0. The use of a person's first language in his primary schooling is, without question, sound educational practice. All available evidence indicates this is so, even where the person's higher education will be primarily in a language other than his own. The use of the Navajo language in schools attended by Navajo children is perhaps one of the most significant developments in modern education in this country.

I think it would be a mistake, however, to look upon the use of Navajo merely as an educational stepping stone. That is, it would be a mistake, I think, to take the position that Navajo should be ignored in education once the Navajo speaking students have acquired English. In fact, I would like to suggest that the Navajo language might well be a subject of study throughout the students' education -- in addition to subjects like mathematics, English, biology, chemistry, etc., a student might also take a subject called 'The Structure of the Navajo Language.'

One might well ask why it is useful to study a language which one already knows. The answer to this question is a rather long story, but it is the same as the answer to the question "why do we study biology, chemistry, and physics?" "Why do we study science at all?" The reason is that we wish to find explanations for the
things that we observe. We observe, for example, that water freezes at a certain temperature, and it boils at another temperature. Gasoline is also a liquid -- it flows like water -- but it doesn't freeze at the same temperature as water. Also, unlike water, it burns if you touch a lighted match to it. We are not satisfied with just noting these facts; we want to know why they act differently. Whenever we look beyond the things we observe and try to explain them, we are engaged in science. The scientist looks deeper into the structures of water and gasoline in order to discover what properties they have that make them behave the way they do.

The study of language -- i.e., linguistics -- is also a science. We know that people are able to speak languages, but we know very little about what that really means -- a person knows his native language (and some people know several languages), but what exactly is that knowledge like? We observe that a person can understand the sentences of his language and that he can speak the sentences of his language. The question is: why is he able to do this? The linguist tries to answer this question. He tries to construct a theory which will account for this ability.

Now, in any science, no matter how concrete it is, we are involved in theory-building -- i.e., in the formulation of statements which will best account for the facts we observe. In fact, we are involved in this activity all the time, whether we call ourselves scientists or not. Everything we feel relatively sure is true of the world is a theory. If we are told, for example, that there is a crow sitting on a fencepost outside, and if we have seen crows before, we do not wonder what color the crow on the fencepost is. We predict that it is black -- because we have a theory that all crows are black. But it is only a theory; we haven't seen all of the crows in the world, nor have we seen all the crows that went before and all of those as yet unborn. We
have developed a theory that all crows are black on the basis of our observations -- i.e., all the crows we have ever seen have been black. On the basis of this theory, we are relatively sure the crow on the fencepost will be black.

The theory about crows is not a very startling one, to be sure. It is so commonplace that it is uninteresting. Nonetheless, it is like a scientific theory, in that it permits us to make predictions. Theories become interesting to us intellectually when they are less obvious. Thus, when we try to explain why all crows are black we are forced to construct a theory which is more abstract. One such theory is that there are genetic laws which determine the physical characteristics of animals -- it is part of the genetic make-up of crows that their feathers are black. This theory is more interesting because it attempts to explain much more than the color of crows; it explains why the young of any animal resembles its parents. Recent work in the field of genetics has added a great deal of detail to this theory and has actually isolated the material in which the genetic code is carried. When the theory was first proposed, however, it was highly abstract -- it was the best explanation that could be suggested to explain the observation that certain physical characteristics are transmitted from parent to offspring.

I have strayed some distance from the topic of linguistics and the study of the Navajo language. I have done so merely to point out that any serious science is concerned with theories. Linguistics is not a physical or biological science; rather, it is the study of a certain aspect of the human mind. We know that a person's knowledge of his language is stored in the brain, but we cannot observe it directly. What we do observe is his speech -- on the basis of this, we try to construct a theory of what is in the brain. This is exactly what is done in other sciences -- if some object is not directly observable, a theory, or model, is
constructed which can duplicate the observable behavior of the object. The theory is correct to the extent that it can accurately duplicate this observable behavior.

The linguist is in one respect better situated than other scientists. He does not need a lot of equipment to observe the data he studies -- he has in his head a knowledge of his own language; he can therefore observe his own speech. This fact provides one of the strongest arguments for why Navajo linguistics might reasonably be studied in Navajo schools. The people best equipped to engage in the study of Navajo are, of course, Navajos themselves. Navajo is in one of the most fascinating languages in the world -- an adequate study of Navajo will contribute enormously to our knowledge of language in general. This adequate study, if it is ever made, will probably be done by Navajos. Of all the work that has been done on Navajo, the best is still The Navajo Language by Robert Young and William Morgan -- in fact, this is a classic in American Indian linguistics -- and its excellence is due in large measure to its Navajo co-author.

The work that remains to be done on Navajo is immense. We can judge from our experience in English linguistics that the study of any language is endless. It seems to me to make considerable sense to begin planning now for the future of Navajo linguistics by ensuring that there will be Navajo-speaking language scholars in the years to come. I suggest that this might be accomplished by introducing the subject of Navajo linguistics to Navajo-speaking students at a relatively early stage in their education, much the way other sciences are introduced. If done properly, it will serve as a means of introducing the scientific method to students and will, thereby, contribute significantly to their educational development, to say nothing of the fact that it will help identify those individuals who might wish to go into linguistics as a career. It has the advantage over the other sciences that it makes use of
material which is thoroughly familiar to the students -- i.e.,
their own speech behavior.

This suggestion is, in a sense, something for the future.
It is, however, something which should be taken under considera-
tion now. To do it properly will require a considerable amount
of preparation. In the following sections, I will discuss briefly
some of the things that a scientific study of Navajo involves
and then I will make a number of suggestions about how a curric-
ulum of Navajo linguistics might be developed.

1. I have mentioned that the goal of linguistics is the
construction of a theory which will explain a person's ability
to understand and speak the sentences of his language. Thus,
the goal in Navajo linguistics is the construction of a theory
which will account for the sentences of Navajo -- to know Navajo
is to be able to understand and produce the correct sentences of
Navajo; if we construct a theory which will identify those sen-
tences, then we will have a model of the knowledge which a Navajo
speaker has. In the discussion that follows, I will often use
the term grammar to refer to such a theory, or model, of linguistic
knowledge.

What is the nature of a grammar? That is what we want to
know. Another way of posing this question is to ask what it is
that a child learns when he acquires his native language. Does
he merely memorize all of the sentences he has heard? When he
says something, does he merely use a sentence he has heard? This
suggests one conceivable theory about a person's knowledge of his
language -- i.e., it is merely a list of all of the sentences he
has heard. It is not very difficult to see that this theory is
no good. The reason it will not work is that it fails to account
for the most important fact about language. That fact is that a
person who speaks a language fluently can understand sentences he has never heard before, and he can produce sentences he has never heard before. Suppose, for example, that a person says the Navajo sentence:

shich'oozhlaa' yiínáadgo biniinaa chidi naat'a'i bighi'déé' ch'íinitízh.

'Because I licked my elbow, I fell out of the plane.'

The chances are, this sentence has never been said before. Nonetheless, if you speak Navajo, you can understand it. Now, if you can understand it, the reason you understand it cannot be that you have it on a list in your memory -- you couldn't have, because you have never heard it before.

Now you might be inclined to say that that sentence isn't very good, because it is hard for people to lick their elbows, and there's no logical connection between licking one's elbow and falling out of a plane. But that just proves the point: you can still understand the sentence if you speak Navajo, even though the sentence describes a very unlikely situation. The reason you understand it is because you know the rules of Navajo grammar. This brings us to an important point which must be understood before we can proceed. Linguistics is not the study of what people say; that is more a matter for anthropology, or some other field. Linguistics is rather the study of the purely linguistic knowledge which people have -- i.e., the knowledge which enables them to understand and speak sentences in their language whether or not those sentences describe events which are likely to happen or are even possible. This knowledge, we claim, consists of the grammatical rules of one's language. The rules of Navajo grammar,
for example, tell us that the sentence

'ashkii yilghoɬ.

'The boy is running along.'

is all right. It is well formed according to the rules of Navajo grammar. But the sentence

*'ashiiké yilghoɬ.

is not good. It violates a rule of Navajo grammar that says that the verb stem /-ghoɬ/ 'to run' requires a singular subject. According to the rules of Navajo grammar, the sentence should be either

'ashiiké 'ahinoolchéeɬ.

'Two boys are running along.'

or else

'ashiiké yijah.

'Boys (more than two) are running along.'

Now, in a purely linguistic study of Navajo we are not concerned with how you use sentences like these. Rather we are concerned with how you construct them and how you understand them. We have various kinds of knowledge about the languages we speak. One kind is purely linguistic -- this is the knowledge that we use to produce sentences and to understand sentences, and this is the knowledge which tells us when a sentences is well constructed or badly constructed. It is this purely linguistic knowledge that we are
interested in when we study the grammar of a language. Another kind of knowledge that we have about our language is how to use it -- i.e., we know when it is appropriate to say one thing and when it is appropriate to say another. This second kind of knowledge is also very interesting, and very complicated, but it is not grammar -- it has more to do with culture or with one's general knowledge of what is possible in the world. The grammatical and cultural aspects of language are both very interesting, but they should be kept apart in one's mind.

It is appropriate now to review briefly what has been said up to this point. We have abandoned the theory that a person's knowledge of his language is merely a list of all the sentences -- this theory cannot be correct, because a person can produce and understand sentences that have never been spoken before. We must propose a better theory; in fact, we have already suggested what this better theory must be like, in part. It must be a grammar which contains rules -- we use the rules to construct sentences correctly. One such rule in Navajo is that certain verbs must agree with their subjects in number. Consider again the sentence

'ashkii yilghoį.

'The boy is running along.'

The subject of this sentence is /'ashkii/ 'boy', and the verb is /yilghoį/ 'is running along'. In this sentence, the subject is singular (it refers to one boy only). The verb is one of those that must agree with its subject -- that is, you can use /yilghoį/ only if the subject is singular. Therefore, if you change the subject to /'ashiiké/ 'boys' (i.e., the form which refers to more than one boy), the verb must also change -- you cannot use
/yilghoï/, because it would break the rule.

The grammar of any language has hundreds of rules in it -- part of the linguist's job is to find these rules and to state them. Some of the rules are easy to find, but others are hard to find.

Another obvious rule of Navajo is the one which states that a verb must agree with its subject in person. To see that this rule exists in Navajo, consider the sentences

shí yáshti'.

'I am speaking.'

shí naashnish.

'I am working.'

shí yishghoi.

'I am running along.'

In these sentences, the subject is /shí/ 'I' -- it is first person singular. And the verbs in these sentences are in the form which is appropriate where the subject is first person singular. The following sentences, however, are grammatically incorrect:

*shí yáíti'.

*shí naalnish.

*shí yilghoi.

(Incorrect sentences are identified by placing an asterisk *)
before them). The reason why these sentences are incorrect is that the verbs are in the wrong form -- they do not agree in person with the subject. The verb forms /yáti'/, /naalnish/, and /yilgho/- are in the third person -- i.e., they are in the form which is appropriate where the subject is the third person pronoun /bi/ or a noun like /'ashkii/ 'boy', /'at'éd/ 'girl', or /diné/ 'man'.

In English, as in Navajo, there is a rule of person agreement also -- thus

'I am working.'

is correct, but

*I is working.'

is incorrect. The verb form /am working/ is appropriate where the subject is 'I' -- i.e., where it is first person singular. The verb form /is working/ is appropriate where the subject is 'he, she, the man, ...,' -- i.e., third person singular. This is a case where English and Navajo have similar rules in their grammars. In both languages, the verb form must agree in person with the subject of the sentence.

This example is a very simple one, but it serves to illustrate a point which I tried to make earlier. I said that, as scientists, linguists are interested in explanations. Just as the chemist tries to explain why water and gasoline behave differently, the linguist tries to explain certain kinds of linguistic behavior. For instance, in the example just discussed, the linguist wants to explain why the sentence

shí naashnish.
is good, while

*shi naalnish.

is bad. His explanation involves a theory:

"The grammar of Navajo has a rule which provides that a verb must agree in person with its subject."

This is only a theory, however, since we cannot see the rule in the brain -- we assume it is there only because it accounts for the facts. It accounts not only for the sentences just given, but for new cases as well. Thus, it accounts for the fact that

ni nanilnish.

'you are working.'

is good, while

*ni naalnish.

and

*ni naashnish.

are bad -- i.e., if the subject is second person singular, then the verb must be in the second person singular form. In short, the theory about person agreement makes a prediction -- it predicts that any sentence will be judged bad by Navajo speakers if the verb fails to agree in person with the subject.

This particular theory does not, at first, seem to be very
interesting -- it seems too obvious. But many things which seem to be uninteresting at first turn out to be rather complicated. Before I go on to consider the nature of grammar further, let me present a fact of Navajo grammar which does not have an obvious explanation. This example will give an idea of the kinds of problems a linguist faces when he tries to develop a grammatical theory for a particular language.

Consider first the sentence

shí yishááł.

'I am walking along.'

This sentence is in the first person singular -- the subject is the first person singular pronoun /shí/, and the verb is in the first person singular form (which you can tell from the -sh- which appears in it: yishááł). The verb meaning 'to walk' or 'to go' is like the verb meaning 'to run' in that its stem changes in agreement with the number of the subject -- if the subject is singular, the stem is /-ááľ/; if the subject is dual, (i.e., if it refers to two), the stem is /-'ash/; and if the subject is plural, (i.e., if it refers to more than two), the stem is /-kah/.

So one says

shí yishááł.

'I am walking along.'

but

nihi yiit'ash

'we (two) are walking along.'
nihí yiikah

'we (more than two) are walking along.'

If you look at the last two verb forms, you will see that the stem is /-'ash/, for the one that means that two are walking along, and /-kah/ for the one that means that more than two are walking along. You will also see that the front part of the verb word is /yii-/ or /yiit-/: this part of the word contains the element that has the meaning 'we' -- i.e., first person nonsingular. It is the part of the verb which agrees in person with the subject /nihí/ 'we'. That is, just as the first person singular subject /shí/ requires that the verb have /-sh-/ in it, so the first person nonsingular subject /nihí/ requires that the verb have /-ii-/ or /-iit-/ in it. This is what we mean when we say that the verb agrees with the subject in person. We can illustrate this agreement graphically by drawing an arrow between the subject and the part of the verb it agrees with:

shí yi-sh-ááí.

nihí y-iit-'ash.

nihí y-ii-kah.

Now, as we noticed earlier, Navajo also has a rule which states that certain verb stems must agree in number with the subject. Thus, the sentence

shí yishááí.
is correct, but the sentence

*ši yish'ash

is incorrect. It is incorrect because the verb stem /-'ash/ does not agree in number with /ši/. The subject /ši/ is singular, (i.e., refers to a single individual), while the stem /-'ash/ is dual (i.e., refers to an action on the part of two individuals, rather than a single individual).

Now here is the interesting problem. You cannot say:

*(ši) yish'ash.

but you can say:

(ši) 'ashkii biž yish'ash.

'I am walking along with the boy.'

and you can say:

(ši) yishāāl.

'I am walking along.'

but you cannot say:

*(ši) 'ashkii biž yishāāl.

The question is, how do we explain this? The form /yish'ash/ seems to be self-contradictory, since the prefix /-ši-/ which it contains implies that the subject is singular, but the stem /-'ash/
implies that the subject is dual. Nevertheless, the form is the correct one in the sentence:

(shi) 'ashkii bił yish'ash.

'I am walking along with the boy.'

And the form /yishači/ would seem to be correct in all cases, since it has a singular stem /-ači/, and the prefix /-sh-/ implies that the subject is singular. But the form is incorrect if used in the sentence:

*(shi) 'ashkii bił yishāči.

I will not try to present an explanation of this fact now, but will leave it for the reader to think about.

2. I have used the word 'grammar' several times now. This term is a technical one in linguistics and is used in the following way:

"A grammar is a theory about the knowledge a person has which enables him to speak and understand the sentences of his language."

One thing we know about a grammar is that it has rules in it. Somehow or other, there is a rule in Navajo grammar which states that a verb must agree in person with its subject. Another way of stating this is to say that one thing that Navajo speakers know about the sentences of their language is that the verb must agree in person with the subject.

Now, obviously, a grammar cannot consist only of rules. A
language also has a large store of elements which we call *morphemes*. Morphemes are, so to speak, the 'building blocks' of language -- they are the things which carry meanings. Thus, for example,

\[
\begin{align*}
\text{f\text{\textsuperscript{f}}t} & \quad \text{'horse'} \\
\text{dibé} & \quad \text{'sheep'} \\
\text{tšé} & \quad \text{'stone'}
\end{align*}
\]

are morphemes; each of these items has a meaning. Now, a morpheme is not the same as a word, because some words contain more than one meaningful element in them. Consider, for example, the word

\[
\text{shidibé}
\]

This word contains two morphemes. One is

\[
\text{shi-} \quad \text{'}my'
\]

and the other is

\[
\text{dibé} \quad \text{'sheep'}
\]

Each of the parts of the word has a meaning -- /dibé/ has a very concrete meaning; it refers to the four-legged animal which produces wool; and /shi-/ means something like 'belonging to the speaker (i.e., belonging to the person who is saying the word)'. Altogether, the word /shidibé/ means roughly 'four-legged wool-producing animal belonging to the speaker'.

The analysis of /shidibé/ into its constituent morphemes is
very easy. Let us consider a somewhat more complex word:

naashnish.

'I am working.'

Can this word be analysed into morphemes? That is, does it break down into smaller meaningful parts? One way to find out if it does is to see if there is any part of the word which can appear in some other words and still carry the same meaning. Suppose we consider the part which is underlined below:

\underline{naashnish}.

Does that /sh/ which appears in the middle of the word have a meaning? And does it appear in any other words? Consider the words

\underline{yishghol}

'I am running along'

dishghosh

'I am shouting'

naash'á

'I am carrying it about'

yishdloh

'I am laughing'
All of these words have a /sh/ in the middle of them, and that /sh/ always seems to have the same meaning -- it means that the speaker is the one who is performing the action which is described by the verb: the speaker is doing the running, shouting, carrying, or laughing. In linguistic terminology, we say that these words are first person singular verb forms, and we say that the element /sh/ represents a morpheme having the meaning first person singular.

We now have a partial analysis of the word

naashnish

'I am working.'

We should be able to test this analysis by seeing if the /sh/ which we have isolated can be replaced by some other meaningful element. Consider now the word

nanilnish.

'you are working'

Here we have something else in the middle of the word. We still have the /na-/ at the beginning and the /-nish/ at the end, but we have /nil/ instead of /sh/ in the middle. This appears to change the meaning of the word -- while /naashnish/ means that the speaker is working, the form /nanilnish/ means that the person being spoken to is working. There is an element /ni/ which appears in other verb forms and it seems to have the same meaning. Consider, for example

nanibé

'you are swimming about'
nani'á

'you are carrying it about'

These verb forms also describe actions on the part of the person being spoken to. In the technical vocabulary of linguistics, we say that these verbs are in the second person singular form and that the element /ni/ which appears in them represents a morpheme having the meaning second person singular.

But what about the /l/ that shows up in the word /naniłnish/? Is it a separate morpheme? Or is it part of the second person singular morpheme? We know it must be a separate morpheme, because it appears again in verb forms which are not in the second person:

naaılnish

'he is working'

and

neiilnish

'we are working'

Let us consider the last form for a moment. It has a new element in it -- this element is /ii/, and it also appears in verb forms like

yiidlooh

'we are laughing'
diilghosh

'we are shouting'

It appears to mean that the speaker and someone else are performing the action described by the verb. The verb

yishdloh

means that the speaker alone is laughing, but the form

yiidloh

means that the speaker and someone else are laughing. And the verb

dishghosh

means that the speaker alone is shouting, while

diilghosh

means that the speaker and someone else are shouting. The forms

yishdloh

dishghosh

are singular, while the forms

yiidloh

diilghosh
are nonsingular (i.e., they refer to more than one subject). In our technical linguistic usage we say that all of these forms are in the first person, because they describe actions which involve the speaker. Thus, we say that /yishdloh/ and /dishghosh/ are first person singular forms, while /yiidloh/ and /diilghosh/ are first person nonsingular forms. And we say that the element /ii/ which appears in these last two forms represents a morpheme meaning first person nonsingular.

Let us review the forms of the verb meaning 'to work' which we have examined so far:

naashnish

'I am working'

nanilnish

'you are working'

naalnish

'he is working'

neiilnish

'we are working'

We have determined that these forms can be broken down into meaningful parts, to some extent at least. But we haven't figured out what the /1/ is which shows up in three of the forms:

nanilnish
naalnish
neiilnish
We know that it represents a separate morpheme of some sort, because it shows up in other verbs:

\[ \text{dilghosh} \]

'he is shouting'

\[ \text{yilghoñ} \]

'he is running along'

Let us be satisfied with this for the time being. Actually, this is a very complicated matter; the /1/ which appears in these verbs is what students of the Navajo language call a \textit{classifier}. There are said to be four classifiers in Navajo. One is the 1-classifier, which we have seen in the forms we have been examining; another is the 1-classifier, which appears, for example, in the verb /yáñtí'/ 'he is speaking'; another is the d-classifier, which can be seen in the verb form /náashdáñ/ 'I am going back'; and finally, there is the so-called zero-classifier -- that is the term which is used when there is really no classifier at all, as in the verb form /naa_né/ 'he is playing'. The exact functions of the classifiers in Navajo are only partially understood -- they constitute one of the very interesting problems in Navajo grammar. In any case, each verb in Navajo is associated primarily with one or another of the classifiers. The verb meaning 'to work' takes the 1-classifier.

We have almost a complete analysis of the forms of the verb 'to work'. The analysis can be represented by hyphenating the verbs as follows:
There are, however, several questions which we must still answer. What is the part at the very beginning of the verb, and what is the part at the end? And why is there no 1-classifier in the first person singular form? Let us take these questions one at a time.

The beginnings of the forms of 'to work' are /naa-/ or /na-/ or /ne-/.

Actually, these are not three different morphemes; there is rather a single morpheme which is pronounced differently depending on the sounds that follow it. We might represent the morpheme simply as /na-/ and say that it changes to /naa-/ if two consonant sounds follow it, as in

naashnish
naalnish.

And it changes to /ne-/ if the vowel /i/ follows it, as in

neiilnish.

Our question now is, what does /na-/ mean? Is it really a meaningful element? I think it is. Notice that it also appears in verbs like

naash'á

'I am carrying it about'
nani'á

'you are carrying it about'

nei'á

'he is carrying it about'

and

naashbé

'I am swimming about'

nanibé

'you are swimming about'

naabé

'he is swimming about'

It also appears to have a consistent meaning, something similar to the meaning of English 'about, around'. It is reasonable to suppose that the /na-/ which appears in 'to work' is the same morpheme. Other students of Navajo have assumed that it is.

Now we come to the final part of the verb -- i.e. /-nish/. This is the part which linguists have called the stem of the verb. In this example, it is the part which carries the meaning 'to work'. This particular stem usually appears together with /na-/, but it can also appear in other combinations, where it also has the meaning 'work'. For example:
dèshnish.

'I started working.'

Every verb form in Navajo contains a morpheme which we refer to as the *stem*. The stem is normally last in the verb form, and it is preceded by morphemes of the type we discussed above. These other morphemes are normally called *prefixes* (i.e., they are fixed to the stem and they precede it). In the verb form:

na-ni-l-nish

/ -nish/ is the *stem*; and /na-/ , / -ni-/ , and / -l-/ are prefixes. The structure of the Navajo verb is a very complicated and interesting affair. It is only partly understood from a linguistic point of view -- but one can begin to understand it when one realizes that each verb form consists of a stem preceded by prefixes. This is the first step; but there is a lot of research which still needs to be done on the verb. There is an enormous number of prefixes in Navajo, and many of them have meanings and functions which are highly abstract. They will be completely understood, I feel, only when Navajo-speaking linguists have been working on them for some time.

I would like now to return to the final question concerning the verb form

naa-sh-nish

'I am working.'

Why is there no l-classifier in this form? The reason has to do with the sound system of Navajo. If there were an l-classifier in
this word, we would expect

naa-sh-l-nish

because we know that the classifier is supposed to appear immediately before the stem in a verb form. However, it is a fact about the Navajo sound system that there cannot be three consonant sounds in a row. If we had a form like

/naa-sh-l-nish/,

then we would have such a sequence -- sh-l-n is a sequence of three consonants and, therefore, is not allowed. On the other hand, if we did have a form like /naa-sh-l-nish/, the behavior of the verb would be more consistent -- there would be an l-classifier in all the forms of the verb:

naa-sh-l-nish.
naa-ni-l-nish.
naa-l-nish.
ne-ii-l-nish.

Here is where theory comes in again. It seems desirable to describe verb forms in as consistent a way as possible. We would like to be able to make a simple statement about the verb stem /-nish/, namely that it always takes the l-classifier, even in the first person singular. Therefore, we suggest the following theory:

"The first person singular of 'to work' is indeed
naa-sh-l-nish.

And there is a rule in the Navajo sound system which states that the sound /l/ is deleted when it occurs between two consonants."
Thus, we propose that there is a rule in Navajo which converts the abstract form

naa-sh-l-nish.

to the actual form

naa-sh-nish

by deleting the /l/. This is a theory in the sense that we never actually hear an /l/ in this form. However, by theorizing that there is an abstract representation of the verb form in which the l-classifier appears, we are able to make a simpler and more consistent set of statements about how this verb works. Much of linguistic theory involves this kind of thing -- i.e., making abstractions which permit a simpler and more consistent description of the facts one observes.

There is one form of the Navajo verb meaning 'to work' which we have not discussed yet. That form is:

naałnish

'you (more than one) are working'

This is what we call the second person nonsingular form. If you are talking to one person and say that he is working, then you use

nanilnish

'you (one) are working.'

That is, you use the second person singular. But if you are
speaking to two or more people and say that they are working, you use

naşinish

'you (more than one) are working'

That is, you use the **nonsingular** form.

The question now is, how does this verb form break down. We can recognize the stem /-nish/, and we can see that the verb form begins with the prefix /na-/ 'around, about'. But where is the part that means **second person nonsingular**? To answer this question, it is necessary to look at other verbs in the second person nonsingular. Consider, for example

wohdloh

'you (more than one) are laughing.'

k'î'dohîé

'you (more than one) are planting.'

bik'iohgééd

'you (more than one) are covering it (with dirt).'

Notice that all of these forms have an element /oh/ in them:

wohdloh
k'î'dohîé
bik'iohgééd
And this element seems to carry the meaning 'you (more than one)' -- i.e., second person nonsingular. You can tell this, because if you replace /oh/ by /sh/, for example, the meaning changes to first person singular:

\[
yishdlohm
\]
'I am laughing'

\[
k'ishdíshle
\]
'I am planting'

\[
bik'ishgéed
\]
'I am covering it (with dirt)'

Therefore, we assume that the Navajo morpheme which means 'second person nonsingular' is represented sometimes by the element /oh/. Now let us propose a theory about the form

\[
naa-nish
\]
'you (more than one) are working.'

Let us say that it has an abstract form like the following:

\[
na-oh-l-nish
\]

This will bring the form into line with the other forms of 'to work', thus:
naa-sh-l-nish
naa-ni-l-nish
naa----l-nish
ne--ii-l-nish
na--oh-l-nish

And it enables us to see the structure of the verb forms more clearly.

Now, of course, one does not pronounce

na-oh-l-nish,

so we have to propose some rules of pronunciation. One of these rules will say:

"When /oh/ follows the prefix /na-/ (or, for that matter, any prefix ending in low-toned /a/), change the /o/ to /a/.

This rule will change

na-oh-l-nish

to

na-ah-l-nish.

The next rule will say:

"When the sequence of sounds h-l is followed by another consonant, change h-l to i."
This rule will convert

na-ah-1-nish

to

na-ai-nish,

which is the way it is actually pronounced.

This is another example of what we mean when we say that the linguist constructs a theory. Neither of the forms

naa-sh-1-nish

or

na-oh-1-nish

can actually be heard. But if we analyze the words in this way, we can see the structure of the Navajo verb more clearly. In order to get the forms one actually hears, all we have to do is apply certain rules of pronunciation.

These rules of pronunciation, which in linguistic terminology we call phonological rules, are very important in the theory of Navajo grammar. In fact, they are one of the most difficult things about Navajo. However, once they are understood, it is possible to see how regular the Navajo verb really is -- its structure becomes very clear. All we have to do is look at the abstract form of a verb (i.e., before the phonological rules go to work on it) and we can see what is going on.

I would like now to review the structure of the forms of the
Navajo verb meaning 'to work'. I will write them first in their most abstract form, the form they have before any rules of pronunciation apply to them:

na-sh-l-nish
na-ni-l-nish
na- -l-nish
na-ii-l-nish
na-oh-l-nish

Look first at the last part of the word -- that is, the stem, /-nish/. Just in front of the stem is the classifier /-l-/. And in front of the classifier is one of the prefixes /-sh-/, /-ni-/, /-ii-/, or /-oh-/ -- we refer to these prefixes all together as subject person markers. Notice that in one of the forms, there is no person marker at all:

na- -l-nish

'he is working.'

This is another fact about the Navajo verb -- when there is no subject person marker directly before the classifier, the verb is in a third person form. The third person form is used when the subject of the verb is a noun, or the pronoun /bi/ 'he, she':

'ashkii naalnish.

'The boy is working.'

diné naalnish.

'The man is working.'
bi naalnish.

'He (or she) is working.'

At the very beginning of this verb, is the prefix /na-/ -- it belongs to a class of elements which students of Navajo call adverbial prefixes. There are many adverbial prefixes in Navajo, and one of the interesting problems is to determine their meanings accurately.

We can summarize the structure of the verb 'to work' in the following chart:

<table>
<thead>
<tr>
<th></th>
<th>adverbial prefix</th>
<th>subject person marker</th>
<th>classifier</th>
<th>stem</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>singu lar</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st person:</td>
<td>na-</td>
<td>-sh-</td>
<td>-l-</td>
<td>-nish</td>
</tr>
<tr>
<td>2nd person:</td>
<td>na-</td>
<td>-ni-</td>
<td>-l-</td>
<td>-nish</td>
</tr>
<tr>
<td>3rd person:</td>
<td>na-</td>
<td>----</td>
<td>-l-</td>
<td>-nish</td>
</tr>
<tr>
<td><strong>nonsingular</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st person:</td>
<td>na-</td>
<td>-ii-</td>
<td>-l-</td>
<td>-nish</td>
</tr>
<tr>
<td>2nd person:</td>
<td>na-</td>
<td>-oh-</td>
<td>-l-</td>
<td>-nish</td>
</tr>
<tr>
<td>3rd person:</td>
<td>na-</td>
<td>----</td>
<td>-l-</td>
<td>-nish</td>
</tr>
</tbody>
</table>

(Notice that we have put /naalnish/ in both blocks -- it can be singular or nonsingular. Thus, you can say both:

'ashkii naalnish.

'A boy is working.'
and:

'ashiiké naalnish.

'Boys (two or more) are working.'

That is, there is no special subject person marker for third person nonsingular. In all third person forms, the subject person marker is simply zero.)

Each Navajo verb can be analyzed in this way -- i.e., into a stem with prefixes preceding it. Often it is difficult to see the proper analysis because of the fact that the rules of pronunciation tend to mask it. That is why we try to look deeper into the structure to find what underlies the forms we actually pronounce. We construct a theory of what the underlying structure is so that we can understand it better.

This theory has two parts to it:

(1) There is an abstract representation of any verb form.

(2) There are rules of pronunciation (i.e., phonological rules) which convert the abstract representation into the form that is actually spoken.

The rules of pronunciation operate on the abstract form

na-sh-l-nish

in the following way. One rule changes /na-/ to /naa-/. This happens whenever there are no other vowels between /na-/ and the stem. When this rule applies, we have:

naa-sh-l-nish.
Another rule deletes (i.e., removes) the 1-classifier, because it is between two consonants. That gives:

naa-sh-nish

'I am working'

In the case of the third person form

na-l-nish

only the first rule applies to change /na-/ to /naa-/ , giving

naa-l-nish

In the case of the second person singular form

na-ni-l-nish

no phonological rules have to apply, because the abstract representation is exactly the same as the way it is pronounced.

In the first person nonsingular form

na-ii-l-nish

the only rule that has to apply is the one that states that the vowel /a/ changes to /e/ if it is followed by the vowel /i/. This turns

na-ii-l-nish

to
ne-nil-nish.

Finally, in the second person nonsingular form

na-oh-l-nish

two rules have to apply. One of them turns the vowel /o/ to /a/, because another /a/ precedes it:

na-ah-l-nish

And then, the sequence h-1 is changed to 1, giving:

na-aï-nish.

If we remove all of the hyphens from the forms, we have:

naashnish
nanilnish
naalnish
neiilnish
naalnish.

As you can see, the phonological rules of Navajo are very important. They tend to hide the underlying structure of the Navajo verb. However, if you discover what the rules are, you can, so to speak, "undo" them to reveal the underlying structure. That underlying structure is very logical -- each verb has a stem; in front of the stem is the classifier; in front of the classifier is the subject person marker; in front of the subject person marker, other prefixes may appear.
We have gotten pretty far along in our analysis of the verb 'to work'. However, there is much more to it -- in fact, we will not be able to analyze all of it here. Like all Navajo verbs, it is very rich in its structure. Before we leave this verb, let us look at one other set of forms:

nishishnish

'I worked. I have worked.'

nishinilnish

'you worked'

naashnish

'he worked'

nishilnish

'we worked'

nishoolnish

'you (more than one) worked'

In these forms, we can still see the stem of the verb -- /-nish/, and we can still see the adverbial prefix /na-/, although in most of the forms it changes to /ni-/. We can also see the classifier /-1-/ and we can detect the subject person markers

-\textit{sh-} \hspace{1cm} \textit{first person singular}
-\textit{ni-} \hspace{1cm} \textit{second person singular}
-\textit{ii-} \hspace{1cm} \textit{first person nonsingular}
second person nonsingular

But there is something new in these forms. In front of the subject person markers is a new prefix -- i.e. /-shi-/. The meaning of this new prefix can be seen by comparing

naashnish

'I am working'

and

nishishnish

'I worked'

The difference between these two forms can be described as follows. When someone says

naashnish

'I am working'

he means that he is in the act of working, the work is not completed. But when one says

nishishnish

'I worked'

he means that he has worked at some earlier time, but he is not working now -- the work is completed. The term which linguists use for this meaning is the **perfective mode**. The verb forms which
we examined earlier are said to be in the **imperfective mode**.

There are a number of prefixes in Navajo which indicate mode, and different verbs take different ones. The particular verb we have been studying, i.e., /na-...-1-nish/ 'to work', has the property that when it is in the imperfective, it has what we might call the **zero-imperfective** prefix -- that is, it has no modal prefix at all. But when it is in the **perfective mode** (indicating completed action) it takes what is known as the **si-perfective** prefix. The abstract underlying form of this prefix is /s-/; but when the stem of the verb has one of the sounds ch, j, sh, or zh in it, it changes to /sh-/> by a rule of pronunciation -- thus, it appears as /-sh-/> in the forms of 'to work' because the stem of that verb has sh in it: /-nish/. However, we know that the abstract form of this prefix is /s-/> rather than /sh-/, because of its behavior in other verbs, for example:

\[\text{hasis'na}'\]

'I climbed up'

\[\text{hasini'na}'\]

'you climbed up'

\[\text{haas'na}'\]

'he climbed up'

\[\text{hasii'na}'\]

'we climbed up'

\[\text{hasoo'na}'\]

'you (more than one) climbed up'
With these facts in mind, we can give the underlying abstract representations of the perfective forms of 'to work' in the following chart:

<table>
<thead>
<tr>
<th></th>
<th>adverbial prefix</th>
<th>si-perfective prefix</th>
<th>subject person marker</th>
<th>classifier</th>
<th>stem</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>singular</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st person:</td>
<td>na-</td>
<td>-s-</td>
<td>-sh-</td>
<td>-l-</td>
<td>-nish</td>
</tr>
<tr>
<td>2nd person:</td>
<td>na-</td>
<td>-s-</td>
<td>-ni-</td>
<td>-l-</td>
<td>-nish</td>
</tr>
<tr>
<td>3rd person:</td>
<td>na-</td>
<td>-s-</td>
<td>-sh-</td>
<td>-l-</td>
<td>-nish</td>
</tr>
<tr>
<td><strong>nonsingular</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st person:</td>
<td>na-</td>
<td>-s-</td>
<td>-ii-</td>
<td>-l-</td>
<td>-nish</td>
</tr>
<tr>
<td>2nd person:</td>
<td>na-</td>
<td>-s-</td>
<td>-oh-</td>
<td>-l-</td>
<td>-nish</td>
</tr>
<tr>
<td>3rd person:</td>
<td>na-</td>
<td>-s-</td>
<td>-sh-</td>
<td>-l-</td>
<td>-nish</td>
</tr>
</tbody>
</table>

The structure of the perfective forms is quite clear when we look at the abstract representation. Of course, we must apply a number of phonological rules to these underlying forms in order to get the words which are actually spoken. I will illustrate this with a few examples. Consider first the form

na-s-sh-l-nish.

There is one rule that we have not mentioned before which we need in this case. This rule states that if the perfective prefix /s-/ is followed by a subject person marker which begins in a consonant, the vowel /i/ must be added to the perfective prefix. If we apply this rule, we get

na-si-sh-l-nish.
Next, we apply the rule which turns the $s$ of /si-/ to $sh$; this will give

na-shi-sh-l-nish.

Now, we come to a rule we have met before -- i.e., the rule which states that /-l-/ must be removed when it appears between two consonant sounds. This rule will remove the l-classifier to give:

na-shi-sh-nish.

Some speakers of Navajo actually pronounce the word this way:

nashishnish.

But many people change the adverbial prefix /na-/ to /ni-/:

nishishnish.

'I worked.'

Next, let us consider the form

na-s-ii-l-nish.

This form is already pretty close to the way the word is actually pronounced. Only two rules are needed. One of these turns the $s$ to $sh$, giving

na-sh-ii-l-nish.

And the other turns /na-/ to /ni-/:
ni-sh-ii-l-nish

or with the hyphens removed:

nishiilnish

'we worked'

Finally, let us consider the third person form

na-s-l-nish.

This is a most interesting form -- notice what happens when we apply the phonological rules to it. First, we turn the $s$ to $sh$, giving

na-sh-l-nish.

Next comes a rule we saw earlier, i.e., the rule which lengthens the adverbial prefix /na-/ to /naa-. This gives:

naa-sh-l-nish.

Then the rule deleting the 1-classifier gives:

naa-sh-nish.

And with the hyphens removed:

naashnish

'he worked, he has worked.'
This form is interesting because it is pronounced the same way as

naashnish

'I am working.'

The word

naashnish

is ambiguous -- that is to say, it has two different meanings. It means either

'I am working'

or

'He worked.'

However, it is ambiguous only in the way it is pronounced. The underlying abstract structure is different for each of the two meanings. When it means 'I am working', its underlying structure is:

<table>
<thead>
<tr>
<th>adverbial prefix</th>
<th>imperfective mode</th>
<th>subject person marker</th>
<th>classifier</th>
<th>stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>na-</td>
<td>--</td>
<td>-sh-</td>
<td>-l-</td>
<td>-nish</td>
</tr>
</tbody>
</table>

But when it means 'he worked', its underlying structure is:

<table>
<thead>
<tr>
<th>adverbial prefix</th>
<th>si-perfective mode</th>
<th>subject person marker</th>
<th>classifier</th>
<th>stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>na-</td>
<td>-s-</td>
<td></td>
<td>-l-</td>
<td>-nish</td>
</tr>
</tbody>
</table>
Before I go on to another topic, I would like to take a brief look at a few more Navajo verbs, merely to illustrate again how a verb can be analyzed into its meaningful parts. Some Navajo verbs are quite simple in their structure, while others are very complex. The verb /na-...-l-nish/ 'to work' is rather complex. But the verb /...-cha/ 'to cry' is very simple. Its imperfective forms are as follows:

yishcha

'I am crying'

nicha

'you are crying'

yicha

'he (or she) is crying'

yiicha

'we are crying'

wohcha

'you (more than one) are crying'

The stem of this verb is /-cha/, and its classifier is ZERO. The subject person markers are easily seen in these verbs:
yishcha 1st person singular
nicha 2nd person singular
yiicha 1st person nonsingular
wohcha 2nd person nonsingular

The prefix /yi-/ which appears in the forms

yishcha

and

yiicha

is introduced by a phonological rule. That is, it is a matter of pronunciation -- the rule states that if there is no vowel anywhere before the stem of a verb, then put the prefix /yi-/ on the verb. The /y-/ and /w-/ which appear in

yiicha

and

wohcha

are also matters of pronunciation. Any word-initial i is pronounced yi, and any word-initial o is pronounced wo.

The abstract representations of the imperfective forms of the verb /...-cha/ are given in the following chart:
<table>
<thead>
<tr>
<th></th>
<th>subject person marker</th>
<th>classifier</th>
<th>stem</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>singular</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st person:</td>
<td>sh-</td>
<td>--</td>
<td>-cha</td>
</tr>
<tr>
<td>2nd person:</td>
<td>ni-</td>
<td>--</td>
<td>-cha</td>
</tr>
<tr>
<td>3rd person:</td>
<td>--</td>
<td>--</td>
<td>-cha</td>
</tr>
<tr>
<td><strong>nonsingular</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st person:</td>
<td>ii-</td>
<td>--</td>
<td>-cha</td>
</tr>
<tr>
<td>2nd person:</td>
<td>oh-</td>
<td>--</td>
<td>-cha</td>
</tr>
<tr>
<td>3rd person:</td>
<td>--</td>
<td>--</td>
<td>-cha</td>
</tr>
</tbody>
</table>

The phonological rules affect these underlying forms in the following way. The first person singular form

sh-cha

and the third person form

-ch-cha

have no vowels anywhere before the stem. Therefore, they take the prefix /yi-/:

yi-sh-cha
yi-cha

The second person singular form

ni-cha

does have a vowel before the stem, therefore it remains the way it is.
The first person nonsingular form

ii-cha

becomes

yii-cha

and the second person nonsingular form

oh-cha

becomes

woh-cha.

Removing the hyphens from all of these forms, we have

yishcha
nicha
yicha
yiicha
wohcha.

Now let us look at the perfective forms of this verb -- they are:

yicha

'I cried'

yinicha

'you cried'
The verb /...-cha/ 'to cry' is different from /na...-l-nish/ 'to work' in the way it behaves in the perfective. Recall that I mentioned that there are several different perfective mode prefixes, and different verbs take different ones. The verb /...-cha/ takes what linguists have called the yi-perfective prefix. The underlying form of this prefix is /gh-/. Thus the abstract representations of the perfective forms of /...-cha/ are:

<table>
<thead>
<tr>
<th>Subject person marker</th>
<th>yi-perfective prefix</th>
<th>classifier</th>
<th>stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st person:</td>
<td>gh-</td>
<td>-sh-</td>
<td>-cha</td>
</tr>
<tr>
<td>2nd person:</td>
<td>gh-</td>
<td>-ni-</td>
<td>-cha</td>
</tr>
<tr>
<td>3rd person:</td>
<td>gh-</td>
<td>--</td>
<td>-cha</td>
</tr>
<tr>
<td>1st person:</td>
<td>gh-</td>
<td>-ii-</td>
<td>-cha</td>
</tr>
<tr>
<td>2nd person:</td>
<td>gh-</td>
<td>-oh-</td>
<td>-cha</td>
</tr>
<tr>
<td>3rd person:</td>
<td>gh-</td>
<td>--</td>
<td>-cha</td>
</tr>
</tbody>
</table>

Several new phonological rules are needed to transform these
underlying representations into their final shapes.

Before I state these rules, let me point out that our understanding of this aspect of Navajo is imperfect. A great deal of work remains to be done, and what I present may not turn out to be correct. But that is the way linguistics is -- we construct theories which explain certain facts, then we try to improve our theories as our understanding increases. I present this imperfect theory here, because I want to demonstrate the fact that the linguistic study of Navajo is a very young science. Years of work on the part of many people, particularly Navajo-speaking linguists, will be required before our imperfect theories will be corrected in all their details.

One of the rules needed to derive the final pronunciations of the perfective forms of /...-cha/ is a rule we are relatively sure about, that is the rule which states that gh is pronounced as y before the front vowels i and e, but as w before o. We see it applying everywhere in Navajo, for example:

\[ \text{bighéél} \]

'saddle'

is pronounced

\[ \text{biyéél} \]

and

bighiin

'his song'

is pronounced
biyiin.

And

shighoo'

'my tooth'

is pronounced

shiwoo'.

In the verb we are examining here, the rule applies to turn the form

gh-ii-cha

'we cried'

to

yiicha.

And it turns gh to w in the second person nonsingular form -- thus:

gh-oo-cha

'you (more than one) cried'

becomes

woocha.

(Note: I cannot explain why /-oh-/ changes to /-oo-/ in this
form, but it happens regularly in second person nonsingular perfective forms of verbs which have either the zero-classifier or the ingleton-classifier.)

Another rule that is needed here states that if the prefix /gh-/ is followed by a consonant, the vowel ingleton is inserted after the prefix. This is the same rule that applies in the si-perfective to insert a vowel after the prefix /s-./ There is one de-
tail, however, which we did not mention. The ingleton which is inserted has a high tone (i.e., it is ingleton) if the prefix which follows is /ni-/ second person singular; this also causes the vowel of /ni-/ to raise in tone. Recall that the second person singular perfective form of the verb /na-.-.l-nish/'to work' is

nishinîlnish

'you worked'

with high tone on the inserted vowel and on the second person prefix /ni-./. The same thing happens in the verb /s-.cha/; the second person singular perfective is

ghînîcha (pronounced yinîcha),

'you cried'

with high tone on the prefixes. This tone-raising also happens in the other person forms of the yi-perfective if the verb has the ingleton-classifier or the zero-classifier. Since /s-.cha/ has the zero-classifier, the ingleton which is inserted between /gh-/ and a following consonant is high-toned. Thus,

gh-cha

'he cried'
becomes

ghicha (pronounced yicha).

Now, another peculiarity of both the si- and yi-perfectives is that the first person singular subject marker /sh-/ is deleted from them if the classifier is 1 or zero. This accounts for why there is no /sh-/ in

ghicha (pronounced yicha)

'I cried'

This deletion did not happen in

nishishnish

'I worked'

because here the classifier is /-l-/ (recall that the abstract form of this verb is /na-s-sh-l-nish/). But there are other verbs which take the si-perfective in which the deletion does take place:

s-sh-i-kah

'I shot it with an arrow'

comes out as

séikah.

Notice that the classifier here is 1. And the verb form
s-sh-taɬ

'I kicked it.'

comes out as

sétaɬ.

The classifier in this verb is zero. (Note: For some reason which I do not understand, the high-toned vowel which is inserted in first person singular si-perfective forms of verbs taking the ɬ- or zero-classifiers is é rather than ɪ.)

I will conclude this section of the paper with a discussion of one more set of verb forms. I will use the perfective forms of the verb /...-taɬ/ 'to kick', and in the discussion, I will illustrate an additional fact about Navajo grammar. The perfectives of /...-taɬ/ are:

sétaɬ

'I kicked it.'

sínitaɬ

'you kicked it'

yiztaɬ

'he kicked it'

siitaɬ

'we kicked it'
soota

'you (more than one) kicked it'

The abstract structure of these forms should be clear -- the stem of the verb is /-taʔ/, its classifier is zero, and it takes the si-perfective prefix /s-/.

Thus:

<table>
<thead>
<tr>
<th></th>
<th>object person marker</th>
<th>si-perfective prefix</th>
<th>subject person marker</th>
<th>classifier</th>
<th>stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>singular</td>
<td>1st person:</td>
<td>s-</td>
<td>-sh-</td>
<td>--</td>
<td>-taʔ</td>
</tr>
<tr>
<td></td>
<td>2nd person:</td>
<td>s-</td>
<td>-ni-</td>
<td>--</td>
<td>-taʔ</td>
</tr>
<tr>
<td></td>
<td>3rd person:</td>
<td>yi-</td>
<td>--</td>
<td>--</td>
<td>-taʔ</td>
</tr>
<tr>
<td>nonsingular</td>
<td>1st person:</td>
<td>s-</td>
<td>-ii-</td>
<td>--</td>
<td>-taʔ</td>
</tr>
<tr>
<td></td>
<td>2nd person:</td>
<td>s-</td>
<td>-oh-</td>
<td>--</td>
<td>-taʔ</td>
</tr>
<tr>
<td></td>
<td>3rd person:</td>
<td>yi-</td>
<td>--</td>
<td>--</td>
<td>-taʔ</td>
</tr>
</tbody>
</table>

The phonological rules we have already discussed will apply to most of these abstract representations to convert them into the forms as they are actually pronounced. One of the forms, however, has a new element in it -- i.e., the form

yi-s-taʔ

'he kicked it'

This new element /yi-/ prevents the rule which inserts ʔ after the perfective prefix /s-/ from applying. And there is a special rule which states that if the perfective prefix /s-/ appears immediately before a zero-classifier, it turns to /z-/.
converts

yi-s-taɁ

into

yi-z-taɁ,

since the classifier in this verb is zero.

We must ask now what this new element is. In the chart, we
gave it the name object person marker; I will now explain what we
mean by that.

Consider first some sentences using the verb we began this
discussion with, i.e., /na-...-l-nish/ 'to work':

'ashkii naalnish.

'The boy is working.'

shi naashnish.

'I am working.'

ni nanilnish.

'You are working.'

In these sentences, the first word represents what we refer to as
the subject of the sentence.-- i.e., the one who is performing the
action described by the verb. In the first sentence, /'ashkii/
'the boy' is the subject -- the boy is performing the act of working. In the second sentence, the subject is the speaker -- i.e.,
the word /shi/ refers to the person who is speaking the sentence;