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Universality of Language Design

LEARNING a new language is an easier assignment than other tasks you might be called on to perform. You have something to say. Let's presume it's worth saying. Certainly you are able to say it in English. Now you want to learn to say it in Language X. It is guaranteed that *there is* a way to say it in Language X. Your task is to find out how. Compare this situation now to a common one in many other fields of inquiry, such as mathematics, civil engineering or philosophy in which you want to know the answer to some question, but you don't know for sure that there even is an answer, or even if you do, you have only the vaguest clues as to where to begin to look for it.

In the language learning situation, you know that there is a way to say what you want to say, and you have good clues for how to say it, both from the structure of the expression in English and from what you have learned already about Language X (assuming that this problem has come up somewhere along the way in your language learning experience).

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Of course, learning a new language is not just learning to say what you want to say (with ten minutes between sentences to figure out what to say next). It's also a matter of figuring out what the other guys are saying to you. And the words (which you have not learned to separate from each other yet) are coming very, very fast.

As little children

If you are having trouble, how about your children, how will they fare? Very well indeed! It is the world-wide testimony of the missionaries and colonial administrators that their children were fluent before the adults were even saying full sentences one at a time. It would seem that children have a gift for language that we adults have lost. It was the possession of this gift when *we* were children that enabled us to learn our native tongue. Now that we have the language, we have lost the gift, which perhaps is divine justice. But perhaps we can be born again, to become as little children, for the purposes of language acquisition. Here Jesus' injunction to Nicodemus applies — we cannot restore the biological, the physical gift that children have — but we can become as child-like as possible, and I want to tell you that this helps.

When I was in India, doing linguistic field work among the Mundas, a tribe in the hills 200 miles NNW of Calcutta, I was walking along a village path with my informant. Some villagers were clustered around me and I was trying to figure out what they were telling me as well as trying to mimic them as much as possible. I was saying things outrageously, I am sure, because my informant complained to me a few moments later that I was acting like a child, carrying on like I was, and *he* was embarrassed. I took this as the highest possible compliment, though of course he did not intend it that way. As missionaries, however, you probably would want to be more sensitive to the embarrassment of your hosts so that childlike behavior will have to be somewhat tempered by decorum. Notice, too I am talking about childlike attitudes, not childish ones, which are to be avoided altogether.

We can perhaps clarify this mysterious and wonderful gift that human children have to acquire language by reference to a classic in the literature of education, Plato's dialogue *Meno*. In it, Socrates takes a slave boy and "proves" to his audience that the child has innate knowledge of the truth of a theorem of geometry. What Socrates does in the dialogue is to patiently lead the boy by an ingenious series of questions and statements of obvious truths to a statement of the theorem, and the boy is made to feel that he is actually recalling it—that he knew it all along, but just could not express it. Socrates said that his gift was that of midwifery—he could deliver ideas which were

struggling to be born in the minds of men.

Language learning is like that. Children have the ability to get out the words, phrases and sentences of a new language without the benefit of any midwife. We as adults, like the slave-boy of *Meno*, are better off to find some Socrates to help us get them out. Once you find a skilled language teacher, your best bet is to put yourself completely in his hands, and allow him by patient, skillful Socratic questioning and prodding, to get you to learn what you already know, the new Language X.

A substitute for Socrates

What do I mean when I say that your task is "to learn what you already know?" It is this: you have not learned Language X because you were not born into a community where Language X is spoken. If you were, you would be a fluent speaker of it now, simply because you as a human being are endowed with the capacity to acquire language, and this means that you have innate knowledge of how Language (with a capital L) is constructed. The fact that you were not born into the Language X community does not doom you to never speaking it. It just means that the task as an adult is a little harder now, and you are going to need some outside help—a modern-day Socrates, if possible.

But, that is the rub. People of Socrates' ability to teach are pretty scarce, and they are not likely to be speakers of Language X anyway. My advice to you is if you do not find one, be one yourself. Be your own

Socrates. In fact, if you do find one, it still would not hurt to be one yourself—two Socrates are even better than one. How did Socrates get the slave boy to “recall” the geometry theorem? He knew the principles of geometry, and he knew a pedagogical method known as dialectic. This is a dirty word nowadays, thanks to Marxism, but I would like to clean it off for you and present it to you now simply as a synonym for patient planned (even programmed, in these days of computer technology) perseverance with words, coupled with a healthy optimism about the ability of our minds, our lips, tongues, and throats to master the sounds, words, syntax, and meaning of a new language.

We shall deal further with the dialectic of language learning later, and consider now the nature of the principles of language structure. Actually these two matters are not unrelated, and once we get even a faint picture of the principles of language structure we will see quite clearly what certain aspects of the dialectic of language learning should be.

The similarity of languages

I want to state as my central premise the following: in many very profound ways, all the languages of the world are very, very similar; while they do indeed differ from one another in important respects, compared with these similarities these differences appear shallow and superficial. One basic set of similarities shared by all languages is the following: they all make use of a system of sounds to express a system of meanings. Put in another way, language touches

reality at two points; in its sounds, in which it expresses itself, and in its meanings, which form the content of these expressions. These similarities may sound trite, and if this were all we could say about principles of language structure it would not be worth one's time to consider them. But there is more—for it is not just any sounds nor is it just any meanings which form the expression and content of language—the sounds are the sounds of the human vocal tract, and the meanings are the meanings of human experience and imagination.

Let us consider each of these in turn, sound and meaning. If you have had any phonetic training, you have doubtless been impressed with the incredible range of possible speech sounds which the human vocal tract is capable of producing; however, no language uses *all* the sounds and sound combinations which appear in a phonetics textbook. Most languages are rather like English in this regard; they select a few sounds from here and there. A dozen vowels or so, a few glides, some laterals, perhaps a trill, certainly some stops and/or fricatives, maybe a few nasals.¹ Stress, tone and timing all enter the picture, but in regular and in patterned fashion.

Most comforting of all is the *empirical fact* that the most common sounds in most of the languages of the world are already familiar to you. If Language X does not exactly have a [m], [th], [s], [i], [w], or [a] as in

¹ Phonetic symbols and terminology used in this discussion are taken from William A. Smalley, *Manual of Articulatory Phonetics*, (Tarrytown, New York: Practical Anthropology, 19).

English, it will certainly have sounds which come very close in articulation and in perceptual quality to these. Even more interesting is that the sounds most commonly found in the various human languages tend overwhelmingly to be the most commonly occurring in the speech of individual languages. Thus [s], or something very much like it, not only occurs in most of the languages of the world, but tends to be a commonly occurring sound in those languages. This can be very comforting; encountering a familiar sound in a novel language is almost like meeting an old friend. His acquaintance does not have to be remade, and he can be very useful as a reference for meeting and learning the more unfamiliar sounds.

When it comes to the patterning of individual sound segments together in discourse, again languages show striking similarities. The fact that consonants and vowels pattern together to form syllables, and syllables interrelate and are tied together by rhythms of duration, stress and pitch follows directly from the nature and design of speech production, the fact that we only use air expelled from our lungs while breathing out to speak, and are able to modify the passageway of the air only in certain fixed ways.

The varieties of speech sound are produced by the interaction of only a few parts moving in partial independence of each other: the vocal cords, the tongue, the lips, the lower jaw and the velic (soft palate). When speaking a language fluently, the movement of these articulators is, or

appears to be automatic. Look at yourself in the mirror and say [ã],² as in the French name Jean, followed by [a], and amazingly you will see your velum rise. To obtain fluency in Language X you obviously first must pass through a stage in which your articulators come under some sort of conscious control, so that you can modify your English speaking habits to conform to the speech habits of Language X. But direct conscious control of one's articulators is essentially impossible, at least for long stretches of time; therefore the first thing to do is to learn what sorts of sounds are made by what sorts of articulatory movements, and to modify what you do with your articulators by adjusting what you hear yourself saying to what you imagine you should be saying.

We will return to consider in more detail and from a somewhat different perspective the similarities which the sound systems of language have to each other in the next article in this series. Now let us take up the matter of the content of language, and the similarities that all language have as a result of having to serve as the medium of communication of human experience and thought.

Perceptual basis for language

All human beings perceive objects. How they do this we may leave to the psychologist and physicist to tell us. The fact that people perceive things differently need not worry us now; the fact that objects are perceived and that there is a certain

² A nasalized vowel.

amount of uniformity is enough. So that people may have recourse to referring to such objects, *all* human languages contain large numbers of items, call them words (this may not be precisely true, depending on the language, but this fact need not worry us yet either), which have structural properties in common. These items may be called nouns.

Not all things which linguists may wish to call nouns in some language refer to objects, nor are all expressions which refer to objects necessarily nouns, but there is sufficient correlation that the grammar school definition that a noun is a name of a person, place or thing can at least serve as a place for you to begin to learn some vocabulary items in Language X.

You can expect to find nouns in Language X to refer to individual people, to implements, artifacts, body parts, geographical points of interest, animals, heavenly bodies, various kinds of food, plants, etc. When it comes to the naming of things you can already begin to get a feel for the systems of culture, beliefs and attitudes in which Language X is embedded, though it is easy for a beginner to become misled in his first days of language learning, and he is better off in reserving anthropological and moral judgments until he knows the language better.

In addition, human experience involves the interaction of objects and the perception, interpretation and evaluation of these interactions. Broadly speaking, we can think of these interactions as events, and all

languages have items which have to do with events. We may call such items verbs. It is probably also a generalization about language that nouns and verbs enter into relationships with one another in all languages forming what can be identified as complete sentences in which the noun expressions function as role players, naming participants in activities, agents, recipients, locations, directions, instruments, benefactors, accomplices and what-have-you. Notice that in all of this that I am using terms of human experience. This is why such functions are to be found for the nouns which appear in sentences.

Pattern in a sentence

The completeness of a sentence in a human language is something which we must accept as a basic fact. A complete sentence is like a complete work of art; we know generally when an English sentence is complete, and when a proposed sentence is not, and you can be sure that speakers of Language X can make such judgments about their language too.

There is also something else that is basic about sentences besides the feeling of completeness that we have about them. That is that they express thoughts. Put these two observations together and you have an insight first expressed by the grammarians of the city of Alexandria some two centuries before Christ. Sentences are the building blocks of our thoughts, not just the nouns and verbs which comprise them. And just as thoughts can be complex, so can sentences. This is a matter which

we shall pay more attention in the next article, but let us make this statement as another general principle of language: that all languages have numerous ways of making complex sentences and especially ways of putting sentences together, subordinating and coordinating them in intricate but well-defined patterns.

It will pay the language learner rich dividends if he concentrates on the patterns of simple sentence structure at the same time that he begins learning vocabulary. There is absolutely no point in acquiring a huge vocabulary if you have no way of making even the simplest sentence. You can get around as it were with a pitifully small vocabulary if you can express yourself in simple sentences using that vocabulary. Furthermore many vocabulary items are really only learned if you know how they may or may not be used in full sentences. Often, as we shall indicate in the next article, one can get reasonably good clues about a vocabulary item's possible functions in a sentence from its meaning (and vice versa I might add).

Negation

When we consider sentences as such we can see other important ways in which all languages are profoundly similar. Two universal functions that languages of the world serve are to provide means to assert and deny and to allow for people to obtain information they did not already know. Let us look at assertion and denial. Just about every language of the world provides for the expression of denial by the use of a negative element

which turns the entire sentence into a denial of its corresponding affirmation. English happens to use the word *not*, or its contraction *n't* as in

I won't eat meat on Fridays.
which is the denial of

I will eat meat on Fridays.

It is interesting to note that affirmation in English is expressed by the absence of *not*. Conceivably it could be the other way around, but this would run counter to our feeling of the way things should be in language. Happily enough, the other languages of the world work the same way—denial or negation is expressed by the addition or presence of a special negative element. This means that there is something important about Language X that you know already in advance, namely that it uses a negative element to express denial.

There is something else about negation that you already know: the non-existence of true double sentence negation. I'm not just expressing a grammarian's prejudice when I say that double negation is "out"—it is a fact about language. Let's look at some cases in English. The "vulgar" English sentence:

I don't want no help from you.

is not really an illustration of double negation. The word *no* modifying *help* does not negate the sentence negation of *don't*, it merely emphasizes or strengthens it.

What about sentences such as:

I'm not unhappy to be here.

I don't deny that you're right.

It's not true that I don't eat meat on Fridays.

The first two of these illustrate that there are negative words in English, such as *unhappy* and *deny*. It may be possible to perceive the negative element in the pronunciation as in the *un* of *unhappy*, but not always. In any event sentences with negative words may be negated, but such sentences do not count as sentence double negations. In the third sentence, we indeed have two sentence-negating *not*'s occurring, but each one occurs in a separate clause. Now as I shall point out in the next article, clauses are merely sentences inside of sentences, so that in this sentence, there are two sentences inside of it, each with exactly one sentence negative.

Having illustrated that there can be at most one sentence negative per sentence in English, I now maintain that this rule holds in all languages, and is therefore a fact about Language X you can know about in advance. See how much grammar you can learn without even studying the language?

There is no point to having the sentence double negation, since the result would be understood as affirmative, and we have means for expressing affirmation directly. Then if we allow double negation, why not triple negation and similar horrors? By allowing for word negation and negation separately in different clauses, language does indeed sneak in something like double negation, but the result is often breakdown of communication. Thus if I say

It's not untrue that I didn't fail to deny that

I wasn't unhappy.

was I happy or not? Or

No parking except not on Wednesdays after 5 p.m. what do you do at 3 o'clock on Wednesday afternoon?

Another function that languages must allow for is requests for information. English sentence types which do this are marked by differences in word order:

Can Mary pronounce a velar fricative?

versus

Mary can pronounce a velar fricative.

Or by the presence of an interrogative word:

Who threw the overalls in Mrs. Murphy's chowder?

versus:

Someone threw the overalls in Mrs. Murphy's chowder. Or by both differences in word order and the presence of an interrogative word:

Where will you park the car?

versus:

You will park the car somewhere.

Interrogation

With regard to formation of interrogative sentences, English is fairly typical as languages go. Interrogative words focus on the type of information requested: time, place, manner, name of person or object, etc., while change of word order in the absence of an interrogative word asks for a yes or no response. Change in word order in the presence of an interrogative word is in some sense redundant, which makes that a topic of the next article too.

The points to be drawn from these observations about questions in English are that they bear a simple relationship with statements and that it is not difficult for someone to learn the pattern. The simplicity of the pattern is best appreciated by considering how complicated the pattern conceivably could be, but isn't. We have noted differences in word order between questions and statements in English. They amount to putting the question word, if any, first in the sentence, and then the helping verb. Imagine, for a moment that questions were formed by putting the question word in the exact middle of the sentence, and saying the rest of the sentence backward, so that the interrogative of:

Susan dropped something on her foot yesterday.
may be:

Yesterday foot her what on dropped Susan?

or:

Yesterday foot her on something dropped Susan?

You can imagine the difficulty everyone would face to learn such a language! You can perhaps best acquire

an appreciation for the genuine simplicity of language design by imagining the complications that there could be, but aren't, because language must serve as the vehicle of human communication, and communication makes its own demands on language.

Let me conclude by returning to consider the dialectic of language learning in light of the few things we have observed already about language structure. One begins the process of language learning by talking in sentences, full sentences, picking up a couple of simple nouns and verbs and whatever simple functional items that are necessary to construct very elementary sentences. One learns how to ask questions, and one asks them, because this is the way to obtain information. One learns the patterns of negations and uses those (after all, it is important and quite often necessary to know when to say "no"). When you have all these, you are well on your way!²

²Three more articles in this series on language and language learning will appear in subsequent issues of PA: "Redundancy in Language Design," "Interference between Language Patterns," and "Getting at the Deep Structure of Language."