BOOK COMMENTS

GETTING OFF HAYAKAWA'S LADDER

by

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Editor's Note: This review of Hayakawa's major book was written before his death. We have not softened the appraisal. Our attitude is similar to Max Black's when he reviewed Korzybski's work in his Language and Philosophy (1949); he said "Serious criticism may be taken as sufficient compliment." We have also retained most of the present tenses used originally, considering that we are dealing with a living work which will continue (in its fifth edition) to be an influential introduction to general-semantics.

(He must so to speak throw away the ladder, after he has climbed up on it.)
— L. Wittgenstein, Tractatus Logico-Philosophicus 6.54

S. I. Hayakawa (1906-1992) played many roles: writer, teacher, college president, U.S. Senator from California, and for its first twenty-six years editor of Etc.: A Review of General Semantics. Born in Canada, he began his career as a student of American Literature and then English instructor at the University of Wisconsin in the thirties. During his long career in teaching, writing and politics, he maintained an abiding interest in the role of language in human life and arguably, became the most visible and well-known exponent of general-semantics.

His book, Language In Thought And Action, seems his most enduring work. It came out in its fifth edition (coauthored by his son Alan) in 1990, the fiftieth year since its inception as Language In Action, a mimeographed manual for freshman English students. (The title was changed to the present one for the 1949 edition.)

In an interview with Roy Fox, published in ETC. in 1991, Hayakawa had this to say about the book:

SIH: ...I did more for Korzybski's work than any other writer! I mean there were a lot of good books on the subject by others, like Wendell Johnson's People in Quandaries and Irving Lee's Language Habits in Human Affairs, but they haven't lasted as long. None of them wrote a book about semantics that made the Book-of-the-Month Club selection, as mine did.[1]

In this article, I examine the claim Hayakawa makes here. What has his writing, specifically Language In Thought And Action (hereafter to be called LITAA), done for Korzybski's work, for general-semantics?
Surely, Hayakawa’s skills as a writer seem estimable. Surely, the book has lasted a long time. (So, by the way, have Johnson’s, still in print, and Lee’s, soon to be so again, although neither, I agree, made the Book-of-the-Month Club). Surely, the book has had great popularity.

Evidence of its influence can be found in Robert MacNeil’s Introduction to the trade version of this edition. MacNeil, who first encountered LITAA as a college freshman in 1949, writes that "Exposure to this book was one of my truly formative experiences... Hayakawa was my first journalism school." (p. vi-vii.) "From rereading this book, I even understand better the dynamics of our daily program, the ‘MacNeil/Lehrer NewsHour.’ Our journalistic approach carries into daily practice what Hayakawa calls the ‘multi-value[d] orientation,’ the realization that things are seldom as black or white, as good or bad, as we feel. I think I first learned that from this book forty years ago. But I conclude with a judgment: books about language are seldom as seductive as this one." (p. ix.)

For these very reasons, his writing skills and the resultant longevity, popularity and influence of LITAA and other works, Hayakawa’s contribution to general-semantics appears to me a mixed blessing. While the book has undoubtedly been responsible for introducing many people to Korzybski’s work, it has in the process created persistent misunderstandings of it, as well.

In this review, I will examine LITAA (with page references to the textbook version from here on) for such misunderstandings. They result, I believe, from Hayakawa’s inadequate treatment of general-semantics as a system and inadequate application of that system to some of his chief concerns.

The failure to view general-semantics as a system begins in the book’s Preface and continues throughout the text in Hayakawa’s failure to distinguish general-semantics from semantics. The recurring confusion of general-semantics with ‘semantics’ even among some general-semanticists (or should I say ‘semanticists’), can be traced in part to Hayakawa’s continued mixing of the two terms.

In the Preface, he states the purpose of LITAA:

To learn to think more clearly, to speak and write more effectively, and to listen and read with greater understanding — these have been the goals of language study from the medieval trivium to the present-day English class. This book views those traditional goals through the lens of modern semantics — that is, through an understanding of the roles and the different uses of language...[2]

"Semanticists," according to Hayakawa, "study interaction through communication". (p. ix) He acknowledges that, "My deepest debt...is to the general semantics (‘non-Aristotelian system’) of Alfred Korzybski. I have also drawn heavily upon the works of other contributors to semantic thought...". (p. x) He then goes on to list such people as Ogden and Richards, Veblen, Sapir and others. General-semantics, Hayakawa implies here, falls under the category of semantic thought. But what distinguishes Korzybski’s work from that of the others mentioned here? That distinction, which Korzybski felt as vitally important (indeed, it forms the backbone of his work), never gets made in Hayakawa’s book.
Indeed, Korzybski was concerned with studying and improving how people interact through communication, how people use language. But given the pains that Korzybski took to differentiate his use of the term "semantic" as in "semantic reaction" and "general semantics" from others' use of the term, I find it puzzling how someone so indebted to him and so dedicated to accurate communication can miss acknowledging that Korzybski was using the term in an entirely different and special sense. The field of semantics in philosophy and linguistics has had to do with the 'meanings' of words. This includes studying the relation between words and what they refer to and the historical changes in word 'meanings.' Korzybski's work surely has implications in these areas, yet focuses on something broader: evaluation.

Korzybski referred to general-semantics as a general theory of evaluation. Whenever he uses the term "semantic" as in "semantic reaction," "semantic blockages," etc., one can substitute the term "evaluational". General-semantics, as a general theory of evaluation, studies semantic or evaluational reactions; the neurologically based, organism-as-a-whole-in-an-environment responses of a given individual to words, symbols and other events in terms of their 'meanings,' significance, etc.

Traditional theories of 'semantics' study the 'meanings' of words in terms of verbal definitions, divorced from any concern with the nervous system and consequently with an individual's verbal and non-verbal reactions to words, symbols and other events. Korzybski, on the other hand, saw a semantic or evaluational view as necessarily a neuro-semantic, neuro-evaluational view. This always involves a human nervous system making 'meanings' both verbally and non-verbally. Korzybski therefore concerned himself with much more than a study of language. He refused to treat so-called 'intellectual' and 'emotional' aspects of 'meanings' as strictly verbal issues or as entirely separate from each other.

Hayakawa fails to distinguish Korzybski's general-semantics, a general theory of evaluation, from semantics, the linguistic study of word meanings. In LITAA, he promotes a mushed-together combination of both with one foot in general-semantics and one foot in the old elementalism. The result? — a serious distortion of Korzybski's work. The disregard for this important distinction has persisted in the various editions of LITAA, and has influenced the speech and writing of other 'semanticists.' As a response to this type of usage, the staff of the General Semantics Bulletin recently decided to hyphenate "general semantics" as "general-semantics" in any new writing that we do so as to emphasize it as a separate and distinct discipline.*

What difference does this make to the rest of Hayakawa's presentation? Although many of its parts seem excellent, the pieces, from my point of view, don't hold together well. LITAA ends up working well as an introduction to many of the issues that we deal with in general-semantics, e.g. the broader implications of language use. However it works poorly as an introduction to the system of general-semantics. Then again, it's presented as a book about modern 'semantics.'

LITAA is divided into two books: Book One, "The Functions of Language," focuses on the different uses and types of language available to us, and Book Two, "Language and Thought," focuses on evaluational processes and the semantic environment created by literature and mass media.

*See GSB # 55, 20 (1990) for rationale and precedent.
In Chapter One, "Language and Survival," Hayakawa presents a polished explication of time-binding, originally formulated by Korzybski and foundational to his system. He begins by challenging the traditional notion of "survival of the fittest," concerning himself with the question of what constitutes "human fitness." Humans, unlike animals, have a symbol-using capacity that allows us to communicate with others and thus potentially benefit from the experience of others, person-to-person, societally and across generations. Hayakawa emphasizes the ethical import of this. "Cultural and intellectual cooperation is, or should be, the great principle of human life". (p. 8) Korzybski’s influence here seems clear. To me, it seems regrettable and inadequate time-binding that Hayakawa makes no mention of him nor of the term "time-binding" in this chapter.

In Chapter Two, "Symbols," Hayakawa expands on our symbol-using capacity. The symbolic process, in which we take "certain things to stand for other things..." (p. 14), permeates all of our activities. He also points out quite forcefully that "There is no necessary connection between the symbol and that which is symbolized." (p. 16) He introduces the notion that the word is not the thing, that the map is not the territory, this time giving proper recognition to Korzybski as the source of the map-territory analogy.

Unfortunately, Hayakawa introduces an important distortion to Korzybski’s formulation of this. Hayakawa makes a distinction between the verbal world, what he calls the intensional world, and the world of experience, what he calls the extensional world. According to Hayakawa, our verbal or intensional reports function as maps to the territory of the non-verbal or extensional world of our experience. To put this another way, which I do not believe distorts what Hayakawa is saying:

Maps (reports) = Intensional (verbal) world
Territory (experience) = Extensional (non-verbal) world

The human nervous system, as Korzybski pointed out, abstracts. It selects, transduces, filters, integrates and projects or allocates messages from inside and outside the skin. The process of abstracting as a mapping or representational process, involves both verbal and non-verbal levels. Hayakawa’s main error here comes in equating maps with words and territory with non-verbal experience.

True, verbal reports map or represent the territory of our non-verbal experiences. However, as Hayakawa himself points out, a verbal map can also serve as the territory for further verbal mapping. You can make a map of a map of a map, etc.

In addition, our non-verbal experience, our perception, also maps ... what? The naive realist accepts non-verbal experience, what we touch, taste, feel, see, hear, etc. as ‘just the way things are.’ Today, we know as a result of research in physics, neurology and other sciences, that what each of us experiences non-verbally results from the interaction between inferred events going on inside and outside our skins and other inferred events going on within our nervous systems. Our perceptual experiences themselves constitute maps, forms of representation of the interactions among these events. We cannot know or experience ‘things in themselves,’ ‘naked reality,’ directly.

Hayakawa’s equating of words with maps and experience with territory unnecessarily restricts the power of the map-territory analogy. He fails to connect mapping to the abstracting process.
The pieces of the system are presented but not how they connect. This goes back again to his over-emphasis on verbal ‘meanings’ reflected in his focus on ‘semantics’ rather than on evaluational processes which involve verbal and non-verbal levels as studied in general-semantics.


Hayakawa’s discussion of ‘meaning’ seems quite useful as far as it goes. He correctly points out that an individual interprets the ‘meaning’ of an utterance or speech act as a function of the context, both verbal and non-verbal, in which it is used. As a consequence of this, he also proposes that

"...since no two contexts of an utterance are ever exactly the same, no two meanings can ever be exactly the same.... We cannot know what a word means before it is uttered. All we can know in advance of its utterance is approximately what it will mean. After the utterance, we interpret what has been said in the light of both verbal and physical contexts, then act or understand according to our interpretation. (p.39)

This remains far from obvious, even to some linguists. Fromkin and Rinehart write in An Introduction to Language:

We may know what a word means without knowing anything about the situation in which it used in an utterance... It is not important that a word mean exactly the same thing each time it is used. What is important is that unless the word has essentially the same meaning from one utterance to another, two people speaking the same language could not understand each other.[3]

Hayakawa argues against such belief in some ‘essential’ ‘meaning’ in words themselves and I commend him for doing so. He endeavors, and to a large extent succeeds in, showing how people can establish better understanding among themselves precisely by realizing that "Contexts determine meaning" and "The meanings of words are NOT in the words; they are in us." (p. 212)

It seems unfortunate then that in his discussion here he does not discuss the most important context of how we create ‘meanings’: the neurological. I refer to the context of a particular nervous system creating ‘meanings’ since ‘meanings’ are always created in the context of a particular nervous system. We automatically consider this neurological context when we become conscious of abstracting as Korzybski formulated it. This also occurs when we talk in terms of "semantic reactions" which necessarily include churnings of the gut, reddening of the face and/or other non-verbal physiological events mediated always by an individual human nervous system. *

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*Hayakawa ignores another important context of ‘meaning,’ the order or level of abstraction related to multi-ordinal terms. I will discuss this further when I deal with Hayakawa’s treatment of the abstracting process.
Instead, Hayakawa continues to talk about the ‘meanings’ of words. If the ‘meanings’ of words are not in the words but in us then we need some way to remind ourselves of this when we talk about ‘meanings.’ Otherwise, we can easily fall into the habit of ignoring the neurological context of words, symbols and other events that we interpret. Korzybski suggested the use of quotes around elementalistic terms, terms that imply false-to-facts divisions. I would suggest ‘meaning’ as used above as such a term. The use of quotes here combined with a greater discussion of how indeed ‘meanings’ are in us and a greater use of a non-elementalistic vocabulary such as "semantic reaction" and "evaluation" would have led to greater clarity. Instead Hayakawa slips back into the elementalism from which he works so hard, at times, to escape.

Hayakawa slips into elementalism again in his discussion of the different functions of language. Hayakawa distinguishes among ‘informative,’ ‘affective,’ ‘pre-symbolic’ and ‘directive’ functions of language. I have made up an ‘example’ of each:

Informative- "I saw the boy pick up the package and walk away with it".
Affective- "That sneaky little punk ripped off that sweet old lady".
Presymbolic- "Hi, how're you doing? Nice weather we're having, isn't it?"
Directive- "Please bring me the Jones file, Mr. Smith."

Each of these sentences seems to "flag" a different aspect of language use. It seems useful to make such distinctions, up to a point, and Hayakawa, up to that point, does a good job in making them. By understanding different functions of language use — to inform, to stir 'emotions,' to smooth social contact, to direct behavior — we can more consciously shape the effects we wish to have in our communications with ourselves and others.

However, from talking about the ‘informative,’ ‘affective,’ ‘pre-symbolic’ and ‘directive’ functions or aspects of a particular speech act, Hayakawa slips into talking elementalistically about ‘informative,’ ‘affective,’ ‘pre-symbolic’ and ‘directive’ language as such. In so doing he invests the language with such ‘meanings’ independent of us, our use of it and the effects it has on us. If the ‘meanings’ of an utterance are not in words but in us and depend on their context, especially neurological context, then it would seem better to assume that any speech act will involve all of these functions.

Hayakawa's elementalism bursts forth in his depiction of science and literature. "Literature is the most exact expression of feelings, while science is the most exact kind of reporting". (p. 86) "Literature creates the sense of what life feels like in the living". (p. 86) Science seeks "...laws of the widest possible applicability and the greatest possible generality". (p. 86) Such a view of science and literature certainly fits quite well with conventional wisdom but from a general-semantic point of view seems limiting.

The semantic reactions of a scientist when she is "doing science" cannot be divorced from 'feelings,' values, etc. And the notion that scientists should not concern themselves with what life feels like in the living, leaving this to poets, requires disputing. The development in behavioral
and social studies of a "romantic science" as neurologist A. R. Luria called it, seems relevant here. Both Luria and neurologist Oliver Sacks have noted, in Sacks' words, that

The patient's essential being is very relevant in the higher reaches of neurology, and in psychology; for here the patient's personhood is essentially involved, and the study of disease and of identity cannot be disjoined. Such disorders, and their depiction and study, indeed entail a new discipline, which we may call the 'neurology of identity' ...[4]

In their case studies of the individual and interpersonal experience of patients with migraine, parkinsonism and other disorders, their writings demonstrate, in the words of another "romantic scientist" R. D. Laing, that the view of science as "especially and explicitly designed to see the world without reference to personal passions...is as irrelevant to the study of interpersonal experience as interpersonal experience is to it."[5]

The informative purposes of scientific communication may be formulated to exist toward one end of a continuum with the affective purposes of literature at the other end. But however we distinguish the language use of 'science' from 'literature,' it seems useful to see them both as products of human semantic reactions in which 'intellect' and 'emotion' cannot be split.

Book Two, "Language and Thought," covers how we evaluate and misevaluate and how we can use language to evaluate more sanely. As in Book One, it contains much valuable material including several interesting chapters examining how advertising, art (especially literature) and television influence our evaluational processes.

I fault Hayakawa for the title of Book Two and, since I'm on the subject, for the title of the book as a whole, Language In Thought And Action. Like much of his writing, it has snappiness and accessibility, as well as a certain elementalistic ring. In his writing, Hayakawa starts from where people 'are'; unfortunately, too often he ends up 'there' himself. I don't expect him to call it "Language and Evaluation" (that would seem too obscure to most non-general-semanticist readers, his presumed audience, and probably to many 'general-semanticist' readers too). However, he doesn't seem concerned about the elementalistic implications of words like 'thought,' 'mind,' etc. He could write 'plain English' nonelementalistically by at least putting quotes around such terms and then using the explanation of this device as an opportunity to introduce the reader to the notion of elementalism/non-elementalism. I surmise that Hayakawa doesn't consider this formulation very important since he leaves out any discussion of it or of the extensional safety devices (quotes and hyphens) that help deal with it. He makes no use of them.


Chapter 9, "How We Know What We Know," and Chapter 10, "The Little Man Who Wasn't There," contain Hayakawa's presentation of the process of abstracting, which includes his "Abstraction Ladder". Hayakawa's deletion and distortion of important aspects of the abstracting process as formulated by Korzybski seem a central flaw in his work. Here more than anywhere
he misses the system of general-semantics. Therefore, in the rest of this review, I will focus on Hayakawa's treatment of abstracting.

Hayakawa begins his discussion of abstracting by noting the process nature of the universe as understood by modern science. He emphasizes that "It is absurd ... to imagine that we ever perceive anything 'as it really is'." (p. 99) Here he introduces his cow, Bessie, and notes that she "ultimately consists of atoms, electrons, etc., according to present-day scientific inference..." (p. 101) In what follows, I'd like to show why Hayakawa's treatment of the cow gets my goat (and I won't be sheepish about it).

Our non-verbal perceptions of Bessie, he recognizes, result from "an interaction between our nervous systems (with all their imperfections) and something outside them". (p. 100) "The cow we perceive is not the word, but the object of experience, that which our nervous system abstracts (selects) from the totality that constitutes the process-cow. Many of the characteristics of the process-cow are left out." (p. 101)

According to Hayakawa, at the lowest level of verbal abstraction, we can have words that name our non-verbal perceptions. So we name the non-verbal experience "Bessie". The label necessarily omits characteristics from the previous level of the perceived cow.

Hayakawa organizes his discussion through the use of a diagram he calls "The Abstraction Ladder," taken, he says, from Korzybski's structural differential model. For further explanation, Hayakawa advises his readers to read Science And Sanity (S&S), particularly Chapter 25. I did so and found it enlightening as to how Hayakawa goes wrong. I recommend it to all readers of LITAA.

"The Abstraction Ladder" appears on page 101 of LITAA. At the bottom of the page is a note labeled "1" that describes the process level of Bessie. Above this you see a simple line drawing of a ladder leaning against some presumed support. At the foot of the ladder on top of some steps stands a little cartoon figure looking upwards and carrying a tray of itty-bitty circles, squares and triangles which represent characteristics present at that level. The level he stands on is labeled "2". In a note to the side this is described as the perceptual level of Bessie.

On the ladder some steps above him stands a second man carrying another tray with a smaller number of little geometric objects to represent that some characteristics were left out. This level, "3," is labeled "Bessie" and is described as the verbal level of labeling or naming the perceived individual cow. Every ten or so steps higher stands another little man, each with fewer and fewer pieces on his tray. Level 4 is labeled "cow" for the class name of Bessie and her friends. Levels 5, 6, 7 and 8 are labeled "livestock," "farm assets," "asset" and "wealth" respectively. Each level of Hayakawa's abstraction ladder represents a more general term of classification than the previous one, with more and more of Bessie's characteristics left out.

"We may, using our abstraction ladder, allocate statements as well as words to differing levels of abstracting," Hayakawa points out. (p. 108) His focus in the diagram, however, on individual words trivializes the notion of abstracting, making it seem mostly a way of illustrating that words can have greater or lesser degrees of generality. Hardly a startling notion to good Aristotelians! Korzybski also noted that the structural differential could be used in this way to depict the
process of "abstracting from the event to the object, and the applying of a name to the object". [6]

A much more significant use of the structural differential, which the abstraction ladder does not emphasize, involves the allocation of statements, which Hayakawa has mentioned but doesn’t elaborate upon very much. Korzybski writes:

The other [use] is by illustrating the level of statements which can be made about statements. If we have different objects, and label them with different names, say, $A_1$, $A_2$, $A_3$...$A_n$, we still have no proposition. To make a proposition, we have to accept some undefined relational term, by which we relate one object to the other. The use of this diagram to illustrate the levels or orders of statements implies that we have selected some metaphysics as expressed in our undefined relational terms. We should be fully aware of the difference between these two uses of the one diagram for the structural illustration of two aspects of one process.[7]

Using the structural differential to focus on the levels of statements, we can begin to deal with multiordinal terms. A multiordinal term is given a particular ‘meaning’ depending upon the level of statement or abstraction it gets used on. The level of abstraction of the statement provides the context for evaluating the ‘meaning’ of the term. Multiordinal terms include the words "true," "false," "yes," "no," "love," "hate" and many other of the most important terms we use. While retaining the equivalent dictionary ‘meaning’ on any level, a multiordinal term has no definite ‘meaning’ until the level of abstraction is specified. Thus I can say "I love you" and then on the next ‘higher’ level of abstraction make a statement about that statement, such as "I love that I love you". The love of you (love$_1$) is not the ‘same’ as the love of love (love$_2$ of love$_1$). Notice here also the use of indexes to specify the level of the multiordinal term, a use ignored by Hayakawa. Very powerful, very useful, and indicative of how aspects of the system of general-semantics interrelate.

The existence of multiordinal terms results from the self-reflexive nature of the abstracting process which, as I have pointed out earlier in this review, constitutes a mapping or representational process. Any form of representation can be further represented. We can have a map, and a map of that map, and a map of the map of the map and so on, indefinitely. Hayakawa fails to connect the notion of abstracting to that of mapping or representation and so completely ignores self-reflexiveness and multiordinality.

This is not a trivial fault. The awareness of self-reflexiveness and of the multiordinality of terms which results from a fuller understanding of the abstracting process provides powerful problem-solving tools.

On a long drive with some friends many years ago someone presented the following problem: You are being held prisoner in a castle. You are taken to a room with two doors and two robots. You have been reliably informed that one door leads to freedom and one door leads to certain death. You also know that one robot always tells the truth and the other robot always tells lies and that they both know which door is which. You are permitted to ask only one question of only one robot and you do not know which one lies or tells the truth. Is there one question you can ask to get to freedom and avoid certain death?
I discovered a solution to this problem by using the structural differential and my understanding of multiordinal terms.* I couldn’t have done that using Hayakawa’s abstraction ladder.

Hayakawa’s failure to indicate abstracting as a mapping or representational process leads him, in the abstraction ladder, to focus upon it as a process of “leaving out”. Or perhaps his emphasis on the leaving-out aspect of abstracting leads him to leave out the notion of mapping. If we accept that a map or representation is not the territory it represents, then, necessarily, it does not represent ‘all’ of the territory and, necessarily, characteristics are left out. But if it serves at all as a representation or map then it must ‘leave in’ some similarity of structure to the territory that it represents.

What gets left out during the abstracting process? Differences, according to Hayakawa. The process of abstracting, as represented by the abstraction ladder, involves ignoring differences, noting resemblances and similarities at greater levels of generality. This doesn’t seem quite correct. Hayakawa has left out of his map of abstracting the fact that we do perceive, describe and infer differences as well as similarities when we abstract. Indeed, how can we possibly formulate any notion of similarity without the notion of difference, and vice versa? Differences and the detection of differences appear fundamental and are involved with any discussion of structure, order and relation in verbal or non-verbal levels of abstracting.

Even within Hayakawa’s model, the emphasis on leaving things out seems incorrect. While characteristics get left out as we ascend the ladder, with more and more general classifications more and more individuals are included by implication.

Hayakawa’s discussion of the abstracting process also lacks an adequate account of perception or abstracting on non-verbal levels. A basic part of consciousness of abstracting involves a ‘gut’ awareness of the difference between the inferred process or event level ‘apple’ that I actually consume and the macroscopic apple that I see and taste. Korzybski says "identification of the scientific object or the event with the ordinary [perceptual] object ... may be called ignorance, pathological to man..." [8] This is known as naive or direct realism and probably exists to a greater extent than good general-semanticists may realize. The mention, or better, some examples of such things as the Ames demonstrations along with some basic ‘nuts and bolts’ neuro-biology and perceptual psychology seem indispensable in any treatment of abstracting.

In spite of his omissions, Hayakawa does show his awareness that our knowledge of the process level of the universe, “the event or scientific object” in Korzybski’s terms, is inferred. Inferences consist of higher order abstractions, statements about statements that go beyond what can be directly observed but which are based on and may ultimately be tested by observations.

*The key to the solution involves asking not a simple question but a question about a question or second-order question, one that the lying robot and the truth-telling robot will answer similarly. If you ask either robot, not knowing which is which, “What door will the other robot tell me leads to freedom?,” the truth-telling robot will point to the door leading to death as will the lying robot. You choose the other door.
Whatever we know about the non-verbal event level, labeled "1" on Hayakawa's diagram, is obtained by means of such verbal higher-order inferences. Our inferred scientific knowledge at a given date gives us more reliable knowledge of the process level than our 'naked eye' sense data.

Korzybski referred to this as the circularity of human knowledge.

...our submicroscopic knowledge is hypothetical in character. The world behaves as if its mechanisms were such as our highest abstractions lead us to believe, and we will continue to invent theories with their appropriate terminologies to account for the intrinsic mechanisms of the world we live in, ourselves included. We read into nature our own latest highest abstractions, thus completing the inherent circularity of human knowledge, without which our understanding of nature is impossible. [9]

Korzybski indicated this circularity in his structural differential by connecting the broken-off label, representing the highest level inferences at a given date, to the broken-off parabola, representing the event level. He warned against identifying the hypothetical event, not words, that presumably exists outside the nervous system, with whatever we may say about it or whatever we perceive. We cannot know anything about it except through nervous system perceptions and symbolism. We cannot step outside of our nervous systems to know 'how it really is.'*

Hayakawa's ladder does not show the important connection between the 'highest' and 'lowest' levels of abstracting. We see a little man standing or stranded at the top of the abstraction ladder, carrying a tray with only two pieces on it, since "almost all references to the characteristics of Bessie" have been left out. (p. 101) Such a watered-down account could easily lead some readers to derogate higher-order abstractions, a conclusion Hayakawa would not condone.

The account of abstracting could have served as the connecting link among the various parts of his book. Unfortunately, to tie the various parts together in this way would have required a much better grasp of abstracting than Hayakawa demonstrates. Typical, instead, I find the word 'abstraction' used once in the chapter of Book One titled "Reports, Inferences, Judgments," with nary a mention of the process of abstracting. Admittedly, after introducing it, he does make frequent mention of the abstraction ladder, but to me this seems a limp version or worse a limping version of general-semantics. However, the book's lack of integration probably does not jump out at a reader unfamiliar with general-semantics, a tribute to Hayakawa's writing talent and to the value of much of what he does have to say.

His chapters on the semantic environments created by advertising and television and on the encouragement of intensional attitudes by the media have much to commend them. The discussion of art and poetry and their symbolic functions opens a large territory that was not

*This may seem to some like an invitation to despair or to decide that anything goes formulationally. Physico-mathematical methods, formulated for general use in the system of general-semantics, give us tools for evaluating theories, beliefs, creeds, etc., within this generalized uncertainty.
explicitly dealt with by Korzybski. It deserves further exploration by general-semanticists and Hayakawa has led the way. The final two chapters focus on the personal and social applications and implications of intensional and extensional orientations. They include solid, general-semantics formulating and provide necessary material for general-semantics readers.

*Language In Thought And Action* has had tremendous influence, much of it positive, in promoting general-semantics. Regrettably, it has misrepresented general-semantics as well. I believe it incumbent upon popularizers and other writers on general-semantics to represent the discipline accurately, and then as good time-binders to criticize and develop it as they will. In this time-binding function, Hayakawa has fallen short — a pity.

**NOTES**


