

The Origins And Evolution Of Language



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There is evidence that since Plato and to our day, people have been challenged by how man, alone among all creatures, has been able to develop speech and language. So many approaches have been tried to meet that question and so many ideas generated within so many fields of enquiry in attempts to come closer to understanding it, that we could have expected to feel that we are clearer about the origins of language. But this is not the case. The problem has become hundreds of problems and remains as elusive.

We are sure that we are now more learned because of all the questions that have been asked and the many experiments and investigations undertaken in the fields of linguistics, psychology, neurology, anatomy, physiology, paleontology, etc. But no one feels that the actual challenge belongs to any one of these disciplines. If it belongs to all of them taken together, how could the synthesis be produced and by whom?

In the articles that follow, a proposal is made in the name of the Science of Education. As our readers know awareness of the awareness is the guiding light in that science. Since in all the human sciences awareness is ignored, the least we can expect is an original approach to the challenge. We claim that more than this is the outcome.

To do justice to this application of awareness, much more must be considered and we look forward to having such opportunities in the near future. The beginning we offer here may appear stimulating to readers of our Newsletter already acquainted with this new science.

News Items report on studies undertaken since last issue.

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1 Man Defined As A Being That Gave Himself Awareness Of Awareness

Man has been defined as an animal plus something else. It seems that man can cope with his problems much better if he, first, drops his attachment to the animal and, second, seeks a definition of himself valid for all ages and for all generations.

The definition we selected and have given in the title above, although substantiated beyond doubt, remains mysterious to many. It needs some explication and this follows.

It is generally accepted that matter as we know it exists in the whole cosmos and the humans who study it are called, according to their special awareness and its subsequent objectivations: physicists, chemists, astronomers, astrophysicists, etc. For these scientists, man is an irrelevancy in their universe, neglected deliberately, and only known as matter, the cosmic matter found in his body. This universe of matter is also called the “first realm,” or “cosmic realm,” and the earth is part of it. Geology is the special science which studies the history and the contents of the earth. Geology has made man see the earth as formed in a complex evolution over long periods of time (compared to man’s length of life) stretching over a few billion years, and has also given man a way of dating events on earth with an approximation meaningful in that context. It has allowed man to say with conviction: “Life

appeared on earth some three billion years ago.” “Life” can be seen as a new way of working of the energy of the cosmos on earth and two realms are associated with it. One generated the so-called vegetable kingdom, or “second realm,” which includes microscopic entities like bacteria and giant entities like redwood trees. (Both adjectives refer to man’s scale not that of particles of matter, which are much smaller.) The “third realm,” or “animal kingdom,” which shares with the second its cellular structure, and the mainly carbonic chemical constitution of its molecules, includes protozoa and the defunct dinosaurs - microscopic and gigantic respectively.

Not so long ago, botany and zoology were the sciences which informed man of the contents of the second and third realm respectively. The study of the three realms was dubbed - in English, three or four centuries ago - Natural History, a term still used today to bring together studies of geology, botany and zoology. With the accumulation of observed facts, men thought of looking at them in terms of time which appeared to them as ordered and irreversible. Some men, called paleontologists, traced the forms of life trapped in the successive layers of the earth and began to suspect links between the members of the last two realms and the changes that occurred on earth as a material sample of the cosmos. So, to think of changes in these realms as caused by conditions in the environment became possible, and the various sciences changed character allowing for theories of evolution to be proposed. The most celebrated and most widely accepted of these is linked with Darwin’s name and work.

To see clearly into the enormous inventory, accumulated in three centuries and more of reporting by numerous observers and investigators, remained a challenge, generation after generation, and will probably go on being so for some time. Since, in the West, Natural History came after centuries of theology - and the important destiny of souls which it assigned to end up in Hell, or Heaven - the place of man became the point of contention. Man, made in the image of the unique deity, which also made the environment, could not be treated as linked with the lower creatures that inhabited that environment and therefore soulless. To avoid facing this difficult social challenge, biology only studied men’s corpses. And found them strictly animal. Man was then

defined as an animal plus any one attribute that mattered to the definer: reason, intelligence, language, politics, social trends etc.

But separately, studies of plants and animals were forcing other men to grant animals many attributes found first in men by introspection. If not logical reason and creative powers as seen in the arts and sciences, attributes - such as cunning, cooperation, leadership, adaptation, acuity of perception, etc. that could be singled out and gathered in stories and on film - were discovered. We have all seen such remarkable behaviors in so many animals that it became possible to alter the center of interest of zoologists who now are more interested in animal behavior than in their classification. Rather than man being linked to inferior animals, animals were linked to superior man. The gulf still remains because it is modern man who does the studies of animals which were around on earth a long time before paleontologists can tell us that man, as a structure, made an appearance on earth. For animals do not tell their stories, only men do and do that on their behalf.

Since the story of animals and men has been told several times and in different fashions, either to avoid linking them or deliberately to link them, there may be room for one more.

- 1 The first realm is the realm of the possible of cosmic energy,
- 2 The second realm is the realm of the possible of vital energy, or forms,
- 3 The third realm is the realm of the possible of instinct, or animal energy as it appears in behaviors,
- 4 The fourth realm is the realm of the possible of energy when it is *not conditioned* by form or behavior, and is the realm of men.

If we must give form to all individuals in the cosmos, we give the second realm to a deliberate evolution of form - one altering a previous one to discover its viability; and the third realm to a deliberate evolution of behaviors - which forms can allow - and the fourth realm

to a deliberate evolution of what makes behaviors *be or not be*, in one single form.

The trend of progress of science in recent times (the last 200 years, say) can be seen as shifting from finding something which strikes one person to trying to find the universality in it. When it came to being struck by intelligence, in people, it could not be denied to many, many animal species. Accumulation of evidence in animals forced honest minds to attribute intelligence to them as they warranted it to men. Men who write the stories of animals must do it, for animals do not write their stories, they just live them.

When men came to be struck by awareness in people, and its importance in the understanding of Men from the remotest times - when they saw pieces of rocks as tools which could make them save their energies and be more efficient in their actions - awareness had to be granted to animals-in order to perceive their preys and aim their actions so as to succeed - even if they did not leave behind any trace of any tools.

But when it came to be struck by awareness of awareness, it was no longer possible to attribute it generally to any animal species unless fixated in instincts where one animal can be aware of attributes that regulate its behavior and only those.

The emergence of men on earth is thus placed in the single mutation of energy aware of itself in evolution and over time, so that it reaches the mechanism of *one* behavior and how it can be activated or kept inactive by energy being poured in it or held back. This is tantamount to the discovery of the will and the central function of the self. It only needs that one individual does it and dwells in it, so that awareness of that awareness can be sketched and pursued *per se* for as long as is compatible with being alive.

By this definition of man, we both maintain all the links with the rest of the content of the universe, cosmic, vital, animal, and understand that evolution is concerned with trying one new thing after another, testing for viability, durability in all circumstances available on earth because

of the co-existence of all possible viable forms, all possible behaviors compatible with forms and finally with the dynamics of change or awareness and all that is compatible with it.

Men, therefore, will objectify the universe of awareness and, in time, discover more and more of its possibilities. Whenever these possibilities are connected with the other realms, men re-integrate the other realms and can be seen as bodies, as cellular structures and as having behaviors and as having the fates of happenings in the other three realms. They are recyclable as molecules and atoms, and conservation of matter applies to them. They are made of specialized tissues having functions that maintain life in the environment, as plants do. They are processors of other organisms to maintain the form that permits behaviors, like animals do.

But they are not bound by instincts which maintain behaviors from one generation to another; they are species of one individual in charge of what they do and can do with themselves.

The human universe becomes understandable if extended to include all that can be tried by deliberate experiment. Since each such experiment takes time, the time of one life only suffices, if ever, to become fully aware of what has emerged in one's awareness to become the purpose and the aim of that one life. This can be called learning. Human life is dedicated to learning, i.e. letting the unknown descend and one's awareness get hold of it to the extent one can actively let it affect one's awareness and change it.

Although the fourth realm has been made of all that was possible to awareness, it has been bounded by what has succeeded in the other three realms. Awareness of being human is as much submitted to evolution and time as all the other forms energy has taken on earth; it is time consuming and only viable if compatible with all the rest. To learn this has been the history of mankind since it started with one or a few individuals realizing that the energy of instincts was not absolutely binding and could be directed at will on objectivations other than those exemplified in the various species defining the third realm.

- 1 Men could reach their gait and work on it.
- 2 Men could reach their grip and work on it.
- 3 Men could reach their perception and work on it.
- 4 Men could reach their awareness and work on it.

From the other realms they kept what served them, like feeding, defending themselves, procreating etc. But they learned to starve, to surrender, to refuse to mate or procreate etc. Slowly they learned that they could affect the environment in many ways, small or large. They could affect themselves by using the unique instrument of the will, their unique concentration on perception and through maintaining its impact by knowing evocation within re-cognition. They also reached the levers of action in themselves and other men and later even in animals which they domesticated. When they noticed that other men could be made to do what they did, education was born. Education among humans differs from that among animals because its main purpose is not transmission of skills but keeping open the contact with the future.

Men know evolution as the generation of the future while, in the other three realms, its meaning is to keep going what is compatible with the environment as it is or at best to attempt a variation and test its viability.

Whatever we accord the first three realms we must accord the fourth, but not conversely. Unless that means seeking how an awareness which emerged in man's awareness is already available in a sketched manner in the other realms. For example, awareness of affinity in men was extended to atoms to describe how they go or refuse to go, to each other. Awareness of tendencies in men has been extended to plants to understand tropisms. Awareness of the ability to communicate and act cooperatively has been extended to schools of fish, flocks of birds, swarms of bees etc.

When we define men in terms of awareness of their awareness we give ourselves new instruments for understanding the universes they live in

and those which live in them. These are powerful instruments making possible the study of challenges inaccessible otherwise.

One of them is “the origins and evolution of language and speech.”

2 What We Can Learn From Direct Awareness

It is obvious that we cannot find the origins of language among the fossils since language does not fossilize.

It is obvious that it is not an endowment that goes with having a brain, since “brainy” animals do not speak and men can be mute because they are deaf or aphasic.

It is obvious that an evolved language is not its beginnings, and that the finished product does not tell anything about what it was before the raw materials were found, treated and utilized.

It is obvious that what a baby does today in order to learn the language of its environment, is not what had to be done by a man who had no language in an environment deprived of a language. Hence there is no point in saying that adults in the remote past did what babies do spontaneously today. Nor that babies will be the ones who will invent language, for they have more vital skills to acquire before they look at life as a whole, critically, as still happens today. They learn to speak around at least one year after they find themselves in their speaking environment.

It is obvious that what can be achieved by conditioning in primates to show that they understand a certain number of signs or verbal

commands and can even use them, tells us only how little of how others learn can be reached, and less still of how all began when there was no model to imitate.

It is obvious that telescoping a large number of the demands upon our minds of a highly structured speech would make nonsense of the numerous centuries (and still more numerous days and nights) men had to use to explore, know, improve, adapt any one of the skills they could become aware of. That learning - as the conscious process which only happens after one is aware of something in oneself and has gained a facility with practice - may occupy the whole of one's consciousness and force a pinpointed concentration that may use a whole life - which does stretch over a long time - to reach the emergence of speech in man.

And as a consequence there is a total loss of memory of how it happened and a total inability to recall the process. It is obvious that we know today that thousands of languages are used in the valleys of the world and that not so long ago (a few thousand years) when travel was difficult and hazardous, they represented separate experiments which make it most difficult to reach and hold a single meaning for the word language. In order to attribute to it a meaning we must simplify and schematize, and maybe reach a useless notion which complicates matters for the investigators and makes the search more hopeless.

From direct awareness of ourselves as speakers, and of all the entries mankind gave itself over the millennia in becoming aware of so much in so many fields, we can learn that -

- 1 only a protracted process securing one gain upon another can be considered as able to serve our quest,
- 2 only a process which can integrate many other processes and subordinate them to specific ends - of which at least one man must be aware and can have a proper insight - could account for the impact of past experience, the present involvement of the experimenter, the projection into the immediate future of what one perceives in one's involvement, secure a finding,

- 3 only a process which can be automatized and can use functionally the somatic structures and the dynamics compatible with them, can allow man to do - as well as birds, for example, do with themselves - what is necessary to relate distinctly extra somatic intentions to mold the somatic and achieve similar ends - which separate and distinguish bird species one from another as far as songs are concerned. (If we can accord birds this much we can keep it in store for man as well.)
- 4 only a process which transcends the boundaries imposed by researchers upon themselves in their various specialized endeavors, can account for the numerous components we find co-present in speech and language and can make possible its true study,
- 5 only by learning to think simultaneously, of pinpointed activities, of broad and long evolutions, in relativistic terms, to cope with varied circumstances; of the proper means of integrating and subordinating the past stretched over long periods of intensive work that alters the instruments of being and knowing, and of whatever else is needed to come to grip with the challenge, can we give ourselves a chance to see clearly in it.

Such a description of the process, and of the way of working on it, will tell at once that we are finally giving ourselves that chance. The approach resembles the problem. Nothing that is in it will be left out for convenience or to meet a preconception or a prejudice, valid in other circumstances.

If we want to understand the origins of speech and language in man we must begin with the whole man and give man the instruments he must have had to do a job which cuts across all specialties and transcends artificial boundaries imposed by investigators upon Reality attempting to bring it to their own level and habits of work.

Awareness of awareness and from it, integration and subordination, are such instruments. They have proved themselves as capable of finding an entry into extremely complex human challenges and of making them yield some of their secrets.

Let us now see how they can give us some clues as to how men created all the languages on our planet.

3 On Being Aware Of One Sound Produced Voluntarily

I can imagine one of the protohumans incapacitated by an accident having some leisure and some isolation and - since we endow him with awareness of his awareness - by chance placing his attention on that part of his throat where he knows his grunts originate. He can now entertain one of them, whichever it may be.

What he discovers is that if these grunts often come by themselves this time he can will one for no purpose, only to produce it. The presence of his self in that organ takes back to him that his will commands it. We say today that it is a voluntary system.

Very young human babies make such a discovery probably three or four weeks after birth. (I know for sure of at least one who showed that it did it at five weeks.) It is the essential discovery conditioning the rest of the process.

This leisured ancestor not mobilized with others for the many survival tasks, once out of the overwhelming impact of his first experience and clearly unable to tell others about it, can do what all learners do: do it again. And again. Mostly to confirm the awareness and its reality.

For the sake of convenience of exposition let us call the sound uttered "a," as in *mamá* of Spanish.

What is within that man's reach (and we grant it to birds) is the repetition of the sound that he knows how to make.

But there may be doubts that it is *the same* sound that is being produced and awareness again has to bring its contribution and this will consume time.

While a sound is produced voluntarily, the self is fully absorbed in being present in those muscle fibers that have to be energized uniquely for any sound and now, specifically, for the sound worked on.

This type of presence of the self in voluntary muscles has been available to man from the evolution of the third realm and used when learning to stand up, to walk, etc. Hence, there is only one novelty in this case and it is that the muscles selected are those we include in phonation: the vocal cords, the breathing muscles, those of the lips, cheeks, tongue. Presence in them and awareness of it, is all that is assumed to have happened. The consequences are momentous!

Indeed, the production of sound is fine tuned. The self now can distinguish the impact of all the mechanisms available and of the effects of each separately and in conjunction. The sound can be prolonged or shortened; uttered loudly or barely, sketched as a volition, repeated with or without variations. To become explicitly aware of each requires only awareness of awareness on top of all the inherited somatic support going back billions of years in the evolution on earth and extremely complex and well lubricated. But the deliberate presence of the self is needed lest the automatic will take over as it does all the time in so many somatic functionings. Hence that presence is the essential difference from all previous uses. That is why we imagine the incapacitated man with leisure doing that for the first time while all others do not have to do it in order to pursue their survival, as needed in the third realm.

Of course, awareness of awareness is used constantly by the men we consider now. But for other things than the invention of speech and language in its first stages.

Once assured of the mastery of as many samples of “a” - as needed to be able to answer through awareness that they are the same the self can move to other activities. An important one, perhaps already noticed while practicing the utterance of the sound and its variations through the vocal system, is the hearing of them and the establishment of aural criteria in conjunction with the oral ones. In this the presence of the self is again needed and a whole education of the perceptual system *per se* must be undertaken. The self, which knows what goes on in the mouth and throat, must transfer that sensitivity to the receptive ear and form catalogues of correspondences .

This education though new with respect to “a” and what can be done with it and its variations, has already been undertaken with respect to all the environmental sounds produced by the noise-content of the environment. For each of them, interpretations had been needed and were available since they belong to the third realm.

The novelty is that this time the connection is gratuitous. It is a game played for its own sake. Only when the demands of survival are transcended can gratuitous activities be entertained, hence the leisure of our experimenter can be helpful.

But besides the education of the self in becoming aware of the above, there is the accidental recognition that if “a” can be made to be identical to itself in successive samples, “aa” is different and thus what one owns is not a “cloning machine” producing only any number of samples, but a machine that produces perceptibly different voluntary sounds. “a” and “aa” or “aa” and “a” can be recognized as different by the uttering system as well as by the hearing system.

Forming sequences of these artificial entities is now a new universe of sound to be explored. The endowments to be used are: voluntary production of a whole spectrum of “a’s” only varying by the attribute of intensity (energy associated with it) and the recognition that it is being repeated as various temporal sequences. The closer they can be uttered, the more the certainty that out of one sound a human being can generate arbitrarily any number of sequences of sounds recognized as the same or as different.

Man can now say that he can deliberately, systematically, produce an entirely artificial language, “the language of *a*.” He knows how to take his breath and utter in one go with the willed distinction of each item and between a few successive ones which we can call the “sentences” of this language. Examples are easy to imagine:

“*a a*” “*aa aa*” “*a aa*” “*aa a*” “*a a aa aa*” and so many others.

From that angle it is a full-fledged language although still useless for any other purpose.

All languages of the world display these properties and therefore they must be part of the foundation of language production. *Artificiality* is obviously present today in all languages (in spite of the cabalistic speculations which want us to believe that words are given their sounds for occult reasons). *Recognition of differences* in the sequence of sounds is either because of their structure, “*aa a*” as against “*a aa*,” and it belongs to every entry in any language known today. Notice that *energy can be associated* with these artificial sounds, as it is with grunts, allowing affectivity to introduce a new component in the flow of sounds, later to become *intonation* but now merely an awareness of *stress*.

Artificiality will continue to be operative when it is agreed to make any association of some of these sounds or sequences of sounds with perceptible items. This is called the *meaning of words* although this phrase has no meaning. Rather it can be called the arbitrary association of artificial but perceptible items with the parts of reality which are perceptible and can be isolated by perception. If it is outer perception which stresses the existence of the environment, the process can be called *labeling*. If it is inner perception which stresses the existence of the inner life, of feelings, thoughts, etc., it can be called *expression*.

It is safe to say that man came first to recognizing that he could use language for expression, simply because for that he only needs to be aware of himself which is part of his definition as aware of awareness. The second problem, that of *communication*, he can become aware of it

only if he assumes that others can interpret his expressions in the same ways as himself.

Already in the third realm we find - especially among birds - know-hows concerning the use of sounds to let friends and foes know who they are. Hence man only needs to know that if he can do something there will be other men who will also know how.

By making the sounds of his one sound language, others can imagine how he does it and do it too. Of course, there is room for either the same man finding he can do another sound as easily and embark upon another one-sound language or upon a two-sound language - a much more interesting adventure - or someone else preferring to be original and do a similar job on his own, but with another sound.

What is striking when we study these matters is that, on the whole, five vowels are part of all languages on earth (those which in Spanish are the lot: *a, e, i, o, u*; in other languages there may be additional ones). We can find in this permanence a further reason to believe that when men discovered language in various valleys they found first the vowel-languages as babies do in all places on earth.

Once a number of humans became aware that artificially produced sets of sounds can be used to play games of variation and discovered that vowels can merge or blend, they found syllables, such as *wa, ya, you* etc., in which *ou* (as in French) merges with *i* (as in French) to produce *we* (as in English) and others extending the number of distinguishable utterances (i.e. one can become aware of differences) and use them in turn to extend the range of available sounds. Indeed, in all languages principles of economy are used - i.e. have been used for some time, even a long time - to generate easily the bricks of speech: vowels and syllables (not as we teach, vowels and consonants). Besides the syllables obtained in that way, and other awarenesses of what can be produced using the other parts of the mouth on which the will can act and produce a crop of new syllables, another algebra of the mind comes to work. To understand what this means, see how many words of the English language are formed by just reversing the order of the sounds in them: *pot, top; tip, pit; sap, pass; tell, let; lap, pal*; and so on. In the

original spoken languages such discovery by the creator of new words must have struck them as a good way of *not* looking for completely new ones. Besides reversals, algebraic operations like substitution, addition, subtraction, insertion, are clearly used in all languages. Their awareness seems to come to babies when they play with sounds and could easily have come to our ancestors who were specially interested in creating something functional rather than only repeat what they heard from others.

Aware that some sounds are easier to produce than others, the originators of languages must have come across them first and many one-syllable words were formed at once. Soon they became aware of how *triggering* can be transferred from general experience to the association of signs made of arbitrary sounds to perceptions or feelings. They already owned - as existing in the third realm - the responses triggered as fear, appetite, arousal, etc. by perceptions of danger, food, mates, etc. Triggering covers a whole spectrum from small irritations like those caused by a fly walking on one's neck to terror caused by a thunderbolt falling near one or an earthquake. Men could become aware of triggering and discover that small ones can suffice for many acts like suggesting to others to stop or move ahead, to hide or come in etc. Gestures usually serve such purposes. In some circumstances when gestures were perhaps precluded or excluded, a whisper would offer itself. To avoid ambiguity and confusion a definite signal had to be selected, and an agreed sound or set of sounds might foot the bill. The context would trigger a specific meaning for those sounds particularly for the men involved in the scene. Memory and evocation would bring back the link between the trigger and the sound or sounds, or the sound or sounds become in turn triggers of images and the associated feelings.

Even today, a statement like "*up, up, up*" has the power to mobilize a similar state for most of us. The two words "*do it,*" trigger like a command, the response of an action. Likewise for "*stop.*"

As is the case of babies in an environment using an evolved language, our ancestors must have structured their learning from what needs to be done first and used it to forge ahead, each generation beginning

where the previous one left and saving time by doing quickly what took lives to set up functionally. Inventing language nowadays is not the preoccupation of all adults; some add a little, occasionally. For most, learning their language is done in two or three broad stages: first as babies, acquiring the objective properties of a flow of words, integrating the energy distributions which are directly accessible; then slowly using the ability to utter and to retain sounds made by others and finally, overlapping that, relating perceptible meanings to perceptible signals (spoken words) and using them as mutual triggers. The most challenging moments in all these tasks are those devoted to making sense of one's involvement and of what is to become part of oneself.

Some of this must have been clear, but in reverse, to our ancestors inventing languages in the many not easily accessible valleys on earth. The hardest task was to become aware that awareness is the key to the selection of what to generate at each stage.

But once aware, the pre-existing means can be mobilized to serve the study of the contents of the awareness, selecting what to stress and what to ignore and to use the means in the practice that might render automatic what was found possible and functional. Since we do this at all ages - in all our learning which we enter upon spontaneously and which only need ourselves to become more our own, joining our mastered skills to work automatically, we can safely presume that our ancestors had to do it too. Babies cannot expect feedback from an ignorant environment in so many of their invisible involvements in learning, and therefore they are at peace experimenting alone and forming criteria guaranteeing good functioning. Their feedback comes from vigilant awareness in close contact with what they are doing and suggesting further practice or a shift to use what has been mastered, or to abandon what seems beyond their present reach.

Because learnings of that kind are necessary to develop the artificial set of possible oral signals which grow to become a language, at first, only self-awareness and awareness of the self at work are needed. When others join oneself by doing what one can do, the newcomers can learn what others can do and ignore whether it was the originator or a

follower one was following. Anonymity becomes a new feature of the conquered, and the next generations take the products in as if they were there to be taken. Social heritage follows. Learning a language, seen from outside, appears solely as the picking up - according to varying criteria and in different modes - of the lexicon that serves as verbal currency in the milieu. The acquiring of the invisible grammar, of the phonology, etc., can only be studied by those who let themselves be struck by them, i.e. became aware of their existence and of their fundamental roles in becoming adept in the language.

Hence, awareness shows itself again but this time in the students of language development, language acquisition, linguistics, psycholinguistics, sociolinguistics, neurology, history, anthropology, archeology, and so on. All are becoming aware of one aspect of man's invention of language but *not* granting man awareness as the instrument for the invention, for the development, for the learning, etc.

* * *

This article sketches an approach to the selected challenge which was missing among the many currently encountered in the circle of scientists moved by it. Each of the workers needs it - and I believe can benefit by adopting it (as I found it compatible with all the approaches represented at that 1975 symposium in New York). How can we expect to tackle such a broad challenge, involving the whole man and the whole of evolution on earth during billions of years, by reducing him to a small piece of himself or a single manifestation of himself at a particular moment or under a certain lighting? Such a fundamental evolutionary trait of mankind as its creation of language and the constant use of it in the creation of other human ways of being, might have led us collectively to the fundamental awareness that man can be best defined today as aware of awareness.

Although short and apparently simple, this statement leaves most people who hear it insensitive to its power and its presence everywhere in human matters. They believe it to be an intellectual device, a hypothesis, equal in status to any other they could make.

That it is not so, could be found in all babies being revealed by the Science of Education every day, and it promises to make us understand better ourselves, our creations and our problems.

C. Gattegno

News Items

1 *The Aix-en-Provence Seminar*

From August 1st to August 12th, more than 50 people gathered to study “Nothings,” over 90 hours in the south of France. They came from a number of distant places to a large house in a large estate which needs to be booked two years in advance. The imposing surroundings, the comfortable conditions of work and the zest of most of the participants made this long stay seem short and light, at least as was stated at the last session by many of those who gave their feedback. The weather was glorious: cool for those regions often scorchingly hot at that time, sunny all the time while the rest of France was stormy and wet. All those “nothings” made the stay very pleasant and, for many, soothing.

The title “Nothings” for the 1982 gathering was the last subject worked on at the previous bi-annual summer meeting on “Energy and Energies” organized in France in July 1980 by associations dedicated to the subordination of teaching to learning and reported in Newsletter Vol. X #1. There were echoes of it in the last issue of Vol. XI. The contrast between that title and the length of the seminar did not escape notice and many were intrigued and moved by curiosity to register and come.

There were two parts in the unfolding of the study. The first 19 sessions (from Monday morning to the last session on Friday) were concerned with the search for and becoming acquainted with the “nothings.” The next 19 sessions were devoted to examining consequences of our

findings. The last uninterrupted session of 3½ hours was given to the feedback. There were, as usual, feedbacks as often as possible during the work sessions.

“Nothings” are, of course, neglected and almost nothing is known about them. They escape us unless we become specially skilled in catching them. Unless we caught a certain number of them we cannot begin to develop the special alertness required to give them their proper place in our lives. So, it was necessary to find as many examples in as many fields as time permitted, to make participants acknowledge their existence with certainty. To make them sensitive to their obliquity. For indeed, they are everywhere.

For the opening session of Sunday evening all the sessions of Monday and those of Tuesday morning, the stress was only on finding them in the world around: in mathematics, in the subtle movements of the mind where they were easiest to spot and hold for a while as were studying their nature and significance. In a special session on Tuesday afternoon a “lesson” was used to show how the whole French spoken language is constructed on a scaffolding made of “nothings.”

Six participants accepted to be the “class within the class” and were placed in one row facing a sound-color fidel for French hung on a wall. None of them had any clue of how the colors were chosen and what the exercise was going to be and reveal. But they accepted to play the game and soon it became clear that if they followed the pointer and uttered the sounds agreed to be triggered by the color on the rectangle (or its position on the chart, as it turned up to be for some) French statements could be heard by all. As the number of combinations increased and became more varied, the learning of the code was taking place and participants could show it by taking the pointer and presenting the equivalent of French statements dictated to them in the sequence of the rectangles they touched.

Touching a rectangle is a “nothing.” Letting the color trigger a sound is another “nothing;” stringing sounds (for those using French as a mastered language) is another “nothing.” Associating meaning to that string is yet another “nothing” for natives. The set of 32 color

rectangles and the 5 derived ones that are on this chart is a “nothing” compared to the feeling of the immensity of the French language which includes all statements already made, those recorded and those still to come. That random statements made to the class could be precisely pointed at by anyone who knew the code, made it plain that indeed the whole of the French language as it is and has been spoken by hundreds of millions of people is, in a strange and fascinating way, not more than these few “nothings” and the “nothings” behind the dynamics of combining them (the algebra of a language) so that nobody feels it as requiring any energy or effort. The yield is out of proportion to the input.

On Wednesday afternoon the actual French Fidel was used to demonstrate that another “nothing” could take care of what appears to students of French as a monster of difficulties and intricacies. The main “nothing” was the criterion that most good spellers miss, namely, that we are guided by the sounds that are part of the spoken words, their order and the beats they form to master the spellings associated with these words. Bad spellers became the class within the class and they found the awarenesses and the exercises helpful to pull them out of their difficulty and their preconception that spelling was hard.

On Thursday an extraordinary opportunity arose by chance, when the blind woman who is a regular participant at these seminars, mentioned her desire to be able to write numerals in the way sighted people do and that she had embarked upon that study intending to spend up to 3 months to reach mastery. Since effortlessness had been associated to language learning by babies and the elimination of preconceptions suggested to be a “nothing” - as was the “dropping” of any intellectual hypothesis made tentatively by anyone - it was suggested that it was possible to master the numerals in a few minutes if a succession of nothings were employed properly. Everyone took a piece of paper and was to do what the instructor was telling the blind person who never used pencil and paper. The student was first asked to make a hole on the paper with the pencil and to move the pencil continuously to produce a closed curve that would return to the same hole or dot, thinking of whatever was the representation of a circle for that blind person. She seemed to succeed as other participants sitting near her

moved their heads spontaneously to agree or disagree with what she was drawing. The instructor said, "This is what is called zero." He then told her to do the same thing again but instead of stopping as before to draw another circle under the first and hanging under it so that the hole represented the first beginning as well as the last point of the drawing. Apparently that was also done well to the eyes of her neighbors. The instructor said, "This is what we call eight." He then told her to cover with her left index all that part of the eight that is to the left of a line perpendicular to herself and going through the dot and tell what was left. For that the instructor said, "This is what is called three."

Since there had been some difficulties for the blind person to follow some of the unrehearsed instructions it became clear that if the pencil and paper were abandoned and large movements of the hand in the air replaced drawing on paper, it would become easier for all to follow what the blind person was thinking and doing. A review of zero, eight (infinity, when the eight is drawn horizontally) and three, as movements of the extended arm holding an extended index made it plain she knew what sighted people knew. Working in the same way from the two circles of the eight it became possible to elicit six (as 8) and nine (as 9). Only fifteen minutes had elapsed from the start and already she had been given half the shapes for the first ten digits. For two and five the instructions included words that at first confused the student and necessitated new starts from the instructor who now used vertical to mean dropping the hand and made the student draw horizontal lines by asking for the extended index to be moved to the right or the left. As this was achieved the drawing in the air of 2 could be executed by the instructions, "draw the right half of the top circle in eight starting from the top and when reaching the hole drop a short vertical followed by a short horizontal to the right." As it was done properly the instructor said: "This is called two." The instructions for 5 were easily connected to those for two and executed quickly, easily and correctly. Reviewing guaranteed that seven out of the ten digits could be clearly distinguished and were well mastered. The next three were given in this order 7, 1 and 4. The first included a little attention paid to the proportion of the horizontal to the vertical section of the design, a notion unknown to the blind woman. But it was another "nothing" which permitted the requests -

- 1 to turn the vertical line 7 on the end point of the horizontal segment to give it the customary slant 7 and,
- 2 the pushing down of the horizontal line so as to reduce the angle 7 at the vertex of the 1 to produce a slant; which when drawn in the air, looked to all as their own 1.

The instructor who had said after the first, “This is called seven,” said after the second, “This is called one.” Reviewing showed that the nine signs considered had been mastered.

The drawing of four as 4 on which a horizontal segment is attached at the end of the slanted segment and to the right of 1 surprised the sighted participants who rightly thought of that digit as drawn 4.

The lesson had lasted thirty minutes as timed by at least two people. It remained a highlight of the seminar .

The blind person did not have a preconception when she estimated the duration of her apprenticeship to a few weeks. She had a prejudice. Hence this lesson showed that prejudices too can be eliminated through a “nothing” or a sequence of “nothings.” And this discovery was not experienced as a “nothing,” rather as a gathering of one’s mental energy into a heightened core that was felt as excitement and enthusiasm within.

There were many other important moments in that week on which we cannot report even briefly. Since these seminars are recorded and verbatim transcriptions published (in French) we can move to the second week’s work. Of the five days of that part, two were devoted to working: one on *Homo Economicus* and one, on the *Origins and evolution of language*.

The first interested everyone but was met with a total lack of preparation in most, as if it had been a subject to be avoided carefully and which did not involve oneself. The study served everyone in reaching a closer understanding of how awareness helps in opening to oneself fields of study in which one finds that one has an entry and begins to gain some practice and some understanding. The discovery

that one's insignificance in the overall economy is not equivalent to being cut off from it, made a great impression on the participants which will no doubt have some repercussion in a number of considerations of their life in society.

Since it is clear that governments as well as business people and economists are constantly challenged by the behavior of the national and international marketplaces, it becomes clear that a general education of the public was needed about what it means to add small things and get significant changes for all. The generation of wealth in every special case might be based on some idea, which might be the "nothing." A number of examples were examined though much of the work was left to the participants for when they left.

The second broad problem was that of the origin and evolution of language, which is an outstanding challenge in the open field of the human sciences. For most of the participants it was an inconceivable study. So it was necessary to define the problem and the approach. The problem has been with us for as long as man had been defined as an animal with speech. The study of the approaches had to be made short and the huge literature on the subject looked at from a distance and summarily. The main purpose of suggesting it to the participants was to test whether the previous study of "nothings" could be of help in this search for an answer which seems to escape all scientists asking the question and using the batteries of instruments of their specialized fields. These instruments are seeming to be insufficient even to enter into a real contact with the challenge.

What was of help there and to what extent, has been sketched in the main articles of this issue of our Newsletter. It seems possible to see that when a problem remains open and no one claims to have a grip on it, it is right to test any new approach on it. If any progress results and some of what could not previously be done is now feasible, we can classify the new approach as having earned the right to being considered seriously. The time spent at the seminar seems to have served well for that challenge and to give the approach good marks at least on this score. Of course, only a little could be tackled and achieved and much remains to be done.

The lightness of the climate at this seminar was commented upon a number of times at the last feedback session. It was mainly due to the fact that no anxiety was generated by the contact with the “nothings” brought forward and no one found oneself having to pretend to non-existent prior knowledge and required to struggle to save face. All were equal in their encounter of a true unknown and happy to be helped, as many were by discovering that many of the apparent obstacles in life could be handled as “inflated nothings.”

2 *The Silent Way* was presented by Dr. Gattegno in July near Chicago on the occasion of the TESOL Summer Institute and in Brattleboro Vermont at the Summer Institutes of SIT. Because the Silent Way is one example of the subordination of teaching to learning in the case of foreign languages, the training of ESL teachers gives rise to a similar challenge and therefore is always a new opportunity to advance research on teaching. This is why after 28 years Dr. Gattegno welcomes meetings with good-willed people who are there to learn with him how to contribute to the studies that can lead to improvements in language teaching.

- 1 In ten hours in two rooms of Northwestern University in Evanston north of Chicago on Lake Michigan, it was possible to invite the twenty or so participants to examine the instruments which are used in the Silent Way to take care of some of the problems these teachers said they had.

First came the flow of words in the spoken language which often remains an obstacle for those present. To make newcomers to English reach as soon as possible a high a level of proficiency in the spoken language the Sound/Color Fidel was considered and discussed. Since most of the participants had not seen it, an hour was spent to give them familiarity with the color code and the use of the same colors for as many languages as were possible with the English Fidel. Not all could see the advantages of this instrument in their own case. They were asked to wait and were shown how two other instruments of the Silent Way make possible the elimination of doubt about meaning and spelling.

The rods could illustrate many of the statements produced orally by the pointing of the rectangles on the Sound/Color Fidel. Well said and well understood they could be put down on paper using the English script by simply copying the sequence of Words in Color found on the Word Charts. Hence it became clear that a certain section of the English language could be presented by a teacher who would not utter a single word while all the language work was done by the learners with clear criteria of what was asked of them.

The third point concerned itself with the curriculum offered in the Silent Way and the various needs of the people served by the participants. Time was too short to meet fully those needs and so it was necessary to concentrate on the Word Charts and what can be done with those few words as they appear after a new chart is added to one or more already used. In fact it became progressively clearer that if students of any level could master the content of the 12 Word Charts they would have met a huge chunk of the English language and have only the problem of extending their vocabulary. For that no one can help the students who must entrust to their memory increasing numbers of topical words only needed in specific circumstances. Thus the difference - only made in the Silent Way - of the functional vocabulary found on the charts and needed to speak correctly and the topical (or semi-luxury and luxury) vocabulary became clear. The first is *always* needed and *must* be acquired by all before putting their energies into making sure that definite objects trigger definite words and conversely. In the Silent Way, we teach "English" first and make sure it is functional for the users and then we use *that* English to enter into social intercourses in specific and limited circumstances. Each of these calls for sets of words which, intermingled with functional ones, fill gaps in statements made exclusively of words of functional English so that they can now refer to topics.

At the final feedback the participants made statements which conveyed to all that essential features of the Silent Way had gained meaning for them and most decided spontaneously to give it a chance in their own working circumstances.

- 2 The SIT seminar was longer (extending over five days) and the group allowed a deeper study of matters barely touched in Chicago. Languages other than English were presented and a certain amount of each covered in a very short time. Greek was particularly helpful since all could take part in it, while French or Arabic or Japanese only served to exemplify certain points. When the English Sound/Color Fidel was presented those English speaking teachers referred to their knowledge of the Greek chart to conquer it. This convinced people about the transfer of skills and knowledge, from one language to another.

A specially interesting session was the one on the spirit of English, which was a new topic to most of them. Because Dr. Gattegno learned English as a non-native, his observations as a learner were among those natives - particularly young ones - do not consciously make. For these participants, they were as many revelations about their own language. This became a fruitful introduction to the Silent Way materials for English and to the techniques developed for them and with them. A large number of exercises were suggested which created a good climate for doing more at each session - a new experience for teachers used to steady increments and a steady growth. The discovery of the cumulative effect of learning, of the slow beginning (in which mistakes are frequent) followed by practice that leads to mastery and the disappearance of errors, seemed to all a correct description of their own experience at the seminar and led them to see their own future teaching following the same sequence and as successful.

The study of “ogdens” as the payments in mental energy to retain the arbitrary and the subsequent yields “for free” or for “nothing” made participants aware of the notion of *yield per hour* of classroom work only undertaken this far (and since 1957) by Dr. Gattegno and his associates. The stress throughout the seminar on what must be paid for and what can result from it at no cost made participants see an alternative to ex-cathedra lessons, drill and repetition which they brought with them and accepted by them for years because they felt memory to be the basis of language learning. Now they could see that students own sensitivity, intelligence, insights and that these can be used all the time provided adequate techniques can be devised for that. The Silent Way seems to offer a whole spectrum of these, organically

connected with multivalent materials allowing a large number of different adaptation to the age, the level and the purpose of the students.

A study in depth was possible, even if only on the essential challenges. The affective tone of the participants rose considerably as was made clear by each of them in the feedback.

Coming from far (Hawaii, Puerto Rico, Texas, Washington State) and near, all went away sure of having something precious to take to their colleagues and students in their areas.

3 Our call concerning the continuation of this Newsletter has received some moving responses. In France around 50 subscriptions were taken, some putting their name down for three even if their English was not sufficient to benefit fully from reading the articles, and thinking of friends in similar situations to whom they will give a copy or transfer the subscriptions. At a meeting they voted in addition to pay more than was asked and to help with local distribution to save postage and handling at the source. In England a friend and enthusiastic supporter was circularizing acquaintances hoping to reach many and make a collective subscription. In the United States and Canada a number of readers took the trouble to say they want to see the Newsletter continuing.

So, we acknowledge their good will and respond with ours, putting this issue out early and with only a fraction of the subscriptions in, trusting we were right in believing most will do what those mentioned did.

4 At the end of August our 11th floor operation was working smoothly at last. We did not have possession of all the space we had leased and have worked in difficult conditions for two months. We hope that for the next twelve months we will use this space to do what is possible to make the public aware of the educational value of our contribution and of the considerable economies of funds and time they permit.

Occasionally seminars will be announced by ad hoc means. Outside seminars and courses are being arranged spanning vast areas of the planet, taking our services to distant places.

We are happy to state that we found that we have many friends, quite a number of them unknown to us personally or by name, who let us know they wish us well and encourage our continuing impact upon human education.

5 This is only an advanced note on a project which may become a source of valuable information on the subordination of teaching to learning in the field of reading.

Educational Solutions proposed to the Board of Education of New York City to make a gift of materials and services which would have cost them a quarter of a million dollars.

That would mean equipping one thousand classrooms at the elementary, intermediate and high school levels with Words in Color materials for teachers, students and classrooms, as well as the training of 80 trainers already working as reading specialists in the 32 City Community Districts and in 16 high schools.

Each of these 80 trained people would then train and supervise around 15 reading teachers using Words in Color at the various levels.

The Administration in the City Division of Curriculum & Instruction under Dr. Charlotte Frank's direction, has shown interest in proposing the project to the superintendents responsible at the local level for the education of the more than one million students in the city. It is not known at this time what the outcome of this proposal is going to be. We shall keep our friends informed of any progress.

Readers have asked for the information below, concerning copies of available back issues of our Newsletter. Each copy is priced at \$2.50 (in the U.S., Canada and Mexico) or \$3.50 everywhere else. Double issues \$4.50 or \$6.50. Postage included.

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5 Aug. '72

Volume II

1 Oct. '72

2 Jan. '73

3 Mathematics Mar. '73

4 Bilingualism Apr. '73

5 Reading June '73

Volume III

1 The Silent Way Oct. '73

3 Involving the Paraprofessionals Feb. '74

4 Let the Public Speak Apr. '74

5 Thoughts for the Summer June '74

Volume IV

3 ESL, The Silent Way Feb. '75

4 On Early Childhood Apr. '75

5 Affectivity and Learning June '75

Volume V

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3 } [Feb. '76

4 On Literacy Apr. '76

5 On Knowledge June '76

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About Caleb Gattegno

Caleb Gattegno is the teacher every student dreams of; he doesn't require his students to memorize anything, he doesn't shout or at times even say a word, and his students learn at an accelerated rate because they are truly interested. In a world where memorization, recitation, and standardized tests are still the norm, Gattegno was truly ahead of his time.

Born in Alexandria, Egypt in 1911, Gattegno was a scholar of many fields. He held a doctorate of mathematics, a doctorate of arts in psychology, a master of arts in education, and a bachelor of science in physics and chemistry. He held a scientific view of education, and believed illiteracy was a problem that could be solved. He questioned the role of time and algebra in the process of learning to read, and, most importantly, questioned the role of the teacher. The focus in all subjects, he insisted, should always be placed on learning, not on teaching. He called this principle the Subordination of Teaching to Learning.

Gattegno travelled around the world 10 times conducting seminars on his teaching methods, and had himself learned about 40 languages. He wrote more than 120 books during his career, and from 1971 until his death in 1988 he published the Educational Solutions newsletter five times a year. He was survived by his second wife Shakti Gattegno and his four children.