*Edwin Alexander**

APHASIA - THE WORM'S EYE VIEW OF A PHILOSOPHIC PATIENT AND THE MEDICAL ESTABLISHMENT

INTRODUCTION

If you were trained as a philosopher and were suddenly bereft of speech, writing and reading, how would you feel? Would you feel a sensation of death, or Nirvana, or unconscious or conscious loss of control? Would you feel scientifically objective, or full of Aristotelian wonder? Would you think you were having a supernatural experience?

In 1980 I had a severe stroke with accompanying aphasia, and was robbed of language in a few seconds as though struck by Zeus's thunderbolt. This paper comes out of that experience. But how to recover language is of secondary importance to the continuance of concept, which plays a central role in the life of the patient. There are at least three positions taken by philosophers of

* With the collaboration of Carroll Bishop.

https://doi.org/10.1177/039219219003815001 Published online by Cambridge University Press

language on this: whether concept is impossible without language; language does not exist without prior concepts; or concepts mired in an ambiguous, neutral language. In this paper I will assert that concepts exist without language. I will also propose that a new category, "*linguistic-self-reflective*", would be a useful addition to understanding aphasia. I will discuss the inadequacies of present definitions of aphasia, and the misleadingness of reductionism in the therapy of aphasia.

Is the aphasic patient re-learning language, or is he rather re-remembering and re-constructing the language? This is the crucial distinction.

Finally, I shall discuss the profound implications of the aphasic in large hierarchic institutions.

What is aphasia? The standard dictionary definition[1] is any partial or total loss of the power of articulate speech not due to a defect of the peripheral organs, but due to a disorder in some of the cerebral centres. All of the following would be considered aphasic: 1) children who have difficulty mastering reading skills due to emotional disorders; or have slight disorders such as dyslexia, but whose speech is competent and who have not had a stroke or any disorder of the cerebral centres; 2) individuals who have suffered brain damage that affects their language skills and knowledge of concepts but who have not had a stroke;[2] and 3) stroke victims.

Since all would be considered aphasic, all would inhabit the same clinical category. Inherent in the training of clinicians is the mental grouping of these disorders, despite their different causes and pathologies.[3]

[1] *Funk and Wagnalls Standard College Dictionary*. Canadian Edition. Toronto, Fitzhenry and Whitehide Limited, 1980, p. 67.

[2] Dr. A.A. Luria, noted Soviet neuropathologist, who died recently, kept a famous set of war notes of victims of two-hemisphere brain damage. These confirm that aphasia due to a stroke and aphasia due to such damage are two different things. These notes cite cases of patients whose cortex had been penetrated by bullets and who remained dim-witted thereafter.

[3] It is significant to note that typical advertisements in newspapers such as the *Globe* and *Mail* for positions as speech pathologists typically mention 1) experience with children's disorders, and 2) assessment work. Yet these people regularly treat adult stroke victims.

First, then, I propose that the fundamental difference between the aphasic and the non-aphasic lies in the loss of language only. Concept remains.

What is "concept"?

According to Ernst Cassirer, a noted modern post Kantist, concept means:

> "Here it is characteristic that in the history of philosophy the concept itself first emerges in the form of a question. Aristotle designates Socrates as the 'discoverer' of the universal concept. But this discovery in Socrates takes the form not of new kinds of knowledge, but a kind of nonknowledge. The Socratic question concerning 'what is' contains within it the method of Socratic induction. ... And so it remains true, even in highly developed knowledge, that each newly acquired concept is an attempt, a beginning, a problem; its value lies not in its copying of definite objects, but in its opening up of new logical perspectives, so permitting a new penetration and survey of an entire problem complex..."[4]

In terms of the aphasic patient, the ideas, cognitions, understanding, meaning, semantics, thoughts, memories and reasons come first, language comes second. I am not talking about sense organs and emotions. Of course, the aphasic is full of sensitive emotions, particularly with the sudden loss of language. The aphasic patient is the same person with the same ideologies and prejudices after the stroke. The change is the absence of language.

At the time of my stroke I was aware that I had collapsed and felt nothing down the right side of my body. I did not know I was having a stroke, but I was aware that I had completely forgotten every detail of language. My understanding of the structure, contents and details of my life and the world in which I live was complete and unimpaired, but I could not express this knowledge in speaking or writing, and I could read nothing. I understood the concept of words.[5]

In the ambulance, I ran down a list of things I still had going

[4] *The Philosophy of Symbolic Forms.* Vol. 3. *The Phenomenology of Knowledge.* New Haven, Yale University Press, 1957. Tr. by R. Manheim, pp. 305-6.

[5] It should be noted that, immediately after my stroke, I had some measure of comprehension of heard language, which remained with me.

for me: I knew I was alive and conscious. I was also interested and excited: this was the beginning of my adventures of language and concept. I still possessed concepts but had no language. I understood the things of the world, myself, and social relationships without actually knowing any of the grammar or vocabulary during my recovery: it was my ability to interact socially and to communicate those concepts using language, that changed.

This paper will address the case of the person who is aphasic due to a stroke. First, I propose that a new definition, better suited to the specific circumstance of aphasia due to a stroke, be created, which will allow the clinician, philosopher, and linguist greater freedom in probing the relationship between language and concept. Second, aphasia due to a stroke is well suited for an inquiry into the presence of concept in the absence of language.

Concept or Language?

Language remains a mysterious and puzzling subject both to the philosopher and the linguist. During the past century, certain features of language have been understood due to the investigations of linguists such as de Saussure (1890) and, more recently, Roman Jakobson and Noam Chomsky. Current philosophers of language like Derrida, Sapir and Wittgenstein have focused on normal language. Honorable exceptions are the work on abnormal language, particularly a bit on aphasia by Merleau-Ponty, Ernst Cassirer, and Roman Jakobson following the classic questions raised by Jackson, Head and Goldstein.

The pioneer in the study of brain anatomy was Dr. P. Broca, a French clinician practising in the 1880's. He succeeded, partially, in proving by work on cadavers in the Paris morgue that the two hemispheres of the brain have different functions, the left hemisphere being vital to language, the right to music, drawing and spatial dimensions. The loss of linguistic abilities: speech, reading and writing, because of Broca's alleged proof on cadavers, was believed until recently to be due to damage to the left hemisphere of the brain, although both hemispheres controlled motor mechanism (i.e. shock, balance, crippling effects).

A decade after Broca's work was published, a German anatomist, Dr. C. Wernicke, did further research into left hemispheric aphasia. He observed that some patients possessed fluent but incoherent speech like Lewis Carroll's poem of the Jabberwocky. Such speech, called "Wernicke's Syndrome" contrasts with the faltering but coherent speech characteristic of Broca's Syndrome. For many years, speech neuropathologists defined aphasia in terms of these two classical types only. Currently, neuropsycholinguists identify several additional types of aphasia: constitutive aphasia, global aphasia and a single "holistic" aphasia, according to Ruth Lesser's book *Linguistic Investigations of Aphasia.*[6]

Classical and contemporary theories of aphasia show distinct types of disorder. Contemporary authorities have observed that there is an additional factor involved: the age at which the patient had the stroke and aphasia. The median age for patients with Broca's Syndrome is 55, with physical condition and symptoms ranging from permanently vegetable-like to the possession of halting speech after four years and fluency after five years or more, depending on variables such as speech therapist, background, motivation, family involvement and many more.[7] The median age for Wernicke's Syndrome, however, is above 65.

We noted that in classical descriptions of aphasia, the brain was divided into two hemispheres, left and right, the left controlling language, the right controlling music, art and spatial dimensions, both hemispheres controlling motor mechanisms. But is music located only in the right brain? New research has revealed an interesting aspect of the Chinese language. Many Chinese words contain four tones. Phonetic speech with one intonation has a totally different meaning if spoken with a different intonation. For example, the word "intonation", with four syllables, spoken with an intonation "do-re-mi-fa" would have a different meaning from the same syllables spoken "do-la-sol-si". This suggests that the description of bi-hemisphere control is inadequate. It is seen that

[6] New York, Wiley Co., 1978.

[7] According to Mrs. J. Lofsky, Speech Pathologist, Toronto Rehabilitation Centre, the pattern of recovery may appear random with regard to where, how quickly, and how much language is regained.

the hemispheres together are directing the creation of language in Chinese people. The majority of the world's languages are tonal, showing evidence that both hemispheres control in the case of tonal languages.

New theories of aphasia and language, both normal and abnormal, are clearly required that better explain all aspects of the disorder.

* * *

The historical understanding has led to certain assumptions and practices in the clinical world that conflict with the aphasic's own ideas and concepts. The aphasic's experience is one of frustration due to his inability to communicate his concepts and ideas. The erroneous response of the clinician is to help the aphasic to "re-learn" language by learning to identify simple things, a plan that assumes he must be taught to recognize, and thereby possess, simple language all over again. For example, patients are asked by a technician to "touch your nose, touch your knees" and so on, at intervals after the stroke, to determine their level of language understanding. The clinician makes a judgment based on the number of simple nouns recognized by the patient. Two things have escaped the clinician's notice: that this process does not test language ability, and that the patient must already have a concept of "to touch". This reveals a common contradiction technicians work with; patients are "taught" names of objects because it is thought this will give them a set of percepts matched to a set of single words with which to relate to the world again; but patients need a wide set of concepts to be able to comply with the requirements of the principle that is supposed to teach simple words. For instance, an aphasic knows the abstract concept of solidarity, or the ten commandments. These concepts emerge from a wide range of experiences over the years (remember, the aphasic I am talking about averages 55 years of age!) which the patient sees as part of his own entire identity. But these clinical strategies are reductionist in their approach, as will be discussed further.

My experience of being an aphasic and of working with other aphasics leads me to believe that the result of this situation is

chaos, due to the conflict between how aphasics view themselves and how others such as clinicians view them; with deplorable effects in the aphasic's life because of this conflict. It is important to understand the etiology of the confusion. All social beings build up their impressions of others by exchanging behaviors. At first, and for a long time, aphasics have no effective means of doing this. Gestures are crude in comparison to what they have been used to, and to the complexity of what they are capable of thinking and want to communicate. Many clinicians, finding that little interaction takes place between aphasics and themselves, view aphasics as barely human, because they lack language to communicate. Many technicians, working from the classical theories of bihemispheric control, could easily form the view that the aphasic's left hemisphere is devoid of language. Hence the kind of treatment already described. This assumption can give the clinician an attitude of "pity for the poor patient", or an impersonal manner or condescending bearing.

Aphasics view themselves as the same people they were prior to the stroke, potentially as capable as before, and at first expect recognition of their responsible adulthood. They know they only lack the ability to communicate with language. The professional personnel of many hospitals or rehabilitation centres, including nurses, language pathologists, doctors and clinicians, through schooling and training, have formed theories about the treatment of aphasia like behavior training theory in Skinner's mode. Their training equips them with presuppositions about aphasia, unconscious, conscious or subliminal. The staff have only theories, but they have the power to judge which patients shall be discharged from the institution or which shall continue re-learning language, based on "objective" tests such as the Porch Index, Boston Diagnostic Aphasia, and Illinois Test of Psycholinguistic Abilities. In my own experience, with several tests, it all came down to the familiar Q. What is this object? A. This is a beach ball or Q. What is this thing? A. A fork etc. etc. *ad nauseam*. Note that the entities are simple, concrete things, not abstract ideas or concepts.

Inability to protest the clinician's incorrect assumption causes frustration and confusion in the patient, exaggerated by illness during the first stage of the stroke, later undermining self-esteem,

and causing uncertainty about the future. During the months of recovery when this interaction is taking place aphasics face a lot of hard work attempting to regain language skills, with no guarantee of success, or of taking back their former roles, and an often baffled attempt to force the aphasics' capability, creative force and humanity. They must work hard against their own bodies and fears and against the preconceptions and actions of many people whose decision-making power is unusually great. This power is not less influential than the preconception of clinicians as to the nature and treatment of the aphasic's disorder.

A major barrier to gaining insight into the aphasic's condition is the reductionist approach to the "teaching" of aphasics. The assumption that aphasics must be taught to backpedal again has led to simplistic teaching methods such as the flash card technique. Even in the field of adult education of the normal, the value of presenting simplified objects as a way of learning about them has been called into question. A picture used for me with the speech pathologist might be a line drawing of a "typical" family in the suburbs with wife (not husband, presumably he is at work), children, a cookie jar, a kitchen, and clipped lawn outside. The question is, "what is wrong in this picture?" The answer is, "there is a stool shown with two, not three legs; the water faucet is running" and so on. The view point as a clinician is how to identify the action verbs as an example of Broca's Syndrome. The picture shows an unquestioning acceptance of male chauvinism. Few pictures pertained to the adult world, such as a briefcase, or female telephone operators; and there were no occupational scenes with hard hats and machinery. No photographs were used.

Such reductionism obscures the real experience of the aphasic which is important to therapist, philosopher, linguist and lay people as an aid to understanding language and concept. The powerful assumption of clinicians that concepts do not exist unless they are incorporated into language is to blame.

The classical example of reductionism is found in Descartes:

> "2... to divide each problem I examined into as many parts as was feasible, and as was requisite for its better solution.
> 3... to direct my thoughts in an orderly way; beginning with the sim-

plest objects, those most apt to be known, and ascending little by little in steps as it were, to the knowledge of the most complex; and establishing an order in thought even when the object had no natural priority one to another."[8]

It still lives in contemporary rehabilitative medicine!

Even worse, according to noted authorities in the field of speech pathology, the specialist's function becomes "speech production", instead of language. I assume that "speech production" means particularly phonemes and a little grammar, syntax and sentence construction, as relayed from the professional to the patient. In my experience in the hospital and in the Rehabilitation Centre "speech production" was filling in the blanks on standard forms in the therapist's presence, or on the computer. With the latter, the patient could fill in the blanks, a giant step to further dehumanization. Contrary to the reductionist method of "speech producers", language is a seamless thread, a mosaic woven of speech, reading, writing and above all, *based on ideas and concepts.*

In these reductionist conditions, the aphasic gradually begins to believe that he is dim-witted, that he is treated as what he really is. Since the ethos of the bureaucratic institutions encourages belief and dependence on the medical system, and since rebellion is not generally approved of, the average aphasic under this kind of stress, with no means of articulate protest, is under constant pressure to accept that he is, indeed, stupid. It is no wonder then that some patients give up the attempt to regain language. A vegetable has been created. And clinicians and philosophers are no closer to a better understanding of language and concept.

I propose a new category, to be used in the literature concerned with aphasia: *"linguistic-self-reflective."*

What I mean in this phrase are threefold.

1. Language is language. A rose is a rose.

2. Self is subjective, or "I in-it-self", in the familiar phrase of Kant.

[8] Descartes' *Philosophical Writings*. Tr. by E. Anscombe and P. Geach, London, Nelson's University Paperbacks, The Open House, 1954, in *Discourse on the Method*, pp. 20-1.

3. Reflective—the mirror image in the terminology of Buddha. Socrates said that a life unexamined is not worth living. Reflective is both subject and object, hence, the mirror image.

The formula is language + I in-it-self + the mirror image both subject and object = progress to master language and implies that the responsibility lies in oneself.

Perhaps, the formula is too vague. I shall be explicit and expand these paragraphs.

The conservative category, namely, objective data and treatment, assumes that the technician is an observer whose function is to re-explain the world to his object, the patient, and assess and judge whether or not his object is responding. This is outdated by the current understanding of the active, creative role of the patient in his own learning situation.[9] The present system of treatment is that aphasics should be essentially passive, allowing the clinician to consider his function "objective" observation, assessment, examination, and finally, passing judgment. Both patient and therapist are at least subliminally aware of the division into active-passive roles (therapist versus patient) and feel pressure to accept and conform to them. One of the most powerful of these pressures is the absence of an alternative in the caste system in the hospital or rehab. centre. According to clinicians, aphasics must regain language within this model. Of course, there are creative language pathologists. However, the method of observation, assessment and judging, never the most dynamic learning situation, confused with role-playing (active-passive and objective-subjective) works against real learning. This is compounded by the hierarchic institution when a rebellious patient demands a creative effort from the department of language pathology. In my experience, when the patient shows dissatisfaction with assumptions of the language pathologist, the institution closes ranks behind the pathologist. Fortunately this is not always true.

A fine example of the inadequacies of the conservative category

[9] Heidegger's category of "care" would be an appropriate category for a new approach from the speech pathologist to the patient, and the reverse as well, since both can learn from the other. A great irony is evident in this situation. The medical establishment generally thinks it has only physical information to learn from the patient, yet it relies on information from patients to establish or change the theories on which practice is based.

was furnished by the well-known examination developed by the Massachusetts Institute of Technology in co-operation with the U.S. Veterans Affair Department. This test assumes the clinician has an "objective" view of the patient. Familiar objects such as a knife or matches are shown the aphasic, and he is asked to indicate in speech or gestures what the object is. When I took the test I revolted. It was explained to me that the test was given to determine presence of language. The test contained a single unit, a noun. It was hopelessly inadequate in its ability to reproduce the complexity of language, which often behaves as a *Gestalt*, and which is irreducible to simple parts. And only one part, simple nouns, was being tested for. It revealed the contradiction that clinicians do not seem to recognize; if I was able to understand the concepts involved in the instruction, I could be assumed to understand what matches and other things were. That actually tested my possession of concepts, not language as the text purported.

The "linguistic self-reflective" category, in contrast, assumes that the adult aphasic has already known for years the lost language and he has retained the concepts of the lost language. The medical model has no scope for this fact; the patient's prior and present knowledge does not enter into a program that functions simply to "teach" language. It also ignores the fact that the adult power of self-reflection will consist in re-constructing or re-remembering language. Adult aphasics possess the ability to make grammatical and syntactical distinctions, even though they have little formal language training, despite the temporary disorientation due to illness.

What is the difference between "re-learning" and "re-constructing" language? This is another crucial issue in this paper. The notion of "re-learning" is supposed to happen between the speech pathologist and the pupil. The speech therapist "observes" the patient, assesses him "objectively", diagnoses and judges the patient and prescribes a program. "Re-learning" in this setting is in reality a relationship between a "professional" and an "amateur." Equality does not exist between them. Each knows something that the other doesn't. There is subservience on the patient's part, of the type Hegel described in his master-slave relationship.

The "linguistic self-reflective" category allows aphasics an active role, motivated by social discourse. Prior knowledge functions as a base for this effort, and a common understanding is established between the patient and others that he is regaining the tool that social beings use to declare their presence and value to others. His reflective skills are used in the process of re-construction of language.

An example of this kind of approach to re-construction of language is provided by cinema star Patricia Neal who now plays in commercial television and films. Following her stroke, she recovered fluent speech. There was no miracle cure. One important contribution to her recovery of speech was the caring networks of volunteers in the countryside surrounding her home in England, who became involved in such a way that a semi-mass movement began. While this case is not necessarily a model, the principle remains true that active participation in a setting which recognizes the knowledge and skills possessed by a patient is most conducive to achieving the goal.[10]

Based on this principle, as an aphasic myself, I began to experiment with the patients in the Toronto Speech and Stroke Club, a volunteer agency. Together, we began to reconstruct language.

My tentative treatment was suggested by Professor Thomas D. Langan of the Department of Philosophy at the University of Toronto. He called it Ideality Therapy. As an example, I will cite two patients, M. and A., in the Toronto Speech and Stroke Club. Both mature patients were aphasics eight years after a stroke. Both were drop-outs from the orthodox approach found in the standard text books on the shelves in the office of a Speech Pathology Department. This approach used flash cards and "fill in the blank in this sentence", and so on. Both M. and A. were women about fifty years of age.

I suggested that M. and A. use only four simple devices, a simple mini-dictionary, a note-book, a tape-recorder and the daily newspaper or popular magazine. I would pronounce a word while M. and A. carefully watched my lips. Then M. and A. would use a shaving mirror to help them imitate my pronunciation. We

[10] *A Stroke in the Family*, by Valeria Easton Griffith, London, Penguins Books, 1970.

would repeat this process, correcting one another. Until we had it relatively correct.

For practice in speaking, M. and her husband would record an ordinary conversation between themselves. Using the recorded conversation, M. would take on, as a part of her home-work, listening and correcting grammar and sound. In turn, I would correct her tape as my home-work. For practice in writing, I first chose, as a project for M., writing a letter to her family. This accorded with the standard practice of language pathologists for choosing writing projects. But it was unsuccessful for her. So I started on a new track, asking her, "What is your own interest?"

M. was born in Quebec. She was interested in politics, particularly as this was the year of the federal election. So I seized the opportunity to propose that she write a brief biography of Mulroney, the Tory leader, incorporating the technique outlined above.

She was also interested in poetry, expecially doggerel. She was happy to write doggerel because the accents in the poetry corresponded to the natural accents supplied by the brain of the aphasic.

She had spent eight years struggling over language and was considered a "hopeless case". So we congratulated ourselves on her interest.

But I was uneasy. What was my proof that the new therapy worked? I had proved only that the old speech pathologists in the hospital were wrong because they failed to be sensitive enough to the interests of the patients.

My proof of the new therapy came in a round-about fashion. I was baffled about A.—a woman who, at first, could only utter, "No way".

I tried the mirror, the tape-recorder, and the mini-dictionary with minimum results. The key is to discuss some interest of the patient. So I asked mute A., "What are your hobbies?" For eight years she had had no writing, no reading and no oral discussion. I made a list of her hobbies and she was to signal interest by shaking her head "yes" or "no". She was neutral on all items but one—people. On that she was enthusiastic.

For the next session, I bought the magazine *People*. I handed the magazine to A., open to a brief table of contents. She chose

a picture of Jane Fonda with a story. I told A. to read one paragraph, that's all, only one paragraph. Painfully she did it. She read to herself, concentrating and absorbing all personal details about Jane Fonda. Then I took back the magazine because to read something successfully you must understand the meaning of it. So I quizzed A., by means of hand signals, on whether she understood the precise details of the paragraph. I aimed to purposely mix up the answers "yes" or "no". As an example, I said, "Jane Fonda bought her exercise salon". A. indicated "Yes".

Our classes were speeded up enormously and expanded to the full range of phonetics together with a little grammar. We based our approach on the premise that M., A., and I all had a solid ground of understanding and meaning. That was my hypothesis. Before, I had felt vague about it, considering it merely tentative guess-work. After my experiences with M. and A., I came to write this academic paper, I now have proof enough; A. talks again after eight years of silence. (See also my manuscript, "The Best Possible World.")

The main points I discovered by that experience are:

1. That the aphasic already knows the language.
2. That the aphasic regains language by re-constructing grammar, syntax and phonemes.
3. That the aphasic already knows the meanings of the things language represents. *This places him conceptually beyond language.*
4. That the sensation of adventure and/or desolation caused by sudden deprivation of language must be conveyed more clearly to the public.

Experience suggests to me that the majority of clinicians believe implicitly that a patient who lacks language has no recognition, no understanding, and no concepts. Therefore the patient must re-learn language from the simplest to the most complex. There is a patent contradiction—a patient learns language because he has the semantic meanings in his brain, mind and his very bones. There is very little room in the rehabilitation system, and in the minds of clinicians from day to day, for different treatments of different individuals. Change is institutionalized; results from experiments are either instituted in a fairly universal way or not introduced at all. Options are rare, and individually-tailored

programs non-existent. Unfortunately, real change for the aphasics demands creative programs and the kind of liberty on the part of the clinicians that rehabilitative medicine on the factory belt cannot handle.

* * *

Modern French philosophers like Derrida coined a term "de-construction". They have their own interpretation of the use of this phrase in normal language. I will adopt the French philosophers' term, change it to "de-" and "re-constructionism" when applied to abnormal language. My definition of the term is based on my experience of aphasia. "De-construction" is the sudden loss of language skills due to a stroke with accompanying aphasia.

For instance, I had a vivid concept of my wife in the ambulance but her name was forgotten; I had a concept of myself but my name was forgotten too; for two months I had a colorful concept of a specific Greek philosopher, but his name was forgotten. De-constructing language occurs in two seconds, a counterpart of sudden enlightenment in the tradition of Zen Buddhism but the reverse. But the concept is still there.

In comparison, re-construction is a long, slow, painful operation. Re-construction is tied to words, but the main bearing is to the concept. The Greek philosopher of whom I had a concept was Socrates. Seemingly out of the blue, I spoke his name one day, all three syllables, when the linguistically simpler Plato still eluded me. Likewise, I said "Heidegger" weeks before I could manage "Kant" and "Hegel". What is this phenomenon? Further research is needed. I have a hunch that preferences or "good bias" has a great deal to do with this sequence of remembering.

Speech pathologists describe the process of regaining language as "learning." May I dissent? "Learning" is a fallacious description because:

1. the concept of the language, grammar and syntax stays the same in the aphasic's mind;

2. the aphasic continually experiences the phenomenon of "on the tip of my tongue". Re-construction, the process of con-

necting tongue and brain, is made more difficult by the disorientation and confusion of illness. There is also a constant whistle sounding in the division of the cortex between the two hemi-spheres. This whistle is not imaginary. And I have a sensation of light headiness constantly. According to my doctor, the majority of his aphasia patients experience the two sensations. This contributes to the feeling that one remembers the language but forgets the word temporarily;

3. there is a correlation between the physical pathology of the synapses and neurons, and what happens to language in the brain. For those with Broca's Syndrome, approximately 5 per cent of the synapses in the area of the brain controlling language are dead. The remaining 95 per cent of synapses and neurons are not dead. With practice, 95 per cent of grammar, syntax and vocabulary can recover. It is my experience that one can recover 95 per cent of grammar, syntax and vocabulary. I am convinced that aphasics can recover language with the heterodox methods described in the above sections.

From the aphasic's perspective, the goal is to reconstruct language in order to become a competent speaker, reader and writer. This involves re-constructing grammar, syntax, and phonemes, and regaining vocabulary. I am leaving out the component of meanings, understandings and semiotic rules because the aphasic already understands the remembrance of language.

* * *

In my experience, those with Broca's Syndrome re-construct language in the following way:

1. Common nouns were easy to learn. I deduced that the memory of common nouns was not dead but only numb in the nervous system.

2. Active verbs, the loss and regaining of which is symptomatic of Broca's Syndrome, took me about six months with

the help of a therapist. Again I deduced that these were not dead but only numb.

3. Adjectives, adverbs and multi-syllable words came easily.

4. Connective words, simple words like "a", "am", "the", "who", "their", and so on are more difficult. My score is approximately 75 per cent after four years.

5. Prefixes were easy but suffixes were still difficult after four years, despite much work and many exercises.

6. When recalling what I've read, I will often substitute a synonym, for example, "joyous" for "happy" or "lucid" for "clear". My score for accurate reading is about 85 per cent.

7. One particular problem I have is mixing up antonyms especially in relationships, for example, "grandfather" instead of "godson" or I refer to myself as "wife" instead of "husband".

8. Complex sentences and verb phrases made up of auxiliary verbs and participles or infinitives, I am trying to master after nine years.

9. Personal and place names remained a blank to me. I am still working on these, probably, as suggested by Foucault in the *The Order of Things*,[11] because names are primitive parts of language, and raw materials of grammar and syntax, without structure.

I conclude that language is active in aphasics, not dead but numb, and numb neurons constitute approximately 75 to 95 per cent of the whole. The others are dead, approximately 25 to 5 per cent.

However, the resilience and flexibility of the nervous system in the matter of language are well known. There is more than

[11] New York, Vintage Books, 1973, Chapter 4; *Speaking*, pp. 117-20.

one way to skin a cat. The difficulty of reconstructing connective words, suffixes and complex verbs for me and the fact that Chinese and other languages have no tenses or articles suggest that if aphasics lack these after a period of time, they are still able to re-construct language. With a little sense of adventure in language, with a little luck, nerve and imagination, aphasics ought to be able to recover language enough to be competent.

From the point of view of some orthodox authorities, what is the perspective of aphasics? H. Hécaen and M. Albert in the book *Human Neuropsychology*, in the section called "Recovery from Aphasia", take a dim view of what is available to aphasics; while they may not regain many language skills, they *may* be successful in *social adjustment*! What is social adjustment? The authors have no precise definition. Is it to re-construct language or stay home and be content to watch T.V., not read newspapers, have no mental or physical exercise, and above all, be content with incoherent, faltering speech, writing or reading? Is that life?

Aphasics are not dim-witted but only slow on the trigger, slow in reacting in speech, reading and writing. As an aphasic myself I have a dubious negative advantage over the "normal" person in that the latter is quick with his biases but the aphasic must and therefore can more often ponder his replies. He has a more immediate sense of the universal struggle to put thought into language.

CONCLUSION

1. Concept is central to the re-construction of language. My contention is that the concept remains in the aphasic. With the aid of self-reflection, and with adequate speech therapist, family and colleague support, the aphasic can make an almost complete recovery of language.
2. A new category for use for literature concerning aphasia is proposed: "*linguistic self-reflective*", replacing the medical model which uses "objective" observation, assessment and testing.
3. Language, either re-constructed or normal, is a dialogue, a social interaction with equals.

4. Since the adult aphasic already knows the language, the process of regaining language is a re-construction, not a re-learning.

5. A categorical distinction should be made between aphasia due to a stroke and aphasia due to other causes.

The neuropathologist John Marshall wrote:

> "...Kant argued that 'my soul as a whole is everywhere in my body and its entirety in each of its parts...'. We are unlikely to achieve any result by looking for a direct psychological substantiation of either a theory of computation or an algorithm. There is a sense in which a system is more than the sum of its parts, although nothing has been added to its parts. Theories of a computation and algorithm for implementing them describe that 'something more'."[12]

* * *

In Western and Indo-Aryan philosophies there must be evidence or proof of a claim. My proof is in my experience and in this paper—mute testimony on my bloody back and mind.

Edwin Alexander
(*University of Toronto*)

BIBLIOGRAPHY

ALBERT, MARTIN L., *The Bilingual Brain: Neuropsychological and Neurolinguistic Aspects*. New York, Academic Press, 1978.

AURELIA, JOSEPH C., *Aphasia Therapy Manual*. Danville, Ill., Interstate Printers & Publishers, 1974.

BACKUS, OLLIE LUCY, *Aphasia in Adults; the Rehabilitation of Persons with Loss or Disturbance*. Ann Arbor, University of Michigan, 1945.

BAER, WILLIAM P., *The Aphasic Patient: a Program for Auditory Comprehension and Language*. Springfield, Ill., C.C. Thomas, 1976.

BALLET, GILBERT, *La langage intérieur et les diverses formes de l'aphasie*. Paris, Alcan, 1888.

[12] *Models of the Mind in Health and Disease*, in the collection, *Normality and Pathology in Cognitive Functioning*, Ed. A.W. Ellis, New York Academic Press, 1982.

BASTIAN, HENRY CHARLTON, *A Treatise on Aphasia and Other Speech Defects.* London, Lewis, 1898.
BATEMAN, SIR FREDERIC, *On Aphasia or Loss of Speech and the Localisation of the Faculty of Speech.* London, Churchill, 1890.
BENSON, DAVID FRANK. *Aphasia, Alexia, and Agraphia.* New York, Churchill Livingstone, 1979.
BLUMSTEIN, SHEILA, *A Phonological Investigation of Aphasic Speech.* The Hague, Mouton, 1973.
BOONE, DANIEL R., *An Adult has Aphasia.* Danville, Ill., Interstate Printers & Publishers, 1965.
BRAIN, WALTER R., *Speech Disorders: Aphasia, Apraxia, and Agnosia.* London, Butterworth, 1961.
BROOKSHIRE, ROBERT H., *An Introduction to Aphasia.* Minneapolis, B R K Publishers, 1978.
BROWN, JASON W., *The Life of the Mind; Selected Papers.* Hillsdale, N.J., L. Erlbaum Associates, 1988.
— *Aphasia, Apraxia, and Agnosia; Clinical and Theoretical Aspects.* Springfield, Ill., C.C. Thomas, 1972.
BUCKINGHAM, HUGH W., *Neologistic Jargon Aphasia.* Amsterdam, Swets & Zeitlinger, 1976.
CANETTA, ROBERT, *Photo Language Stimulation for Aphasic Patients.* Danville, Ill., Interstate Printers & Publishers, 1974.
CAPLAN, DAVID, *Disorders of Syntactic Comprehension.* Cambridge, Mass., MIT Press, 1988.
— *Neurolinguistics and Linguistic Aphasiology: An Introduction.* Cambridge-New York, Cambridge University Press.
CODE, CHRISTOPHER, *Language, Aphasia, and the Right Hemisphere.* New York, Wiley, 1987.
COLLINS, JOSEPH, *The Genesis and Dissolution of the Faculty of Speech, a Clinical Study.* New York, Macmillan, 1898.
COLLINS, MICHAEL, *Diagnosis and Treatment of Global Aphasia.* San Diego, CA., College-Hill Press, 1986.
CRITCHLEY, MACDONALD, *Aphasiology and Other Aspects of Language.* London, Edward Arnold, 1970.
DARLEY, FREDERIC L., *Aphasia.* Philadelphia, W.B. Saunders Co., 1982.
DAVIS, G. ALBYN, *A Survey of Adult Aphasia.* Englewood Cliffs, N.J., Prentice-Hall, 1983.
DI PIAZZA, JOSEPH SALVATORE, *Amnesic Aphasia and Goldstein's Holistic Method; An Epistemological System.* Toronto, 1973.
DIMITRI, V., *Afasias, estudio anatomoclínico.* Buenos Aires, El Ateneo, 1933.
DUBNICK, RANDA K., *The Structure of Obscurity; Gertrude Stein, Language, and Cubism.* Urbana: University of Illinois Press, 1984.
EGGERT, GERTRUDE H., *Wernicke's Works on Aphasia: A Sourcebook and Review.* The Hague, Mouton, 1977.
EISENSON, JON, *Adult Aphasia.* Englewood Cliffs, N.J., Prentice-Hall, 1984.
— *Adult Aphasia: Assessment and Treatment.* New York, Appleton-Century Crofts, 1973.
ELDER, WILLIAM, *Aphasia and the Cerebral Speech Mechanism.* London, Lewis, 1987.
FRIEDERICI, ANGELA D., *Kognitive Strukturen des Sprachverstehens.* Berlin, New

York, Springer, 1987.
FROSCHELS, EMIL, *Psychologie der Sprache*. Leipzig, Deuticke, 1925.
— *Psychological Elements in Speech and Expression*. Boston Mass., 1932.
GOLDSTEIN, KURT, *Language and Language Disturbances: Aphasic Symptom Complexes*. New York: Grune & Stratton, 1948.
GOODGLASS, HAROLD, *The Assessment of Aphasia and Related Disorders*. Philadelphia, Lea & Febiger, 1972.
GOODGLASS, HAROLD AND SHEILA, *Psycholinguistics and Aphasia*. Baltimore, Johns Hopkins University Press, 1973.
GRANICH, LOUIS, *Aphasia: A Guide to Retraining*. New York, Grune and Stratton, 1947.
HALPERN, HARVEY, *Adult Aphasia*. Indianapolis, Bobbs-Merrill, 1972.
HARRIS, RANDY ALLEN, *Acoustic Dimensions of Functor Comprehension in Broca's Aphasia*. Bloomington, Indiana, Indiana University Linguistics Club, 1988.
HEAD, HENRY, *Aphasia and Kindred Disorders of Speech*. New York, Hafner Pub. Co., 1963.
HÉCAEN, HENRI, *Human Neuropsychology*. New York, Wiley, 1978.
— *Pathologie du langage: l'aphasie*. Paris, Larousse, 1965.
HILLERT, DIETER, *Zur mentalen Repräsentation von Wortbedeutungen: Neuro- und Psychology*. Tübingen, Narr, 1987.
HOOPER, CELIA R., *The Older Aphasic Person: Strategies in Treatment and Diagnosis*. Rockville, MD., Aspen Systems Corp., 1984.
JACKSON, JAMES H., *Selected Writings of Jackson*. Edited by James Taylor. London, Hodder & Stoughton, 1932.
JAKOBSON, ROMAN, *Fundamentals of Language*. The Hague, Mouton, 1980.
— *Kindersprache, Aphasie und allgemeine Lautgesetze*. Frankfurt, Suhrkamp, 1969.
KEITH, ROBERT L., *Speech and Language Rehabilitation; A Work Book for the Neurological Speech Pathologist*. Danville, Ill., Interstate Printers & Publishers, 1972.
KELLER, ERIC, *Vowel errors in Aphasia*. Toronto, [s.n.], 1975.
KERTESZ, ANDREW, *Aphasia and Associated Disorders, Taxonomy, Localization, and Recovery*. New York, Grune & Stratton, 1979.
KINGDON-WARD, *Helping the 'Stroke' Patient to Speak*. London, J. & A. Churchill, 1969.
KLEIN, ROBERT, *The Clinical Examination of Patients with Organic Cerebral Disease*. London, Cassell, 1957.
KOCK, JOSSE DE, *Éléments pour une étude linguistique de langages "néologiques" d'or*. Geneva-Paris, Slatkine-Champion, 1985.
KUSSMAUL, ADOLF, *Die Störungen der Sprache: Versuch einer Pathologie der Sprache*. Leipzig, Vogel, 1885.
LECOURS, ANDRÉ ROCH, *Aphasiology*. London, Bailliere Tindall, 1983.
LESSER, RUTH, *Linguistic Investigations of Aphasia*. London, Cole and Whurr, 1989.
LONGERICH, MARY COATES, *Aphasia Therapeutics and Jean Bordeaux*. New York, Macmillan, 1954.
LUBIN, CARL KENNETH, *Language Disturbance and Intellectual Functioning*. The Hague, Mouton, 1969.
LURIA, ALEKSANDR ROMANOVICH, *Traumatic Aphasia; Its Syndromes, Psychology and Treatment*. The Hague, Mouton, 1970.
MARTIN, BLANCHE RALSTON, *Communicative Aids for the Adult Aphasic*. Spring-

field, Ill., C.C. Thomas, 1962.
MOSS, CLAUDE SCOTT, *Recovery with Aphasia; The Aftermath of my Stroke*. Urbana, University of Illinois Press, 1972.
MOUTIER, FRANÇOIS, *L'Aphasie de Broca*. Paris, Steinheil, 1908.
NIELSEN, JOHANNES MAAGAARD, *Agnosia, Apraxia, Aphasia; Their Value in Cerebral Localization*. New York, P.B. Hoeber, 1946.
OSLER, SIR WILLIAM, *A Case of Sensory Aphasia—Word-Blindness with Hemianopsia*. Philadelphia, [s.n.], 1891.
OSNATO, MICHAEL, *Aphasia and Associated Speech Problems*. New York, P.B. Hoeber, 1920.
PICK, ARNOLD, *Aphasia*. Translated and edited by Jason W. Brown. Springfield, Ill., Thomas, 1973.
PRENERON, CHRISTIANE, *La dyssyntaxie; étude d'un cas*. Paris, Publications de la Sorbonne, 1986.
QUINTING, GERD, *Hesitation Phenomena in Adult Aphasic and Normal Speech*. The Hague, Mouton, 1971.
REINVANG, IVAR, *Aphasia and Brain Organization*. New York, Plenum Press, 1985.
ROSENBECK, JOHN C., *Aphasia; a Clinical Approach*. Boston, Little, Brown, 1989.
RUSSEL, WILLIAM RITCHIE, *Traumatic Aphasia: A Study of Aphasia in War Wounds of the Brain*. London, Oxford University Press, 1961.
SAINT-PAUL, GEORGES, *L'art de parler en public; l'aphasie et le langage mental*. Paris, O. Doin, 1912.
SARNO, MARTHA TAYLOR, *The functional Communication Profile; Manual of Directions*. New York, Institute of Rehabilitation Medicine, New York University.
— *Aphasia; Selected Readings*. New York, Appleton-Century-Crofts, 1972.
SCHNITZER, MARC L., *Generative Phonology—Evidence from Aphasia*. University Park, Pennsylvania State University, 1972.
SCHUELL, HILDRED, *Aphasia in Adults: Diagnosis, Prognosis, and Treatment*. New York, Hoeber Medical Division, Harper & Row, 1965.
— *Schuell's Aphasia in Adults; Diagnosis, Prognosis, and Treatment*. Hagerstown, Md., Medical Dept. Harper & Row, 1974.
STACHOWIAK, FRANZ JOSEF, *Zur semantischen Struktur des subjektiven Lexikons*. Munich, Fink, 1979.
TONKONOGII, I. M. (IOSIF MOISEEVICH). *Vascular Aphasia*. Cambridge, Mass., MIT Press, 1986.
WELMAN, A.J., *Hoofdstukken uit de klinische neuropsychologie: afasie, apraxie, agnosia*, Utrecht, Oosthoek, Scheltema & Holkema, 1975.
WEPMAN, JOSEPH M., *Recovery from Aphasia*. With a foreword by Wendell Johnson. New York, Ronald Press Co., 1951.
WHITAKER, HARRY A., *On the Representation of Language in the Human Brain*. Edmonton, Alta., Linguistic Research, 1971.
WILSON, SAMUEL ALEXANDER KINNIER, *Aphasia*. London, Paul, 1926.
ZAREBA MARIA (ZIEMBIANKA), *Rozbicie systemu jezykowego w afazji (na materiale polskim)*. Wroclaw Zaklad Narodowy im. Ossolinskich, 1973.

COLLECTIVE WORKS

The Characteristics of Aphasia, London, Taylor & Francis, 1989.
Phonological Processes and Brain Mechanisms, New York, Springer Verlag, 1988.
Contemporary Reviews in Neuropsychology, New York, Springer Verlag, 1988.
Aphasia, London-Jersey City, Whurr Publishers, 1988.
Contemporary Reviews in Neuropsychology, New York, Springer Verlag, 1988.
Linguistic Analyses of Aphasic Language, New York, Springer Verlag, 1988.
Phonetic Approaches to Speech Production in Aphasia and Related Disorder, Boston, Little, Brown, 1987.
Readings on Aphasia in Bilinguals and Polyglots, Montreal, Didier, 1983.
Aphasia Therapy, London, Edward Arnold, 1983.
The Neurology of Aphasia, Lisse, The Netherlands, Swets & Zeitlinger, 1982.
Acquired Aphasia, New York-London, Academic Press, 1981.
Jargonaphasia, New York-Toronto, Academic Press, 1981.
Aphasia, Assessment and Treatment, New York, Masson USA, 1980.
Problems of Aphasia, Lisse, The Netherlands, Swets & Zeitlinger, 1979.
The Management of Aphasia, Amsterdam, Swets & Zeitlinger, 1978.
Explorations in the Biology of Language, MIT, Work Group in the Biology of Language, Montgomery, Vt., Bradford Books, 1978.
Aphasia, a Clinical and Psychological Study, New York, Hafner, 1964.