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THE STUDY AND USE OF SIGN LANGUAGE

William C. Stokoe

Historical perspective. At its outset in 1817, education of the deaf in America was synonomous with sign language. The method of teaching in signs of the natural sign language of the deaf, augmented with signs invented to represent grammatical signals, was easily adapted to the American scene. As in France and many other countries to which it had spread, this method produced in a few school generations an educated deaf elite that strongly urged its continuance.[1]

However, for reasons that would require a good-sized history to explain, the educational use of sign language in the United States and in most countries declined. During most of the twentieth century, signing has been strictly prohibited in some schools, discouraged and neglected in many, and even if permitted to pupils in their out-of-class time, has been studiously ignored by teachers and staff in most schools for the deaf.

Recently linguists and sociolinguists have joined the deaf--who of course never stopped using sign language--to insist that the natural language for interaction among human beings who cannot hear be given once again a central role in their education. A growing discontent with the low achievement of the average deaf child in school has also turned attention to sign language and to other forms of manual communication.[2]

As in any large movement (there are now almost 70,000 pupils in schools reporting to the Annual Survey of Hearing Impaired Children and Youth[3]), some of the issues may be confusing as well as confused, and even those engaged in the movement toward "total communication" may need a new perspective.

Purpose. It is the purpose here to present sign language as a central fact in the life of deaf individuals and groups, and therefore as a focus for educational efforts. This will require looking at the relation of Sign to English--another central fact

in the lives of American deaf persons. Sign is used here as a short and pronounceable abbreviation for the proper name, American Sign Language, otherwise abbreviated ASL. Ameslan, with its half-dozen observed pronunciations, is a special socio-economic, class dialect of Sign which Fant has described.[4]

While sign languages generally and Sign in particular make excellent objects for scientific study--e.g. by anthropologists, linguists, and psychologists; the present intent is to treat Sign as a prime educational medium and as a language which in a true sense can make a deaf person both a sharer in general American culture and also a member of a special group with its own self-awareness and pride. To treat Sign in this way requires, first, to look at some of the different ways that languages are presented to the eye instead of to the ear. Second, we will examine bilingualism and its special place in the life and education of deaf persons. Third, we will look at ways for concerned teachers to apply research findings directly in their own work. And finally, teachers will be shown ways to ask and answer question of importance about Sign, i.e. to do practical research in the study of sign language for themselves.

1. Sight, Language, and Speech. Education for the deaf confronts a central fact: Sight instead of hearing is the sense which conveys language symbols to the person who cannot hear. In the history of systematic education of the deaf this fact has not always been faced squarely. The French pioneers, de l'Épée and Sicard, in harmony with the empirical and scientific spirit of the Enlightenment, founded their teaching on this fact. Visibly distinct signals for French grammatical features were built into their programs of instruction. But even in de l'Épée's lifetime, Heinicke challenged the French approach, insisting that words and the ideas they stood for could never be presented inside the mind without sounds. The controversy, in letters between de l'Épée and Heinicke, began in 1780, and Paris, Leipzig, Vienna--the whole intellectual world of Europe became involved. The decision of the Rector and Fellows of the Academy of Zurich in de l'Épée's favor in 1783 did not end this controversy.[5] The fact remains, nevertheless, that eyes, not ears, are the deaf person's prime symbol receivers.

Modern heirs of Heinicke follow a train of reasoning that turns away from this central fact. He began by teaching "deaf-mutes" to make sounds, thence "to read and speak clearly and with understanding." Like all readers, his pupils had to use their eyes, but he contended that the written symbols had meaning for

them only through association with the sounds that they had been taught to produce. He and teachers of the deaf before and since his time also try to have their pupils associate the sounds that they make (and that they must suppose others are making) with visible facial movements--in a word, to lipread.

Language taught by these procedures is expressed in speech, but speech with a difference: Receptively, it is seeing the facial activity of persons speaking; expressively, it is making the sounds one has been taught to make. This way of teaching language is not marked by its success, as many eloquent reports are pointing out.[6] Yet various ways of using these procedures dominate American education of the deaf. Users of the "pure oral" method would postpone instruction in reading and writing until lipreading and voice production have been in use for several years. Proponents of the "natural method" do not teach language either analytically nor synthetically but as situations arise for its use in a classroom of deaf pupils with a hearing teacher, not notably a natural environment. "The oral method" differs from these first two chiefly in that reading and writing instruction accompany lipreading and speaking instruction. In theory, when any of these procedures is in use, there is nothing for the deaf child to see except for the lip and face movements of the teacher and the other pupils. In fact, there is a wealth of information presented to the eyes. Besides the inevitable gesturing of the teacher, there are the teacher's other actions, the room itself, and all the objects in it, not to mention the activity of a handful or a double handful of bright-eyed children. American educators of the deaf have gambled that all this and more information of a linguistic kind can be integrated and understood by means of spoken English as it is interpreted from visual inspection of a speaker's face. For a hearer spoken language does perform this function. Many will have had some contact with a three-or four-year-old's "Why?" and the countless repetitions and variations on the theme of that question. But the oral methods concentrate on getting a few syllables produced and lipread in the pre-school stage; and even after the child is in school, the expectation holds that in one full year the average deaf child will have gained a lipreading and speaking vocabulary of fifty words--fifty against the average five-year-old's five thousand!

The question then arises whether, used in this way, the deaf child's eyes and mind are being put to anything like efficient use. It is this question above all other considerations

which has turned attention back to the sign language of the deaf. Sign, American Sign Language, is directly derived from the language of signs used by the generations of deaf people de l'Épée and Sicard instructed in French. It is the language of deaf adults in North America and has been their language for more than a century and a half. It has been put to special uses recently by hearing persons where speech will not work: in noisy locations, under water, in airless space, and in communication between humans and chimpanzees. Used simultaneously with spoken English, it is also the language in which deaf persons achieve higher education.[7]

2. The Nature of a Sign Language. A sign language uses sight, as lipreading speech does, but uses it in a radically different way. Sounds--vowels and consonants along with differences in speed and intonation--are the elements of language received by the normal ear. What is "read" by a deaf person who has learned to do so is the positions of the lips, teeth, and tongue producing the sounds. But the elements of a sign language are things seen exactly as they are done. They do not divide into vowels and consonants, but into four kinds of elements: these are places, or tabs different from each other but all recognizable as the place where a sign starts or acts or ends; designators, dez, the distinctive look of the hand or hands which make the sign; sigs, the action itself; and the orientation (since 1960 shown in written notation by subscripts to the dez symbol).[8]

Just as vowels and consonants in some sequences but not in others make syllables of English, and one or more syllables form words, so the elements of Sign combine in some ways and not in others as signs. Signs are considered to "have meanings" just as words are; but here some of the common misunderstandings of sign language have their beginning. The usual notion, fostered by English-to-Sign handbooks, is that a sign represents a word of English and conversely that each English word listed "has a sign." The facts are different. The study of languages as systems complete in themselves, has shown that no word-for-word translation of one language into another will result in grammatical output. A sign may have some of the meanings and uses of an English word but not others. Likewise, a word may translate a sign occurring in some contexts but not in others. This being so, the phrases and sentences of English and Sign may be even more different than the words and signs of these two languages.

Here it is necessary to stop a moment and look more closely at the notion of "languages as systems complete in themselves." This idea is really a convenient fiction of linguists. Far from being complete in themselves, languages mingle with other systems at either end. At the meaning end, language connects to everything in the world that its users do and say and think. In other words, at this end there is an interface between language and the language user's whole culture. At the other end, the physical world of sights and sounds, the structures of language in order to get expressed must connect with some bodily mechanisms to produce an output that sight or hearing can receive. For most of mankind, the primary output is speech sound. For the deaf, a minority whose size may have been underestimated,[9] the primary output is bodily activity sometimes called gestural, motor, nonverbal, mimic, or gSign activity.[10]

The notion of languages as "systems complete in themselves" also fails to describe languages in real life, when people individually or in groups use more than one language. Both in the larger, social sphere and inside the language habits of an individual, two or more language systems can mingle with each other and so lose absolute completeness.

However, the possibilities of competing or combining of two languages are different when one is English and the other is Sign. Signing activity and speaking activity can be carried on at the same time, but when that happens the signing is not usually the output of Sign as a language system. Instead, the signing speaker or the interpreter following a speaker, is using signs as code symbols for the words being spoken.

Much of what is called sign language, and indeed most of what is taught in sign language courses is this kind of signing. It is not in such uses a language but a word-encoding system. Nor is it a perfect code such as fingerspelling, in which one hand sign and only one represents one letter of the alphabet. In word-encoding signing, instead of one-for-one matching, some word-and-sign pairs are very familiar to all (the deaf and hearing people) who use the encoding system; but other words do not have familiar sign representations. When saying one of these less familiar words, the speaker or interpreter may fingerspell the word or may perform a sign usually paired with some word similar in meaning to the one spoken.

This way of using signs as an encoding device is of course the entry point for most hearing people who learn sign language to converse with, work with, or teach the deaf. It has the ad-

vantage of being easily learned, as an expressive medium, for the learner does not have a whole new language to learn. This sign-for-word code can be memorized in a relatively short time and with practice enables the learner to make normal spoken utterances visible to deaf persons--actually to those who have a reasonably good command of English at the encoder's level and who also have practice in using this double output system.

Like Morse telegraphy and fingerspelling, this process of sign-encoding spoken words allows its learner to gain skill and speed in transmitting before receptive skill develops. Unfortunately, many hearers who have learned it thus never do learn to receive signing with facility. All this is quite characteristic of secondary language codes. Learning a true language works the other way around: the learner gains real ability to produce output in the new language only after some genuine receptive ability is gained.

The latter process, learning Sign as a language, follows normal language learning patterns. Those hearing persons who do succeed in learning how to sign in a way approaching that of deaf native signers reach that level only after a long period of watching and understanding signers. Deaf people too who report first encountering numbers of other deaf signers say that before venturing any signs of their own they spent much time watching and figuring out what the others were saying. Also interpreters who very fluently encode the words of a speaker they are listening to often find it very difficult and anything but fluent to watch a signer and put his Sign output into spoken English. The latter task is genuine translating, the former is secondary encoding. Much of the difference in difficulty arises in this system difference.

3. System differences. When the two systems, English and Sign, are considered, the possibilities of difference in structure between something said in standard English and the same idea expressed in Sign have been exaggerated and misrepresented.[11] It is quite possible for an expression in Sign to be exactly parallel to an expression in English, as we shall see. It is also possible for the constructions expressing the same idea to be quite different in structure or order in the two languages. This has led some users of Sign as well as some of its detractors to claim that Sign is "ungrammatical" or has "no syntactical rules." Unfortunately this false notion, uncorrected by any real knowledge about language, is repeated in many textbooks used in training teachers of the deaf and is widely believed.

The signs in a Sign sentence may occur in the same order as the words in an English sentence, or they may occur in different order. A Sign sentence may seem to omit signs for words that are essential in the English sentence. Again the Sign sentence may have signs for which the English sentence has no equivalent word. Sign language grammar has its own rules as well as its own lexicon, or vocabulary of signs; and rules and lexicon of Sign differ from the rules and lexicon of English.

Seen as a whole system, then, Sign is quite like English or any other language. Its elements contrast with each other--but visibly instead of audibly. They combine in certain ways and not in others. These combinations, the signs, "have meaning" as words or morphemes in other languages do. Constructions combining signs, like constructions combining words, express meanings more completely and complexly than single signs or words can. These constructions or syntactic structures are systematic rule-governed structures. There is a unique set of rules for making sign language constructions just as there is for making standard English constructions, non-standard English constructions, or the constructions of any language.

Before looking at the extreme differences between Sign constructions and constructions in English, we will look more fully into the possibility of similarity. One thing that makes parallel constructions in the two languages possible is the general agreement that many signs and words form for practical purposes equivalent pairs. Another reason that constructions in Sign can be made to duplicate the order of English is really incidental to Sign. There is a third way for language to be presented to sight--different both from the changing appearance of a speaker's face and from the combinations of the elements making up signs. This third way is usually known as fingerspelling, but it has also been called manual English, dactylology, the manual alphabet, and chirology. It is usually very closely associated with Sign, but may of course also be used as a way of encoding English (or any language) without using Sign at all.

Fingerspelling works by virtue of the pre-existence of alphabetic writing. There is some evidence that its use--perhaps more for secret communication than for serving the deaf--is as old as the practice of scratching, carving, and writing letters.[12] When it is combined with sign language, the differences between Sign and English grammar and vocabulary may disappear. Words that have no counterpart in sign language, like the, a, an, of, and all the forms of be, are fingerspelled when the encoder wants to have the manual expression follow English rules.

Fingerspelling also serves as an important link between the two languages for the bilingual American deaf person. New signs are coined, and many old ones have been, by using the manual alphabet "hand" as dez and moving it in a certain way in a certain place. Thus the first letter of the borrowed English word becomes the dez aspect of the new sign. Signs for days of the week, color names (except red, white, and black[13]), personal name signs, and many other signs are made in this way.

To the linguist interested in grammars, English and Sign may seem to differ enormously; but with the link which fingerspelling provides, the deaf American shifts from one language to the other without conscious notice. But two sociolinguistic distinctions need to be made. First, the deaf signer who is seen sometimes to use a sign, sometimes to fingerspell an equivalent word, is likely to have reached a higher educational level than one who uses the sign only. Second, there are a whole group of signs which in form are derived from short, frequent fingerspelled words; however, these are not used by the deaf in conversation with the hearing.[14]

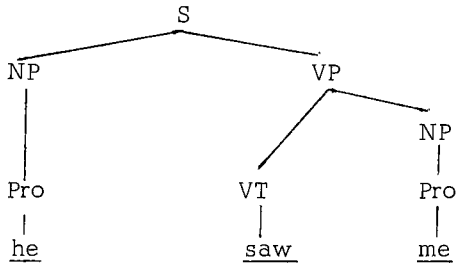
The conditions then, under which a Sign sentence will preserve the order of an English sentence are (a) the free use of fingerspelling, (b) the signer's competence to use English structure, and (c) communication situations that call for the use of English-like signing instead of the colloquial or casual variety. Such a situation may be the signed interpretation for a deaf audience of a formal lecture, or it may be the natural tact of a deaf signer when conversing with a hearing partner who knows sign-encoded words but is unfamiliar with Sign structures. If the communication situation does not call for this kind of adjustment of the output to English-like structures, Sign sentences may show a wide departure from the patterns of standard English. Two examples of such divergence will be examined in detail.

3.1. Surface simplification in Sign. The first example comes from one possible way of signing a simple and basic sentence in English: He saw me. One reason for calling this simple and basic is that its syntax may be described by a small number of explicit rules. Leaving aside all explanation of meaning and the sound output, we may use three rules and a brief lexicon to generate the sentence:

1. S → NP+ VP
2. NP → Pro
3. VP → VT + NP

Lexicon
Pro: he(1st time), me(2nd time)
VT: saw

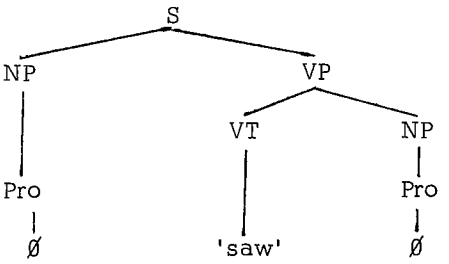
Below is a diagram of the structure these rules generate and the word-string which results from replacing the terminal symbols with lexical entries:



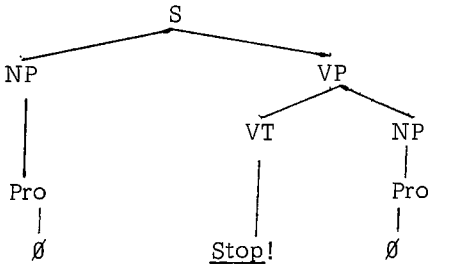
There should be no difficulty in relating this description by rule and diagram to the terminology traditionally used in parsing sentences. Rule 1 describes the structure as Subject followed by Predicate, and Rule 3 describes the predicate as Transitive Verb followed by Object.

The difficulty arises when the same sentence in Sign is put beside the English sentence or the English-like way of signing it. All that an observer will see is what manuals of sign language call one sign, but the sign is one this writer has not found in any of the manuals. The sign given for 'see' in the manuals is described approximately thus: "The V-hand, held up so that the fingertips are near the signer's eyes, back of hand outward, is moved away from the face a short distance." But instead of this, the signer making He saw me in Sign holds the V-hand pointing obliquely out at about shoulder level and looking at it bends the hand at the wrist sharply so that the fingertips point at the signer's own face

Using the same rules for the Sign sentence just described as for the English sentence, we are forced to observe that two of three symbols are not given lexical entries:



This does not seem satisfactory, although it seems to have a counterpart in English:



The speaker and hearer of English understand perfectly that Stop! may be expanded into You stop" or Stop that ! or You stop that!--any of which in fact may occur instead of Stop! Thus all four of these English sentences have the same structure and something like the same meaning.

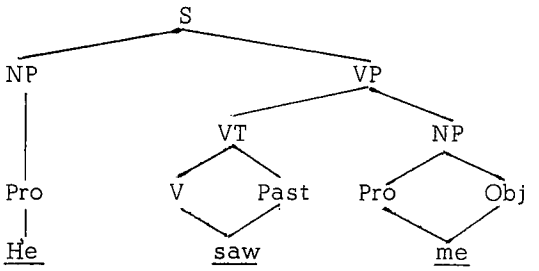
In the case of He saw me signed, spoken, or written, the speaker and addressee understand: 'A masculine person, not the speaker or addressee (whom both could fully identify), saw the speaker.' In the English form (or the fully fingerspelled), there are two other bits of meaning which have surface representation. Saw has a form that indicates the seeing happened in the past; me redundantly indicates what its position in the string also tells, that it is the object. When an example like He saw me is used in a discussion such as this, we must suppose that the sentence was spoken where the speaker and hearer can both indicate and understand all the meaning of he through glances of their eyes. (Just how much sign language, actually gesticulation or kinesis,[15] is necessary for efficient speech communication is another subject.) If we turn from speech to written English, we must suppose that He saw me is taken out of a series of sentences which more exactly identifies who he is.

In the Sign example, the same kinds of suppositions are needed. Since the Sign sentence translates 'He saw me', the meaning 'past' must have come from some overt sign that occurred earlier in a sign language conversation or narrative. Although we can thus account for the element 'past' of the Sign sentence in the same way used to account for the reference of he in the English sentence, the problem remains how does the signer make his one sign sentence mean 'he saw me'? A signer does so (a) by a change in the way of making the sign SEE (which also means 'I see' or 'seeing' in general), (b) by starting the changed sign SEE with the hand held where it would be held to make the sign HE or HIM or HER, and (c) by moving the sign's salient feature, the spread fingers, to point toward the signer's self.

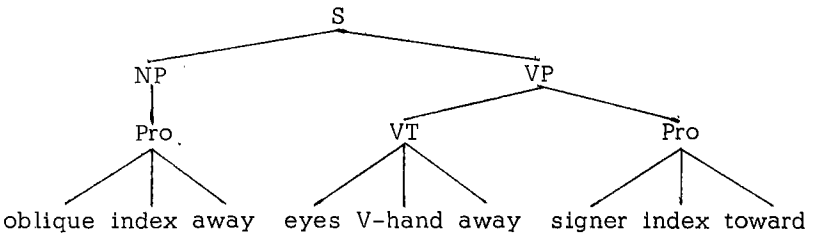
To sum up this comparison, or more properly this contrast, of the Sign and the English sentences more rules are needed. First, for the English sentence, tense and object-marking can be specified by rules:

1. S → NP + VP
2. NP → Pro (+ Obj, in context of VP)
3. VP → VT + NP
4. VT → V + Past

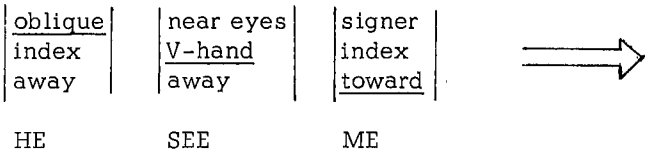
The lexical choice and the verb-form change are now better managed by rule, as V: see, Past: vowel change, and Pro: he(him), I(me) But the structure changes very little:



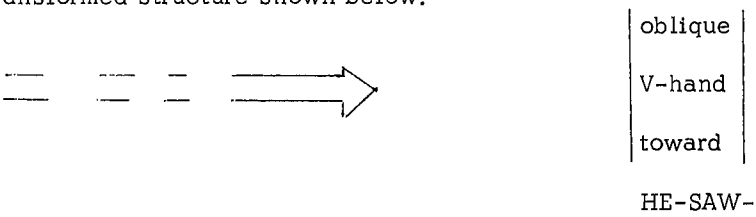
This is still a simple structure, but the one-sign sentence in Sign is not. To describe it requires more and different categories, as the diagram on the next page shows:



If these elements are put together in a Sign way, the result is a three-sign sentence with the same order as in English, but the one-sign sentence we have been considering can only be derived by transforming this structure. The elements, or features, of a sign actually occur simultaneously, as can be shown by writing them vertically, with the sign shown in caps underneath:



The double arrow to the right above signifies that a transformation takes place; the underlined features are the ones preserved in the transformed structure shown below:

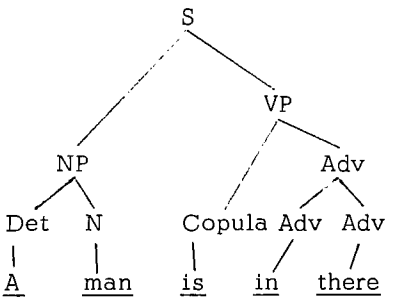


Other grammatical analyses of this one sentence of Sign may be made, but two points should be quite clear from the above: 1. Sign has just as much grammatical structure as English; and 2. Sign sentences convey exactly as much meaning to one who knows the language as do English sentences to a native speaker of English. And one point further: just as He saw me! and He saw me! and He saw me! and other possible intonations have different meanings for many speakers of English, so the Sign sentence can be varied with head and eye movements and modifications in the way the hand moves.[16]

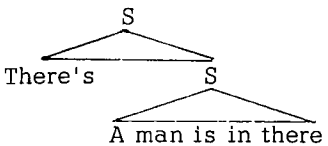
3.2. Simultaneous major constituents in Sign sentences. The second pair of sentences to be compared seems to show more complication on the English side. Grammarians who speak of generation by rules and transformations would say that there is a base structure underlying the sentence, There's a man in there, and point out that a transformation has made it what it is on the surface. They might write rules like the following to generate that base:

1. S → NP + VP
2. NP → Det + N
3. VP → Copula + Adv
4. Adv → Adv + Adv

The rules generate this structure for the base sentence:



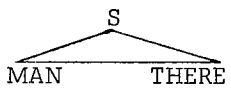
Various transformational rules to derive a there - sentence from a base like this have been proposed. (Part of the educational value of this kind of grammar is the practice it gives the proposer of rules.) One proposal is to consider that two bases are transformed by embedding one in the other. This requires the generation of another base: *There's something (the * marks the sentence as non-occurring, suppositious). Then the part something is replaced by the whole original base sentence. The rule may be: something → S. The diagram below shows the first stage in this embedding transformation:

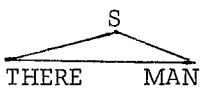


A deletion rule then allows removal of the extra is, to give: There's a man in there. The Sign sentence that "says" the same thing seems to be much simpler in structure. It uses only two signs, MAN and THERE. It has no determiner (i.e. no definite and indefinite article) exactly like those in English[17] and no copula. Sign, like most of the world's languages does not translate be overtly, but in English-base to sign-encoded output all eight forms of be are fingerspelled, and in some new coding systems signs are invented for various forms of be. In this sentence--one actually observed as the output of an actual signer--the sign that equates with the English adverb there, means 'in there', because the signer was pointing to a wall or a door in it; the man was not in sight. In English, a man there means 'where you can see him too.' Thus the actual situation in which it is used determines whether this sign means 'there' or 'in there'. This is not an unusual way for a language and its situational meanings to relate.

Despite the absence of articles and copula, despite its having just two signs, the Sign equivalent of 'There's a man in there' is a difficult structure to describe. What makes it so is that the system of rules we have been using specifies the order of the elements (whether like NP and Pro or like the words that replace them). But in the Sign sentence, both the signs composing it, its major constituents, appear at exactly the same time!

The rule, $S \rightarrow MAN + THERE$, will not work, because any rule of the form, $S \rightarrow X + Y$, means that X is followed by Y. Neither of the diagrams below can show the basic structure, because they also specify left-to-right order:





Order has meaning in Sign, of course, as in all languages. The difference between YOU FORGOT and FORGOT YOU signed may be just like the difference between these constructions in English. Sign, like English, has XY and YX as possible orders in its syntactical system, but nothing in our normal or special conventions of writing can show the third order Sign also has uniquely. If we write $\overset{X}{Y}$ or $\overset{Y}{X}$, we imply that one symbol, the upper, comes before the other. We might try what looks like a typist's error: $\underset{X}{X}$. But microscopic examination of a strikeover might

reveal which key was hit first. Two signs performed at the same time contain no clues to help decide time priority. A speaker of English might cry, "In there! In there!" to which a listener might respond, "What?" and get the answer, "A man!" With this much to go on, grammarians will argue that beneath all this excitement lies the English language competence of speaker and listener, that their competence has quietly generated the base, a man (is) in there, and that two deletion rules have operated to produce the first outcry. But deletion, substitution, combination, and permutation transformations do not describe the sentence in Sign.

The point of this is not that generative-transformational grammars are inadequate. "All grammars leak." No theorist of language has yet adequately described the way languages work inside their own systems, let alone the way they work socially, in human groupings. The point,instead, is that Sign, far from having no grammar, has such interesting structure and so unusual a system that it challenges all theories of grammar.[17] The difference seen in just two pairs of sentences should warn us that everything we know about English, right or wrong, must be questioned all over again before we apply it to a sign language and what its users do with it.

Equally important is the fact that languages are much easier to learn and use than to describe or explain. Every spoken language used (now or in the past) has been learned and learned thoroughly by every child, bright, normal, or dull, that is born among its users--provided of course that the child can hear. Children who cannot hear learn sign languages in the same way. Moreover, the elements of a sign language can with exposure and use become clear and understandable to anyone who can see. The combinations of these elements are signs that have meaning for all who use the particular language they occur in.[18] Having meaning, the signs can also be used to translate English words, --but to translate them no better nor worse than the words of any language can translate the words of another. The combinations of these signs can make sentences in Sign, or with fingerspelling freely used, can be used to make a reasonable facsimile of an English sentence. Finally, it is possible then to encounter signing in which signs are arranged exactly like the words of a standard English sentence but also to encounter signing mildly or wildly different.

4. Social implications of Sign Language. In the preceding section we saw that sign language structure in sentences is sometimes like, sometimes unlike the structure of English sentences. Education of the deaf is also both like and unlike American education in general. Of the latter, William Labov says, "...the fundamental role of the school is to teach reading and writing of standard English."[19] But the schools which he looks at in the aggregate play their roles on the solid stage of language competence. An American child comes to school after four or five years of intensive language learning and use. As some would say, the child has the rules, i.e. the competence to generate and to understand countless sentences--in some standard or non-standard dialect of English, Labov might add. Others would put it somewhat differently: the child has completely learned the sound subsystem, is nearly done learning the inventory of grammatical forms and their combinations, but is only well started on learning the whole semantic system of the language spoken where he grew to school age.

Most deaf children probably will not have learned any of this. The school for the deaf child undertakes to teach literacy of course, but it assumes and additional role, to teach the child English, as if it were the child's native language. But hearing children learn naturally, do not have to be taught a native language. Language that is taught is either a second language or something as unrelated to real language as the can/may distinction drilled into every American boy with negligible results.

What surprises linguists like Labov when they learn of it, and shocks compassionate teachers like Herbert Kohl,[20] is that no school for the deaf uses sign language to perform either the role of teaching literacy or of teaching English.[21] It would take too much time away from the study of sign language to go into the language teaching methods in use and the rationalizations in vogue for not using Sign, and much of the educational literature about language is vague or worse. Time can be better spent in looking at the sociolinguistic facts of life in silence.

One of the most important uses of language is the formation and preservation of social groups. The term group can be given its widest meaning, for language has critical functions in the intimate group of two (though perhaps the smallest group is one person thinking), as well as in the widest groups: e.g. Western Civilization, The Free World, Socialist People's Republics. If

these extremes are too remote to be convincing, one has only to recall the inclusive and divisive effect of just one word, black, as used in American society in the nineteen-sixties.

The most noticeable effect of Sign is to make deaf persons using it immediately visible and visibly different. Conversely, not using it hides the deaf person from detection as different by a casual observer. An unreasonably high valuation put upon this effect has worked along with outmoded language theories to keep Sign out of schools. Nevertheless, these facts remain: Those who cannot hear must use eyes instead of ears to receive information, and in this respect they are very different from hearing persons. Communication with others by lipreading and acquired speech is no more normal than communication by signing gesturally.[22] Deaf persons, whether educated orally or left alone, do sign to each other.

The deaf constitute a social group both by the difference of not hearing but even more by the social working of language. But this is grouping by separation from hearing society, and deaf people form groups just as people generally do, in large part by the operation of language. Having a common language joins people with the strongest of bonds.

Using sign language, however, does not make a single and homogeneous group. Just as among users of any of the world's languages, there are all kinds of subgroupings determined also by language and its use. One of these is the subgrouping by age and language. Children, teenagers, adults who use sign language are in far more complete communication within these and smaller age groups than across them. The case of infants is somewhat different, as in any language community. The fortunate deaf ones--from a language standpoint--have deaf parents and perhaps deaf brothers and sisters with whom sign language puts them into perfectly natural communication at the earliest possible age. Once the sign language user joins a group of agemates--and those whose sign acquisition is not a family affair often first learn it then--this user's language is theirs too and stays for a lifetime.[23]

Another kind of language grouping, observed among speakers of all languages, is found among Sign users. Persons of the same age group sign alike, except that those of the same sex sign more alike. Obviously physiological causes in vocal tract size can be found for the difference between women's and men's voices; but when the focus is language, not speech, the differences in

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vocabulary, grammatical structures, and every other part of the system can be observed. Here the observer who comes new to signing is at an advantage. One of the first impressions will be of the difference between the signing of men and of women, a difference that may be described as angular or sharp vs. rounded, smooth, or graceful. The reader may doubt that there is a similar difference in male and female speakers of English unless he has heard and noticed this difference in other dialects than his own.

A third kind of grouping, a more precisely interpersonal relationship that language accomplishes, it does through style levels. Martin Joos in his book of the same name calls these "The Five Clocks."[24] As five clocks can be set to tell different times, the style levels of language can be set--and are set--to tell different things of importance about the relationship of speaker to addressee. These levels Joos calls, "intimate, casual, consultative, formal, and frozen," with consultative as the central norm with opposite tendencies. Consultative style joins two people through language despite their differences, because "two heads are better than one" when consulting upon most subjects. The vocabulary, structure, manner of production, and information content of this style can be taken as standard for the language. In casual style, the language itself implies 'we're friends' and therefore much information may be left out that must be in place in consultative style. Also in casual style, slang is not only permitted but required. In the other direction, formal style treats the addressee as if he wasn't there--in fact he isn't able to reply now because he is one of an audience or other formal group. All the connections must be clear in this variety of language along with every bit of information; and since interruptions are not expected or allowed, careful is the obvious characterization of formal style. This is the speaking style, of course, that comes closest to written style of the kind which gets published.

Intimate style comes very close to being a contradiction to widely used definitions of language, because it is a social vehicle, a possession shared only by those who know the rules. For intimate style is private language. Husbands and wives, to take one kind of group, have a special vocabulary, including pet names for each other, as many observers have noted; but a clearing of the throat or a grunt or a word that would have little meaning in other circumstances--things like these have more force in an intimate group than whole paragraphs of formal language can have.

Frozen style is the imaginative label Joos gives to the style of (good) prose and poetry. He does not call it "literary" perhaps

because in casual or consultative exchanges we may take the word literary to mean artificial, artsy-craftsy, or hoked up. "Frozen" seems a chilly label for language until we think of how our standard of eating has improved since the invention of frozen foods. From his discussion of this style level, Joos launches into a description of literature, its nature, uses, and production, by actually creating some. This is also pertinent to the study of sign language and is of the utmost importance to every person who has contact with a deaf child. Sign language is not written, but it has a literature. Careful language characterizes formal style, but artistic language, frozen style, has more than just care behind it. Many peoples whose culture does not include writing have songs, poems, dances, charms, histories, and liturgies that use frozen language style. Sign language users too have artistic forms of expression, and themes to express in them.[25] Two of the most intensively developed at the present time are fortunately widely accessible to non-signers. One is a union of Sign and interpretive dancing in which signs seem naturally--but really with consummate artistry--to merge into the total movement of the dance. The other is Theater of the Deaf--visible on television and in national and international tours as well as in local deaf communities. This too is a natural-seeming development, from pantomime and from the pioneering of the Gallaudet Dramatic Club in the fifties and sixties.[26]

All five of the styles Joos describes, then, are also found in the use signers make of Sign; and recognizing them has tremendous implications for the study of sign language. First of course is the conviction that recognition of them brings with it: if a sign language works intimately, casually, consultatively, formally, and artistically, even as it unites and divides its users by age, and as its structures come from its self-contained system--then surely it is a language of the depth and complexity that only languages have, a language well worth study. Second, when its "frozen style" embodies artistic achievements that make (hearing) critics of drama and dance jump to their feet in applauding, the parents and teachers of deaf children must come to realize that using signs does not cut off the heights but opens new ranges to be surmounted. And third, for the study of sign language itself, the five styles are indispensable instruments.

An attempt was made in 1965 by Elizabeth McCall to explain the syntax of Sign in "A Generative Grammar of Sign."[27] She writes phrase-structure rules and transformational rules to generate some

sentences of sign language she observed in use. One shortcoming is that the signs themselves, the physical elements of signing, are not described. Instead the sentences collected are recorded as sequences of English words used to translate the signs observed. But the use of "the five clocks" would have prevented a more serious flaw. The signing was observed at picnics and other social occasions. The persons signing were friends, fellow workers, immediate relatives, and intimates of each other, as is learned from the introduction and from the internal evidence of the sentences themselves. It is a safe bet, then, if not a certainty, that the signing observed was all on the casual and intimate level, never even rising to the consultative; since persons not on casual terms do not go to such gatherings with each other, or if they do, as Joos points out, they stay on strangers' footing for a few seconds at most--the time for a formal introduction and one response. Then, since the characteristics of casual style are ellipsis and slang, and those of intimate style are extraction (of information that the intimate already knows) and jargon, any attempt to write the grammar of Sign and its (partial) lexicon from this data is bound to describe something quite different from the standard (consultative or formal) sign language, the sign language that might be used to advantage in schools. Indeed, the first two rules of the McCall grammar (page 22) show more things left out (in parentheses) than left in the base structures:

$$1.\ S \rightarrow \{ (^{G}_{Adv_e}) + (NP) + Pred + (T) \}$$

$$2.\ G \rightarrow \{ G_2^{(Adv_e)} + G_1 \}$$

Using this same procedure would result in a much elided and extracted English sentence structure. Suppose an overheard conversation between husband and wife goes like this:

"Dear?"
"Engh?"
"Checks."
"N't goin' that way."

After much study, a panel of experts on English as it is spoken

might translate the passage as follows, with material in the parentheses to show what information has been left out because the person spoken to already knows it:

"Dear? (Are you listening, because I would like to remind you?)"
"Engh? (= Yes; I'm listening; what is it?)"
"(I am almost out of blank) checks (as you know, and I must do the accounts tonight. Would you please stop at the bank on your way to work and order some for me?)"
"... (I have to drive Charlie to the airport this morning, and I wo)n't (be) going that way."

Then, if we were to write rules for English sentences like those actually spoken, with parentheses to show what elements were left out, we would possibly get a generative grammar of (intimate) English much like the first generative grammar of Sign.

Two other ranges that Joos relates to the range of five styles are those of scope and responsibility. A speaker or user of a language may be understood only by persons in a small locality, in a wider provincial region, or anywhere that the language is used. Scope widens from local, to provincial, to standard, then again it narrows to conservative or all the way to puristic. Education and variety of experience are usually the means of changing local and provincial ways of using language to standard, but personal preference usually accounts for the later narrowing if it occurs. There is frequent reference among sign users to other signers' "home signs" and much condescension in discussing these local and provincial manners of signing. "Ameslan" as Lou Fant describes it, appears to be provincial in scope.[28] Ironically, the makers of handbooks and many teachers of sign language--to hearing adults mainly, since children are not supposed to use it--miss the standard scope and take a conservative or even purist attitude; their descriptions of "the right way" to make signs can depart as far from standard in one direction as home signers do in the other direction. Standard is of course not a matter of legislation but of currency. When leaders of the national deaf organizations discuss standardization of Sign as part of the work of, e.g.,The National Association of the Deaf, The Communicative Skills Program (of the N.A.D.), or the Jewish Deaf Association, they are not trying to halt the tides of natural language change but only to recognize that there are local, provincial, standard, conservative, and puristic kinds of Sign, and to indicate that one who studies, practices, and uses standard Sign is on the surest ground.

The other range Joos treats is responsibility. Just as in a person's way of speaking we detect character, so it is in Sign use. The smooth operator, the promoter, the born loser, the show-off, and all the other types that we associate closely with a particular way of using language are all to be found in the sign-using community too. One does not have to be a native signer or expert in sign language to recognize the general indications of character in language use. This kind of language difference is what Joos calls responsibility. We judge it of course by the way a person talks, looks, and acts, so that it is a language difference closely linked to many other indications of character.

5. Bilingualism in Sign and English. The constant use of two languages, or bilingualism, may be looked at from either end of a sociolinguistic telescope. In the broad view, it is a complicated social and political problem with a linguistic center and a very explosive potential, if peoples of two language stocks must live under one government. It is also, if looked at closely, a valuable skill of an individual person. The study of sign language requires looking in both directions. The deaf population of the United States may suffer the same irritation, frustration, even loss of basic rights and privileges as do other minority language groups.[29] The deaf individual, however, faces a unique problem: one of the two languages he must use is not oral--the full definition partially quoted at the start of this paragraph reads, "Bilingualism is the constant oral use of two languages."

The broad social aspect of bilingualism has many facets when looked at worldwide. Canadian bilingualism involves two languages of high prestige, and the rivalry of French, British, and Canadian cultural values complicates the sociolinguistic situation. In other bilingual areas, only one of the languages may have the prestige of worldwide use, while the other remains little known and perhaps unwritten. In the past, obviously, the world language would become the language of the dominant group and the local language remain the tongue of the governed classes. In the present world, however, it is possible to find the language of the emerging nation made official, and English, French, Dutch, or Arabic reduced to secondary status.

These are but of a few of the possibilities when languages are in contact, but for the deaf the pattern is still most like that of the colonial past. Sign language is not written, though now it may

be. Sign is little known, either to the general public or to those whose study is language. It is excluded from school and religious instruction--though it should be said that several religious groups have been and continue to be its strongest supporters. For the deaf of other countries, the bilingual situation can be even less advantageous. Colonialism, imperialism, and racism--words that occur as often now in hot debate as in cool study--still summon up a social attitude that can be discerned in much official policy regarding Sign. Here for instance are the words of a British royal commission to examine "the place if any of 'manual communication' in the education of deaf children" (emphasis added):

> Clearly the major risks associated with the use of a combined method which includes signing would be eliminated if the signs were themselves chosen from a systematic language with normal grammatical structure.[30]

The chairman of this commission amplified his remarks in a later address to those concernedwith teaching deaf children:

> Everybody knows what is commonly said about signing, that it may impede, may retard, the development of language. I think there is some misunderstanding about this, if I may give my personal opinion. The notion is that signing is more natural, that signing is easier than the mother tongue [whose?]. Up to a point this is true, but if signing is to be a means of educating the children, the question is whether it is in the hands of teachers who understand what they are doing and have the skill to put it into practice; and how far the signing itself is linguistic.[31]

The commonly held notion that "the mother tongue" is the sole repository of "normal grammatical structure" is a concept well known to anthropologists, who call it ethnocentrism. When it is used to deny that some other language is "systematic" and to impute to the out-group who use that other language a deficiency of mental functioning, this notion comes perilously near racism. The study of the grammatical system of sign languages as well as their semantic and symbolic systems is the best way

to replace such superstition and prejudice with useful knowledge. To begin, one may with profit read the essays "The Linguistic Community" and "Sign Language Dialects" by Carl Croneberg (in Appendix C, 297-311, and Appendix D, 313-319, of A Dictionary of American Sign Language on Linguistic Principles.[32] More recently, several articles by James C. Woodward appearing in the quarterly journal Sign Language Studies have show how all of these subsystems of language relate to the special social dimensions of the deaf community.

Social bilingualism is important to an understanding of American education of the deaf, but the bilingual development of the deaf individual is crucial--for an excellent case study of such development see below, pages 37-41. In fact, a deaf person faces more than the classic bilingual dilemma. The member of a minority language group has the choice of staying monolingual and so staying a second or third class citizen, socially and economically. If he tries to shift to the language of the dominant majority, he may either succeed and so shut himself off from his background and incur social and psychic costs, or fail and be rejected by the dominant group with equally serious consequences. Ideally, of course, he should grow up where he can learn and use both the languages with about equal frequency--a situation hard to realize.

But the person who cannot hear does not have even these hard choices. The chances are ten to one against his growing up in a family using sign language, and therefore he must come to school age without knowing any real use of spoken language or of standard, community governed sign language. Even with sign language learned at home or from association with older deaf children, the deaf person cannot receive any formal education in this language, because schools and teachers, if not his parents, reject signing. Instead, this person will be taught in school to make sounds and perhaps to lipread them, to recognize and to write letters, and even, in exceptional situations, to fingerspell. All of this activity has an English base, of course, and is designed to make out of this person a monolingual user of English. Early resistance, or failure, on his part to function like a native speaker of English--dropping out more than likely--consigns him not just to a depressed economic and social status but in some cases even to sheltered institutions.

Fortunately, the good sense and adjustment to reality of many members of the deaf linguistic minority exceeds that of well-meaning officialdom. None or very few of those whose native language is Sign suppose that a monolingual life in a sign-using deaf community is an open option--although there was a short-lived movement

early in this century to set aside some of the Southwest Territory for a deaf state which would have the language of signs as its official language. While the authorities in school try to force deaf children to function monolingually in a vocal-symbol language, wiser heads in the deaf community strive for maximally effective bilingualism.[33] The higher the level of competence in reading and writing English the deaf signer can attain, the better his life chances in the bilingual situation. Acquired speech and lipreading skill are also valued assets that no deaf person despises. The deaf do object to a formal educational program which concentrates on the two "oralist" skills alone when all evidence shows that reasonable proficiency in them is attainable by very few individuals; while for most, even a dozen years of full-time effort brings only frustration and nonsuccess. Meanwhile, the language competence in English that could have been fostered through use of the deaf pupil's Sign competence is lost.

From the point of view of one who cannot hear, bilingualism can be more a challenge than a dilemma. Direct personal communication with one's friends will naturally be in sign language. One does not have the same kind of relationship with foreigners; and all speakers of oral languages will always be in a sense foreign to one who must listen with eyes not ears. But consultative and formal participation with others is almost exclusively in English, the language of the general culture, which affords the only way into that culture and all its benefits. Therefore the person who cannot hear will learn just as much English just as well as circumstances allow. The real issue is not oralism vs. manualism, as much time has been wasted arguing; instead the issue is whether the true bilingual situation of the deaf--Sign and English--is to be recognized.

The question to be faced by all who have a hand in shaping the life circumstances of the deaf is this: will the deaf person reach maximum competence in English better if forced into apparent monolingual use of English or if the need for bilingual development is acknowledged and satisfied? This question is a somewhat different way of looking at the old controversy. Linguistics and sociolinguistics, that is, provide a way of saying not "one language or the other" but "both." Linguistics as an anthropological science starts from the view of language as central in total culture. From that it follows that

differences in the way people communicate, in the things that they do, and in their languages are seen as data to be studied and not as deviation, error, deprivation, primitivism, or degeneracy. Again, sociolinguistic studies have shown repeatedly that bilingualism, diglossia, and other intimate combinations of languages in the individual and in social groups are facts of life. From a sociolinguistic viewpoint, the bilingual language competence of the deaf may be compound or complex; i.e. they may be more at home in Sign than in English or may be equally competent in both. In contrast, the psychological model behind much current policy for the deaf treats the language of the deaf as a pathological condition.

Fortunately, some teachers' practice is better than their theory; but bad theory can corrupt practice. A teacher may understand a complicated statement, an explanation, or a request presented entirely in Sign and may respond appropriately. Yet this teacher is all too likely to tell an observer that the pupil who has just communicated in Sign "has no language"! What we are to understand from this amazing statement requires explanation:

1. By "language" the teacher means 'competence in English needed (a) to understand grammatical sentences presented in the teacher's voice or in writing, and (b) to produce grammatical sentences in the pupil's own voice or writing.'

2. By "no language" the teacher means: '(a) The pupil's responses to written or spoken sentences are inappropriate or are lacking; (b) the pupil's production is not grammatical; or (c) both of these.'

3. By "has no language" the teacher implies that the pupil is as much out of place in an ordinary elementary classroom as a two-year-old would be in second grade.

4. By using "language" as the token for 'correct English' and by not allowing language to stand for Sign or anything else than "correct" English, the teacher is guilty of falsely condemning the pupil to a subhuman, socially inferior status.

5. By implication this teacher is also unconsciously confessing and excusing failure--who could be blamed for not teaching anything to a child who "has no language"?

Such a teacher is still on the side of the angels. At least the pupil's communication in Sign has been responded to and understood

adequately. What this teacher says and thinks about "language" are the residue of teacher-education and textbooks. That this teacher does not use Sign to address the pupil and to help pupils learn English is doubtless the policy of the school, and to run against such policy is as much as many teaching positions are worth. Yet the study of sign language could free this teacher from the fear and ignorance that equate all knowledge and thought with a single language or dialect.

Unfortunately the teacher who can understand the pupils' Sign utterances is not typical nor even part of a substantial minority. The usual teacher response to the first appearance of a deaf child's sign language is often such uttter rejection that signing is ever afterward hidden from teachers. This does not keep the teachers from saying however that the pupil "has no language." Sociolinguistics could at least tell these teachers that even in a "one-hundred-percent American" community there are other languages than English in use and other varieties of English than that familiar to the teacher. Teachers and others in special education programs who will become teachers of the deaf can find other benefits too in the study of sign language and in the findings of linguistics.

The greatest obstacle to second language learning is lack of opportunity. There must be a great many persons, among them teachers, who would like to know another language if only they could find someone to teach it and use it with them. The good fortune of finding a person one spends minutes or hours with every day to learn from as a native speaker of an exotic language seems remote. Nevertheless, most teachers of the deaf are blessed with such riches to the point of embarrassment. An older deaf pupil knows far more sign language (both vocabulary and structure) than any teacher is likely to imagine. Indeed the pupil has probably become extremely skillful in hiding this knowledge because of the attitude of the school and its teachers.

So, if a teacher of the deaf has a genuine desire to learn Sign, the problem is not to find one who knows it but to persuade those who know it that using Sign is permissible and will not be punished overtly or covertly. A pupil who is at a loss, halting, inarticulate in English may be fluent, imaginative, even eloquent in Sign. Of course one who resolves to

learn the pupil's language must first accept the fact that it is a language, must remain undisturbed by its differences from English, and must make the pupil-informant comfortable in the new situation. In some cases it may be easier to find an informant not in the pupil-teacher relationship. Many teachers in schools for the deaf can find a colleague (perhaps in the vocational department), a dormitory supervisor, or another staff member easier to approach and to learn Sign from. After all, learning the pupils' language requires a difficult reversal of roles. There are many references in the writing of deaf persons to the kind of response (often unconscious) from hearing persons that effectively and finally checks their attempts to speak. The looks on the faces of those standing near when they venture to produce their version of speech sounds are often mentioned in personal histories. Just as clearly, the deaf person is quick to perceive the kind of effect his use of signs has elicited in the strictly oral school environment. The classroom teacher who is at least open to being convinced that there is a case for the study of sign language has only to be attentive, sympathetic, encouraging. But this kind of attitude may go directly counter to the policy of the school and so needs to be carefully considered.

6. Classroom research and application. Once contact is made with a willing informant and a teacher is in a situation where the study of sign language can begin, progress can be rapid. Besides being in more direct communication with pupils, the teacher who learns to sign and to understand Sign is able to engage in fruitful research of a directly applicable kind. Contrastive study of Sign and English has barely begun as a formal research activity, so that any teacher with a classroom of deaf children is in a position to anticipate the professional researcher. The first kind of contrast noted by everyone who encounters a new language is vocabulary's contrasting pairs. "What is the sign for this word?" is a question asked hundreds of times by those who are starting to learn sign language. But the kind of information this question produces has only limited usefulness. If there were really a definite answer each time the question were asked, or if there were to be exactly one sign for each English word the asker already knows, there would be no sign language--only a simple one-for-one code of signs to represent all English words.

A more effective way to study contrasts may be put like this: Given sign A and word B, each translating the other, what are

the differences in the way the word and the sign are used? This question is open-ended. A complete answer requires a full description of each of the two languages. Yet much useful information can be discovered by asking it. Take for example the word to and the sign TO: the third word in "from Chicago to New York" is equivalent to the third sign in, FROM CHICAGO TO NEW-YORK. The sign written as TO is made by touching one index fingertip with the other. However, in translating "he forgot to pay", no sign is used for the third word. HE FORGE T PAY is perfectly grammatical Sign. This Sign sentence may be translated into English in various ways:

HE FORGET PAY

1. Him forget pay.
2. He forgot pay.
3. He forgot paid.
4. He forgot to pay.

The first is likely when a hearing translator has an open or a hidden animosity toward sign language and those who use it. The second and third are more likely to occur if the translator of the English sentence is more at home in Sign than in his second language--remember that the English speaker in a billion or so patterns similar to this has never failed to hear a /t'/ between the two verbs and never failed to pronounce a /t'/, but the deaf translator has never heard one. The fourth translation, the only one in grammatical English, is the one produced by the person seeing HE FORGET PAY in Sign and having the capability from studying sign language to make a full translation from one language to the other.

To return a moment from sentence translation: The inescapable contrast between mutually translating vocabulary items can be broken into more detailed questions, to which the teacher who studies sign language can apply answers immediately. One thing to look for is a one-to-two contrast. Some of the signs in Sign need two words to translate them; e.g. SEARCH (the cupped hand circles in front of the signer's face) equates with English search for. Conversely, some words of English need two signs for their translation; e.g. discuss goes into Sign as DISCUSS ABOUT.

No one has yet made a full study of these contrasting sets of singles and doubles, so that the teacher of deaf children with a real interest in sign language is in a better situation for studying them than are most graduate students in linguistics. The teacher may also be the most important user of this kind of research result,

and that teacher's pupils are in line to receive the most benefit. Two-word to one sign and two-sign to one word pairs present obvious contrasts for anyone who is studying sign language; the bilingual deaf signer whose English proficiency is classed as "native" also finds these pairs clearly contrasting. But to deaf pupils in a classroom or doing homework, there is no such clear cut contrast between the patterns of one language and the patterns of the other. They will persist in writing "I searched the word in the dictionary" or "we discussed about Vietnam." Any experienced teacher of the deaf can list a great many more examples of these two kinds of mix-ups. The teacher who makes a study of sign language, however, will know how to take steps toward reducing the frequency of these pattern interferences and increasing the frequency of grammatical combinations that the pupils can produce. The algorithm here is a bilingual one: See here is the way that we sign it; but if we want to write it or say it in English, we put in this word for two signs (or put in two words for this sign).

How much and how fast the English production of pupils so taught will improve may be viewed optimistically or pessimistically, but there is good evidence that simply having a teacher who knows and makes known to the pupils that they are dealing with two language systems, not one, will pay educational as well as social dividends. Another approach is to look for pairs of English words that occur in the same order in habitual usage but when translated may take the opposite order in Sign (e.g. plane reservation: RESERVATION PLANE), and for word pairs that cannot be separated but are used apart in sign translations, and vice versa.

Besides these syntactic contrasts, which are relatively easy to discover and to deal with, there are other system differences between the two languages that need study. English has a unique tense system. Every finite verb in English must be marked for past tense or remain unmarked; sign language, however, does not use verbs as time indicators at all. Of course signers like everyone else must deal with time. Here too the classroom teacher is in position to do front-line psycholinguistic research: How do children who use sign language deal with time while their understanding of time and sequence, their concepts for dealing with time, and their language symbols for the concepts are developing? The work of Piaget on children's growth in handling time, space, equivalence, proportion, and other matters is of use here, as is the application of it Furth has made in his Piagetian studies with deaf school children.[34] Children must reach a certain stage in development to deal with such operations in language, and Furth has found that this stage

occurs at about the same chronological age whether the children are native hearers-speakers of English or born deaf and so used to using visual instead of vocal signs for thought and communication.

To move from these syntactic contrasts to semantic differences, so common a matter as degree is treated in a quite different way in the two languages. The English speaker has command of resources of paralanguage and kinesics shared with other users of the same dialect. Thus the speaker can say "good!", and use intonations and voice features and facial expression and gestures that will modify the effect of the word in several ways. But in addition to these modifications, the speaker has, usually, a wide range of similar words to choose among. Instead of good, the speaker might have said, fine, right, ok, excellent, wonderful, or first rate. A different choice of word, like the use of paralinguistic and kinesic modifications, will modify the effect --certainly it will indicate style, scope, and responsibility. Then too, all the users of English that the speaker frequently talks with are also in complete control (though it may be outside their awareness) of both of these scales of modification, the paralinguistic and the word choice. Like the speaker they know how to interpret the result of both ranges at once--e.g. to decide whether wonderful with lower than normal pitch, falling intonation, and a grimace of resignation indicates a more or less negative reaction than good spoken with false heartiness, speeded-up tempo, clipped resonance, and a frown.

In contrast with all of this is the sign language user's communication of similar ranges of meaning. The first and most striking difference is vocabulary size. Sign language generally has many semantic areas covered by a single sign, whereas the same or similar areas of meaning are covered by a number of different words in English. Everyone who first begins to study the communication of persons using sign language notes with surprise the subtlety and precision of their interchanges Sign language has no need for large numbers of closely related separate items of vocabulary, because one sign can be easily modified to express many degrees of meaning. Sincerity, intensity, interest, and other nuances are part of the signer's performance of a sign. The size, speed, tension, precision, and duration of the actions involved in signing are all variable at will; and all are used and understood as message-bearing fractions of total communicative activity--but again most of this is outside the awareness of sign users just as speakers need not think about the tone of voice or gesticulations they are using.

But the way of looking at signing just described--as consisting of "signs" and different manners of "making signs"--is certainly under the influence of older ways of looking at languages generally. Looking

at facial expressions, speed, size, and other things that occur as variable elements of "making a sign" in a different way may prove useful. In this way, a facial expression or eye movement or tempo change might not occur without an accompanying sign but might still have a definite and grammatical role in expressing meaning. Then the facial action or manner of performance would be very much like, for example, the -s of English, which does not occur except with a word, but which may make a noun plural or may mark a non-past verb with a singular subject.

This contrast between English and Sign vocabulary size and function finds a rough analogy in two mechanics' toolboxes. One has a complete set of wrenches, each of a fixed size to fit just one different size of nut or bolt head he expects to work with. The other has just one adjustable wrench, which will open wide enough for the largest and can be made to fit anything smaller. But this contrast of English and sign language needs more study. In fact it would be best to treat it as a hypothesis. The testing of its truth by observing sign language and English in operation is research which any teacher working with deaf pupils may undertake. Here too the opportunity to apply what one finds out is large. Those pupils who are adept at conveying to each other finely shaded meanings have real semantic skill and may prove apt learners, if shown how to put the same message in standard English. And this can be done once the teacher has worked out the full details of the contrasting patterns. For the teacher engaged in this contrastive study there are accessible materials of the most valuable kind in the classroom. What the pupils are saying to each other is by all odds the most interesting to them of all materials. What the lesson is about, what Dick said to Jane, what the teacher says--these things do not come near in pupil interest what the pupils sign to each other about. One real objective of the study of sign language is the ultimate ability of the teacher to participate in the real, intimate, vital communication of deaf pupils, then to impart all the knowledge and experience and understanding that a teacher has, and ultimately to show the pupils that what they have to say may be put in English appropriate also to the message.

Interesting as sign language is as a system, tantalizingly like other languages and fascinatingly different, the real value to be found in the study of sign language is a human not an abstract scientific value. All language is unique; but the study of sign language reveals that language is both abstract, independent of speech and of gestural expression, and biologically concrete because of its expression. Language depends on the human brain, not on the naked or electronically assisted human ear.

NOTES

1. See Harry Markowicz, Methodology, Educational Objectives, and the Deaf Image, in Proceedings of the Third Gallaudet Research Symposium, January 1976.

2. See Psycholinguistics and Total Communication: The State of the Art, ed. T.J.O'Rourke (Washington DC, American Annals of Deaf), 1972.

3. Office of Demographic Studies, Gallaudet College, Kendall Green, Washington DC 20002; various articles & research monographs on hearing impaired students.

4. Louie Fant, Ameslan, Gallaudet Today 5:2 (Winter 1974-75), 1-3.

5. An account of the early controversy is given in Christopher B. Garnett, Exchange of Letters between Samuel Heinicke and the Abbé Charles Michel de l'Épée (New York, Vantage), 1968; see also Jules Paul Seigel, The Enlightenment and the Evolution of a Language of Signs in France and England, Journal of the History of Ideas 30 (1969), 96-118.

6. For example, in England, where an oral method was everywhere used, only 11.6% of children surveyed in 1963 were found to have clear intelligible speech and good lipreading ability-- quoted by John C. Denmark (from a Medical Offices survey) in Hearing 28.9 (1973), 284-293.

7. Actually, signs used simultaneously with spoken English by native speakers of English will tend to be code equivalents of words in English sentence structures, but higher education is more than the words of speaking teachers and includes to a degree usually unsuspected the signing of deaf collegemates and deaf teachers.

8. The notational conventions and terms referred to briefly here were first described in William C. Stokoe, Sign Language Structure: An Outline of the Visual Communication Systems of the American Deaf, Studies in Linguistics: Occasional Papers 8 (University of Buffalo, 1960; now available from Linstok Press).

9. Jerome D. Schein & Marcus T. Delk, The Deaf Population of the United States (Silver Spring MD, National Association of the Deaf), 1974.

10. For a discussion of terminology and treatment of this kind of behavior, see William C. Stokoe, Motor Signs as the First Form of Language, in Language Origins, eds. Wescott, Hewes, & Stokoe (Silver Spring MD, Linstok Press), 1974, 35-50.

11. See, for example, Bernard Th. M. Tervoort, You Me Downtown Movie Fun ?, Lingua 21 (1968), 455-465.

12. Edward R. Abernathy, An Historical Sketch of the Manual Alphabets, American Annals of the Deaf 104 (1959), 232-240; also William C. Stokoe, Classification and Description of Sign Languages, in Current Trends in Linguistics 12 (1975), 345-371.

13. William C. Stokoe, Color Terms in American Sign Language, Sign Language Studies, in press.

14. Robbin M. Battison, Restructuring of ASL Loan Signs, Paper presented at UCLA Linguistics Meeting, January 1976.

15. See Adam Kendon, Gesticulation, Speech, and the Gestural Theory of Language Origins, Sign Language Studies 9 (1975), 345-376.

16. Charlotte Baker and Carol Padden, Facial Features in Sign Language Discourse. MS, a study in progress at Gallaudet College, Linguistics Research Laboratory.

17. See Chapter 5, Syntax, in William C. Stokoe, Semiotics & Human Sign Languages (The Hague, Mouton), 1972, 74-107.

18. See articles by Battison and Jordan in Sign Language Studies 10 (1976), in press.

19. William Labov, The Study of Non-Standard Dialects (Washington DC, CAL/ERIC), 1969.

20. Herbert R. Kohl, Language & Education of the Deaf (New York, Center for Urban Education), 1966.

21. Even in an era of "total communication" the usual school for the deaf allows a multitude of modes of expressing language --speech, signs, fingerspelling, cues, etc.--but only "straight" or "correct" English as that language.

22. See Harvey B. Sarles, Could a Non-H ?, in Language Origins, eds. Wescott, Hewes, Stokoe (Silver Spring MD, Linstok Press), 1974, 219-238.

23. A study of communication in a group of adult deaf signers shows this and other interesting features of deaf culture: Stokoe, Bernard, and Padden, An Elite Group in Deaf Society, Sign Language Studies (1976), in press.

24. Martin Joos, The Five Clocks (New York, Harcourt Brace), 1967.

25. See especially, Gilbert C. Eastman, Sign Me Alice (a play composed in sign language; Washington DC, Gallaudet College), 1974.

26. See, for instance, the playbill for the Gallaudet College Theater's production of "Hands", November 14, 15, 21, & 22, 1975, and the "Director's Note" by G. C. Eastman.

27. Unpublished M.A. thesis, University of Iowa, 1965.

28. Fant, op.cit., footnote 4.

29. McCay Vernon, Editorial, "Deaf Militancy," American Annals of the Deaf 119.1 (April 1974), 15.

30. M.M.Lewis, The Education of Deaf Children (London, Her Majesty's Stationery Office), 1968.

31. From a speech by M.M.Lewis at the Royal National Institute for the Deaf conference at Edinburgh: Hearing 24.4 (1969), 102.

32. New Edition (Silver Spring MD, Linstok Press), 1976.

33. See especially reports from the Communicative Skills Program of the National Association of the Deaf, T.J.O'Rourke, Director, in the Deaf American.

34. Hans Furth, Thinking Without Language (New York, The Free Press), 1966; Deafness & Learning (Belmont CA, Wadsworth), 1973.

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