant to denote objects rather than actions. There is first the sequential "syntax" which combines a grasping specifier with a characterizing gesture. Second, the characterizing gesture seems somewhat stylized or reduced from a full mimed depiction of its suggested action. Third, in these cases, the iconic depiction involved in the characterizing gesture seems to incorporate the hands not as handling an object but as representing the object itself, the distinction noted by Padden.

Inconsistent strategies

However, the Z signers are not consistent. For example, to describe a picture that contains just a small sledgehammer and nothing else, Will starts with a specifier apparently showing how one holds the hammer, which also indicates the size of the handle (Figure 25).



Figure 25. A gripping-specifier for hammer

He follows with a full blown mimed pounding action, complete with four full vertical strokes — no particular stylization of action, although his hand does appear to be configured so as to represent the hammer rather than a hammering hand.



Figure 26. Characterizer: full hammering stroke (4 times)

On the other hand, on another occasion when he describes a different stimulus photo of two ordinary hammers, Will begins with a numeral (Figure 27) (itself perhaps a syntactic suggestion that what follows is some sort of nominal), and he then produces three distinct vertical “pounding” movements.



Figure 27. “Two”

In all three at the top of the stroke his hand is configured as if grasping a hammer and pounding with it (see the upper hand configuration of Figures 28–30). At the bottom of the three strokes — illustrating the “impact” — his hand position changes slightly, moving, from an apparent grasping position (Figure 28, lower hand configuration) — a ‘handling’ sort of depiction — to a configuration where the hand apparently represents the hammering object (Figure 30, lower hand configuration).



Figure 28.



Figure 29.



Figure 30.

What is more, the difference between an object and a handling depiction may sometimes be so slight as to offer little perceivable evidence for distinguishing a nominal from a verbal sign. Consider, for example, how one might differentiate the action of pulling on a glove — a handling depiction — from an iconic representation of a glove as an object. Will does seem to incorporate such a distinction into his signed renderings of two paired stimuli — one showing a woman putting on a pair of gloves (Figure 31, left), and another showing just a pair of gloves by themselves (Figure 31, right).

**Figure 31.** Two stimuli: woman putting on gloves; and pair of gloves

Nonetheless, the distinction is exceedingly subtle, seeming to involve almost exclusively the shape of one hand as it moves over the other hand held static with extended fingers. Figure 32 shows how Will signs the woman putting gloves on. His right hand is held still, and his left hand (at which he gazes), perpendicular to the right hand, resembles a grasping hand pulling a glove on. (With face and shoulders he also signs that, in the scene he depicts, it is cold.)

**Figure 32.** Will signs “put glove on”

To sign the pair of gloves alone, he again keeps a static right hand with fingers splayed, and he creates a depiction of a glove with his left hand, fingers also splayed, moving downward across the back of his right hand (Figure 33). Here both hands evidently stand for objects, one of which happens to represent a hand, and the other something shaped like a hand, namely a glove.



Figure 33. Will describes a pair of gloves

When signing the pair of gloves, he further finishes with a demonstration of how the gloves are arranged one on top of another in the stimulus photograph, using both hands to represent the gloves (Figure 34).



Figure 34. Will shows configuration of gloves

The point of this long discussion is that although an apparently clear morphological distinction between different allegedly polar types of handshape — the “handling” type and the “object” type — may be potentially useful as a formal linguistic mark, it may nonetheless be insufficiently robust to bear the weight of a grammatical property (like a distinction between verb vs. noun, in the context of this discussion). Thus even if such a distinction is highly systematic in a given signing system, it may need to be supplemented by other redundant categoral

information (a syntactic concatenation with specifiers or numerals, for example) to help establish formal word classes.

A grammaticalized locative/existential copula

I have been especially struck in both the gestures of Zinacantec Tzotzil speakers and in the emerging homesign system, by the prevalence of a general semiotic resource — what Jürgen Streeck (2009) calls “gesturecraft” — by which actions of the body, and perhaps especially the hands, that appear to be borrowed from everyday interactions with the world, acquire additional communicative meaning in gesture. In Z, patterns of action appear to provide both lexical content — signed equivalents in Z of spoken words — and also something resembling grammatical formatives, by processes of formal, functional, and semantic stylization and specialization that, in spoken language, are often called grammaticalization.¹⁴

From locative verb to copula?

In the elicitation tasks, it is frequently necessary for signers to make distinctions between stimuli where I have deliberately paired actions with objects, as in the glove case just mentioned. Although it took me a while to realize how it worked, the signers routinely make use of a further syntactic device which suggests a process very much like grammaticalization, in which a sign invented (or perhaps imported) for one purpose comes to serve a quite different function, undergoing various transformations in the process.¹⁵

An analogue in spoken language of the Z device I will describe might be a copula, of the sort that appears in an English sentence like “It’s a hammer”. In many languages full intransitive verbs like ‘sit’, ‘stand’, and ‘lie’ are syntactically specialized and semantically “bleached” as so-called “light verbs” which serve as copulas of exactly this kind. Z appears to have applied a similar strategy to a verbal sign which ordinarily means ‘place’ or ‘put’. The sign in question denotes an action of setting something down on a horizontal surface. For example, to describe a video clip in which a man literally places something on a table, Jane produces a sequence of signs which include a flat hand, palm down, brought sharply downward into contact with the surface of the table she is seated behind (Figure 35, left). On a different occasion, Frank uses an identical sign to describe a scene in which a man does the same thing with a different object (Figure 35, right). Such a sign is especially transparent, and in fact it resembles a gesture frequently seen among Zinacantec Tzotzil speakers to accompany expressions about putting down or placing objects. In form it seems to indicate a transitive action that incorporates

its locative argument: put or place (something) on a table (or whatever surface is involved in the gesture).



Figure 35. Jane and Frank sign “put on table”

A typical example of the sort of apparently grammaticalized use of the sign appears in Will’s description of a stimulus photo of a wrench pictured alone on a disembodied surface (Figure 36).



Figure 36. An object stimulus

In the context of a series of other stimuli that show people using wrenches in various circumstances, Will describes this picture with a sequence of signs. First, as shown in Figure 37, he signs ONE and then mimes a small wrenching action in which the fingers of his right hand (perhaps representing the jaws of the wrench — a kind of modeling; but equally plausibly, representing the action of turning a wrench — a kind of enaction) appear to turn another small object, represented as if gripped in his left hand.



Figure 37. Will signs 'one' and then makes a 'wrenching' motion

Will then performs the PUT-ON-SURFACE flat hand slap on the table in front of him, glancing up at the end to check whether his interlocutor was following him (Figure 38). His gesture looks formally identical to, if slightly more demonstrative than the "place on table" sign that Jane and Frank use in Figure 35.



Figure 38. Will performs the "PUT-On-SURFACE" sign, glances up

It is as though Will is signing "ONE WRENCHING PLACE_ON_SURFACE" to mean "There's one wrenching thing there", or perhaps more idiomatically, "Just one wrench, nothing else; a wrench". Though not clearly visible on the original film, it is notable that Will's interlocutor's only response before picking the correct stimulus picture is to repeat, almost as a tag question, the PLACE_ON_TABLE sign: "(A wrench), just the thing?"

If we think of this PLACE_ON_SURFACE or PUT sign as functioning like a standard copula or locative operator, it appears to work as a light verb should, being semantically empty enough to allow further modulation or inflection. For example, Will uses an additional gesture to elaborate on the spatial layout of the three pairs of jeans in a stimulus photo (Figure 39).



Figure 39. Stimulus photo: three pairs of blue jeans

He signs first “TROUSERS” (pulling with his right hand on the ones he is wearing) and THREE (Figure 40).



Figure 40. “Three trousers”

He continues with the PUT sign (Figure 41), clarifying that the picture he is describing contains “just trousers, alone”, that is, explicitly limiting his description to just a nominal argument.



Figure 41. Will signs PUT

Then he goes on to elaborate the spatial arrangement of the three pairs of trousers, showing that they are spread out horizontally by moving his flat hand laterally across the surface of the table before which he sits (Figure 42).



Figure 42. Will signs the lateral arrangement of the blue jeans

Just as spoken languages¹⁶ sometimes elaborate on copular elements by adding more detail in the actual position, configuration, or even anatomy of nominals in such constructions, Z also seems to allow further specification of this type. The stimulus photograph here is a *comal* or griddle for making tortillas, pictured against an empty white background (Figure 43).



Figure 43. A griddle for making tortillas

Two Z signers, Terry and Frank, simultaneously describe it. Frank's version begins with a specifier-like characterization of the shape of the griddle (Figure 44, left), followed by the PUT gesture, interestingly stylized because he suspends his flat hand palm down in midair, touching an imagined surface rather than the surface of the real table in front of him (Figure 44, right).



Figure 44. Frank signs the picture of a griddle

Terry also characterizes the griddle with two hands showing a large, round object. Her PUT gesture, on the other hand, shifts the plane of the nominal object, locating it virtually on a vertical rather than a horizontal surface (thus reflecting both the orientation shown in the picture, and the way that Zinacantecs often store griddles by hanging them on a wall). Note that she gazes at her hand as if placing the griddle vertically.¹⁷ (See Figure 45.)



Figure 45. Terry signs the picture of a griddle

In both of these signed performances, the PUT element seems to perform the function of marking the overall clause as nominal; at the same time both versions conjure different locative configurations.

Evidence from interaction: repair

Let me end this long string of examples with the important reminder that “reference” is not something that language does but that interlocutors do. It is an interactionally grounded sociocultural achievement. Almost any description is susceptible to misunderstanding, and not surprisingly, given the outlandish experimental stimuli to which I have subjected them, the Z signers do make many apparent

errors of interpretation. But the possibility of error or interactive trouble brings with it mechanisms for what conversation analysts call ‘repair’ (Sacks, Schegloff, & Jefferson, 1974). The PUT sign functioning as a copular/locative element in Z is demonstrably part of such repair mechanisms. I will present two final cases.

In an example from one of my very first elicitation sessions with the Z signers, when I tried out stimuli borrowed from Carol Padden and her associates working on ABSL, I asked Will to describe a photograph of a half inflated plastic bag set against a neutral background.

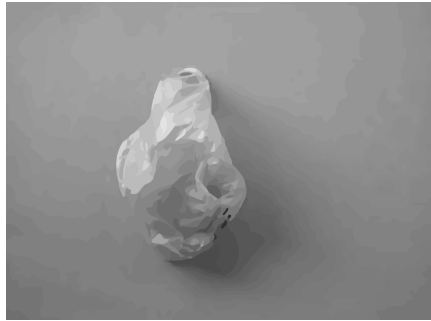


Figure 46. Plastic bag

The picture was meant to contrast with another scene in which the same plastic bag is seen floating on the breeze. The characterizing Z sign for the bag involves a floating downward trajectory accompanied by a kind of blowing action with the mouth — its primary meaning is ‘balloon’. Frank starts with a specifier showing a large spherical shape (Figure 47), followed by the characterizing sign (note the puffed lips from his ‘blowing’ mouth as he illustrates the falling motion with his hand in Figure 48).



Figure 47. Will performs a specifier for spherical thing



Figure 48. Will signs 'plastic bag' or 'balloon'

Will continues with the PUT sign, the flat hand palm down on the table (Figure 49, left), just at the moment that his interlocutor asks whether the bag is floating up and down. Will waves away this mistaken suggestion, shakes his head, and with a penetrating stare at his interlocutor repeats his original PUT gesture: "there's just the bag" (Figure 49, right).

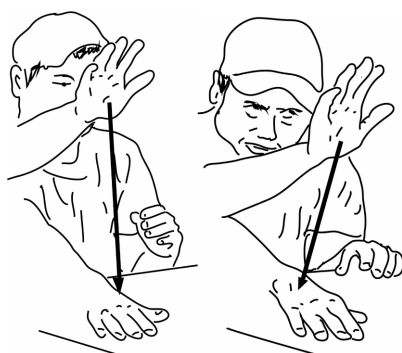


Figure 49. Will signs PUT, and repairs his interlocutor's suggestion

In my final example, Frank means to describe a stimulus photo which shows the hands of someone apparently filing her nails. That is, unlike most of the recent examples, this picture shows an action, rather than simply an object characteristically used in an action. Frank performs a self-repair: he detects an error in his utterance and immediately proceeds to correct it. He starts out by miming a nail-filing action (Figure 50, left).



Figure 50. Frank mimes filing his own nails, plus the PLACE copula

He goes on to sign the PLACE copula, as if to describe a picture that contains just a nail file alone (Figure 50, right). Immediately, however, he realizes his mistake, and he corrects himself spontaneously by grimacing and almost literally wiping the signing-space slate clean (waving his hand back and forth in front of his interlocutors, Figure 51).



Figure 51. Frank “wipes clean” the signing space

To show that he means to sign a verb, and NOT a noun, he repeats the characterizing gesture without the following locative/copula (Figure 52).



Figure 52. Frank signs the action of filing nails

Whether or not PUT is an appropriate label for this sign — the English gloss I have used derives from the sign's transparent formal similarity to the full Z verb meaning 'put/place on a surface' which we met earlier (Figure 35) — it is clear from these last examples that the sign functions to distinguish a predication equivalent to a nominal sentence like "There's an X" or "It's an/the X" (where X represents an expression which can denote an object) from a potentially homomorphous predication which denotes an action involving such an object. The locative or existential copula serves to highlight the fact that, given a general propensity for basing signs on enactments of characteristic patterns of action¹⁸, the Z signer intends to refer to an object and not an action. It is, in that sense, an empty or highly schematic grammaticalized predicate which forces a nominal interpretation onto the preceding sign sequence.

Conclusion: A part-of-speech conspiracy?

It is a commonplace of linguistic anthropology that different languages cut up the natural, not to mention the cultural, universe in different ways. Familiar examples abound from color to kinship, or from firewood to food. This empirical fact alone should render Augustine's account of language-learning at least suspect. It also leaves any strictly semantic criteria for individuating 'things' in the world basically helpless, for who is to say where one thing ends and another starts, or which 'things' are the same and which different? For the Z signers, with no direct access to spoken language, the process of acquiring and sharing concepts is therefore mysterious, and we are left with an empirical puzzle about the nature of the categories embodied in Z signs. The same 'neck-breaking' sign Will uses for 'chicken' he also uses for 'turkey', just as his sign for 'balloon' can also denote a plastic bag. A sign very similar if not identical to that for 'balloon' can also denote the action of blowing up a balloon, just as there seems little formal difference between a sign that appears to label a nail file and another that denotes filing one's nails. Making such distinctions, normally linked to formal grammatical categories built into language, can thus be expected to be part of the unfinished business of a newly evolving communication system like Z.

Nonetheless, lacking clear morphosyntactic criteria, I have argued that a NOUN category in Z is the emergent result of a motivated combination of at least three different formal devices.¹⁹ First are the specifiers, themselves incorporating stylized handling motions (and thus perhaps the diagrammatic depiction of the sign's base image, as when a gesturer "sculpts or sketches" [Kendon, 2004, p. 160] something's shape), which seem to initiate (and perhaps head) at least some phrases with a nominal character. They have an individuating function and indicate size

and shape, via the specified attributes of the object denoted. Second for a large set of signs, only a couple of examples of which I have mentioned, it seems possible to distinguish two kinds of iconic profiling: one where the hands represent hands in action ('handling' — exploiting the characteristic selection of human actions as the base for Z verbal signs), and another where the hands (or other visual articulators) model objects rather than handling actions — suggesting nominal referents. Third, I have described a grammaticalized 'empty' predicate, based on what seems to be a verb meaning 'to put or place', which serves discursively to distinguish nominal predications ("It is an/the X") from descriptions of action. What I have not described, because it still seems to me only partially developed in what I have understood of Z signing, is a fourth possible element of this grammatical complex, namely the constituent order of the 'arguments' of putative verbal signs, a treatment of which in Z must await another occasion. The interaction of different formal systems, then, may conspire to produce a clear, categorical difference between verbal signs which denote predicates and nominal signs which refer to entities which serve as the arguments of those predicates. Only if such a conspiracy allows us to distinguish nominal constituents does it become possible to investigate the conventionalized signs that denote "objects" in the Z signers' conceptual universe, something even Augustine would probably not have presumed to know in advance.

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Notes

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1. Although such isolated family-wide homesign systems developed by multiple deaf siblings and their caregivers have certainly emerged continuously over the course of human history, I have found remarkably few references to studies of them. Frishberg (1975), for example, makes

tantalizing mention of — and, indeed, cites lexical forms from — one such system, in rural Tennessee, where she claims that a hearing mother “simply invented her own gestural system to communicate” with her four hearing and five deaf children. Even in this case, however, all the deaf children ultimately learned ASL in school, although “they still used homesign with their mother” (Frishberg, 1975, p. 713, fn. 13). Washabaugh (1979, 1980a, 1980b, 1986) makes specific reference in his publications about Providence Island sign language to family nuclei of deaf siblings and presumably (though not well demonstrated) bi-directional transmission of the language in and out of them. The literature on isolated adult homesigners, although more extensive, is still limited (see, for example, Kuschel, 1973; MacLeod, 1973; Kendon, 1980; Yau, 1992; Coppola & Newport, 2005; Coppola & So, 2005, 2006; Coppola & Senghas, 2010; Fusellier-Souza, 2001, 2004, 2006; and the extensive references in Morford, 1996). The isolated homesigning adults in Brazil studied by Fusellier-Souza have in common that “[t]hey are all profoundly deaf adults who have had little schooling. Each has a privileged interlocutor (a family member) with whom the language is shared” (2006, p. 37). The first generation of ABSL, a young village homesign in Israel described by Carol Padden and her colleagues (Meir et al., 2007; Padden, 2010, to cite only two) apparently began with a cohort of four deaf brothers. Steve Levinson (p.c.) reports a family based sign system on Rossell Island which he suggests is an elaboration of what he describes as a highly developed system of conventionalized gestures among speakers. Eve Danziger (Danziger & Keating, 1996, cited in Morford & Kegl, 2000) reports interactions between hearing parents and their deaf children in a Mopan (Mayan) speaking community. Elsewhere in the Tzotzil-speaking area of highland Chiapas I have heard about, but never met, two aging deaf sisters who for many years together sold vegetables at the Sunday Chamula market and who reportedly shared a sign-system exclusive to them.

2. This is a topic I have explored in Z from a different, preliminary perspective in Haviland, 2011.

3. MacLeod’s (1973, pp.73–74) account of an adult homesigner from Yorkshire begins with a description of “nouns” based on avowedly structuralist first principles “using the traditional classification of ‘parts of speech’” and distinguishing notionally (but notably not formally) between nouns, pronouns, and proper nouns. Goldin-Meadow (2003) looks for justification to Sapir (1921, Ch. 5), who in turn invokes the logical distinction just mentioned: “It is well to remember that speech consists of a series of propositions. There must be something to talk about and something must be said about this subject of discourse once it is selected. This distinction is of such fundamental importance that the vast majority of languages have emphasized it by creating some sort of formal barrier between the two terms of the proposition. The subject of discourse is a noun. As the most common subject of discourse is either a person or a thing, the noun clusters about concrete concepts of that order. As the thing predicated of a subject is generally an activity in the widest sense of the word, a passage from one moment of existence to another, the form which has been set aside for the business of predicating, in other words, the verb, clusters about concepts of activity. No language wholly fails to distinguish noun and verb, though in particular cases the nature of the distinction may be an elusive one. It is different with the other parts of speech. Not one of them is imperatively required for the life of language.” Another quite different set of cognitive arguments about a general noun-verb distinction is proposed in Langacker (1990). For a specific discussion of the issue in Mopan, another Mayan language related to Tzotzil, see Danziger (2008).

4. For more recent examples, see Hunger (2006), Kimmelman (2009).

5. See the extensive review of this literature in Tkachman & Sandler (this issue).
6. See the caveats in Frishberg (1975, p.698, fn. 3). Kendon (1980, p. 15) cautiously calls these “labels of convenience only”, and Schwager & Zeshan (2008) call them mere “stand-ins for signs”.
7. For example, one option in ASL for ‘chicken’ is just to sign BIRD — a hand placed to the right of the mouth, with the thumb and index finger opened and closed twice — perhaps supplemented with a further sign that shows a pecking “beak”. See <http://lifefprint.com/asl101/pages-signs/c/chicken.htm> for more details; other alternatives, in the same vein, are suggested there and at <http://vimeo.com/41533022>. Brandon Scates (p.c.) informs me that in Old ASL in addition to what seems an archaic version of this sign for ‘chicken’ (“Right thumb and index pointing out from mouth for ‘Beak’”), there was an alternative version which chooses as its base an image uncannily similar to, although technologically different from that chosen by the Z signers: “right palm over shoulder pointing to neck, struck forward to show the stroke of hatchet used to chop off the head”.
8. Meir (2010), following Taub (2001), mentions comparable phases or steps in producing an iconic sign, framed in explicitly cognitive terms, and using instead of the somewhat neutral term “base” the notion of a “sensory image”: “SELECTING a sensory image to represent the concept, SCHEMATIZING the image so that it can be mapped to formational elements [of the sign], and selecting the appropriate forms to ENCODE the different parts of the schema” (2010, p. 872).
9. Pamela Perniss (p.c.) points out that the order of N vs. SP in ABSL, as described by Tkachman & Sandler (this issue), is reversed. Fusellier-Souza (2006), following Cuxac (2000, 2001), describes the creation of such size-shape specifiers as a standard linguistic “transfer” from “highly iconic structures”: “form and size transfers involving parametrical components (proforms — handshapes, movement, and facial expressions) that describe animate or inanimate entities in relation to their size or form” (2006, p. 55).
10. Most frequently used, in my current corpus of Z signing, to suggest the age of a human protagonist.
11. Pamela Perniss (p.c.) notes that this sort of “observer perspective” rendition of the girl’s path is at odds with the reported prevalence of character perspective early gesture and the acquisition of sign (for example, Cormier et al., 2013, who show that DCs, or “depictive constructions” involving whole-object representations of motion, are slow to develop).
12. The nascent syntax here is suggestive of a kind of clause chaining, in which verbal elements with different valences are linked by shared arguments, a construction especially common in spontaneous Z discourse and itself reminiscent of “preferred argument structure” (DuBois, 1987). See also Morgan et al. (2002).
13. Following Meir (2010) we could thus say that *two* aspects of the sign’s formation — the handshape and the “place of articulation” — contain iconic elements.
14. See, among others, Heine, 1997; Hopper & Traugott, 1993. As Adam Kendon has reminded me, a variety of processes of change and regularization are well-known in the history of developed sign languages such as ASL (the *locus classicus* for description of which being Klima & Bellugi, 1979), though the term ‘grammaticalization’ has only recently been applied to (at least some of) them. Overviews of grammaticalization processes in sign languages are found in Pfau

& Steinbach, 2011, and Janzen, 2012. A slightly different but related process is attested in emerging sign languages where, it is argued, unfettered speakers' gestures can be recruited into the systematic lexicon of sign languages and then re-functionalized within the emerging linguistic system. See Perniss & Zeshan, 2008; de Vos, 2012; Le Guen, 2012.

15. Such processes have been described for many young sign languages. Especially notable is the example from Kata Kolok, a village sign language in Bali, where a "THUMB-UP" sign meaning 'good' has come to function as a marker of possession (Perniss & Zeshan, 2008).

16. Including Tzotzil and Tzeltal, both of which make elaborate use of so-called "positional roots" for such purposes. See Brown (1994).

17. I thank Adam Kendon for this observation.

18. As Roland Pfau (p.c.) suggests, the "locative" character of the copula is important; he asks, for example, whether one would ever use this PUT construction to describe, say, a picture of a human being — something I have not seen. Very possibly the use of such a bleached copula is limited to — and, indeed, only required in — contexts where the object in question can itself be characterized by an enactment of a characteristic pattern of action — tools and other handheld objects being the prime exemplars.

19. See the multiple dimensions cited by Kimmelman (2009) as diagnostic for a putative nominal class in RSL.

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