Strategies for Improving Communicative Competence in a Second Language

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The title I was asked to address, 'Strategies for Improving Communicative Competence in a Second Language', presupposes answers to a number of questions.[1] Luckily, when those several questions are answered, our task will be nearly complete. The

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1) This paper was presented in an oral version at the International Conference on Efforts of Asian Countries to Enhance ESL Learner's Communicative Competence on October 12, 1996 at Soong Sil University in Seoul, Korea. I am indebted to Jaehyeon Han, Director of the Institute of Humanities at Soong Sil, and his colleague Jun Eon Park for organizing the conference. In addition, thanks are owed to Yongjae Paul Choe and Kunok Kim, whose collaboration in research on language proficiency and human intelligence helped to justify the trip from Albuquerque to Seoul. Thanks are due also to Myong-Yol Kim, Director of the Language Research Institute at Seoul National University and his colleague Inn-Chull Choi. Work underway in connection with the SNU Criterion-Referenced English Placement Test was a further incentive. Finally, thanks to Yong Jin Kim of Soong Sil, Oryang Kwon of Seoul National University, Soonai Ham of Myong Ji University, Peter McCagg from the International Christian University in Japan, Tian Guisen of Peking University, Chee Jan Foo of Singapore's Regional Language Center, and the South East Asian Minsters of Education Organization, Byong-Man Jeon of Chonbuk National University, Sook Whan Cho of Sogang University, and the participants at the conference.

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following are among the presupposed questions that require attention: (1) What is communication? (2) Is it really possible? (3) Assuming a positive answer, to question 2, upon what pre-requisites does communication depend, i.e., when and how can it occur? (4) What are strategies of effective communication? (5) How are these strategies normally acquired, and how can they be taught most efficiently?

As soon as we begin to examine communication closely, we discover that it depends entirely on sign-systems sensory, motor, and linguistic. Without sensation, it is impossible for us to have perceptual knowledge of the world of experience. Without capacity to move around, and the signs that this capacity generates, it is impossible for us to manage our perceptual experience and thus to take volitional charge (to non-negligible degree) of what we pay attention to, what we choose to experience, and what we choose to share with others. And, finally, without one or more shared language systems it is impossible to express experiences and feelings in a way that can be understood by others.

Therefore, communicative competence consists of the facility of sign-users in the acquisition and use of perceptual, motoric, and linguistic sign-systems. As a consequence, it is essential to investigate the nature of the sign-systems upon which communication depends so we can see what 'communicative competence' is. In probing these matters, we are drawn to the limits of human understanding and possible experience. We are obliged to examine the full range of intelligence, both nonverbal and verbal, intrapersonal and interpersonal interactions (see Gardner, 1983, 1993), and sociocultural differences within and

across political and linguistic boundaries. However, before I attempt to justify these remarks, I believe it will be useful to color in some historical background and to explain the methods to be followed. The objective is to enable every reader, who wants to do so, to follow the whole story from start to finish.

A little background is needed. For those who are unfamiliar with the theories, persons, and writings mentioned in the next several pages, essential details are provided and and published sources are cited for anyone who wants additional information. It is true that the historical background is based in my own experience. However, as my argument shows, some such personal narrative is the only route that could have been followed. It is also important to show from the beginning that the research efforts have always been about the deeper basis of human intelligence and have sought to get a better understanding of our special powers of 'communication'.

The Narrative Background

While many authors have studied communication during known history, it was Dell Hymes in 1971 who coined the term 'communicative competence'. He was criticizing the narrower use of the term 'competence', as contrasted with 'performance', by Chomsky (1965). Hymes's point was that the 'linguistic competence' of Chomsky's 'ideal speaker-hearer' did not embrace ordinary acquisition and use of natural languages by real speaker-hearers and communities of them. Hymes (1971) was not alone in arguing that the conception of the human language

capacity needed to be deepened and widened.

Others had argued a decade prior to Hymes (1971) that communication had been severely neglected by Chomsky. For instance, Reichling (1961) had noted that Chomsky's theory resembled 'cryptanalytical formalism' the analysis necessary to deciphering the inscriptions on some tomb in an unknown language. Chomsky saw the 'communicative function' of language as 'derivative' and 'subsidiary' rather than as essential. E. M. Uhlenbeck (1963, 1967) objected and so did I, along with my teacher Dean Obrecht (Oller & Obrecht, 1968). We showed in an experimental study that 'communicative activities' made 'pattern drills' more effective in foreign language teaching. By directing the attention of our students to the meanings of target language forms, we showed that the sounds, words, and sentences were parsed more accurately and became more readily linked with the objects, persons, and spatio-temporal relations of ordinary experience. Also, at about the same time, we showed that 'meaningful sequence', or what I now call 'episodic organization' (Oller & Richard-Amato, 1983; Oller, 1993a), also enhances the acquisition of target language forms (Oller & Obrecht, 1969; also Oller, Sales & Harrington, 1969, 1970).

While additional experimental studies were underway, I continued to argue that the Chomskyan paradigm was inadequate to account for the crucial pragmatic relations of target language forms with the ordinary space-time contexts of material objects of experience (Oller, 1970). I showed that Chomsky (1957, 1965) had perpetuated the neglect of pragmatic relations between linguistic signs and material contexts. He

still defends this result by claiming that an 'internalist' approach to the study of language is best (Chomsky, 1993, 1995). He supposes that linguistic structures can be explained without any obligation to show their relations to material objects, persons, events, etc., of the common space-time world of experience. Indeed, he insists that the latter task is impossible and that, in effect, there is no 'common world of experience' as distinct from representations of it (also see Jackendoff, 1983, 1987, 1993; Pinker, 1994).

Nowadays, most linguists, however, have so widely embraced the importance of communication that it may seem remarkable that prevailing methods of language instruction still reflect the tendency to conjure meaningless surface-forms out of the blue sky and to inject them without much if any material context directly into the ears and mouths of students in foreign language classrooms. The fact that such approaches are still prevalent, even in Asia, was well-attested at the conference in Seoul in papers presented by Peter McCagg, Tian Guisen, Yongjae Paul Choe, and others (see the papers in this volume). It appears that commonly used methods of language teaching still follow incomplete and discredited theories. I will have more to say about methods of teaching later, but the idea that communication is crucial to the development of language systems dates to much earlier times. In fact the central importance of the communicative function of language has been advocated by Albert Einstein (1941, 1944) and Charles S. Peirce (1861a, 1861b, 1865, 1867, 1897, 1898, 1908).

The notion that communication is the quintessential function of language systems was expressed by Einstein in 1944. He wrote:

> . . . we have the habit of combining certain concepts
> and conceptual relations (propositions) so definitely
> with certain sense experiences that we do not become
> conscious of *the gulf—logically unbridgeable—which*
> *separates the world of sensory experiences from the*
> *world of concepts and propositions* (my emphasis;
> reprinted in Oller, 1989, p. 25).

If there were any doubt about what he meant, consider the
fact that in another context three years earlier he had said:

> Everything depends on the degree to which words and
> word-combinations correspond to the world of impression
> (Einstein, 1941, in Oller, 1989, p. 62).

For nearly three decades now, I have been engaged in
research aiming to understand more fully the pragmatic
relations that obtain between the surface-forms of natural
languages and the *other* material facts of ordinary experience
to which particular linguistic surface-forms are related by
intelligent language users and communities of them. For
reasons that I will endeavor to make clear, I believe that such
research is necessary in order to provide an adequate theoretical
foundation for methods of language instruction, experimental
psycholinguistics, sociolinguistics, and for communicative and
educational undertakings in general. Einstein's idea about 'the
gulf' that separates 'the world of sensory experiences from the
world of concepts and propositions' first came to my attention
while I was a graduate student in the latter half of the 1960s
(see references in Oller & Richards, 1973: 45-46).

A few years later, I found diagrams 'like' Figure 1 useful. Such a conception shows the questions faced by theories of the acquisition and use of languages. It capsulizes the process of the development of communicative competence. By formulating the questions more sharply, it is possible to show that
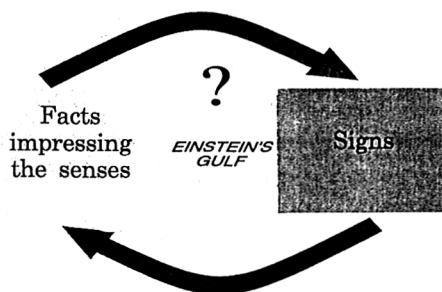

FIGURE 1. The **Pragmatic Mapping** Process –Linking Signs to Experience and Vice Versa.

the relationships in Figure 1 are the very ones that are essential to intelligence itself and that they *also form the normative basis for affective meaning* (Oller, 1981, in press; Oller & Perkins, 1978; Oller & Wiltshire, 1997). Here I will show the basis for my claim that intelligence itself is constituted chiefly by proficiency in one or more languages (Oller, Chesarek & Scott, 1991; Oller, in press). To discover why these conclusions are justified, it is necessary to see how (as Figure 1 suggests) signs and their meanings are first abstracted from the material contexts of experience and then related back to those contexts. In doing so, it is possible to make sense of both the signs on the one hand and the physical world of material bodies, relations, and events on the other.

A similar conception of the process of communication can be found in the writings of John Dewey (1916, 1938 to pick two representative works). About 1665, when Benedictus de Spinoza was writing his Ethics, he deduced by very careful reasoning that 'the order and connection of ideas is the same as the order and connection of things' (proposition 7 of part II; in Curley,

1994, p. 451; quoted by Condon, 1975, p. 37). Many other authors could be mentioned, especially, Gottfried Wilhelm Leibnitz (1646-1716), and before him, certain ancient Greeks among whom the mathematician Nichomachus (ca. AD 60-140) stands out. All of these ancient authors understood the gist of the sign-relations displayed in Figure 1. However, the road I have followed was marked off most clearly by C. S. Peirce (1839-1914) mentor to William James, John Dewey, Christine Ladd-Franklin, Josiah Royce, and many other outstanding pragmatists. Peirce published the equivalent of 24 volumes consisting of 500 pages per volume (see Hartshorne & Weiss, 1931-1935; Burks, 1958; Fisch et al., 1982-present). It is estimated that his unpublished works would come to an additional 80 volumes if all were printed. His increasingly well-known accomplishments ranged from original contributions to chemistry, astronomy, and engineering, to highly abstract work in mathematics, logic, and the general science of signs, or **semeiotic** (as he preferred to call the latter endeavor).

In addition to the process of linking signs to experience and vice versa, as described above in Figure 1, it is essential for us to consider the Peircean method of reasoning to be relied on. In fact, I believe that the method of reasoning itself is of greater interest than its particular results. Thinking back over several decades, it seems my own emphasis has shifted from theory to experiment and back to theory again. I have come more and more to regard as sovereign the kind of mathematical reasoning with which I first became acquainted in Euclid's geometry. His methods were not perfect, of course, and his results proved to be less certain than he thought them to be, but in spite of

this, it is now clearer than it ever was before that empirical tests are always dependent on theoretical reasoning and can make no progress at all without it. On the other hand, theoretical proofs of the mathematical variety can go very great distances with little or no need of additional empirical input or testing. Whereas empirical evidence (obtained through observation and experiment) is needed to provide content for any abstract theory (mathematics included), abstract reasoning itself is all that stands between any particular material context, or any selection of them, and meaninglessness. Throw away all abstract ideas and the content of any experience is uninterpretable. Without abstract ideas, concrete things and events are nonsensical. As a result, I have long agreed with Canale and Swain (1980 the lead article in the first volume and number of *Applied Linguistics*), Cummins (1983), and Krashen (1983) that the investigation of language proficiency through empirical procedures, e.g., by tests and statistical manipulations of test data is, in the final analysis, dependent on developing and advancing sharper theories of what language proficiency, communicative competence, intelligence, affect, etc., are understood to be (Oller, 1983b).

Some linguists, e.g., Chomsky and his followers (and even surprisingly many of his critics, e.g., Givón, 1983, 1990, 1993 and Langacker, 1987, 1991, 1995 among them), have preferred what seems to me a narrower approach. Vladimir Nabokov (1957) parodied such approaches in his character Pnin who said, 'what my net can't catch, isn't fish'. To me it seems wiser to examine the broader scope of grammatical phenomena within the ordinary contexts of human experience. The daunting

question has been how it would ever be possible to complete
such a task. But, since every child evidently does so within a
few years by acquiring whatever language(s) may be presented
to him or her, evidently the task *must be solvable*. However, it
is evidently not solvable by the methods being applied by the
narrower approaches of linguists, psycholinguists, sociolinguists,
etc. Their insurmountable difficulty is to determine when
sufficient phenomena will have been observed, recorded, or
somehow produced for observation or experiment. As long as we
depend on traditional empirical approaches to highly selected bits
and pieces of data, the tasks laid out for those methods, can
never be completed. That is, by empirical methods alone, the
pursuit of communicative competence will go on forever with no
end in sight. In fact, it can be seen that to complete any part
or aspect of such a task will demand an entirely different kind
of method.

Turning to a Different Method

Mathematical reasoning points the way to the sort of method
needed, and C. S. Peirce showed how an exact mathematical
approach was possible. The logical method can be summed up
in a single directive: *Begin with a proved premise (one that
admits no reasonable doubt) and add no further premise without
first proving it necessary*. This directive is cyclic because it can
be applied, and reapplied as many times as desired or, in some
cases, until no further applications are needed.

According to Peirce, arguments of the desired kind are

strictly deductive and proceed exclusively by necessary reasoning. They depend in the final analysis on nothing but the requirement of mere consistency. The only allowable steps in such probative or necessary reasoning are those that are demonstrated to be necessary for all possible cases of the type under consideration. One way of summing up such an approach is as follows: For every step taken, we must be able to show in advance that if it is not taken, for all possible approaches that would avoid that step, a necessary contradiction is certain to arise. Thus, the step in question *must be taken*. Peirce capsulized this exact logical method in contrast to that of the German, Georg Hegel by writing the following lines in his *Logic Notebook* on December 14, 1865:

> Hegel never deduces the necessity of considering what he considers before considering it; but I never introduce a distinction without having deduced the necessity for it (p. 340).

If for instance we are going to distinguish some object from a sign of that same object, in following the Peircean method, we must show in advance, before admitting the distinction between the sign and the object, that it is necessary i.e., that if it is not made, a contradiction (or series of them) will certainly follow. Such proofs are more productive than humanists might be inclined to imagine. They sound like raising ourselves by our bootstraps, and they seem too infinitesimally precise to lead beyond the ends of our noses, but neither of these fears is at all justified.

On the contrary, exact mathematical logic is the very sort of method required if we are to discover anything whatever about

all possible signs, or about the well-known fact that *any
normal child can acquire whatever language to which he or she
may receive a few years of exposure.* Without a perfectly
general system of reasoning, we cannot really begin to think
adequately about the normal language acquisition capacity,
because that capacity easily transcends the limits of empirical
observations taken one by one, or experimental investigations
completed arduously one after another.

Launching a Strict Logical Theory

Bearing in mind the historical context, we are ready to
approach the subject-matter of this paper by applying the
method described. To build a strict logical launching pad, let
us consider the assertion that *these are signs, therefore, signs
exist.* This may seem to be an unimpressive opening, but I
implore the reader to follow the argument for just three more
paragraphs where it will become possible to begin to answer
definitively each of the five questions with which we set out at
the beginning.

The proof of the starting premise (the statement just above in
italics) is achieved by showing that every possible counter-argument
must contradict itself. *Proof: Suppose someone comes forward
and says, 'I now prove by these signs that no signs, etc., etc.,
exist or that their existence is at least doubtful.' Every such
argument (i.e., the one contained in single quotes in the
preceding line) must be false no matter how it is developed
because every such argument requires the use of the very sort*

of thing whose existence is denied or doubted. As a result, every denial or argument expressing doubt about the existence of signs refutes itself as soon as it is stated. Every such argument, therefore, is absurd. The existence of signs cannot reasonably be doubted. Thus, we prove the basis from which we will launch our entire theory. In place of an infinitude of skepticisms shown to be false (all arguments claiming to doubt the existence of signs), our method yields up a proposition that cannot be denied without introducing an inevitable self-contradiction: *signs exist.*[2]

Next we prove by the same method that material objects and sign-users exist. The argument proceeds in each case in a way analogous to the foregoing proof and each successive proof merely extends and builds upon what has already been established and adds nothing to it until the additional part is first proved. We wish to assert that *these signs are material objects and that they are connected to certain bodily sign-users. Therefore, both material objects such as these signs are and the bodily sign-users connected to them must be admitted to exist. Proof: Suppose someone were to say, 'I hereby prove, etc., etc., that no objects and no bodily sign-users can possibly exist or that their existence is at least*

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2) This argument is similar to Descartes dictum, 'Cogito ergo sum'(I think therefore I am). However, our premise presumes nothing without proving it first. Its only term is signs. Descates' argument, by contrast, introduced two terms neither of which was established beforehand by necessary reasoning—first the term I(implicit in the verbs cogito and sum, and second the term think as in cogitare). These elements can be established, as will be shown in the next paragraph, but Descartes' argument did not provide the needed demonstrations.

doubtful.' But, for all possible arguments of this kind, no matter how the etcetera's may be filled in, it will be found that the signs employed involve sign-objects such as these are, and that they are undoubtably connected to one or more sign-users who understand them (such as these are connected to you and to me) and that they are comprehensible (if at all) to other sign-users like us. Therefore, material objects such as these are, together with the bodily sign-users connected to them, must be admitted to exist. In this way, we show that signs entail the existence of the surface-forms in which those signs are manifested as sign-objects, and that such objects also entail the existence of the bodily sign-users who produce and understand them.

Only one further step is required before we can answer the five questions in the opening paragraph. Next, we wish to assert that the existence of signs not only entails *the existence of bodily objects including sign-users, but that it also entails the existence of valid and comprehensible conventional sign-relations between signs like these signs and whatever material objects (including space-time contexts) with which they may be associated. Proof: Suppose someone says, 'I prove by these signs, etc., etc., that no conventional relations between signs like these and any material objects exist, or at least that such relations are doubtful.' Such an argument must fail in every possible case because for all conceivable arguments of the proposed kind, the signs employed are conventional signs and utterly depend for their meaning on their conventional relations with material objects in space-time contexts.* Further, we can show that the conventional relations

just proved to exist are of three kinds: First, there are the conventional uses of the surface-forms of the signs in the experience of the sign-users who produce them. These primary conventional relations link the sign-forms to the material contexts in which they are produced. These relations are clearly conventional because there is nothing in any linguistic sign-forms that would naturally attach them to any particular context or selection of contexts. Similarly there is nothing in any particular context or selection of contexts that would naturally tie them to just those sign-forms. Therefore, the primary relations of linguistic signs to their material contexts can only be understood as conventional. Second, there are the surface-forms of the signs themselves which take material shape according to sign-acts performed by one or more sign-users (or whole sign-communities) that produce the surface-forms of the signs at issue. Now, if those sign-acts were unconventional the surface-forms produced would not be recognizable as particular sign-forms applied according to certain conventions and distinct from other conventional sign-forms. Third, once the comprehension of the sign-forms is achieved, so that the arbitrary surface-forms come to be vested with particular meanings, then the contexts to which those meanings are applied must also be admitted to be associated with the surface-forms of the signs in question in conventional ways. Further, since there are no conventional sign-forms that are not conventionally related to their own surface-forms, to their users, and to their material contexts of use in the ways just described, it necessarily follows that for all existing conventional signs, *conventional sign-relations with material contexts of experience must be admitted to exist.*

Defining Communication

With the foregoing proofs in hand, it is now possible to define communication (question 1 was, 'What is communication?'). We have already proved the existence of signs, material objects (including sign-users), and conventional sign-relations between signs and material objects. Further, we can justify

The material world of ordinary experience.

FIGURE 2. The Relation Between the Three Foundational Kinds of Signs

the distinction between perceptual signs, motoric ones, and linguistic signs, and we can strictly prove that perceptual signs are the most basic and are necessarily involved in motoric signs, and that both perceptual and motoric signs are necessarily involved in linguistic signs (Oller, 1996). All of this is summed up in Figure 2. Further, we can show rigorously that if communication involves an actual sharing of information between two or more different interlocutors about the material objects of experience, this sharing cannot occur on the basis of perceptual or motoric signs alone, but must involve conventional linguistic signs. Moreover, the conventional aspect of linguistic signs, it can be rigorously shown, is supplied only by habits of use that are adopted by one or more communities of sign-users. Thus, we can build an adequate understanding of what communication depends on and under what conditions it can occur.

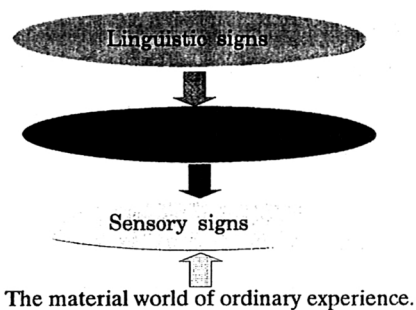In examining the grammar of any percept (item 2 in Figure 3),

we discover that each perceptual sign(item 3 in Figure 3) invariably involves a bounded material object(item 1) in a particular space-time context. That sign-object complex(assigned the number 3 in the figure), endures for as long as the object itself(item 1 in the enclosed oblong)
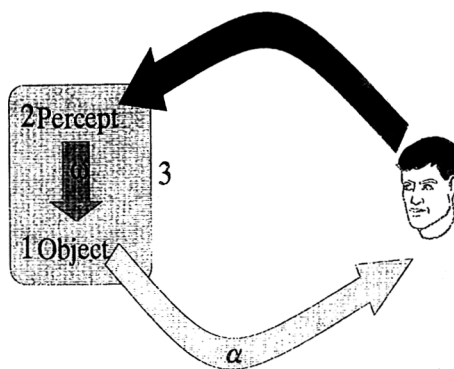

FIGURE 3. The Monadic Grammatical Structure of **Perceptual Signs.**

may be attended to. That is, such perceptual signs arise in sign-users in response to physical forces of light, heat, mass, etc. (along path α in Figure 3) emanating from some material object (item 1) in space-time. However, perceptual signs do not come fully under the volitional control of the sign-user who experiences them. They remain largely under the control of the brute material forces that connect the sign-user with material in space-time. In every valid act of perception, it is in fact the material object itself together with the forces related to it that causes the percept (item 2) to be produced by the sign-user (path β in Figure 3). Otherwise, the sign produced would not be the percept of its object, but merely an illusion or imaginary thing.

Although the attention of the sign-user comes under volitional control, as shown in path β, the sign-user cannot cause any perceptual sign to arise independently of its object. Redirecting one's attention to a new location can cause a

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percept to disappear from the new perceptual field, but it cannot cause it to reappear in its previous place (by looking back to that earlier context) without the assistance of the material forces involving the material object itself. That is, if we look away from a car and then look back at it again, we will perceive the car on the second occasion only if the car is still in that location. Otherwise, a sign-user who claims to perceive objects not present is said to suffer from illusions, hallucinations, or an over-active imagination. However, if the sign-user is competent, awake, and attending in the right direction, etc., and supposing that suitable material forces (e.g., light, heat, mass, etc.) impinge on the sensory apparatus of the sign-user, the sign-user is obliged by the nature of his or her physiology to produce (as shown in path β of Figure 3) a perceptual sign of the object, which is taken to be the object itself (as shown in path ω of Figure 3). That is, while the percept (item 1) is distinct from its object (item 2), the percept is not distinguished by the perceiver from its object, so the entire perceptual sign is regarded as an undifferentiated monad by the sign-user. The perceptual sign (item 3 in Figure 3) appears to the sign-user merely to *be* the object that is perceived. That is, to the user, the object and percept are the same thing, so that the paths α, β, and ω are not differentiated. All of them together serve merely to produce a singular (monadic) sign, a percept of the object. That sign involves the object (numbered 1 in Figure 2), the percept produced by the sensory apparatus of the sign-user (numbered 2 in Figure 3), and the syntactic relation (path ω) between the percept and object, but all are regarded as a whole as a single perceptual

sign of the object (numbered 3 in Figure 3).

Therefore, a distinction between the sign and the object cannot possibly be made by perceptual signs alone and communication between different sign-users about any object or objects cannot be achieved through perceptual signs alone. Proof: Perceptual signs do not come fully under the volitional control of the sign-user nor can they be publicly produced. For these reasons, perceptual signs cannot possibly provide a sufficient basis for ordinary communication between sign-users. Nevertheless, we can prove rigorously that perceptual signs are the only possible source of valid material subject-matter about any conceivable object or plurality of objects in any conceivable space-time context. Proof: Let the material object of Figure 3 represent any conceivable materially bounded segment of space-time. It may contain any conceivable degree of material complexity that might be perceived. Clearly, any subject-matter that is validly in such a logical object can validly be attributed to that object through a sign suitably applied by a competent sign-user. But suppose some subject-matter were attributed to the object either by the sign, or by the sign-user, that was not in fact any part of that object. That extraneous subject-matter would be false of the object. Now if any source of subject-matter for the sign were accidentally true of the object, only consultation of the object itself would provide confirmation of this fact. Thus, the case is made. The only possible valid source of subject-matter about any object in space-time is that material object in space-time. Thus, we also establish that for all possible signs, their meaning in communication invariably depends ultimately on signs of the perceptual kind (with the

grammatical structure shown in Figure 3), but that those signs, owing to their strictly formal properties, cannot possibly provide a sufficient basis for communication. There is no way to bring them fully under the volitional control of sign-users, nor to assure that they are shared by distinct sign-users.

Because perceptual signs arise in competent sign-users owing to material forces emanating from material objects and impinging on bodily sign-users within space-time contexts, it follows that the only evidence of volitional actions taken by bodily sign-users will have to be found in perceptual signs associated with those motoric actions of those bodily sign-users. So, we look next to these. However, since material forces emanating from material objects (including other bodily present sign-users) must be outside the volitional control of the sign-user acting as perceiver, there is no way that any sign-user can be certain just what perceptual signs may arise in other sign-users. Suppose a certain sign-user wishes to communicate with another about certain material objects. By handing the other person the material object(s), or by directing the second person's attention to certain object(s), some degree of communication, could be achieved by the first person with the second. Thus, motoric signs provide an advance over mere perceptual signs as a suitable basis for communication. For this reason, certain eminent thinkers (e.g., Robert Yerkes, ca. 1925, according to Rumbaugh, 1977; Lev Vygotsky, 1934; D. L. Bolinger, 1975) have supposed that the precursors of conventional linguistic signs were unconventionalized but deliberate movements (gestures) that later took on particular conventional meanings, thus, becoming conventionalized signs. No doubt

there is some merit to this idea.

However, analysis reveals that movements invariably involve at least three material objects relative to each other. There must be a perceiver or actor (position α), an act performed (β),

FIGURE 4. The Dyadic Grammatical Structure of **Motoric Signs**

and an object of the action (ω), as shown in Figure 4. The active object singled out for attention in location ω is at the end of path β which originates at α. Indeed, it is quite impossible, as Leibnitz noted (ca. 1716; cf. proposition 8 of his *Monadology*, and part XVIII of his *Discourse on metaphysics*, in Montgomery, 1953, pp. 252 and 32, respectively) for any movement to be noticed (or any predicate conceived) without material bodies to display the dynamic or tensional meaning of the predicate. Moreover, just one material body will not do. More than one is required so the position or motion of the object (numbered 2 in Figure 4) can be defined relative to the position or motion of the perceiver (actor, numbered 1). However, even these two objects are insufficient to define the dynamic relation sharply. With just two objects it would be impossible to say which one moved relative to the other, or whether both were moving along parallel lines, or for one to be singled out relative to the other. A third object, or context (the oblong numbered 3 in Figure 4), is thus required to relate the position or motion of any one object to the position or motion of any other. The agent may move relative to the object in its
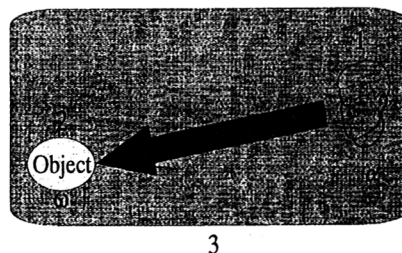
context (1 relative to 2 and 3), or the object relative to the
agent and context (2 relative to 1 and 3), or both relative to
the context (1 and 2 relative to 3). Clearly, if there is no
context connecting the two objects in question, there is no
possibility of registering the motion or position of one object
relative to the other. It is important to see, therefore, that
only two of the necessary three objects are distinguished by
any single motoric act.

While it is possible that someone might attempt to deny the
existence of one or more of the three kinds of objects just
mentioned, the proofs already developed have shown that all
three of the requisite kinds of elements cannot reasonably be
doubted to exist. In fact, they exist in a great abundance. Also,
it is clear based on the results and proofs associated with
Figure 3 that no movements could ever be noticed by any
sign-users without the aid of perceptual signs to register
(represent and keep track of) the objects involved in the sort of
movement seen in Figure 4. However, it still comes out that
motoric signs linked to perceptual signs provide an insufficient
basis for ordinary communication about material objects. The
reason is that motoric signs (bodily gestures) are merely
indices connecting the actor with whatever object or objects
may be acted upon or signified (as pictured in Figure 4). We
can prove very strictly that *any sign-act of a given sign-user is
exclusively produced by the volitional effort of that same
sign-user or else it is no sign-act at all of that sign-user, but
is rather a mere consequence of brute material forces. Proof:
Let any deliberate bodily act (including all sign-acts) of a
sign-user upon some material object or objects be defined as*

shown in Figure 4 (which designates only elements shown previously to be necessary to our developing theory). Let us term any such sign-act a **volitional** *or* **intentional** *act, i.e., a* **motoric sign** *of the sign-user performing the act in question. Clearly, whatever part of the motoric sign that is caused by its user can be validly attributed to that user at its source, and any part of the same act that is caused or controlled by other sign-users or by brute material forces not under the control of the source sign-user can be no part of the intentional sign-act of that source. Indeed, this must be true for any conceivable source other than the sign-user, and the case is made.*

Now, the proof just given shows that *communication shared by distinct interlocutors (by two or more sign-users) cannot consist of merely motoric signs because any given motoric sign can never become fully subject to comprehension by more than one interlocutor.* This is because of the universal problem associated with motoric signs owing to the fact that they are essentially built out of the sort of dyadic structures displayed in Figure 4. Whereas the actor that originates the motoric sign (at α in Figure 4) may know what object is affected at ω through the indexical relation in path β that connects the actor with the object acted upon, it is far more difficult for any other observer to be certain of the object(s) that the actor singles out for attention. Along any line within a perceptual field, many possible objects might be singled out for attention. In fact, it is demonstrably impossible with respect to any action in progress to say for certain where it is directed, that is, what is its ω destination. Or, if the destination is apparent, its α origin often is not. In fact, the only part of the motoric sign that is
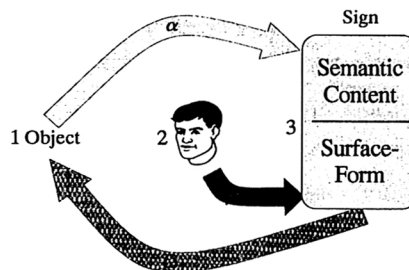
relatively well determined is the motion of some object irrespective of its particular source or destination (that is, the β portion as shown in Figure 4). Did the man who was seen falling from the cliff jump or was he pushed or did he fall? Did someone push him so he would fall on someone else below, or did the man jump from the cliff with that purpose in mind, and so on? That is to say, without taking into consideration a great deal more than a particular relative motion, it is impossible to say for certain what is the original source of the motion or its intended destination. Yet without being able to determine both of these elements in any motoric sign, the meaning of the sign remains indeterminate. Often we are in doubt about the source or destination of the act. Therefore, from motoric signs alone, owing to their dyadic character as shown in Figure 4, it is impossible to achieve determinate communication about particular facts.

Next we must examine the conventional element of linguistic signs. Suppose a gesture is commonly used to get someone to look in a certain direction, or to point out an object. Clearly, the gesture must be connected to the person who performs the act, and if it is intended to point out some particular object to someone else, it includes at least an intention to communicate. However, for reasons we have already examined in sufficient detail, such a motoric act can never achieve fully determinate communication about a particular. Suppose the act is intended to get another person, to attend to a certain object and no other. For instance, suppose on a starry night you wish to get your friend to see the North Star (Polaris), or the Big Dipper, or some particular constellation that is visible in the night sky.

Merely pointing in the appropriate direction is unsatisfactory for all the reasons already given. As seen in the discussion of Figure 4, motoric signs are indices and are indeterminate at one or both of their ends. It is difficult to determine just which object along the line of pointing may be pointed out. In fact, until conventional signs of the distinctly linguistic kind are added into the picture, communication of the ordinary kind known to human beings cannot be achieved at all. A relatively much less perfect kind of communication is possible through motoric signs alone, but the kind of communication that can be translated from one language to another cannot be achieved with unconventionalized gestures at all. Suppose, on the other hand, that I can describe the Big Dipper while pointing to it on a starry night and that I can describe the North Star by noting that it is always nearly in line (above the open cup) with the two stars that mark the edge of the cup opposite the handle. Or, I may note that Polaris is the last star in the handle of the Little Dipper. With such symbols added into the mix, it will be possible to get most interlocutors to perceive the intended object, the North Star, and a great deal more along the way.

Earlier we proved that perceptual signs cannot provide a sufficient basis for ordinary communication, and now we have seen that motoric signs also fail to provide such a basis. Invariably, we are led to look more closely at the linguistic signs that obviously can provide the needed determinacy. We found that motoric signs are built up out of perceptual signs plus intentional movements, volitional acts of individual sign-users. However, in order for ordinary communication to be possible, it is essential for the volitional acts of communities of

distinct sign-users to be coordinated through linguistic signs so as to come into conformity with the shared conventions and the meaningful uses of those signs as shown in Figure 5. We have already proved that conventional signs and their relations to the material objects and space-time contexts of ordinary experience must be admitted to exist and Figure 5 merely elaborates the grammatical structure of such relations. First, it shows in path α that the semantic content of any conventional sign comes exclusively from the object (or plurality of objects including

FIGURE 5. The Triadic Grammatical Structure of **Conventional Signs**(i.e., **Linguistic Signs**)

contexts of communication no matter how complex) with which the conventional sign in question may be associated. Second, it shows in path β that the surface-form of the conventional sign in question is exclusively a product of the sign-user (or one or more communities of sign-users). Third, it shows in path ω that the conventional application of the sign depends on its association with its material object. Further, in Figure 5 we note for the first time that the three main objects to be taken into consideration (as shown in the numbers 1, 2, and 3) are thoroughly distinguished in ways that were not possible with perceptual or motoric signs (Figures 3 and 4 above). That is, the object (element number 1 in Figure 5) is sharply differentiated from the sign (element number 3), and both of these from the sign-user (element number 2). For this reason,

conventional signs achieve a relative independence from their objects that was not possible with perceptual or motoric signs.

In perceptual signs, the sign and its object are indistinguishable from each other and take no account of the act of the sign-user that associates them (Figure 3). Thus, perceptual signs are doubly degenerate that is, they fail to differentiate two of the three objects involved in them (the sign-user and the sign itself) from the vantage point of their producer/interpreter. In motoric signs, there are again three objects to be distinguished, but only two of them can be determinately distinguished in any given case from the vantage point of an interlocutor (Figure 4). Therefore, motoric signs are singly degenerate that is, they fail to differentiate for the interlocutor at least one of the three elements they must contain from the point of view of the sign producer (either they fail to differentiate the sign itself, or its object, or its agent). Only when we come to fully conventionalized signs, such as those shown in Figure 5, do we find a kind of sign that achieves sufficient independence from its contexts of application and sufficient determinacy in the objects that it distinguishes, to enable ordinary communication as we know it. The conventional linguistic sign distinguishes its object, the sign-user (or community), and the sign itself.

Now, with the foregoing basis in mind, we can produce a satisfactory general proof showing that *ordinary communication must be and indeed is possible. Proof: Suppose any person says to another, 'I am quite certain (as shown by these conventional linguistic signs), etc., etc., that you and I can never understand each other quite perfectly.' Suppose further that the second person responds: 'I know exactly what you mean. We*

never do understand each other perfectly, because etc., etc.' In this case, the response of the second party to the first refutes the general claim made by the first person, regardless how the etceteras may be filled in, because the second person has both understood and has paraphrased to a high degree of perfection the essential meaning of the first person. But, suppose the second person says instead, 'I'm quite sure that I really don't know what you mean, because we can never understand each other perfectly, etc., etc.' In the latter case, the second person still produces a perfectly satisfactory paraphrase relative to the claims of the first person. In fact, the paraphrase is satisfactory in both cases because neither paraphrase says more nor less than what was claimed by the first person which is itself proof that the paraphrase in each case is exactly as satisfactory as the statement paraphrased. Thus, either by agreeing or by disagreeing, the second person explicitly demonstrates perfect comprehension relative to what the other has said. Moreover, since there is no middle ground between such perfect comprehension and anything less, relative to what was said, the case is made and absolutely refutes any comprehensible argument that perfect communication cannot be achieved. On the contrary, every statement that perfect communication is impossible presupposes that relatively perfect understanding of conventional signs is possible, and is therefore absurd and false for all possible arguments of the same form. All claims to the effect that communication is impossible must be rejected because they incorporate a necessary inconsistency within themselves. Remove that inconsistency, and we are obliged to admit that ordinary, perfect communication is

possible relative to what is said by different interlocutors. Thus, the second question posed at the outset receives a determinate and affirmative answer: *it cannot reasonably be doubted that communication is possible,* so we proceed to the third question. Upon what conditions does communication depend?

Consistency and Meaning

In fact, we can show rigorously that all communication depends exclusively on the consistency of signs with their objects, and with each other as shown in Figure 6. Iconic signs (and all sensory signs or images taken from objects are iconic) depend on their **material consistency** with objects found in space-time. That is, any icon (as Peirce insisted) must really resemble the object with which it may be associated. Similarly, all indices (and all motoric signs are indices) depend on consistency of the material kind plus **consistency of action.** That is, the motoric act of an interlocutor must be coordinated with that of another if the motoric sign is to achieve its desired effect, e.g., say, to direct someone's attention to a certain material object. Likewise, all symbols (and all linguistic signs are symbols) depend on both of the former consistencies plus **consistency of convention.** That is, unless the symbol is used in the normal conventional way, it cannot be intended or understood as a conventional sign.

Signs that have all of the foregoing consistencies to a limit of perfection are **true narrative representations** (TNRs). These
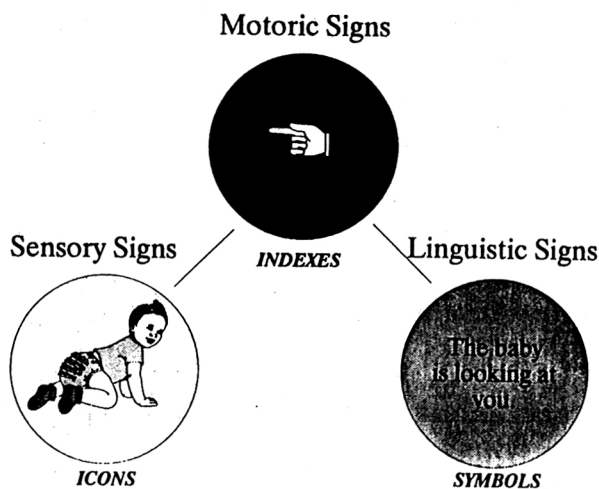
Motoric Signs

Sensory Signs   *INDEXES*   **Linguistic Signs**

ICONS   *SYMBOLS*

FIGURE 6. The Component Parts of Every True
Narrative Representation(TNR)

are also illustrated in Figure 6. Though the representation
there is a fiction, because there is no actual baby looking at
you from the page, consider an instance where the fact existed
materially (a real baby was really looking at you), and let
Figure 6 represent that instance. With that idea in mind and
with the details given in Figure 6, we can sum up what is
called **TNR-theory. A narrative** representation is merely the
sort that refers to events unfolding over time as in any story,
and a **true** narrative is one where the representation conforms
to or agrees with the material events unfolding in space and
time. This idea was capsulized by Spinoza when he said that
'the order and connection of ideas is the same as the order and
connection of things' (see above). In every TNR, we find that

there are iconic, indexical, and symbolic signs arranged in such a way that all are consistent with each other and with the material facts they purport to be about. In TNRs, sensory signs represent the material facts as shown at the bottom left side of the diagram; motoric signs call attention to the material facts; and linguistic signs reveal the character of those facts. Moreover, in TNRs all these relations are perfect relative to each other. The facts do not deliver any less material content than the signs require and the signs do not claim any more content than the facts deliver.

All other representations, in comparison to TNRs are less perfect. For instance, **fictions** are degenerate in their material element. If any fiction contains a sensory sign, its content is supplied by imagination. **Errors** are degenerate in both the material element and in the linguistic part. **Lies** are degenerate in all three elements. Moreover, all **general** representations (ones that purport to be about all or no particulars of a given kind) are exactly like fictions with respect to their material element unless the general can be instantiated in terms of particular TNRs. Since nonsense cannot count as any kind of representation, the comparison is already exhaustive, and TNRs are proved to be the most perfect of *all possible sign systems.* At least they are the most consistent in the sense of their material determinacy (being related to material content), with respect to their connectedness to space-time (being linked to a particular portion of the space-time continuum), and with respect to their generalizability (being generalizable to all possible material contexts like the one the TNR is true of). In fact, I have shown (Oller, 1993b), that without TNRs,

languages would be unlearnable and communication would be impossible. However, since neither of these impossibilities holds for any normal child, TNRs must exist empirically. Besides, the proofs given earlier show that they cannot logically be denied existence. However, it is a virtue of the system of proofs that it does not require us to identify any single representation as a TNR. All we need to rely on is the mathematical presupposition that signs should merely be consistent with each other. (We do not even have to *presuppose* consistency with the material world to develop any of our proofs. However, that material consistency also *cannot be denied* by anyone without the skeptic introducing an inevitable inconsistency into our signs. So it cannot be denied.)

As we have already seen above, ordinary communication depends in an essential way on conventional linguistic signs and cannot be achieved by perceptual signs alone. Neither can it be achieved by perceptual signs combined with motoric signs. Linguistic signs of the conventional kind must be added into the picture in order for ordinary communication to become possible. Thus, the third question is answered: *communication depends on linguistic signs*, so we come to the fourth question. What are effective strategies of communication? Our investigations so far have produced conclusive evidence of three distinct kinds of signs perceptual, motoric, and linguistic. Motoric signs depend utterly on sensory signs, and linguistic signs depend utterly on both motoric and sensory signs. Now the question arises whether there are any sign systems that can be constructed independently of these three or without using combinations of one or more of the three kinds of signs

already defined. Or, putting the question is a different way, can any strategy of communication be developed that does not build in an essential way on the kinds of signs so far described? Some might suppose that mathematical reasoning would be a candidate for such a strategy, or that music, art, dance, poetry, architecture, cooking, economics, politics, religious ritual, or something of the sort, might escape dependence on the three foundational kinds of sign systems already described above. On the contrary, however, it can be shown that satisfactory communication about any of these kinds of expression is inconceivable without reliance on conventional signs of the linguistic kind (Oller, in press). Indeed, this result follows from TNR-theory. As a result, it comes out that any kind of shared expression that can be communicated, e.g., in a mathematical equation such as $E=mC^2$, or in a musical score, song, blueprint, manual, or what-have-you, depends on the sort of linking of signs with objects that was described roughly in Figures 1 and 2 above and that was spelled out in greater detail in Figures 3, 4, 5, and 6.

Effective strategies of communication, therefore, absolutely must depend on the management of perceptual signs, motoric signs, and linguistic signs. Moreover, communicative competence cannot be more or less than the capacity to employ signs of these three kinds in ways that enable other interlocutors to understand and make sense of them. That is to say, the use of signs must be consistent across interlocutors if communication is to be possible. We have already proved that this possibility cannot be successfully denied. The next question then is how communicative strategies can be developed by language learners

and how that development can be facilitated by teachers of languages.

Abstracting Meanings

To adequately show what is at stake a little bit of additional theoretical apparatus is needed. In particular, we need to understand just how it is that sign-users abstract material content, motoric relations, and linguistic signs from the contexts of experience. In fact, if we examine abstractive processes closely, we find that they can be divided into three distinct kinds. First, there are perceptual abstractions that are obtained by **discrimination**. Second, there are motoric abstractions obtained by **prescission**. Third, there are conceptual (linguistic or semantic) abstractions obtained by **hypostasis**.

Discrimination is defined as that abstractive process of perception that marks the boundary of some material object such that the material will be found within the boundary, but not outside of it. The marking of such a boundary involves the sort of act necessary to create a perceptual icon. Discrimination is the act of vesting a perceptual icon with a particular material content by marking the space-time boundaries of some bit of material within the perceptual field.
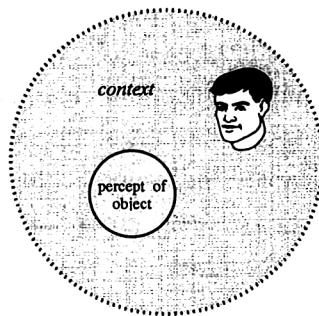

FIGURE 7. The Abstractive Process of Discrimination— The Creation of Any Icon.

Such an act of abstraction can be pictured as shown in Figure 7. The perceptual field is the larger circle loosely bounded by the dotted line. It can be taken to represent a portion of space-time. The object perceived within that portion of space-time is the bounded percept. Actually, every percept has, the grammatical complexity shown above in Figure 2. However, in Figure 7 we show only the monadic sign (the encircled *percept of the object*) because the creation of such a sign depends only on the discrimination of the boundary of the material from whatever may surround it. All of this activity happens within the loose boundaries of some present-tense material portion of space-time. The process of discrimination marks the material of the object with an abstracted sign right where it appears to be in its space-time setting.

The next higher step of the abstractive process is **prescission**. It involves movement either of the object relative to the observer or of the observer relative to the object. This movement makes possible the abstraction of an image of the material object as distinct from the object itself (or, more accurately, as distinct from the percept of the object). This is inevitable because the percept always seems to remain where the object is (except in illusions or objects faster than sound, and the like). In fact, any **prescinded** image of any object is a fictional representation that either has been or could be a TNR if the
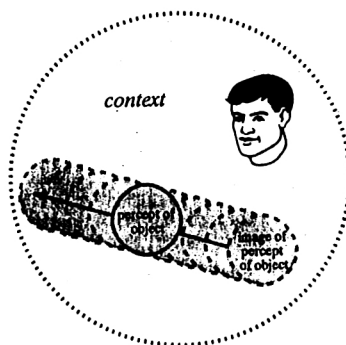

FIGURE 8. The Abstractive Process of **Prescisson**—The Creation of Any Index.

object were moved to the space-time segment of the perceptual field that contains the image. Such a prescinded image may be thought of as the line of motion of an object as seen in Figure 8. There the percept of the object appears to be where the object is in the present-tense and the image of the object is abstracted away from it both into the recent past and the near future. The prescinded sign of the object abstracts the material and projects it to some different time (past or future). If the object itself moves (as is shown in Figure 8), the image is abstracted from the present location of the object (where the percept appears) to the former and subsequent locations along the line of motion of the object. If the observer, on the other hand, moves around the object, the image of the object is abstracted from the time segment during which the object is observed (and this possibility is *not* pictured in Figure 8).

　The next higher step of abstraction is **hypostasis** as pictured in Figure 9. In the hypostatic sign, a concept is created by the sign-user that escapes the time and place of the material object (hence, it is shown as outside the perceptual field). All that is retained in the concept is the image or concept of the defined and bounded object itself. Thus, the hypostatic concept of any object may be quite independent of just where that object is at any given moment. Once a hypostatic concept of an object is achieved, we no longer require perceptual access to
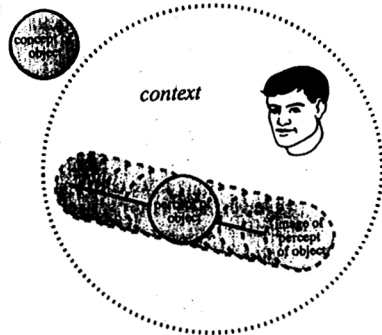

FIGURE 9. The Abstractive Process of **Prescisson**—The Creation of Any Index.

the object itself in space-time in order to think of that object.

Furthermore, by repeated applications of the three phase cycle of abstraction, an increasingly adequate hierarchy of sign systems can be built up over time. I have shown that 10 distinct cycles occur, 30 phases of abstraction in all, before the process reaches a limit of maximal abstractness beyond which it cannot reach. An indefinitely large number of abstractions are possible after that limit is achieved and innumerable sign systems will continue to be produced, but no higher level of abstraction is possible after the 30th phase has been achieved. The upshot of the theory is that in normal development, sign systems are added to the growing repertoire in a fairly strict sequence.

While sign-users may vary in countless ways in terms of the particular material they single out for attention in their experience, the sequential development of elements in the sign hierarchy is evidently fixed in advance to a high degree of precision (Oller, 1996). Of course, for post-adolescent language learners (the kind we are often concerned with in second language instruction), the development of their sign hierarchy will have largely been completed before they undertake study of the second language. Therefore, our main concern in facilitating the development of their second language will be merely to streamline the process. Because our time is short in this life, and because communication is highly valued, as language teachers we would like to waste as little time as possible in bringing our students fully up to the optimum level needed for communication in the target language. That level will vary to a large extent only with respect to the uses to which the student

needs to put the target language, and those uses will not always be fully known in advance. Therefore, we ought to try to bring our students up to the highest possible level of proficiency in the target language as efficiently as possible. Because most students will need to use the full range of oral and written skills in the language, our objective ought to be to facilitate our students progress to as near mature native-like proficiency as our students may wish to go.

We can now be quite brief in saying how this may be done. Language instruction should use TNRs almost exclusively. Fictions in the target language, and uninstantiated general representations, are useless for the most part, especially in the early stages of second language development. This is so because fictions (and generals) depend on the capacity of the students already to understand the linguistic forms we are supposed to be trying to teach them. Therefore, fictions and generals should not be used. Errors and lies are even less desirable as materials for language instruction. Fortunately, however, TNRs can be found in great abundance in the ordinary contexts of experience. They are by all accounts the most common of ordinary representations. In the earliest stages of second language acquisition the learner requires access to relatively simple TNRs that can be deciphered successfully. These can be found in all of the sorts of ordinary experiences that take place on a daily basis and that can be arranged into the normal sequence of a story or story-like presentation. Dramas, soap-operas, films, and the like are especially useful. Activities, games that are easy to understand and that can be demonstrated by actions accompanying the surface-forms of the

target language are also useful. Many good ideas and illustrations are contained in the existing books and literature on language teaching and I have selected ones that I think are among the best for my 1993 edition of *Methods that Work: Ideas for Literacy and Language Teachers*. Another resource that contains many similar ideas is the book with Richard Walker and Saowalak Rattanavich published in 1992 and titled *Teaching All the Children to Read*.

Conclusions

Summing up, with respect to the factual contexts to be examined in the beginning of second language study, whether the facts be contained in drama, film, activities, games, or what-have-you, it is essential that learners gain sensory access to the facts themselves. Also, learners need to be able to recur to the sensory representation of the facts as often as they want by replaying the film, viewing the drama again, reviewing the game or activity, and directly experiencing the material facts.

Beyond access to the material elements of the facts referred to in the target language, the learner needs access to the dynamic movements of material objects talked about, and finally to the surface-forms of the target language. Those surface-forms at first need to be discriminated. This means solving the phonetic forms and rhythms of the target language right down to the level of the syllable, phoneme, and nuances of phonetic features. Secondly, the surface-forms of the target language need to be prescinded from their contexts of use so

thoroughly that each and every meaningful element is associated appropriately with the material context in the manner in which it is intended to be by ordinary users of the target language. That is, the surface-forms that refer to arguments (grammatical subjects, objects, and so forth) must be associated with icons that instantiate those arguments. The surface-forms that refer to relations between arguments (the grammatical verbs, prepositions, and the like) must be appropriately associated with the dynamic relations between the arguments at issue. Finally, the quantifiers, particles, and grammatical markers of number, gender, etc., must be associated with their meanings through the subtler relations materially manifested in the contexts of TNRs. The fact that all this *must be possible* is logically proved in TNR-theory. Furthermore, as has commonly been noted by foreign language teachers who travel to places where the target language is used, "Even the children over there speak the language flawlessly." Native-like communicative competence, therefore, must be attainable.

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Abstract

Strategies for Improving Communicative Competence in a Second Language

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The first necessity in any act of communication is something to communicate about. Thus, in true narratives (the only source of any meaning for all representations Oller, 1993b, 1994, 1995, 1996) the facts have priority over the telling. The second necessity is someone to communicate with. This office can be filled by the narrator, but usually is filled by someone else. The third necessity is a language (or medium) through which the communication can take place. For language teachers this third place must be filled by the target language and its various surface-forms (i.e., its sounds, syllables, words, phrases, and so forth). The facts of experience are known through (1) sensory icons (2) indexical actions (e.g., pointing to, looking at, grasping, moving or moving toward objects, talking to persons, etc.) and (3) symbols of the target language. As I have shown earlier in ordinary cases these connections form a story-like or narrative structure. To advance the communicative competence of any developing language user, it is essential to develop consistent connections between known facts and the surface-forms of the target language. Thus, in the initial stages of instruction, the facts referred to need to be accessible (by seeing, hearing, touching, tasting, and smelling). The relation of those facts to the target language must be made evident through the actions of target language users (especially the teacher). The first step is to involve our students thoroughly in whatever facts we choose to communicate about in the target language. The object is to present

the facts, together with active links to surface-forms of the target language so our students can understand the connections. It is helpful to use video recordings, dramatizations, and narratives of the known facts. We may proceed from action (or dialog), to indirect dialog (or description), to full-fledged narration. Activities need to Incorporate viewing, listening, imitating, repeating, translating, acting out, reading, copying, and writing. First, we establish the facts and actions by seeing them or living through them. Then we start work on the target language forms, dialog and commands, by talking about the facts. Then we move to indirect dialog by talk about the talk. Then, to narration by talking about the talk and the facts at the same time. We can use elicited imitation, question-answer exercises, reading-aloud, dictation, fill-in-the blanks, and paraphrase. We start with mere comprehension, move to acting out, and eventually arrive at improvisation in speech and creative writing in the target language. The key is keeping in mind the facts. These may have been actions performed, a game played, a film, a story told, a drama that was enacted, but they are always the primary elements to which forms of the target language must be connected. The fundamental requirement is to relate target language surface-forms to well-understood experience in the material world.