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LANGUAGE FROM THE BODY

*Iconicity and Metaphor in
American Sign Language*

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CHAPTER SIX

Metaphor in American Sign Language: The Double Mapping

CONCEPTUAL METAPHOR THEORY

The crucial insight of conceptual metaphor theory (e.g., Lakoff 1993, Lakoff & Johnson 1980, Lakoff & Turner 1989) is that metaphor is not a rare, poetic device; it is not limited to formal or colorful speech or artistic language. Rather, people use metaphors all the time in everyday speech; in fact, there are some topics that are almost impossible to discuss without metaphor.

For example, consider how English speakers talk about communication; sentences 1 through 6 are typical:

- (1) We were tossing some ideas *back and forth*.
- (2) I couldn't *catch* what you said.
- (3) That *went right by me*.
- (4) I couldn't *get* my point *across*.
- (5) I can't *get* that idea *into my head*.
- (6) I finally *got through* to him.

These completely natural and commonplace sentences all share one thing: They use the vocabulary of *throwing and catching objects* to talk about *communicating ideas*.

In fact, one can set up a single coherent system of correspondences between the conceptual domains of *sending objects* and *communicating ideas* that would explain every one of these sentences; such a system, or *mapping*, is presented in Table 6.1. The domain to which the language literally refers is usually called the *source domain*, and the metaphorically represented domain is called the *target*. All of the metaphorical sentences above (and many more; see, e.g., Reddy 1979, Sweetser 1987) are predictable from the mapping in Table 6.1. For example, the scenario of *for-*

TABLE 6.1. Communicating Is Sending

SOURCE	TARGET
Objects	Ideas
Sending object	Articulating idea in language
Catching object (and putting it in head)	Understanding idea
Sender	Communicator
Receiver	Addressee
Difficulties in sending or catching	Difficulties in communication
Throwing object too high or far; making it difficult to catch	Articulating idea in a way difficult for addressee to understand
Failure to catch object	Failure to understand the idea
Object bouncing off wall	Unsuccessful communication

[things] *back and forth* involves at least two people who take turns at successfully sending objects to each other; the verb *toss* also implies that sending is leisurely and informal. Metaphorically, repeated successful sending represents repeated successful communication; thus, for people *toss ideas back and forth* is for them to take turns successfully communicating ideas to each other, in an informal manner.

Because examples 1 through 6 all draw on the same mapping, conceptual metaphor theorists prefer not to refer to them as different metaphors. Instead, the term *metaphor* is reserved for the underlying mapping between conceptual domains, and individual sentences that use the mapping are called *metaphorical expressions*. Typically, metaphors are given a name of the form *TARGET IS SOURCE*; the metaphor above has been called *COMMUNICATING IS SENDING*.¹ The exact name, however, is of no consequence; the metaphor is defined by its mapping.

The mapping, or statement of correspondences, represents one of the instances of conceptual metaphor theory over other ways of analyzing metaphors. A well-constructed, well-justified mapping amounts to a proof of the existence of a conceptual metaphor in the conventional resources of a particular language. The essential elements of a mapping include a list of entities (people, things, concepts), relationships, and actions or scenarios from the source domain; a similar list from the target domain; a statement of how the elements in each list correspond to each other; and (most important of all) metaphorical expressions that exemplify (and thus justify) each correspondence.

¹ It is also known as the *CONDUIT metaphor* because one major treatment, Reddy (1979), used that name.

These explicit statements of correspondences show clearly that metaphors in language are consistent and systematic and that they link two domains in a way that preserves the structure of both domains. They are also useful tools for showing that a given mapping does *not* exist or that a given expression does *not* fit in with others that are superficially similar: If a list of metaphorical expressions seems to share a source and target domain but no consistent mapping can be established between the two domains, then the expressions on the list cannot derive from the same conceptual metaphor. Theories of metaphor that do not emphasize a precise statement of correspondences have great difficulty teasing apart these differences.

A number of contemporary works have focused on the relationships among various metaphors in a particular language. Lakoff (1992) showed, among other things, that there is a hierarchical inheritance structure among metaphors. Thus, expressions such as *His career is on the rocks* would exemplify a specific-level metaphor where careers are conceptualized as boat trips. But both the source and the target domain are subsets of more general categories; and given examples such as *I reached a crossroads in my life*, it makes sense to state the mapping at the general level as well, where long-term purposeful activities are conceptualized as journeys.

Grady's (1997) dissertation is a comprehensive effort to determine which metaphors truly have a direct grounding in our experiences. Grady referred to these as *primary metaphors* and to the experiences from which they derive as *primary scenes*. Other metaphors consist of combinations or compounds of primary metaphors. Thus, for example, Grady analyzes the mapping behind sentences such as *His theory has no foundation* and *We're building the scaffolding for Construction Grammar*, usually called THEORIES ARE BUILDINGS, as a compound of the two primary metaphors STRUCTURE IS PHYSICAL STRUCTURE and PERSISTENCE IS REMAINING UPRIGHT. A different compound, consisting of STRUCTURE IS PHYSICAL STRUCTURE and PERSISTENCE IS PHYSICAL INTEGRITY, gives rise to expressions such as *without that proof, his theory unraveled*. More detail on Grady's theories is given later in this chapter, in discussing the application of the Analogue-Building Model to metaphorical iconicity.

THE DOUBLE MAPPING OF AMERICAN SIGN LANGUAGE METAPHORICAL SIGNS

In looking at sentences 1 through 6 above, we can see a familiar characteristic of English metaphor: Words from the source domain, including nouns, verbs, and prepositions, are used to refer to the target domain in



Figure 6.1. THINK-BOUNCE.

sentence 1, *tossing* refers not to throwing objects but to expressing ideas; in sentence 3, *went right by me* refers not to a missed throw but to a lack of understanding. (Notice that the data are richer than the typical philosophical/literary treatments of metaphor acknowledge; these tend to deal only with noun-based expressions such as *Man is a wolf*.) The situation for ASL's metaphor usage is different, in that it is rare for frozen lexical items from one domain to be used to describe another. What does ASL do instead?

We are now intimately familiar with ASL's resources for iconic descriptions of physical objects. In an ingenious chain of conceptual mappings, ASL hooks those resources up with conceptual metaphor.² A large number of ASL's metaphors have concrete, physical source domains; it should come as no surprise that ASL represents those source domains iconically using all the resources discussed in earlier chapters. Thus, the powerful communicative tool of iconicity is harnessed to the equally powerful tool of metaphor, allowing ASL signers to express a vast range of abstract and concrete concepts using vivid visual imagery.

In essence, ASL metaphorical signs are shaped by *two mappings*: a metaphorical mapping from concrete to abstract conceptual domains and an iconic mapping between the concrete source domain and the linguistic forms that represent it (Holtemann 1990). The result is that the target domain is actually presented using an iconic depiction of the source domain. For example, the metaphorical sign THINK-BOUNCE (Fig. 6.1) consists of an iconic depiction of a projectile bouncing off a wall. It denotes a failure of communication and is roughly equivalent to the English metaphorical sentence *I can't get through to him*. As we can see,

²Wilbur (1987) was probably the first to apply Lakoff and Johnson's (1980) theory of metaphor to signed languages.

however, the English sentence uses noniconic source domain nouns and verbs, whereas the ASL sign uses a metaphorical extension of its iconic classifier system. (The next section describes the two mappings in much more detail.)

Rather than promoting the metaphorical use of existing signs (as in English), ASL's metaphorical/iconic system tends to either (1) create new signs, (2) allow creative modifications of existing signs, or (3) allow the establishment of a metaphorical scene or object that can be manipulated meaningfully throughout a discourse. The next section presents some established metaphorical/iconic signs from the domain of communication, demonstrating tendency 1; the following section shows how a different set of communication signs can be modified creatively, demonstrating tendency 2. The discourse-level establishment of metaphorical objects will be treated in Chapter Ten, when we examine an ASL poem; for an example from normal discourse, see Wilcox (1993).

COMMUNICATING IS SENDING in American Sign Language

ASL has many signs that are motivated by a metaphorical mapping similar to the one presented in Table 6.1 (Wilcox 1993).³ Some of these signs are COMMUNICATE (Fig. 6.2), COMMUNICATION-BREAKDOWN (Fig. 6.3),

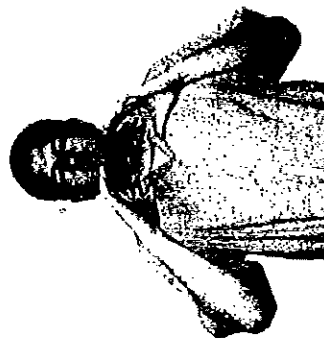


Figure 6.2. COMMUNICATE.

³ The COMMUNICATING IS SENDING signs have been discussed by Wilcox (1993); Wilcox described their iconicity and the metaphorical pattern that they share but did not explicitly set out the iconic and metaphorical correspondences between articulators, source and target domains.

This chapter presents my analysis of a number of ASL metaphors. Where these metaphors have been noticed before, I provide citations; in most cases (except for Holmman 1990, Wilcox 1993) the metaphors have simply been named without detailed analysis. Explicit mappings for these metaphors are set forth here for the first time.



Figure 6.3. COMMUNICATION-BREAKDOWN.

INFORM (Fig. 6.4), THINK-BOUNCE (Fig. 6.1), and THINK-PENETRATE (Fig. 6.5). In the following discussion, I will show how these signs use an iconic representation of a concrete domain (i.e., *sending objects*) to refer to an abstract domain (*communicating ideas*). It will become clear how these signs share a pattern that gives evidence for the iconic and metaphorical double mapping.

Let us look closely at the sign INFORM, shown in Figure 6.4 in the uninflected form I-INFORM-YOU. In this sign's articulation, both hands begin in a closed, flat-O shape; the dominant hand's fingers touch the signer's forehead, whereas the nondominant hand is in the "neutral space" in front of the signer. Both hands move toward the addressee while the fingers spread open.

The form that the articulators take in this sign is far from random. The flat-O shape, as we have seen in Chapter Five, has meaning in ASL's classifier system; it represents the handling of a small flatish object. If I-

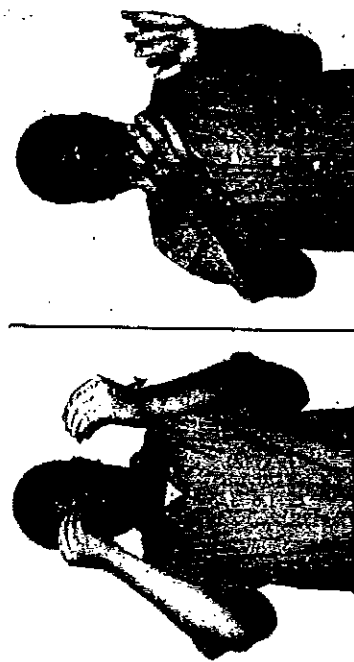


Figure 6.4. I-INFORM-YOU.

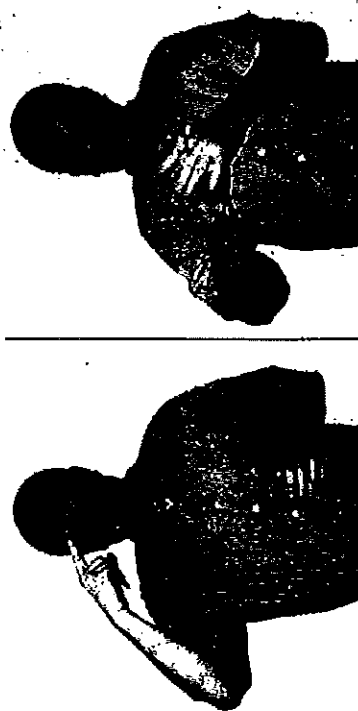


Figure 6.5. THINK-PENETRATE.

INFORM-YOU were purely a classifier description of some concrete scene, it would denote the signer's taking a flat object out of the forehead and tossing it at the addressee.⁴ Table 6.2 gives an explicit list of the iconic correspondences between linguistic form and referent that this involves.

Of course, INFORM-YOU does *not* mean that objects are being taken out of the signer's forehead and thrown to the addressee. It means that the signer is communicating information to the addressee. Should we then assume that the form of the sign is completely arbitrary and unmotivated and that its resemblance to classifier forms is a coincidence?

Let us look at a second example. Consider the verb THINK-PENETRATE (Fig. 6.5). Here the dominant hand's index finger, extended from a fist, begins at the temple and travels toward the location established for the

TABLE 6.2. Iconic Mapping for INFORM-YOU

ARTICULATORS	SOURCE
[Null]	Objects
Forehead	Head
Flat-O handshape	Holding an object
Flat-O touches forehead	Object located in head
Flat-O moves toward locus of addressee and fingers open	Sending an object to someone
Signer's locus	Sender
Addressee's locus	Receiver

⁴ The nondominant hand is slightly idiosyncratic - it "echoes" the dominant hand at a lower height. It is actually fairly common in ASL for the nondominant hand to "fall away" from its presumed proper height. Some signers produce INFORM with the nondominant hand symmetrical to the dominant hand; others do not add the second hand at all.

TABLE 6.3. Iconic Mapping for THINK-PENETRATE

ARTICULATORS	SOURCE
I →	An object
Forehead	Head
I → touches forehead	Object located in head
I → moves toward locus of addressee	Sending an object to someone
Nondominant B	Barrier to object
I → inserted between fingers of B	Penetration of barrier
Signer's locus	Sender
Addressee's locus	Receiver

verb's object. On the way, it encounters the nondominant hand in a flat B-shape, palm inward, but the index finger penetrates between the fingers of the B. If this sequence were to be interpreted as a classifier description, it would denote a long, thin object (the horizontal index finger, or "I →") emerging from the head, moving toward a person, encountering a barrier, and penetrating it. Table 6.3 shows the iconic mapping for this scenario.

It is useful to note the similarities between THINK-PENETRATE and the sign DRILL, shown in Figure 6.6. In DRILL, the dominant hand assumes an L-shape, with index finger and thumb extended; the nondominant hand again forms a flat B-shape. The index finger of the L penetrates between the fingers of the B. The image chosen to stand for the piece of equipment known in English as a drill is that of a long, thin object with a handle penetrating a surface; the L of course, iconically represents the long, thin object (or drill), and the B represents the surface pierced by the drill.



Figure 6.6. DRILL.

TABLE 6.4. Iconic Mapping for DRILL

ARTICULATORS	SOURCE
Dominant L	Long, thin object with handle (in particular, a <i>drill</i>)
Nondominant B	Flat surface
L inserted between fingers of B	Penetration of surface

This is a case of pure iconicity (plus metonymic association). The iconic mapping is given in Table 6.4.

Unlike DRILL, and like I-INFORM-YOU, THINK-PENETRATE does not in fact describe a physical scene. Its actual meaning can be translated as "to get one's point across" or "for someone to understand one's point." Thus we now have two signs whose forms are nearly identical to classified descriptions of objects moving from the signer's head toward an addressee. Moreover, if we look closely at the meanings of the signs, we see that both contain the element of *communicating information to another person*. This parallel should make the linguist suspicious that there might be a consistent pattern motivating the forms of these signs. When we consider as well the signs THINK-BOUNCE, OVER-MY-HEAD, and I-WENT-BY-ME, all of which both (1) resemble classifier descriptions of objects moving to or from heads and (2) pertain to communication or ideas, we begin to have strong evidence for a metaphorical mapping between the domains of *sending objects* and *communicating ideas*. As we can see, the metaphorical mapping used by these signs is very similar to the English mapping in Table 6.1.

We can now show precisely how I-INFORM-YOU and THINK-PENETRATE use classifier-type descriptions of space to refer to communication or ideas. Tables 6.5 and 6.6 list again the iconic mappings of these two signs (linking the linguistic form to the concrete conceptual domain); then, for each line of the mapping, they give the corresponding element of the abstract conceptual domain.

In Table 6.5 we can see clearly how each articulatory element of I-INFORM-YOU corresponds to an element of the domain of *communication* through the medium of the double mapping. The signer's location corresponds to the communicator's location; the imaginary object held in the flat-O hand corresponds to the information to be communicated; and the movement of the hand from signer toward addressee corresponds to the communication of that information to an intended recipient.

Table 6.6 shows us the double mapping for THINK-PENETRATE. Notice again that the iconic representation of the source domain in THINK-PEN-

TABLE 6.5. Double Mapping for I-INFORM-YOU

ARTICULATORS	SOURCE	TARGET
[Null]	Objects	Ideas
Forehead	Head	Mind; locus of thought
Flat-O handshake	Holding an object	Considering an idea
Flat-O touches forehead	Object located in head	Idea understood by originator
Flat-O moves toward locus of addressee and opens	Tossing an object to someone	Communicating idea to someone
Signer's locus	Sender	Originator of idea
Addressee's locus	Receiver	Person intended to learn idea

ETRATE differs from that in I-INFORM-YOU: THINK-PENETRATE represents the object directly using the I→, whereas in I-INFORM-YOU, the object is implied by the instrument classifier. But we can see that in both signs, the moved or transferred object, however it is represented, corresponds to the notion of an *idea*. Once again, the explicit statement of the mappings involved proves that the two signs use the same source-target metaphorical mappings, though their source-articulators iconic mappings differ.

TABLE 6.6. Double Mapping for THINK-PENETRATE

ARTICULATORS	SOURCE	TARGET
I→	An object	An idea
Forehead	Head	Mind; locus of thought
I→ touches forehead	Object located in head	Idea understood by originator
I→ moves toward locus of addressee	Sending an object to someone	Communicating idea to someone
Nondominant B	Barrier to object	Difficult in communication
I→ inserted between fingers of B	Penetration of barrier	Success in communication despite difficulty
Signer's locus	Sender	Originator of idea
Addressee's locus	Receiver	Person intended to learn idea

There is one exception: The mapping for THINK-PENETRATE has an *additional* metaphorical correspondence; it treats a difficulty in communication as a barrier to be penetrated. This new correspondence is completely consistent with the mapping for I-INFORM-YOU. It is not unreasonable to claim that the same metaphorical mapping motivates both signs, and that I-INFORM-YOU contains no iconic barriers because its semantics makes no reference to difficulties in communication: Only the relevant portions of the conceptual domain are given metaphorical-iconic representations.

It is important to note that not just I-INFORM-YOU and THINK-PENETRATE but *all* the signs mentioned in this section have the same, consistent way of using the domain of *sending* to refer to the domain of *communicating*: In all of them, the object corresponds to the idea, the source of the object corresponds to the communicator, and the intended recipient of the object corresponds to the person intended to understand the idea. Thus, all the signs can provide evidence for the same metaphorical mapping; taken together, they provide a good argument that ASL has the metaphor COMMUNICATING IS SENDING as part of its conventional resources. If each sign had a different way of using *sending* to refer to *communicating* (e.g., having the object correspond to the formulator of the idea, or having the source correspond to the person intended to understand the idea), the signs would not give evidence for a consistent metaphorical mapping between the domains. One would conclude either that the signs were nonmetaphorical and their forms were a coincidence, or that the particular metaphors that they drew on were not conventional parts of ASL's system. It is crucial to have at least two and preferably more data points to justify claiming that a language has conventionalized a particular metaphorical mapping.

We should note as well that signs that share a metaphorical source-target mapping need not share an iconic source-articulators mapping. Just as signers can represent the concrete, physical world in several different iconic ways, so, too, can they use these different iconic means to represent the concrete source domain of a metaphor.⁵ This fact

⁵ In particular, different signs represent the idea/objects as if they had different shapes: by a 1 → as if pointlike or long and thin, or by instrument classifiers such as flat-O (for flat objects), F (for small, rounded objects), and A₃ (for objects to be grasped by a fist). Wilcox (1993) has argued that these different shapes represent different special cases of the COMMUNICATING IS SENDING metaphor and that different thought processes metaphorically treat ideas as objects to be manipulated in different ways: Ideas to be selected or discriminated are seen as small, rounded objects; ideas to be discussed and ordered are seen as flat objects; and ideas to be controlled are seen as graspable in a fist. But it may be that the process (or even just the *verb*) of *selection* is what requires the selected objects to be small and round, that the process or verb of *control* is what requires fist-graspable objects, and so forth. I would guess that these verb-frames have their own metaphors, specifying shapes of objects, which then are combined with MEAS ARE OBJECTS; MEAS ARE OBJECTS by itself need not supply the shapes. (Cf. Grady, Taub, & Morgan, 1996 on "primitive" and "compound" metaphors.)

shows that the double-mapping model is a useful way to describe metaphorical-iconic phenomena in ASL: A single-mapping model, which described signs in terms of a direct mapping between articulators and an abstract conceptual domain, would miss what THINK-PENETRATE and I-INFORM-YOU have in common (i.e., the source-target mapping); it would also miss the fact that the source-articulators mappings are often identical to the mappings used by ASL's productive classifier forms.⁶

Earlier discussions of signed-language metaphor are commendable for spotting the existence of systematic cross-domain correspondences. These works (e.g., Brennan 1990, Wilbur 1987, Wilcox 1993; Holtemann 1990 is an exception), however, either did not recognize the need for explicit mappings or did not spell out the details of both the source-target and the source-articulators mappings. The precision inherent in explicit tables of correspondences gives both a more substantial justification of these ASL metaphors' existence and a more complete characterization of their nature and scope.

TOPICS ARE LOCATIONS

Let us look at another metaphor for communication. The sign POINT (Fig. 6.7) has both hands with index finger extended (1-shape). The nondominant hand's 1 is upright, palm out, in the center of signing space, whereas the dominant 1 points forward directly at the top of the nondominant 1. This sign can be translated as the *point* of the conversation, the *topic*, the *moral* of the story.

In a second sign, MAKE-DIGRESSIONS (Fig. 6.8), the nondominant hand's shape and location are the same, whereas the dominant 1 repeatedly moves away from the nondominant 1 and back to it, first to one side and then to the other. A good translation would be "to make repeated digressions from the point."

These two signs share both an iconic mapping and a metaphorical mapping. First, let us look at the metaphor (one that is shared by English to some degree). Possible topics of conversation are seen as areas in a landscape. The point or proper topic of conversation is thought of as an entity located at a central place. The conversation or talk itself is seen as an object that travels to different locations. When the conversation is on

⁶ Some double mappings may be so common and simple that they *function* as direct links between the articulators and an abstract target domain; in particular, the simple "one-parameter" metaphors such as THE FUTURE IS AHEAD, discussed in Chapter Seven, may function in this way. Psycholinguistic studies could be developed to determine how entrenched and seemingly direct the connections between articulators and abstract domain have become. I still claim, however, that the articulators-target mapping is mediated, at some level, by the articulators-source and source-target mappings.

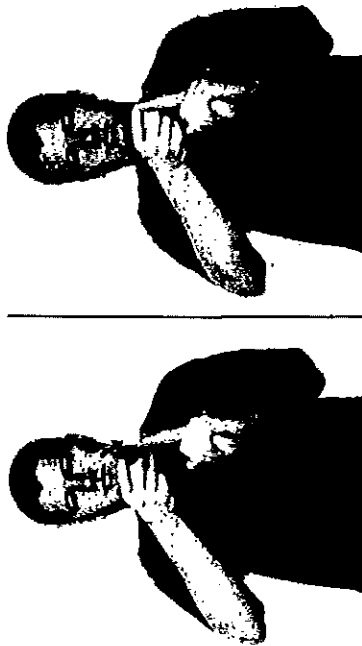


Figure 6.7. POINT.

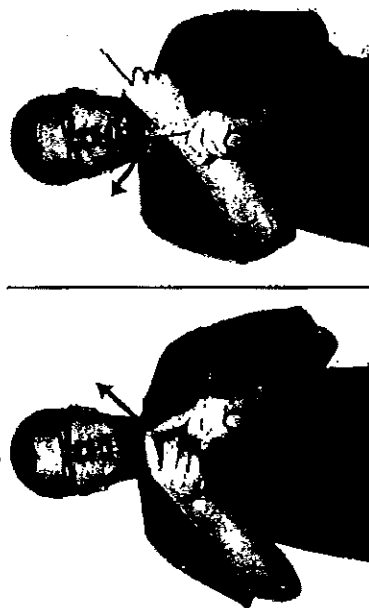


Figure 6.8. MAKE-DIGRESSIONS.

topic, the conversation/object is metaphorically seen as directed/located at the proper topic. When the conversation digresses (we might say *wanders* in English), this is metaphorically represented as the conversation's/object's moving away from the topic entity. Resumption of the proper topic (*returning or coming back* to the topic) is represented as the conversation's/object's moving back toward the topic entity.

The iconic mapping may already be obvious to the reader, but for completeness I will spell it out. The nondominant upright \uparrow (or \uparrow) represents the topic entity,⁷ whereas the dominant horizontal \rightarrow (or \rightarrow) represents

⁷ It is actually common in ASL for this upright \uparrow to represent an abstract entity of some sort; this is an example of a very general metaphor, ABSTRACT ENTITIES ARE CONCRETE ENTITIES.

resents the conversation/object and its movements toward and away from the topic entity. The location of the topic entity in the center of signing space represents the concept of centrality.

The iconic and metaphorical mappings together are shown in Table 6.7; the unit might be called TOPICS ARE LOCATIONS.⁸

There are several other signs that use this same pair of metaphorical and iconic mappings: MAKE-SINGLE-DIGRESSION (Fig. 6.9), MAKE-COMPLEX-

Table 6.7 Double Mapping for TOPICS ARE LOCATIONS

ARTICULATORS	ICONIC MAPPING	SOURCE	TARGET
Locations in signing space	Locations	Possible topics of discussion	
Center of signing space	Central location	Important topic	
Nondominant \uparrow	Located entity	Intended topic or focus of talk	
Dominant \rightarrow	Moving entity	The talk itself	
Location of \rightarrow	Location of entity	Actual topic of talk/discussion	
Movement of \rightarrow from place to place	Movement of entity from place to place	Change from one topic to another in the talk	
\rightarrow directed at \uparrow	Moving entity at same place as located entity	Talk focusing on intended topic	
\rightarrow directed away from \uparrow	Moving entity at different place from located entity	Talk focusing on unintended topic	
Distance between \rightarrow and \uparrow	Distance between moving entity and located entity	Difference between intended and actual topics	
\rightarrow returning to \uparrow	Moving entity returning to located entity	Talk changing back to intended topic	

⁸ Wilcox (1993) included these signs in a broader metaphor she called THOUGHT IS A JOURNEY; I am not convinced that the mappings of these signs fit with the mappings of the other THOUGHT IS A JOURNEY signs, because of inconsistencies as to which entity is mapped as the traveler: the topic of conversation/thought or the thinker.



Figure 6.9. MAKE-SINGLE-DIGRESSION.

DIGRESSION (Fig. 6.10), and RETURN-TO-POINT. In all three signs, the nondominant hand presents the 1 classifier, metaphorically representing the topic of conversation. For the first two, the dominant hand starts in a fist handshape, palm toward the signer and back of the hand against the nondominant 1; in MAKE-SINGLE-DIGRESSION, the index finger "bursts" outward from the fist to point toward the nondominant side, whereas in MAKE-COMPLEX-DIGRESSION, all four fingers burst out in that direction. As might be expected, the first sign denotes a situation where someone goes off the expected topic; the second sign is used when the person goes through several unrelated topics before (presumably) returning to the main topic (e.g., a physics teacher unexpectedly lecturing her class about football, horseback riding, cooking, etc.). Finally, in RETURN-TO-POINT, the dominant 1 classifier starts at one edge of signing space and moves

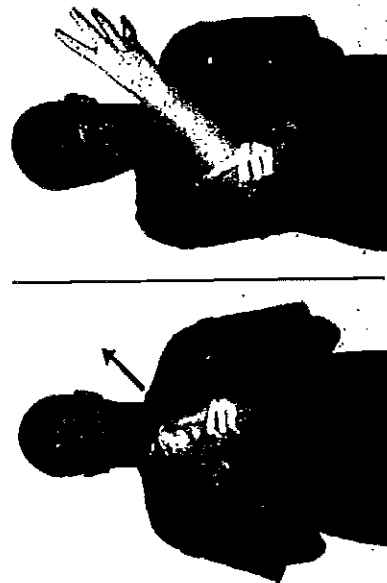


Figure 6.10. MAKE-COMPLEX-DIGRESSION.

so that the index fingertip points forward and nearly touches the nondominant 1.

This iconic-metaphorical pair of mappings is in fact something that signers can play with and use for expressiveness. For example, a long, involved digression can be shown by the dominant 1 moving a long distance from the nondominant 1. Adverbs that emphasize this distance can be added: An open mouth indicates that the distance is long, and a shaking and twisting of the 1 as it moves indicates high speed. (Once again, these are part of the normal ASL system for describing movements in space.) Clearly, the same mappings from source to target and between source and articulators are used here, but the form of the sign is not frozen; it can be adapted creatively to express the nature and length of the digression.

ANALOGUE-BUILDING MODEL OF METAPHORICAL ICONICITY

Now that we have seen clearly the double mappings of some ASL metaphorical-iconic signs, we can begin to discuss how a language user might invent such signs. Once again, we can use the Analogue-Building Model to structure the discussion. As before, I am presenting this model not as a claim that the process works in exactly this way but in the spirit of setting out the issues connected with metaphorical iconicity that must be addressed.

First, we must look at the question of how metaphorical mappings arise and become entrenched parts of a language's conceptual structure. Most conceptual metaphors in language link a deeply familiar, simple, or concrete source domain with a more abstract or more complex target domain (Lakoff 1992, Lakoff & Johnson 1980, Lakoff & Turner 1989). Metaphorical source domains tend to be directly experienced—that is, experienced through the body, early in childhood development; they include domains such as *movement and location*, *up-down orientation*, *handling objects*, *vision*, and *hunger*. Metaphorical target domains tend to be less concrete and less accessible to direct observations through the senses; common target domains are *progress*, *emotions*, *communications*, and *social interactions*.

There are exceptions to this generalization: Compare Morgan's (1996) work on metaphorical "families," or groups of domains that can function as source or target for each other (e.g., in English, *BUSINESS*, *WAR*, and *SPOGERS* are all in the same family). This is a special case, in which each domain contributes a different perspective on the other domains when used as source domain; none of the domains is more abstract than the others. It is unlikely that ASL will have such families, because nearly all ASL metaphors use a concrete domain to describe an abstract domain.

How do these particular pairs of domains become linked? One major way is for the two domains to be correlated in our experience (Grady 1997; Grady & Johnson in press, Lakoff & Johnson 1980); for example, the domains of *understanding* and *manipulating objects* are strongly linked in primary scenes experienced by all children. It is nearly universal for children to pick up and manipulate new and interesting objects and in so doing to gain understanding of their parts and functions. Situations like this one form the *experiential basis* or *grounding* for the primary metaphor UNDERSTANDING IS GRASPING, which underlies sentences such as *I couldn't get a handle on that idea* or *She grasped the implications instantly*. They provide a common, well-defined experience in which the structure of *manipulating objects* is perfectly matched to the structure of *understanding ideas*.

Other metaphors are not directly grounded in our experiences but instead piggyback on other metaphors. In Chapter Seven, we will see how *MORE IS UP*, a metaphor grounded in our experiences with piles of objects, is the indirect basis for metaphors such as *POWERFUL IS UP* and *GOOD IS UP* (cf. Lakoff & Johnson 1980); and in Chapter Ten, we will see how many simpler metaphors can combine into what Grady et al. (1996) called *compound metaphors*. To sum up, metaphorical links between conceptual domains are not random; instead, they are highly motivated by our experiences interacting with the world as physical creatures.

Now that we have some understanding of how metaphorical links between domains arise, we can start to incorporate these links into the Analogue-Building Model. The metaphor COMMUNICATING IS SENDING and the sign THINK-PENETRATE will be our ongoing example.

The analogue-building process models how an iconic linguistic item is developed to represent a particular concept. Up to now, the concepts we have discussed have been *concrete* ones, such as body actions, sounds, and shapes. Let us say, instead, that the concept that the innovative language user wishes to represent is *abstract*; for example, let us say that an ASL signer wishes to talk about *communication*. If a metaphorical mapping exists that connects the abstract domain to a concrete domain, and if that concrete domain can be represented iconically by the language in question, the language user is in luck: He or she can construct a metaphorical-iconic linguistic item to represent the concept. Because COMMUNICATING IS SENDING is part of the resources of ASL, our hypothetical ASL signer will be able to express concepts related to *communicating ideas* by creating an iconic form depicting *sending objects*.

Let us go through that creation process in detail; Figure 6.11 diagrams the stages. The process begins with a specific abstract concept to be expressed; in our case, the concept is *successfully communicating an*

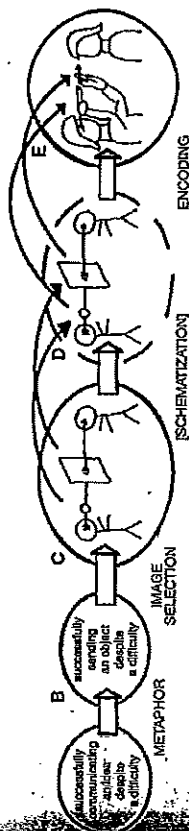


Figure 6.11. Analogue-building process for American Sign Language THINK-PENETRATE, showing (A) initial abstract concept, (B) corresponding part of concrete source domain, (C) and (D) the already-schematic associated image, and (E) the image encoded as THINK-PENETRATE; arrows show structure-preserving correspondences between C/D and E.

idea despite a difficulty (Fig. 6.11A). The ASL user will know what part of the concrete source domain corresponds to this target-domain concept. In the COMMUNICATING IS SENDING mapping, *successfully communicating an idea* corresponds to *successfully sending an object from one's head to another person; difficulties in communication* corresponds to *difficulties in sending*. Thus, the ASL user will be creating an iconic representation of *successfully sending an object from one's head despite a difficulty* (Fig. 6.11B).

At this point, the language user has a choice to make: The concrete source-domain concept is still quite general, and the analogue-building process requires a specific sensory image. First, there are many possible ways to send an object to another person: by mail, by handing it to them, by sending it through the air. The choice is made here to use the image of sending an object through the air; the image focuses in particular on the projectile movement of the object. Next, there are many different possible difficulties in sending objects through the air: The object could be aimed too high, it could go off in the wrong direction, or it could hit a barrier. Each difficulty can be overcome, sometimes in several ways: The receiver could jump or run to catch a badly aimed object, or the object could be thrown hard enough to penetrate the barrier. In the case of THINK-PENETRATE, the specific difficulty chosen is the *barrier*, and the specific way of overcoming it is to *send the object with sufficient force*. (Note that this gives the *sender* the credit for overcoming the difficulty; this carries over into the target domain as well, because THINK-PENETRATE also credits the communicator, not the addressee, with the success in communicating.) Thus, the complete image that is selected is of *projectile motion of an object from one's head through the air toward another person; the object hits a barrier with sufficient force to penetrate it* (Fig. 6.11C).

The image-selection stage of the analogue-building process is now complete. The next stage of the process is schematization of the image. This stage, however, is not needed for metaphorical-iconic signs, because the metaphorical mapping "preschematizes" the sensory image. That is, the mapping between source and target domains has picked out certain aspects of the source domain as particularly relevant. For our example, our sensory images of objects hitting barriers can be as specific as our memory or imagination allows (e.g., *a blue Nerf ball breaking through a fence of toothpicks*); but we already know which aspects of the image are essential for the creation of this metaphorical-iconic sign: We do not really care what kind of object or barrier is involved, as long as the crucial events and relationships are represented. Figure 6.11D, the "schematization stage," is thus drawn with dashed lines, to show that it is not necessary here.

Finally, the last stage is the encoding of the schematic image into linguistic form. This stage is the same for metaphorical-iconic signs as for purely iconic signs: Appropriate articulators are chosen that preserve the structure of the schematic image. In some sense, once a schematic sensory image is established, there is no difference in ASL between metaphorical and nonmetaphorical iconic signs: They both use the same sets of iconic "tools" for encoding, and they cannot be distinguished by their forms — only by their meanings.

In our example, the different parts of the schematic image are encoded using the classifier system. The sender's head is represented by the signer's head, through body-for-body iconicity. The moving object is represented by the tip of the extended index finger, a common ASL form for small moving objects. Finally, the barrier is encoded by the nondominant flat B-handshape, and penetration of the barrier is encoded by the dominant index finger's passing between the nondominant index and middle fingers. The result is the metaphorical-iconic sign THINK-PENETRATE (Fig. 6.11E).

With this example, I have demonstrated the extension of the analogue-building process to metaphorical-iconic signs. As we have seen, the main difference between these signs and purely iconic signs is in the image selection process: The conceptual mapping between source and target domain guides the selection of a concrete sensory image to represent an abstract concept. Moreover, little additional schematization of this image will be needed, because the source-target mapping will highlight the important parts of the image.

We should at least note in passing that metaphorical-iconic words and constructions also exist in spoken languages and can be handled with a double mapping and the analogue-building process in the same

way as metaphorical-iconic signs. Some examples of metaphorical iconicity in English include *lengthening* to represent *emphasis* (e.g., *a baaaaad idea*), and *temporal ordering* to represent *order of importance* (e.g., topic-comment structures such as *Pizza, I like*). Ohala (1994) and others have noted a synesthetic, "frequency code," where high-pitched sounds denote small entities and low-pitched sounds denote large entities. Finally, Bolinger (1985) provided some evidence that intonational patterns of high and low pitches, through iconicity and metaphor, convey broadly conceived notions of stress, restraint, and release.

Again, metaphor and iconicity are conceptual-mapping-based processes that function in the same way for signed and spoken languages; it is the richness of the signed modality's iconic resources that accounts for the greater frequency of iconic forms in signed languages.

SUMMARY

It is now clear that we can give a unified treatment of iconicity in signed and spoken languages; that we can fruitfully separate off pure iconicity from metaphorical iconicity; and that once that separation is made, the methods of conceptual metaphor theory can be applied to the analysis of metaphorical-iconic signs. The double-mapping approach to metaphorical iconicity lets us treat the facts in an appropriate way: Signs can share both iconic and metaphorical mappings (as in POINT and MAKE-DIGRESSIONS), they can share a metaphorical mapping but not an iconic mapping (as in INFORM-YOU and THINK-PENETRATE), or they can share an iconic mapping but not a metaphorical mapping (as in DRILL and THINK-PENETRATE). The iconic representation of the concrete source domain can draw on all the varied iconic resources of the language in question.

