Hermann Weyl opened his classic 1952 lecture on symmetry with a clear definition of the concept:

If I am not mistaken the word symmetry is used in our everyday language in two meanings. In one sense symmetric means something like well-proportioned, well-balanced, and symmetry denotes that sort of concordance of several parts by which they integrate into a whole. Beauty is bound up with symmetry... The image of balance provides a natural link to the second sense in which the word symmetry is used in modern times: bilateral symmetry, the symmetry of left and right, which is so conspicuous in... the human body. (1952, 1)

Half a century has shown that Weyl was not mistaken, and in what follows we will consider both senses of symmetry in relation to sign language poetry.

Geometric symmetry is a fundamental aspect of the universe and is built into everything from particle physics to our bodily appearance. Mathematically, this symmetry may be achieved through a range of transformations of a figure. The transformations may be reflections, rotations, translations, glides or dilations. For much of our discussion of symmetry in sign languages we will focus upon reflections, in which the hands form “mirror images” of each other, creating bilateral symmetry (although Napoli and Wu, 2003, have demonstrated that ASL signs can show other symmetrical transformations).
Humans (on the outside at least) show strong bilateral symmetry. Language, too, can show symmetry. The options for symmetry in spoken languages (which are linear) are limited to temporal patterns of language form. Written forms of language can show some limited spatial symmetry but are static. Sign languages, however, being produced in three-dimensional space, as well as time, are able to represent temporal and spatial symmetry. The implications of this for sign language poetry in particular are the focus of the discussion here. While certain elements of symmetry can be applied to spoken, written and signed poetry, the three-dimensional spatial nature of sign languages means that geometric bilateral symmetry can be used directly to create powerful poetic effects in sign languages.

The Symbolism of Symmetry

As Weyl observed, the link between symmetry and beauty is strong within many cultures. Salomon Bochner (1973) noted that symmetry in Classical Greece “belonged to a group of terms and locutions that designated harmony, rhythm, balance, equipoise, stability, good proportions, and evenness of structure.” McManus (2001) comments that Western philosophy since the ancient Greeks has reserved a special place for symmetry, alongside beauty and truth, as being three elements that would lead to “the good.” This leads McManus to offer one definition of symmetry as the “correct proportion of the parts of a thing; balance, harmony” (336).

McManus, Weyl, and others have followed Dagobert Frey in noting that within Western philosophy, symmetry and asymmetry have become associated with opposing values. Table 1 below gives a summary of these oppositions.

For these reasons, perhaps, there is a strong association between symmetry, authority, and the Divine, so that art dedicated to immortals (and mortals in authority) is frequently symmetrical. Sumerian, Persian, and Byzantine heraldry is all strongly symmetrical, setting a theme for art through history. Nevertheless, Weyl observes that life, like art, “is inclined to mitigate, to loosen, to modify, even to break strict symmetry” (1952, 13). When this happens there is a feeling that the asymmetry is a deliberate deviation from the symmetrical norm. Although asymmetry is deliberate, it is also possible that something is
Table 1. Associations of Symmetry and Asymmetry

<table>
<thead>
<tr>
<th>Symmetry</th>
<th>Asymmetry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rest</td>
<td>Motion</td>
</tr>
<tr>
<td>Binding</td>
<td>Loosening</td>
</tr>
<tr>
<td>Order</td>
<td>Arbitrariness</td>
</tr>
<tr>
<td>Law</td>
<td>Accident</td>
</tr>
<tr>
<td>Formal rigidity</td>
<td>Life and play</td>
</tr>
<tr>
<td>Constraint</td>
<td>Freedom</td>
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</tbody>
</table>

merely chaotically “non-symmetrical.” When we consider the use of symmetry in poetry, we should be aware of the functions and symbolic implications of symmetry, asymmetry, and nonsymmetry.

With symmetry comes the closely related, yet paradoxical, concept of opposing duality. The overall sense from symmetry is that of a bound whole, yet that very concept also implies the existence of opposing parts. Duality and opposition are deeply embedded in our cultural heritage, producing ideas such as good and evil, rich and poor, war and peace, and light and darkness. Where seemingly opposing concepts are balanced, there is symmetry and consequently harmony. For this reason, within a discussion of symmetry we frequently find ideas of duality, opposition, and contrast. This, too, is used extensively in sign language poetry.

Geometric Symmetry in Sign Languages

Geometric symmetry in sign languages can be seen in the spatial arrangement of the two hands and their movements. There are different ways of creating symmetry using this spatial arrangement, any of which may be used in signed poetry.

Symmetry in Spatial Arrangement of the Hands

Firstly, the signs chosen may be two-handed signs, in which the handshapes, locations, and movements of the two hands are mirror-images of each other. Examples of established signs like this include (in both ASL and BSL) winter, contrast and strong (figure 1).
Symmetry in Sign Language Poetry

Alternatively, two separate one-handed signs may be placed simultaneously in a symmetrical arrangement. If these two signs are polycomponential verbs that have the same “classifier” or “property marker” handshapes (for example, two pairs of eyes looking around or two people next to each other) the signs will be fully symmetrical (figure 2). However, the two signs might have only the handshape in common, while their location, movement, and orientation are different. The similar handshapes would create some sense of balance that might be termed symmetrical at some level. Conversely, the signer could place signs in opposing areas of space, creating a spatial bilateral symmetry through the location of the signs, even if the handshape, movement, and orientation are not equal.

Thirdly, spatial symmetry may be sequential, so the signer may place one-handed or two-handed signs in one area and then place the next signs in the symmetrically opposing area. The viewer mentally

Figure 1. Two-handed symmetrical signs (from Dorothy Miles’ haiku poem “Winter”)

Figure 2. Polycomponential verbs symmetrically placed by each hand (from Dorothy Miles’s poem “Staircase”)

TWO-PEOPLE PERSON-SIDE-BY-SIDE LOOKS-AROUND

WINTER CONTRAST STRONG
constructs a “lingering” image of the layout of the signing space, to produce an impression of symmetry (figure 3).

A certain balance can be maintained in signed poems even when one of the hands is not actively involved in signing anything new. One hand holds the final part of the sign while the other hand articulates a new sign (figure 4). This maintenance of a sign on the non-dominant hand while the dominant hand signs something new is not exceptional in everyday signing. It is a way to create units of meaning that are more closely related than signs that are articulated in simple sequences. However, in poetry it allows the poet to keep both hands in the poetic frame and maintain the balanced use of space, even if the signs are not otherwise symmetrical. On top of this aesthetic discipline of keeping balance, maintaining the presence of the nondominant hand can increase the effectiveness of the visual images that are being created.

Touch something cold to the right and hot to the left

**Figure 3.** Sequential symmetry created using alternating right and left hands (from Paul Scott’s poem “Five Senses”)

“Claws leap out when a dog comes by.”

**Figure 4.** Maintenance of two hands while signing one-handed signs. (From Dorothy Miles’s poem “The Cat”)

**Figure 4.** Maintenance of two hands while signing one-handed signs. (From Dorothy Miles’s poem “The Cat”)

....0000016493$ 5CH4 05-16-07 10:14:56 PS
Symmetry in Two-Handed Signs

The two human hands are part of a greater bilateral symmetry of the human body (we also have two eyes, ears, arms, legs, feet, and much else), where the plane of symmetry is vertical. Two-handed signs thus have the potential to be symmetrical, not only because they can be placed this way in space but, more fundamentally, because we have two symmetrically arranged hands to use as articulators. Spoken languages cannot produce this sort of fundamental articulatory spatial symmetry because we have only one mouth.

For the most complete symmetry in a sign, the handshapes should be the same on each hand, the hands should be positioned opposite each other as mirror-images across a clearly identifiable plane, their orientation should be the same, and any movement should be the same (either simultaneous or alternating).

Symmetry is an element of sign language phonology, and is subject to certain rules (Brentari 1998). Battison’s “Symmetry Constraint” (1978) was originally based on ASL phonology but is relevant to the phonologies of other sign languages because it is generally agreed that this constraint has come about largely because of human physiology—it is simply too hard to break this constraint on a regular basis. The symmetry constraint formally states that:

If both hands of a sign move independently during its articulation, then both hands must be specified for the same location, the same handshape, the same movement (whether performed simultaneously or in alternation) and the specifications for orientation must be symmetrical or identical. (Battison 1978, 33–34)

When describing planes of symmetry in ASL, Napoli and Wu (2003) have identified at least seven different types of simple reflected symmetry (with an eighth “others” category). For our simpler study of BSL, however, as it relates to sign language poetry, we chose to focus on three main ones: right and left (vertical symmetry, roughly equivalent to Napoli and Wu’s “vertical midsagittal”), above and below (horizontal symmetry, roughly equivalent to Napoli and Wu’s “horizontal plane”) and front and back (roughly equivalent to Napoli and Wu’s “vertical wall plane”). Additionally, we acknowledge that any symmetrical plane may also be on the diagonal. In sign languages,
the two hands may be arranged on either side of these planes, creating any of these types of bilateral symmetry. In describing the poetic use of space, it is useful to consider signs made across each plane (whether or not they use the same handshape or orientation to create symmetry).

**Inherent Symmetry in Sign Languages**

In order to comment on the use of symmetry in poetry, however, we need to see how it is used within the language in general (an important point made by Russo, Giuranna, and Pizzuto 2001). The comments below refer primarily to British Sign Language, but our findings are remarkably similar to those of Napoli and Wu (2003) for ASL, and it is expected that other sign languages will not be markedly different.

Firstly, it is worth observing that in BSL there are many more two-handed signs than there are one-handed signs. Using the *Dictionary of BSL/English* (Brien 1992) as a source for BSL lexical items, the 1736 signs listed can be categorized as in table 2.

This division clearly shows that the existence of the two hands encourages the use of two-handed signs, increasing the chance for the occurrence of symmetrical signs. Despite this, however, humans need to practice using both hands. Takkinen’s (2003), study of the acquisition of handshape features, found that two-handed signs take longer to acquire than one-handed. She noted, “At the age of five the children used more two-handed signs than at the age of three. . . . It is evident from the data that two-handed signs, especially those that are nonsymmetrical, are both motorically and linguistically more complicated than one-handed signs” (86, 87).

**Table 2.** The Percentage of One- and Two-Handed Signs in the BSL Lexicon Surveyed

<p>| | |</p>
<table>
<thead>
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<th></th>
<th></th>
</tr>
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<tbody>
<tr>
<td>One-handed</td>
<td>37%</td>
</tr>
<tr>
<td>Two-handed</td>
<td>62%</td>
</tr>
<tr>
<td>One-handed to two-handed</td>
<td>1%</td>
</tr>
<tr>
<td>Two-handed to one-handed</td>
<td>~</td>
</tr>
</tbody>
</table>
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Of the two-handed signs listed in the BSL dictionary, approximately one third are not symmetrical, but over half are entirely symmetrical in their handshape, orientation, and movement, while the remaining signs are symmetrical for some part of the sign during its articulation. Taken together, two-thirds of two-handed signs show symmetry for at least part of their articulation. This may be seen in table 3 below.

The number of two-handed signs using different planes of symmetry is also unevenly distributed. Symmetrical signs are most commonly symmetrical across the vertical plane, with the hands being left-right mirror images of each other. There are signs that are symmetrical about the horizontal (top-bottom) plane—for example, the ASL signs hard and make, and the BSL signs damage, talk and work, but there are far fewer of them. There are even fewer established signs that are front-back symmetrical. This is because our hands and arms are arranged symmetrically about the vertical plane and it is physically more demanding to create signs across other axes. We can see this in table 4.

Napoli and Wu (2003) found remarkably similar proportions in their study of ASL, with 90 percent of the signs that showed “simple

<table>
<thead>
<tr>
<th>Table 3. Percentage of Symmetrical Two-Handed Signs in the BSL Lexicon Surveyed</th>
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</thead>
<tbody>
<tr>
<td>Not symmetrical</td>
</tr>
<tr>
<td>Symmetrical</td>
</tr>
<tr>
<td>Symmetrical in part</td>
</tr>
<tr>
<td>“Others”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 4. Percentage of Symmetrical Signs Arranged Around Different Planes of Symmetry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical plane</td>
</tr>
<tr>
<td>Horizontal plane</td>
</tr>
<tr>
<td>Front-Back plane</td>
</tr>
<tr>
<td>Diagonal plane</td>
</tr>
</tbody>
</table>
reflection” being vertical left-right reflections, and approximately 2 percent for each of the remaining planes of reflection.

Thus we can see that geometric bilateral symmetry, created through the arrangement of the hands, is a fundamental aspect of sign languages. Poets work with this fundamental feature of the language to foreground it for poetic effect. Most especially they can use the balance of above and below, front and back, and left and right for additional symbolic meaning, using the metaphors derived from space and orientation (Lakoff and Johnson 1980; Wilcox 2000; Taub 2001). Metaphors linked to ideas of “above” and “below” are widespread in both spoken languages and sign languages. The spatial concept “up” is apparently universally associated with positive concepts, and “down” with negative concepts (“He cheered me up” “Don’t let me down” in English, and win and lose, with upward and downward movement respectively in BSL). Similarly, front-back orientation is usually associated with time (“I look forward to seeing you” “I look back on my life” in English, and future and past, with forward and backward movements and orientations respectively in BSL). These two symmetrical oppositions may arise because the human body is distinctively not symmetrical across either of these planes. However, because our bodies show bilateral vertical symmetry, the left-right distinction functions less frequently as a basis for orientational metaphors than other two directions. Languages and cultures have metaphors that use the left-right distinction, but they occur less often and their association with concepts varies across cultures. Although the fact that the majority of people are right-handed may suggest a strong association between “right” and “good,” but this is not always the case. For example, in Western cultures “right” tends to equate with something good (“right” means “correct” or “true”), while “left” is equated with “bad” (and can be a synonym of “clumsy” or “dishonest”), but the opposite case can be found in East Asian cultures. In traditional political systems in China the minister at the highest position is called “Left-Minister,” and the so-called “Right-Minister” is placed one rank below. There is no strong evidence that sign languages use right and left with the symbolic ideas of good and bad (clearly, the existence of left-handed signers would make this distinction especially challenging), and there is no evidence
of this use of space in the sign language poetry we have studied so far.

Previous Research on Symmetry and Sign Language Poetry

Within poetry, the language used to express ideas is the focus of the utterance. Poets deliberately manipulate their language, either by unusual use of existing features in the language or by creating new elements, so that the language becomes obtrusive. Thus, as Leech (1968) has emphasized, the unusual regularity or irregularity of language creates a foregrounding of the language. In other words, we notice poetic language because it is odd. Manipulation of symmetry within a poem is a device to foreground the use of language. In sign languages poets may rely on unusually regular use of existing symmetrical patterns within the language, or they may create new (irregular) symmetrical patterns.

Since the first detailed linguistic descriptions of sign language poetry in the 1970s by Klima and Bellugi (for example, Klima and Bellugi 1979), the extensive use of symmetry has been documented. Klima and Bellugi's exploration of the "internal structure" of sign language poems is concerned with the signs used that are part of the "grammatical code" of the language. This is where the occurrence of two-handed symmetrical signs is relevant. For the most part, Klima and Bellugi chose to focus on the handshapes used, rather than the number of hands, so the use of these lexical items is not commented upon. However, they do describe the balance between the two hands that is used as part of "external poetic structure." They remark that part of the tradition developed by the National Theatre of the Deaf was to have a "pattern of alternation that keeps the two hands more equally active" (347). They also observe that this might be done by using alternate left and right hands for consecutive signs or "by overlapping signs, or making parts of two distinct signs simultaneously" (347). This use of balanced signs is external to the grammatical code of ASL, and is specifically a feature of art sign, contributing to the poetic flow and continuity of signs.

In their description of Dorothy Miles's performance of her haiku poem "Summer," they observe that the left hand is maintained from the two-handed sign DEEP, while the right hand signs DEEP BELOW
green high above. They show that keeping the left hand in the signing space serves to maintain a pattern of handshapes (in this case, almost all signs use the 5 handshape) through that line and also to create a reference base for the following signs. This creation of a reference base is also seen as a discourse strategy in nonpoetic conversational sign language. However, they remark that it enhances the similarity between the signs deep and high—significantly, an implication of poetic function. They note that deep and high, and below and above are semantic opposites, with the implication that it is the horizontally symmetrical use of space, bound by the maintained left hand, that creates the visual poetic effect. Lou Fant’s rendition of the same poem is shown to use both hands at all times, either because the internal structure permits it (through the choice of two-handed signs) or because the hands alternate to produce and maintain sequential one-handed signs, to create external poetic structure. Klima and Bellugi remark that one poetic effect of this “overlapping” of signs is to create overlapping images. They also note that both hands are in constant use during the haiku poem “Winter,” and that in this poem, opposing placement of signs in space is used to show thematic contrast. Thus black and white are signed on opposing hands and located in opposing right and left sides of signing space to reflect directly the semantic opposition.

Russo, Giuranna, and Pizzuto (2001) have also commented upon the use of symmetry in Italian Sign Language (LIS) poetry. In a useful survey of the occurrence of one-handed and two-handed signs in LIS, they demonstrate that two-handed signs occur more often in poetry (49 percent of the signs in their corpus) than in nonpoetic (in this case instructional-informative) signing (21 percent of signs in their corpus). The LIS researchers also note the use of symmetrical opposition in space to show thematic opposition, this time observing that the direct use of iconicity overlays the meaning here. Thus the upward movement of the hands in sun-rises is symmetrically opposed to the downward movement of sun-sets, using the natural iconicity of the signs to create thematic opposition and spatial opposition. They conclude that, “the opposition of specific parameters across thematically related signs is a key, distinctive feature of signed poetry” (106).
Blondel and Miller (2001) have described the rhythmic symmetry seen in a poem “A Walk in the Woods,” composed in French Sign Language (LSF). Describing movements within the signs as long and short, they show that the poem overall has a temporally symmetric rhythmic structure with the axis of symmetry in the middle stanza (see table 5).

As Blondel and Miller’s aim was to explore how poetry can be used to test a model of rhythmic structure of movement as part of phonological theory, they did not comment upon the poetic effect of the symmetry created in this poem. However, they have identified clearly the presence of temporal symmetry in the rhythm of signed poems.

Bauman’s observations on the similarities between poetic techniques in sign languages and the visual devices used in paintings and cinematic art forms (Bauman 1998, 2003) provides another way of looking at the spatial element of sign language poems. While recognizing that signed art language has linguistic features that can be compared with spoken language art forms, it is useful to consider parallels with cinematography.

Temporal and Spatial Symmetry in Poetry

Within poetry, themes of duality, and expressions of beauty and perfection are worthy topics. The poetic language used to represent these matters of symmetry can be symmetrical itself—using geometric symmetry directly to express symmetry. Within both spoken and signed languages, a poem can be symmetrical through time. It may be that the timing and rhythm of a poem are symmetrical (as Blondel and Miller described). Words spoken or signed rapidly, then slowly, and then rapidly again create a symmetrical pattern across time. Alternatively, the words themselves may be arranged symmetrically through time.

<table>
<thead>
<tr>
<th>Stanza 1</th>
<th>Stanza 2</th>
<th>Stanza 3</th>
<th>Stanza 4</th>
<th>Stanza 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>LL LS LL LS</td>
<td>LL (LL) SS</td>
<td>LL LL</td>
<td>LL L</td>
<td>SS LL</td>
</tr>
</tbody>
</table>

Table 5. The Temporally Symmetrical Structure of the LSF Poem “A Walk in the Woods” (adapted from Blondel and Miller 2001, 56)
the poem. Additionally, ideas or themes can be presented in a repetitive symmetrical way so that a poem starts and ends with the same elements. This is strongly related to the folklore of many cultures (as was noted by Blondel and Miller). Dundes (1965) observed that there is a general tendency in folklore for a return to where we started. In games we leave base and get home, in traditional dances we return to the partner we started with, and in folktales the hero leaves on a quest and returns. Dundes acknowledges that this pattern can be seen in nonfolklore but it is strong in folklore. In many poems, a satisfactory conclusion is to return to where we started, perhaps with the same words or perhaps (following the observation that a small deviation from perfect symmetry can have greater poetic effect) with slightly altered words. In T. S. Eliot’s phrase from “Little Gidding,” “the end of all our exploring will be to arrive where we started and know the place for the first time.”

Symmetry can be seen in the words used in poetry and language play. Word or sign pairs can be the opposing form of each other in the timing of their articulation. Thus, “tab” and “bat” are opposing written English word pairs. Similar pairs of signs have internal sequencing and differ in reverse change of handshape or movement path (frequently opposing in their meaning) such as EARN and SPEND, and REMEMBER and FORGET. At the morphological level, these opposing signs are more common, as certain verbs are mirror images of each other over time (such as I-GIVE-YOU and YOU-GIVE-ME, or PERSON-MOVE-FORWARDS and PERSON-MOVE-BACKWARDS).

Palindromes are symmetrical phenomena, because they can be read (or seen or heard) the same in either direction (of space or time). They can occur at different levels in a language. English word palindromes include “nun” “deed” and “aibohphobia” (jocularly, the fear of palindromes). Signs that open and close the hands (such as LIGHT-FLASH, or OPEN-AND-CLOSE-MOUTH) are effectively palindromes, as are signs that use repeated opposing movement paths (such as COMMUTER).

Poems can be palindromes, so that the first and last lines of the poem are the same, the second and penultimate lines are the same, and so on. The skill required to produce these symmetrical palindromes so that they are meaningful is part of language play, but in
Symmetry in Sign Language Poetry

poetic language, the use of symmetry foregrounds the language to create poetic effect and elicit satisfaction in both poet and audience.

While pure palindromic poems are rare, palindromic patterning is far more common, and is often seen in sign language poetry. Clayton Valli’s two poems “Flash” and “The Bridge” may be seen as being almost perfect handshape palindromes, as the pattern of handshapes used in the signs is repeated backwards and forwards over time through the poems. In “Flash,” the handshapes forming each sign correlate to letter handshapes from the American manual alphabet. The poem is concerned with a challenge to run a race, where the central character is out-classed by faster runners. The overall pattern of the handshapes in the whole poem is: \textit{h}s\textit{a}l\textit{f}f\textit{l}a\textit{sh}\textit{h}s\textit{a}l\textit{f}f\textit{l}a\textit{sh}h. In the first three sign sequences of the poem the handshapes of the signs spell the word “flash” successively, first in reverse, then forward, then in reverse again. They may be roughly glossed as follows (the handshape of each sign is given in brackets):

\textit{two-people} (H) \textit{can} (S) \textit{how} (A) \textit{run} (L) \textit{nothing} (F) \textit{catch-sight} (F) \textit{zoom-off} (L) \textit{disappear-into-distance} (A) \textit{gone} (transition across sign space) (S) \textit{bump-into-two-people} (H) \textit{two-people-close-up} (H) \textit{oh-no!} (S) \textit{not} (A) \textit{me} (L) \textit{wow-skill-can-do!} (F).

In mathematics, the concept of numeral palindromes is also well recognized (e.g. 191 or 234, 432). These numeral palindromes can be represented through handshapes in sign language poetry. The palindrome in Valli’s poem “The Bridge” creates a pattern of handshapes of numbers that reverse. The signs in this poem are not related to numerals at all, but the pattern of their handshapes follows the sequence: 6, 5, 4, 3, 2, 1, 2, 3, 4, 5, 6, 5, 4, 3, 2, 1.

In the poem, a distant boat approaches a bridge, the bridge opens, and the boat passes through while people watch it. The bridge then closes and the boat sails into the distance. The poem may be roughly glossed as follows, with the number corresponding to each handshape given in brackets after each sign:

\textit{water} (6) \textit{water-all-around} (5)
ASL poems can also show a palindromic structure at the sign unit level, or the line level. The ASL folkloric poem "The Cowboy," while not perfectly palindromic, definitely tends in that direction. The poem has various forms, but the version described here was posted on the Internet in 1994 by Jean Boutcher, who explained that it was passed on manually by students at Gallaudet College, where she learnt it in 1948. The opening lines introduce the ideas of the cowboy galloping, while to the left and right we are shown mountains, guns slapping his hips, trees and sand (incidentally, all creating spatial symmetry). He arrives at a bar in whirling dust, dismounts, tethers his horse, looks left and right, and enters the saloon for a whiskey. When he has drunk his whiskey under the nervous gaze of the others in the bar, he leaves the saloon, looks left and right, untethers his horse, mounts and, amid whirling dust, gallops away, through the sand.

The symmetrical structure of this poem operates at two levels. Firstly, at the line level, several lines are repeated in reverse as the cowboy arrives, and as he leaves, as shown in a section here (the intervening lines are not included).

whirling dust whirling dust
dismounting
Symmetry in Sign Language Poetry

roping
eyes-turning-right
eyes-turning-left
[**********]
eye-turning-right
eye-turning-left
unroping-horse
mounting
bow-leg-hitting-horse bow-leg-hitting-horse
whirling-dust whirling-dust

Secondly, several of the signs are opposite word pairs. For example, **dismounting** is the reverse sign of **mounting**, and **tethering** is the reverse of **untethering**. In general, the poem uses considerable repetition in order to create a strong rhythm and build up strong visual images, but the overall symmetry of the poem also creates the powerful feeling of the stranger arriving from nowhere and disappearing just as mysteriously.

In all these examples, temporal symmetry is an underlying force behind the patterns. They create aesthetically pleasing images and so increase the poetic effect of the performance. The symmetry is produced over time as the signs are produced in sequence, and although they are made within the specific structure of a visual spatial language, this poetic device parallels a similar device in spoken poetry. However, sign languages also have the option to create symmetry directly and it is to this that we will now turn.

*Planes of Symmetry in Sign Language Poetry*

In our discussion of symmetrical two-handed signs, we identified three groups determined by the plane of symmetry: vertical, horizontal and front-back. We also observed that established lexical items that use symmetrical handshapes are overwhelmingly symmetrical across the vertical plane, dividing space into left and right. This left-right symmetry is also the most predominant in sign language poems (see, for example, figures 1–4).

However, horizontal planes of symmetry can also be used, especially in creative signing. Rutherford (1993) in her discussion of ASL folklore describes the “fingerspelled/iconic representations” created
by members of the National Theatre of the Deaf in the 1970s, which use a fingerspelling sequence to give a visual portrayal of the word’s meaning. Rutherford’s examples include L-E-A-F-A-L-I-N-G with an imposed movement that echoes a falling leaf, or B-O-U-N-C-I-N-G with an imposed bouncing movement. A third example is of both hands arranged across the horizontal plane, each spelling the word R-E-F-L-E-C-T-I-O-N, so that the meaning of the word “reflection” is reflected by using both hands arranged in opposing reflecting symmetry.

Dorothy Miles created two more beautiful signs using horizontal symmetry in her BSL poems “Trio” and “Ugly Duckling.” Both these signs are also notable for their increased sonority as they use the forearms as well as the hands. Both signs are created through the device of reflection in water and are an aesthetic delight, creating reactions of pleasure in an audience (figure 5).

Front-back symmetry is also notable when it occurs in signed poems and—like the horizontal symmetry—is most frequently seen through the use of productive signs. Frequently this symmetry is created obliquely, with a certain left-right displacement of the hands for physiological reasons. In his BSL poem “Three Queens,” Paul Scott places signs behind him and in front of him, using the body as the reflecting or binding plane. Three queens through English history (Elizabeth I, Victoria, and Elizabeth II) are placed using space literally, showing them all looking up at the Union Jack flag. But the symbolic use of front-back symmetry also shows that they are linked

(a) TWIN-TREES (b) “And, bowing, see a swan”

Figure 5. Symmetrical signs across the horizontal plane from Dorothy Miles’s poems (a) “Trio” and (b) “Ugly Duckling”
together through time as well as space. Thus the queen placed behind the signer’s shoulder can be seen as the one furthest in the past and the one placed in the front of the signer is the most recent. Using this symmetrical sign freezes the three queens in time, showing how they form a continuous thread through English history (figure 6).

The Role of Symmetry in Creating “Harmony”

A great deal of verbal folklore and literature can be summarized in the struggle for equilibrium. According to Dundes (1963, 208) many folktales “consist of a move from disequilibrium to equilibrium. Disequilibrium, a state to be feared or avoided if possible, may be seen as a state of surplus or lack, depending on the point of view.” The move may be seen from “lack” to “liquidation of lack.” The equilibrium in form of symmetrical signs creates a feeling of harmony that comes from this general equilibrium, and the lack of equilibrium in asymmetrical signs will represent disequilibrium and a lack or loss of that harmony.

Wim Emmerik’s Sign Language of the Netherlands (SLN) poem “Garden of Eden” describes the moment of the fall of mankind from paradise. In this tale, we see a story where equilibrium moves to disequilibrium. A snake climbs a tree, knocks an apple to the ground. A worm crawls into the apple, tempts a human to eat it, and the human takes a bite. In the poem, balanced use of space is a major element of the poetic language, and both hands are permanently in use until the last two signs, which are one-handed. There is a symbolic meaning to this, as the switch from two hands to one occurs at the moment of the fall from Eden.

Figure 6. Front-back symmetry from Paul Scott’s “Three Queens”
The first sign is a beautifully symmetrical two-handed form earth (or ground), and from it flows a range of signs on the left and right hands, alternating in their dominance. After the first symmetrical sign, the left hand is held on the left side of space, while the right hand signs tree on the right side. Then the right hand sign is held while the left hand is active, showing the snake climbing the tree, and the apple falling from the tree, rolling across the ground and coming to rest on the left hand side. The left hand representing the apple is then held, while the right hand moves to the left as the “worm” crawls over to the apple on the left, to enter the apple and beckon the sinner into temptation. The right hand is then withdrawn sharply back to the right hand side and the poet drops that hand out of signing space, rendering it totally inactive. At this stage, only the left hand remains. The final two signs, biting into the apple and the expletive are articulated with only the left hand.

The aesthetic effect of placing the signs in the right and left of space is strong, and the poem is beautifully constructed. Symbolically, though, we can additionally observe that the use of both hands reflects the state of harmony and perfection that was said to be in the Garden of Eden before the fall. The use of a single hand at the moment of the fall, reflects the loss of that harmony and perfection.

The Role of Symmetry in “Binding”
As we mentioned in the introduction, symmetry is produced when two opposing elements are balanced in correct proportions. Bilateral symmetry thus can serve to bind together opposing elements. Analysis here of two BSL poems can show the symbolic “binding” effect of symmetry.

In Dorothy Miles’ BSL poem “The Staircase,” symmetry and balance in signs are used to signify the togetherness and collective nature of the Deaf community. The poem was composed to celebrate the success of members of the Deaf community who had completed the first British university course taught in sign language, and to praise their tutor and leader on the course. In this poem, people come to a great staircase, which they fear to climb until one man leads them slowly up it to achieve the reward at the top. Using Dundes’s ideas of equilibrium and disequilibrium, we may see that the poem starts
with the disequilibrium of “lack” and ends with “liquidation of lack” to achieve equilibrium as they achieve their certificates.

In “The Staircase,” the same sign is often articulated by the left and right hands, on the left and the right hand sides. There is important symbolism behind this, because a central theme of this poem is “unity.” Keeping both sides of signing space balanced shows the unity of the group climbing the staircase to reach their goal. Although the individuals are separate people, they are bound together partly through the unifying device of spatial symmetry, which shows a collective sense of identity.

Polycomponential signs that are used to represent the actions of numbers of individuals through the number of fingers on each hand can create symmetry. Where there is an even number of individuals, half of them can be shown on each hand. This occurs in “The Staircase,” creating symmetry in the opening lines as the people wander, lost, through the forest. The English lines run:

A dark forest. A figure creeps forward, peering ahead,
Then comes another and another.
They draw together in uncertainty, then in a line,
They advance.

This may be glossed in BSL as follows, with the glossed signs placed left, right and centrally on the page to represent how they are placed in space:

FOREST
dark
people
have

one-person-moves-forward

one-person-moves-forward
two-people-move-forward

two-people-move-forward
eight-people-(2x4)-move-forward

many-people-(2x5)-move-forward

We can see here that the signs are placed symmetrically left and right. As the numbers in the group grow, there is initially some asymmetry
as one of the handshapes changes to reflect the increased number, but symmetry is restored each time as the numbers shown on each hand balance out. This pattern of “asymmetry followed by symmetry” occurs again in the poem when the hero helps the group up the stairs. Once he is on the first step, he signs come—on to the left-hand side of signing space and the next sign, in the same area of signing space, may be glossed as help—person—up. This is then repeated, using the other hand, to the other side of signing space, creating symmetry in the poem. The next sign person—climbs—onto—step is then made with the left hand to the left and then with the right hand to the right, so that both sides are balanced again. This maintenance of symmetry despite occasional shifts to asymmetry is an important part of the poem, which uses “unity in change” as a central theme (figure 7).

Paul Scott’s BSL poem “Five Senses” also uses symmetry extensively. In this poem, each sense is anthropomorphized in turn to show the Deaf person’s experience of the world through that sense. The sense of hearing is unable to describe its role until it joins with the sense of sight. The two senses then work together to show how they contribute to the Deaf experience. The poem’s balanced use of space and the symmetrical two-handed signs have both aesthetic and symbolic value. They carry ideas of unifying polar opposites and the Deaf person’s sense of “rightness” that comes from the experience of the visual world and sign language. Much of the poem uses the device of keeping both hands in use, using different information on each hand (as we saw in “Garden of Eden”). The non-dominant

\[\text{COME-ON left \ COME-ON right \ HELP-UP left \ HELP-UP right}\]

Figure 7. Signs to the left and right in Dorothy Miles’s “Staircase,” showing unity through symmetry.
hand is permanently active, producing information that is perceived simultaneously with the information from the dominant hand.

“Five Senses” uses all three main ways of creating symmetry in signed poems (sequential placement of one-handed or two-handed signs in opposing areas of space; simultaneous use of two one-handed signs that are opposed symmetrically; and use of symmetrical two-handed signs). The use of symmetrical space in the poem has a pattern, so that for the first three senses, symmetry occurs predominantly through sequential location of signs in opposing areas of space. This reflects the duality of the ideas shown in the poem, which are an integral part of bilateral symmetry. For instance, with Touch the right hand reaches out to the right to touch something cold and then withdraws before the left hand reaches out to the left to touch something hot (see figure 3 above). The use of space and hands thus reflects the opposing semantics of hot and cold. This spatial representation of hot and cold creates symmetry in a way that merely signing hot (a one-handed sign in BSL) and cold (a two-handed, vertically symmetrical sign) would not. The same device of using spatial opposition for semantic opposition occurs with Taste. This time the actions are all performed by the right hand but it first holds and eats a delicious ice cream on the right, then takes a scoop of something unpleasant-tasting from the left and finally takes a scoop of something more pleasant-tasting from the right. With Smell, the scented flower is picked and smelled from the right, then the smelly cheese is taken from the fridge on the left, before the agreeable morsel (unspecified in the poem) that is eaten and then sniffed appreciatively comes from the right (figure 8). The balanced use of signing space creates a feeling of symmetry in which these semantic opposites are bound by the central plane. As the central plane, occupied by the signer’s body, can be taken to refer to the anthropomorphised sense in question (Touch, Taste or Smell), we see that each sense “vignette” is a complete and unified experience.

In the fourth stanza, where Sight and Hearing work together, the sequential use of symmetrically-balanced one-handed signs is, very significantly, replaced by entirely two-handed symmetrical signs. Using two hands to produce single signs parallels the senses of Sight and Hearing which are combined into one. In this stanza are the
Pleasant and unpleasant foods placed to right and left in Taste

Scented flower and smelly cheese placed to right and left in Smell

Figure 8. Use of left and right to show semantic opposites in Paul Scott’s “Five Senses”

lexicalized signs eyes-open, information-through-eyes, information, speed, colors, movement, learn and finally take-everything-in-through-eyes (figure 9). The signs are all essentially symmetrical across the vertical plane, which is the natural bilateral symmetry for the human body. So, symmetrical signs come to prominence in this final section, as it is in this compound sense of Sight and Hearing that we see sign language coming to the fore, both as a topic and as a form of expression.

Symmetry in Sign Language Haiku

For the remainder of this paper, we will consider symmetry seen in sign language haiku. Haiku is the shortest established form of poetry, originating in Japan in the seventeenth century. Haiku requires a concise form to express rich meaning, obliging poets to make the most of possible poetic techniques, including the display of symmetry, making it a useful form for the investigation of the use of symmetry in sign language poems.
Symmetry in Sign Language Poetry

Figure 9. Symmetrical two-handed lexicalized BSL signs representing “equilibrium” in “Five Senses”

The form of haiku clearly shows symmetry. It consists of 17 syllables, divided symmetrically into three sections of 5–7–5. Example 1 shows this.

Example 1:
Sa-mi-da-re-wo (5) a-tsu-me-te-ha-ya-shi (7) mo-ga-mi-ga-wa (5)
(Matsuo Bashō)

samidare wo atsume-te haya-shi mogami gawa
Rain in May; poured and flowing fast; River Mogami

Occasionally haiku poets break this strict 5–7–5 pattern by adding or removing one syllable. These irregular constructions are not generally considered well-formed, but when they take the symmetrical pattern of 5–8–5 they are regarded as “better” (Gilbert and Yoneoka 2000), showing a strong tendency of the haiku form toward formal symmetry.

In theme
Haiku has a symmetric structure in terms of theme as well as form. Since the primary purpose of haiku is to create a vivid image based
on very few words, haiku poets often make use of symmetry in their thematic structure. Haiku topics might refer to contrasting visual symmetry as in examples 2 to 4.

Example 2. Nanohanaya tsukiwahigashini hiwanishini (Yosa Buson)
Yellow flowers; Moon on the east; Sun on the west.

Example 3. Akaitsubaki siroitsubakito ochinikeri (Kawahigashi Hekigotou)
Red camellia; white camellia; falling off

Example 4. Akizorawo futatsuni tateri shiitajju (Takahama Kyoshi)
Autumn sky; divided into two; by a big chinquapin tree.

Examples 2 and 3 are symmetric both in their form and in the theme of the visual sketch they are trying to illustrate. Symmetry in form here is expressed through repetition of the same or similar words/expressions, and using words that carry semantic contrast, such as “moon” and “sun,” “east” and “west,” and “red” and ”white.” Example 4 does not show formal symmetry, but creates a beautiful image of a blue sky (in Japan, “autumn sky” often refers to a perfect, clear sky) with a big tree in the middle of one’s field of vision that divides the sky into two parts.

Haiku in sign languages consists of a variety of short poems, which possess some features that exist in the original idea of haiku. It is not our purpose here to define sign language haiku, and indeed there is no apparent single defining feature of signed haiku. They are usually very short, but each haiku varies in length. For example, in three performances of the four haikus in Dorothy Miles’ Seasons “quartet,” we see considerable variation not only between poems but also between performances of the same poem (table 6).

Some sign poets (such as Wim Emmerik) reconstruct the traditional 5–7–5 syllables in their work (for example, Emmerik’s NGT

<table>
<thead>
<tr>
<th>Performance</th>
<th>Spring (secs)</th>
<th>Summer (secs)</th>
<th>Autumn (secs)</th>
<th>Winter (secs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASL (1980)</td>
<td>30</td>
<td>41</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>BSL (1987)</td>
<td>16</td>
<td>34</td>
<td>18</td>
<td>48</td>
</tr>
<tr>
<td>BSL (1988)</td>
<td>25</td>
<td>37</td>
<td>16</td>
<td>52</td>
</tr>
</tbody>
</table>

Table 6. The Length of Seasons Haikus in Three Different Performances (in Seconds)
poem “Vallend Blad” or “Falling Leaf”); others seek themes such as objective descriptions of nature, vivid image, and contrast that are typical of haiku. For now we will refer to Wittgenstein’s concept of a category as family resemblance to identify a signed haiku. A category is bound not by a single defining feature but a collection of features, each of which is fulfilled by some members, but not all (Wittgenstein 1953). The following examples all show some elements of traditional haiku, and all use symmetry.

“Haiku –A LIS poem-” by Rosaria Giuranna

In this ten-second Italian Sign Language haiku poem, Giuranna (1998) shows the essence of human interaction with maximum poetic effect and the performance uses symmetry to create this effect. This poem describes a process of two people coming together, holding each other and—either willingly or unwillingly—being separated in the end. Unlike other sign language haiku, it does not describe nature but it does follow other haiku conventions, such as capturing a vivid image with a few signs and keeping a metronomic rhythm, which leads to the “monotony” created in original haiku. The poem is also divided into three parts: approaching, staying together, and parting. A basic notation of the handshapes and movements is given in table 7.

Giuranna creates temporal symmetry in the structure of the poem. The same handshape, location, and movement path (a closed fist with extended thumb, moving toward/away from the center) occur in the signs at the beginning and the end of the poem. Between these initial and final signs come signs with B handshape, which are signed in a smaller scale at the center of the signing space. This arrangement of signs creates a “sandwich” effect, which is a good example of temporal symmetry. As we saw in the discussion of temporal symmetry above, this creates poetic meaning, as the signs at the end of the poem are the same as those at the beginning, and yet we understand that the situation for the lovers when they return to their original places is not what it was when they started out.

In terms of visual symmetry, left-right symmetry dominates the poem. This symmetry is one of the most noticeable features of the poem. Throughout the poem, both hands have the same handshape,
Table 7. Description of the Handshapes and Movements in Giuranna’s LIS Haiku

<table>
<thead>
<tr>
<th>RH</th>
<th>Å</th>
<th>Å &gt; B*</th>
<th>B* &gt; B</th>
<th>B &gt; Å</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 6</td>
</tr>
</tbody>
</table>

| LH | Å | Å > B* | B* > B | B > Å |

Handshapes
- Å. closed fist with extended thumb
- B. open hand with fingers together
- B*. open hand with extended thumb

Movements
1. two hands coming close to each other
2. RH wraps around LH
3. Both hands, with palms facing down, pull to the sides but still in contact at the tip of the fingers
4. hands move upward, touching each other with the tip of the fingers
5. hands move downward
6. hands lose contact and pull apart

movement, and location, showing perfect bilateral symmetry (see figure 10). This feature contributes to unification and aesthetic effect of this poem.

On the other hand, Giuranna makes use of asymmetric features as well. The intended asymmetry can be observed temporally. For example, although she uses the same signs at the beginning and the end of the poem, the speed of movement for these two parts is different. At the beginning, two hands come closer with a slower, step-by-step movement. But the final movement is much more abrupt and instantaneous. This might metaphorically show that people need some time for approaching but separation can come very quickly.

Another asymmetric feature in the poem is facial expression. Giuranna’s face changes as the poem progresses, and there is nothing symmetric in its pattern. Starting with neutral expression, the face shows happiness when two people meet, and then becomes negative in the end when two hands have separated. The pattern shows clear contrast, but does not create a temporally symmetrical pattern. The contrast between the symmetrical patterns created on the hands and the asymmetrical structure of the nonmanual elements adds to the poetic effect of the haiku (see figure 10).
Both symmetry and asymmetry in the form of this poem are related to its theme. This is a poem of human interaction involving two people (most readily interpreted as a love poem). The equality of two people, and the distance between them are iconically expressed by bilateral symmetry of signs. On the other hand, asymmetric features may symbolise the irreversibility of emotions associated with the interaction.

*Symmetry Creating Involvement and Equality: “Cornfield” by Sam Sepah*

Sam Sepah is one of the most active Deaf haiku poets in the United States, whose work regularly appears in the Robert Panara Haiku Contest. The haiku discussed below obtained Honorable Mention in 2002 NTD competition (his other work in the same competition was awarded First Prize). Although it has no title, we will refer to it here as “Cornfield.” Its gloss and English translation may be rendered as follows:

**PLAY HIDE–SEEK CHASING RUNNING CORNFIELD**  
**SLASHING–OUR–WAY LOOK–AT–EACH–OTHER**  
**OUR FIRST KISS**

Playing hide-and-seek  
Chased into the cornfield
Our first kiss

The proportion of symmetric signs is smaller in this haiku than in the LIS example, due to the greater variety of established lexical items and a more complicated action developed in this poem. However, there are still many two-handed symmetric signs. Signs like play, seek (a part of the compound hide-and-seek), chase, look-at-each-other and kiss are all symmetrical.

The last two signs add most poetic effect to this poem. They iconically express the encounter between two people, as if they are looking at each other in the mirror (figure 11). The axis for these two signs is slightly oblique against the body, that is, the line that connects both hands is not parallel to the chest. It is no longer perfect left-right symmetry (which has been adopted up to this moment) but rather understood as modified front-back symmetry. The reason for this change in symmetry is a grammatical/lexical demand in accordance with the theme of the poem. At this point the poet shifts his focus from a general description of playing in the field to a personal encounter of two people including his poetic “self.” Sepah places his right hand near to his chest to involve himself in the picture, and the other hand slightly away from his chest to refer to his partner. He signs our and first with his right hand near his right chest. Then the kissing moment takes place, where the symmetric configuration of two hands adopts the same oblique panel as in looking-each-other.

The kiss is the climax of this poem. The vividness of this scene makes this a “proper” haiku poem. Sepah reduces the speed of signing to foreground the sign. The front-back symmetry in this kissing scene highlights the mutuality of the kiss (not “I kissed her” or “she

Figure 11. Symmetrical sign we-look-at-each-other in Sepah’s “Cornfield”
kissed me” but “we kissed”). The signs (and, by implication, the characters in the poem) are spontaneously pulled together with equal and gradual speed, which contributes to a heart-warming after-effect of the poem (figure 12).

**Symbolic Loss of Symmetry—“Fish” by Jesus Marchan**

Jesus Marchan’s “Fish” won the Honorable Mention prize in the NTD 2002 Robert Panara Haiku Contest. A gloss and an English translation are as follows:


GRAB HOOKED FLAPPING

Fish swim eagerly
In a mad dash for the prize
Only to be hooked

A simple notation of signs may be seen in table 8.

We can see from the notation that both hands are actively present in the signing area throughout the poem. Six out of ten segments involve bilateral symmetry. Considering that other four are smaller movements, symmetric signing dominates most of the poem. In most cases handshapes of the two hands are the same, and both hands move in perfect mirror-image across what Napoli and Wu (2003) call “vertical midsagittal plane.” This continuation of symmetric signs creates an aesthetic effect in the poem.

However, again, symmetry in this poem goes beyond the aesthetics. It is strongly related to the theme of the poem, that is, the fish’s freedom and its loss. Marchan uses his two hands to show this theme.

![Figure 12. Symmetrical sign we-kissed in Sepah’s “Cornfield”](image)
Table 8. Description of the Handshapes and Movements in Marchan’s “Fish”

<table>
<thead>
<tr>
<th>RH</th>
<th>B</th>
<th>B</th>
<th>B</th>
<th>C</th>
<th>B</th>
<th>B</th>
<th>B</th>
<th>B</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>z</td>
<td>r</td>
<td>z</td>
<td>c</td>
<td>z</td>
<td>i</td>
<td>a</td>
<td>z</td>
<td>i</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LH</th>
<th>B</th>
<th>B</th>
<th>B</th>
<th>C</th>
<th>B</th>
<th>1</th>
<th>B</th>
<th>O</th>
<th>1</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>z</td>
<td>r</td>
<td>z</td>
<td>c</td>
<td>z</td>
<td>h</td>
<td>z</td>
<td>g</td>
<td>h*</td>
<td>ia</td>
</tr>
</tbody>
</table>

Handshapes
- B: open hand with fingers closed
- C: open hand bended to create a C-shape
- 1: closed hand with an index finger up
- O: closed hand

Movements
- z: both hands move in bilateral zigzag image across vertical axis
- r: two hands put together in the centre and rubbed together
- c: both hands move in circle, and the orientation of the movement of two hands are inverted (clockwise and the opposite), creating mirror-image
- ia: inactive
- h: an iconic representation of a hook
- g: the fist is stuck out as if to grab something
- h*: variation of hook gesture (being hooked in the mouth)
- f: B handshape flaps

At the beginning, he establishes a link between “free swimming” and a figure-of-eight symmetrical movement of two hands (figure 13). In other words, in this particular poem the sign for swimming has to be two-handed. Throughout the first half of this poem, this two-handed signing associated with free swimming successfully continues. And then, a “prize” (a hook, in reality) comes into the picture. In order to express this third element, the poet has to give up the perfect symmetry of two-handed signing. He uses his left hand to refer to the existence of the prize/hook, but by doing so, he destroys the...
balance of two-handed swimming which has been kept intact till that moment (figure 14). The right hand remains inactive while the left hand is engaged in “hook” expression. The scene when prize/hook first comes into the poem is the scene when asymmetry is first introduced to the poem, and also, it is a warning of the forthcoming loss of free swimming in this poem. In fact, the moment the fish reaches out to grab the prize, the balance is lost forever and there is no symmetry beyond this point. The very last sign of this poem, a “flapping” movement signed only with the right hand, is an attempt to re-create free swimming, but it is doomed to fail because the two-handed symmetry is already lost (figure 14).

Conclusion

This detailed analysis of the ways in which geometric symmetry can be used in sign language poetry, including haiku, to create poetic effect reinforces Weyl’s original point that symmetry creates something well-balanced and well-proportioned. Sign language poets make use of temporal symmetry in the structure of their poems, in a manner similar to those working in spoken languages, but, additionally, the fundamental structural properties of sign languages allow the unique use of spatial symmetry. We have shown that sign language poets are able to create aesthetically beautiful images through the direct use of bilateral symmetry in space. Balanced use of space permits signers to emphasise contrast and unity, drawing on the metaphorical interpretation of the symmetry.

Figure 14. Two-handed asymmetrical signing and one handed sign in Marchan’s “Fish”
Acknowledgments

We would like to thank Paul Scott for his kind permission to use images from his poems. The poems are available on his Paul Scott’s Poetry DVD, at the ECHO website (http://www.let.kun.nl/sign-lang/echo/index.html) and under “Entertainment” at www.deafstation.org. We are also grateful to Don Read for his kind permission to use the work of Dorothy Miles. Rosaria and Giuseppe Giuranna, and Antonio Brotini kindly gave us their permission to use images from the LIS haiku. Images from Jesus Marchan and Sam Sepahi’s work are courtesy of PEN-International, National Technical Institute for the Deaf, Rochester, N.Y. These two poems, together with other poems from the Robert Panara Haiku Contest, are available on their website (http://www.pen.ntid.rit.edu/news.php). Katie Roach provided the data on the symmetry statistics from the BSL Dictionary. Pete Carss and Chris John helped with the technical process of making the illustrations here.

Notes

2. Orientational metaphors are one kind of metaphor which “gives a concept a spatial orientation”, and unlike so-called structural metaphor, it “organizes a whole system of concepts with respect to one another” (Lakoff and Johnson 1980, 14).
3. The name of Japanese haiku poets follows the traditional Japanese name order (surname first).
4. Used by permission of Rosaria and Giuseppe Giuranna, and Antonio Brotini
5. Used by permission of PEN-International, National Technical Institute for the Deaf, Rochester, NY. PEN-International is funded by a grant from The Nippon Foundation of Japan.

References

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