Abstract

Philosopher Max Black's 1949 article "Korzybski's General Semantics", in his book *Language and Philosophy: Studies in Method*, continues to be quoted as the definitive, devastating critique of general-semantics. The present article shows that Black's critique, far from devastating, results from his misunderstanding of Korzybski's work. Given the failure of Black's arguments, Korzybski's claim to have formulated the *first* non-aristotelian *system*, providing a foundation for a unified, applied science of humanity, needs to be taken seriously.

*The map is not the territory* – Alfred Korzybski

1. Introduction

Many critiques of general-semantics have been written since 1933 when the system was presented by Alfred Korzybski in *Science and Sanity* (S&S).

Philosopher Max Black's 1949 critique, "Korzybski's General Semantics," in his book *Language and Philosophy: Studies In Method* has an important place in this literature (223-246). It is widely referred to by other critics.

Science writer Martin Gardner, in a 1993 letter to the editor in the magazine *Skeptical Inquirer*, writes:

*Readers are urged to check the final chapter of Max Black's Language and Philosophy... [Korzybski's] misunderstanding of Aristotelian logic, Black writes, led him into countless absurdities. "Very little remains of Korzybski's theory of abstractions except some hypothetical neurology fortified with dogmatic metaphysics." Ernest Nagel, reviewing Black's book, said: "Black's restrained but nonetheless devastating critique of the basic ideas on which Korzybski rests his pretentious claim is alone worth the price of the book. (106-107)*

Historian Ross Evans Paulson, in his 1983 study of general-semantics, also considers Black's work "a devastating critique" (87).

Lawrence W. Rosenfield, in a 1974 article, writes "...general semantics is fundamentally inimical to humanistic studies...The discipline's logical foundations are adequately critiqued elsewhere (Black, 1949)..." (139).
Margaret Gorman, a Thomist philosopher and educator, in her 1962 study of general-semantics accepts Black’s critique as a "closely reasoned paper" which shows Korzybski’s "profound lack of understanding of what is asserted in Aristotelian logic...as well as the difficulties and confusions in the theory of abstraction..." (20).

In the general-semantics literature a brief note on Black's critique appears in the first *General Semantics Bulletin* under "Book Comments to Come." Those comments never came and as far as I know only Stuart Mayper’s article published in 1962 in *ETC.* responds in detail to any of Black’s claims. A fresh look seems necessary since, as I’ve noted, Black’s work continues to be referred to by critics of general-semantics. If the claims for Black’s critique have merit, the value of general-semantics as a system appears seriously in question. In this paper, I will focus on Black's article and will review his and others' claims regarding the theoretical foundations of general-semantics. I will show that although he raises some valid points, his arguments appear far from "devastating" and result mainly from a misreading of Korzybski’s work.

2. A Book Is A Mirror: More and Less Responsible Criticism

Black appears as one of the more responsible critics of Korzybski’s work. Unlike some other critics of general-semantics, Black provides evidence that he has actually studied, at least to some degree, the work he criticizes.

In his book *Word Play*, Peter Farb, a linguistic anthropologist, provides a good example of another kind of critic. Farb considers Korzybski guilty of "logophobia" and of advocating avoiding abstractions (193-194). Given such a caricature of general-semantics, it seems hard to believe that Farb bothered to look at *Science and Sanity*. Indeed that work does not appear in Farb’s bibliography.

Contrary to Farb, Max Black correctly points out:

*Korzybski, for all his urgent concern in practical affairs, is free from that short-sighted 'practicalism' which shows itself in contempt for theory. He insists rather, in a most commendable way, upon the necessity of an adequate general theory and ascribes the difficulty of instituting semantic reforms to the previous absence of sound theoretical foundations... (225)[1]*

After noting some of the claimed theoretical implications of Korzybski’s system, Black states "Any theory which can accomplish so much deserves a respectful hearing..."(226). He announces his intention to examine "the validity of its [general-semantics'] theoretical foundations" (225).

In his examination of general-semantics theoretical foundations, Black also appears commendably free of the type of ad hominem arguments so apparent in the criticisms of science writer Martin Gardner.

Gardner, who has written about general-semantics intermittently throughout his career as a 'debunker', shows great mastery of what writer Martin Maloney has called "the
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I find it interesting to compare Gardner's assessment of Science and Sanity with that of Black. Gardner considers it...

...a poorly organized, verbose, philosophically naive, repetitious mish-mash of sound ideas borrowed from abler scientists and philosophers, mixed with neologisms, confused ideas, unconscious metaphysics, and highly dubious speculations about neurology and psychiatric therapy. ("E-Prime" 262)

Black, on the other hand, although he may agree with some of these assessments, finds, to his credit, something of value in the book. He writes "Any reader of Korzybski's major work, Science and Sanity, must be impressed by the liveliness, vigor, and freshness of the exposition" (223). Contrasting Gardner's assessment with this, I recall Lichtenberg's saying, "A book is a mirror: if an ass peers into it, you can't expect an apostle to look out" (qtd. in Burke 64).

3. Black's Critique

Black divides his chapter into three sections. First he discusses Korzybski's aims and approach. Second, he focuses on Korzybski's view of aristotelianism. Third, he examines Korzybski's theory of abstraction. I will review Black's arguments approximately in the order in which he presents them.

3.1 Korzybski's Aims and Approach

Black begins by pointing out that problems with the inadequacy of language have been noted and attempts to improve it have been made for centuries. Korzybski is one among many thinkers in this area, semantics, which Black characterizes as "the science of meaning" (223).

According to Black, Korzybski's "popular" General Semantics appears as a kind of generalized semantics or study of linguistic meaning which aims toward the improvement of "linguistic maladjustment" (224). According to Black, Korzybski claims that his system provides "re-education in better mental and linguistic habits" (224) or "linguistic therapy" (225). Black states, "Sweeping claims of the beneficial semantic treatment have been made; but the data are as yet insufficient for a final evaluation" (225).

Korzybski's approach to "meaning," according to Black, is characterized by his attempt "to make general-semantics a scientific discipline" (226). He mentions Korzybski's
dependence on the results of scientific research and of his concern to scientifically test his own theories.

In this regard Black notes the "operational," "physiological" character of Korzybski's formulations. As Black states:

The important decision is now made to use physiological criteria of meaning, i.e., to test statements about meanings by observations of what is known or assumed to be happening in the nervous system of a biological organism. This choice of procedure gives a distinctive slant to Korzybski's investigations, for he is, in his own words, mainly interested in "the neurological attitude toward 'meaning.'" It follows that one of the most important and basic notions of general semantics will be that of the nervous response made by an organism to a stimulus consisting of symbols. (227)

This response to symbols is, according to Black, what Korzybski intends by the term, "semantic reaction" (227).

Black's characterization of Korzybski's concern for theory and practice, of his scientific aspirations and neurological "slant" seem generally accurate. However certain details need correction.

Black incorrectly views general-semantics as a form of semantics which focuses on linguistic 'meaning'. Even some 'supporters' of Korzybski's work, such as S.I. Hayakawa, have done similarly. However others, such as Stuart Mayper, have written about the confusion this view has caused.

Indeed, Mayper has suggested that one of Korzybski's major errors was labeling his system "general semantics." To emphasize it as a separate and distinct discipline that goes beyond semantics, Mayper has suggested hyphenating the term as "general-semantics" ( "Editorial" 20). I follow his suggestion in my writing.

Korzybski aimed to build a foundation for a "science of man [humanity]." He formulated general-semantics as a general theory of evaluation. His use of the term "semantic" in "semantic reaction," "semantic blockages," etc. seems synonymous with "evaluational."

Evaluational or semantic reactions for Korzybski involve neurologically-based organism-as-a-whole-in-an-environment responses not only, as Black asserts, to words and other symbols but to any events in terms of their 'meanings', significance, etc.

'Meaning' or significance in this sense is not merely linguistic. Semantic reactions as 'meaning' reactions involve "happening-meanings" as general-semanticist J. S. Bois has called them (46). As "psycho-logical" events, these happening-meanings involve so-called 'intellectual', 'emotional', 'physiological', and 'physico-chemical' aspects, inseparable from one another (S&S 22-24). General-semantics, then, despite what Black says, deals with much more than "linguistic maladjustment" and "linguistic improvement." It is concerned with the entire field of human behavior, including science and
mathematics, as a study of evaluational reactions or "happening-meanings." Improving language habits proves an especially accessible but not exclusive way to alter semantic reactions.

Black believes that Korzybski must leave "the province of physiology" when he focuses on
...the correctness or adequacy of semantic reactions. This in turn requires us to determine how far semantic reactions are a faithful reflection of the physical reality outside the organism...a mere description of the physical world will not suffice for Korzybski's purpose; he requires criteria for distinguishing the "real" from the unreal or illusory. In the end, this leads him into metaphysics. (228)

It seems precisely in evaluating the correctness of semantic reactions that Korzybski most clearly remains in the province of physiology. He insisted that science, 'logic', etc. are the products of human nervous systems. Do these nervous system evaluations give us predictivity in dealing with what is going on?

Rather than talk in terms of 'physical reality', the 'real' and the 'unreal', Korzybski aligned himself with the pragmatists when he wrote:

Experiments constitute a search for relations and structure in the empirical world. Theories produce languages of some structure. If the two structures are similar, the 'theories work'; otherwise, they do not, and suggest further search and structural adjustments. (S&S 110)

He contended that our survival as organisms and how well we survive, very much physiological matters, depend on such a standard of evaluation (S&S 316). Korzybski eschewed traditional verbalistic metaphysical speculation. He asserted that metaphysics and philosophy could become scientific if they were practiced according to such a standard (S&S 154-155).

Black's implication that Korzybski offered general-semantics as a "therapy" of some sort also needs clarification. Martin Gardner has carried this much further, viewing general-semantics as a psychiatric cult comparable to L. Ron Hubbard's Scientology ("Fads" 281).

Korzybski undoubtedly based much of his theory on a study of psychiatry and psychology. For two years in the twenties, Korzybski studied the 'mentally' ill at St. Elizabeth's Hospital in Washington, D.C. under the guidance of his friend, psychiatrist William Alanson White. He also had a great interest in Freud's and Pavlov's work. Based on these studies, among others, Korzybski did propose general-semantics as "a general theory of sanity [which] leads to a general theory of psychotherapy..." (S&S 8). He urged psychiatrists and psychotherapists to study and apply general-semantics in their own therapeutic work. (2)
However, he was careful to stress general-semantics, in itself, as a non-medical, preventive and educational approach (S&S xxvi, lxix). If Korzybski did function as the leader of a psychiatric cult, it seems hard to imagine why, when he died in 1950, *The American Journal Of Psychiatry* published an obituary proclaiming him as "a great teacher" ("Comment"). More recently, psychologist Albert Ellis, not generally known as a slavish follower of anyone, has written extensively about Korzybski's influence on his work (Ellis).

A stronger case exists for Black's characterization of the "sweeping" nature of some of the claims made regarding the beneficial effects of general-semantics. Black says, "The benefits offered are immediate and substantial," and quotes from *Science and Sanity*, "They help any individual to solve his problems by himself, to his own and others' satisfaction. They also build up an affective semantic foundation for personal as well as for national and international agreement and adjustment" (Black 224).

How do you measure these claims? Given that Korzybski claimed general-semantics as an "empirical science" (S&S xxv, xxvi, xxix), it doesn't seem unreasonable to expect something more than the anecdotal reports which he provides. Many people studied with Korzybski. Benefits were observed and reported. However, such anecdotal 'experiments' would not satisfy someone looking for 'harder' research data.

Perhaps greater modesty here would have helped Korzybski alienate fewer of his critics. However, although he did not provide it himself, he was aware, as Black notes, of the need for formal research to measure the effects of general-semantics training. Furthermore as Kenneth Johnson points out in an article on "Korzybski On Research," Korzybski did make suggestions for further studies. Since Korzybski wrote, some empirical studies have been made that appear to support his claims.  

Still, Korzybski did not present general-semantics as a panacea for all problems as was suggested by Alfred Tarski (qtd. in Mayper, "Tarskian" 26). He surely did not claim, as another critic, Barrows Dunham, suggests, that all problems are merely verbal (236-237). Korzybski would have contended that not even so-called 'verbal' problems are merely 'verbal'.

Korzybski acknowledged the limitations of his system:

*The limitations and the generality of this theory lie in the fact that if we symbolize our human problems (H = f (x₁, x₂, x₃, x₄, x₅,...xₙ)) as a function of an enormous number of variables, the present theory deals only with a few of these variables, let us say x₁ (say, structure), x₂ (say, evaluation), but these variables have been found, up to the present, in all our experience and all our equations. (S&S 143-144)*

To his credit, Black avoids the extremes of Tarski's and Dunham's criticism.
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Black contrasts Korzybski's view of the scientific method to that of Hume, Russell, Dewey, and the logical positivists, among others. These thinkers emphasized the "unity" and continuity of the scientific method, according to Black (228). They were concerned with expanding the use of scientific method into areas where it had not been applied.

On the other hand, according to Black, Korzybski emphasizes the discontinuity of the scientific method. Black notes that Korzybski:

...regards contemporary science as having made a sharp and revolutionary departure from older ways of scientific thought, especially those associated with the names of Aristotle, Euclid, and Newton. The theories of these three great pioneers, we are told, have by now been discredited. But the breakaway has not been complete; nor have its implications been sufficiently recognized. Einstein freed us from the shackles of the Newtonian cosmology; Lobachevski and the other inventors of non-Euclidean geometries overturned the absolute monarchy of Euclid; but Aristotle, in spite of pioneering modern discoveries in multivalued logics, remains the archenemy of correct thinking and sane behavior (228-229).

Thus we come to Black's view of what he calls "Korzybski's attacks upon Aristotelian logic" (226).

In the following section, I will consider in greater depth the argument that Korzybski opposed aristotelian logic and was in fact anti-aristotelian. Here I would only like to point out that Korzybski did not believe that the systems of either Euclid, Newton or Aristotle were completely overturned or discredited. In each instance, according to Korzybski, the later "non" system includes the old system as a special case (S&S 97).

Furthermore, Korzybski was not alone in showing the discontinuities between the older and newer systems. Dewey, for example, wrote on the limitations of aristotelian logic and the need of a theory of inquiry which would include modern scientific methods (Berman 168-172).

Black emphasizes the similarities between Hume, Russell, Dewey, and the logical positivists in order to contrast them to Korzybski. This seems disingenuous. Black could as well have pointed out the differences among these thinkers depending on what he wished to emphasize. Russell, for instance, was far from agreeing with Dewey's approach to philosophy.

Korzybski, like these other thinkers, attempted to show the unity of scientific method, as he interpreted it. Indeed, he shared this aim with Aristotle, who, as Korzybski pointed out, sought to "formulate a general method for 'all' scientific work (350 B.C.)" (S&S xxxix). Korzybski in turn attempted to formulate "a general method not only for scientific work, but also life, as we know it today (1941)" (xl). I will update that to today, 1998.

3.2 Korzybski's Non-Aristotelianism

Black says that "'Aristotelian' is...always a term of reproach for general
Black thus paints Korzybski's non-aristotelianism as a form of anti-aristotelianism.

I agree with Black that the term "aristotelian" has often seemed a term of reproach for some general-semanticists. But insofar as they wish to follow Korzybski's example, their reproach should not be made absolutistically. Their reproach should steer clear of unqualified anti-aristotelianism. As previously noted, Korzybski saw his non-aristotelian revision as going beyond but including the aristotelian system.

In particular, Black asserts that Korzybski has gone overboard with his "denunciations of Aristotelian logic" (229). Black begins by opposing Korzybski's "hostile response...to the theory of the syllogism" (229).

Black agrees that Aristotle's theory of the syllogism with its emphasis on subject-predicate relations has limited scope and doesn't cover other types of relations. It still has some limited usefulness however and so "...to denounce syllogistic logic on this account would be as absurd as to throw away forks and knives because they cannot cut steel" (229).

I believe that Korzybski would agree with Black on the limited usefulness of Aristotelian logic. However, Korzybski does not, as Black implies, denounce syllogistic logic wholesale. Rather he "reject[s] [among other things]...The postulate of uniqueness of subject-predicate representation..." (S&S 92) upon which syllogistic logic is based.

Black also considers Korzybski's warnings against the aristotelian law of identity and the 'is' of identity misdirected. According to Black: What Aristotle is alleged [by Korzybski] to have believed and taught is that such statements as "Water is wet" and "Dewey is a philosopher" mean that water is identical with wetness, and Dewey is identical with the characteristic of being a philosopher... (230)

This would entail the absurd conclusion that wetness is water and all philosophers are Dewey. Black points out that these conclusions are opposed by aristotelian logic. He scolds Korzybski by noting that "Korzybski gives no quotation from Aristotle to support this charge" (230).

I will similarly scold Black who gives no quotation from Korzybski to support his charge. Korzybski never alleged that Aristotle would conclude "wetness is water" from the statement "water is wet" (which uses the is of predication rather than the is of identity). Neither did Korzybski assert anywhere that Aristotle would contend that "all philosophers are Dewey" because "Dewey is a philosopher." As Black correctly points out, these are contested by aristotelian logic, which Korzybski did not reject but viewed as not final. Korzybski gives no quotation because he never made the charge.

What did Korzybski intend by his criticism of the aristotelian law of identity and the is of
identity?

The aristotelian law of identity was implied although not directly mentioned in Aristotle's works (Łukasiewicz 66-67). The so-called laws of thought of traditional philosophy consist of the (implied) law of identity along with the laws of contradiction and the excluded middle which were explicitly advanced by Aristotle (Korner 414-415). Korzybski contended that the law of identity, A is A, can be interpreted as follows: everything is identical with or the same in all respects with itself (S&S 194). In the view of Aristotle and his followers, when anything changes, some underlying "substance" which undergoes the change must remain permanent (Adler 13, 14, 32, 50; Gorman 86-87, 140). In the aristotelian view, knowledge consists of finding the 'essence' of this underlying nature or substance which can be expressed in a definition (Gorman 135-136).

Korzybski denied the ascertainable existence of any such underlying, completely unchanging substance. He interpreted the findings of the natural science of his day as implying the process character of the universe we live in, which includes us. As general-semantics teacher and writer Robert P. Pula has said, this process character implies "not things changing, but change thinging" (Pula). Thus nothing is identical from moment to moment in all respects even with itself. Observed regularities occur within this Heraclitean flux. Similarity (not exact sameness) of structure exists and knowledge consists of finding such similarities through empirical research.

Korzybski's denial of identity thus involves a divergence in basic assumptions from Aristotle's metaphysical views. Korzybski contended that identity as absolute sameness in all respects does not appear to exist. In this sense, although we may treat them as equivalent, A is not A. As written on a piece of paper, the second "A" differs in space-time coordinates and 'physical' makeup from the first.

How then can we explain the recognizable aspects of any particular individual? We can postulate that the similarity of 'something' from moment to moment involves varying degrees of difference. In this scheme, identity in all aspects would occur at the limit as the degree of difference approaches zero. If identity has any 'meaning' in this sense, I would still contend with Korzybski that it cannot be shown.

Korzybski contended that although identity does not appear to occur in this world, identification does. In order to understand what Korzybski means by identification, we need to understand his theory of abstraction. Black considers this as independent of Korzybski's critique of Aristotle (234). I consider this an important reason for his failure to understand what Korzybski is talking about in relation to Aristotle.

Briefly, the process of abstracting consists of the nervous system process of constructing or mapping our experience from the non-verbal process world and representing it in language and other symbols. The abstracting process is stratified on different levels:

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First the un-speakable process world, then our non-verbal experience abstracted from it, our lower level descriptions of our experience, our higher level classifications and generalizations, etc. Identification consists of confusing these different levels, ignoring the differences among them.

When we say "Dewey is a philosopher," we take a lower-level label for a particular man, "Dewey," and relate it by means of the word "is" to a higher-level noun classification, "philosopher" (an is of identity). When we say "water is wet" we relate the subject of the sentence to a quality (an is of predication). Both Korzybski and Aristotle would deny the symmetrical and total identity of Dewey with philosophers or of water with wetness.

Korzybski would also contend that in either example it remains we who have made the classification or ascribed the quality. Our use of the verb "to be" does not make this explicit. Aristotle's formulation of logic accentuates this use of "to be" and thus encourages us to treat the classifications and qualities we ascribe to the world as self-evident givens rather than abstractions we create. Such uses of "is" may thus lead us to identify or confuse individuals at one level of abstraction with our generalizations and categories at higher levels of abstraction. In this way we may overemphasize similarities and underemphasize or ignore differences among individuals.

To the extent that our language habits nudge our ongoing evaluational processes, Korzybski contended that avoiding the unconscious use of the 'ises' of identity and predication helps us to avoid identifying individuals with the linguistic categories and qualities in our heads.

According to Black, Korzybski believes in the absurdity that "the use of the auxiliary verb 'to be' is in itself deplorable..." and "...that it would be well to avoid the use of 'is' entirely, if it were possible" (231).

As evidence of this, Black quotes from Korzybski: "If we use the 'is' at all, and it is extremely difficult to avoid entirely this auxiliary verb when using languages which, to a large extent, depend on it, we must be particularly careful not to use 'is' as an identity term" (231). (4)

Black has clearly mistaken what Korzybski intended when he referred to "the auxiliary is." It seems clear from this quotation that Korzybski did not consider this form of the verb to be "deplorable" and certainly did not advocate avoiding the use of "is" entirely. He did advocate discriminating among the different uses of the verb as evidenced in the following passage:

...the verb 'to be' has at least four entirely different uses: (1) as an auxiliary verb, 'Smith is coming'; (2) as the 'is' of predication, 'the apple is red'; (3) as the 'is' of 'existence', 'I am'; (4) as the 'is' of identity, 'the apple is a fruit'. The fact that four semantically entirely different words should have one sound and spelling appears as a genuine tragedy of the race; the more so since the discrimination between their uses is not always easy. (S&S 750)
In recent years certain general-semantics writers, notably D. David Bourland and E.W. Kellogg III, have indeed advocated restructuring English by leaving out all forms of the verb "to be." They have argued that eliminating from use all forms of the verb "to be" provides the best way they know to eliminate the 'ises' of predication and identity.

However, many general-semanticists, myself included, agree with Allen Walker Read that this would eliminate useful forms of the verb "to be" (22-23).

Whatever disagreements exist regarding what to eliminate or include here, Korzybski's applied neuro-linguistic focus remains an area of agreement among general-semanticists. Language and other forms of symbolism are understood as functions of human nervous systems. Our nervous system functioning in turn is a function of many variables including various structural aspects of the language and symbols we use.

In other words, our language 'reflects' our orientation, our general evaluative processes, and in turn can shape to some extent our ongoing evaluations. General-semanticists are concerned in part with how well the structure of our language fits that of the world in which we live. Thus the general-semanticist's concern with the moment-to-moment evaluation of our own evaluations as 'reflected', among other factors, in the language we use.

As Korzybski wrote:

*We do not realize what tremendous power the structure of an habitual language has. It is not an exaggeration to say that it enslaves us through the mechanism of s.r. [semantic reactions] and that the structure which a language exhibits, and impresses upon us unconsciously, is automatically projected upon the world around us. This semantic power is indeed so unbelievable that I do not know any one, even among well-trained scientists, who, after having admitted some argument as correct, does not the next minute deny or disregard (usually unconsciously) practically every word he has admitted, being carried away again by the structural implications of the old language and his s.r.* (S&S 90-91)

I should note here the work of linguistic anthropologists Edward Sapir and Benjamin Lee Whorf. They formulated, independently of Korzybski, similar notions of the shaping influence of language on behavior.

A quotation from Whorf parallels Korzybski's views "We dissect nature along lines laid down by our native language...Language is not simply a reporting device for experience but a defining framework for it" (qtd. in Oxford 571).

It seems legitimate to ask for evidence about how and to what extent this occurs. Whorf's formulations, for example, have gotten their share of criticism and it appears that many linguists retain skepticism about his notions. Black surely has a point when he wonders whether Hebrew and Chinese speakers avoid identifying because their languages have no verb "to be."
However, as Johnson annotates in *Graduate Research in General Semantics*, research in general-semantics gives some support to Korzybski's and Whorf's notions. Support also is found in related fields. For example, *Psychology Today* reported on the research of Langer and Piper who found that students presented with objects labeled conditionally, "this could be..." rather than unconditionally, "this is..." were able to come up with more creative uses for those objects (Grant 16).

One method of research, as Korzybski noted, remains available to every individual. As part of general-semantics training, anyone can become aware of and change his/her own languaging processes, such as the use of the 'ises' of identity and predication. This may not be done easily. Nonetheless, each individual can potentially decide for him/herself to what extent, if any, such awareness has an effect on how they evaluate.

According to Black, another way Korzybski urges avoiding identity is by "confining oneself to negative statements" (231). Black goes on to quote from *Science and Sanity*: The present non-aristotelian system is based on fundamental negative premises; namely, the complete denial of 'identity', which denial cannot be denied without imposing the burden of impossible proof on the person who denies the denial. If we start, for instance, with a statement that 'a word is not the object spoken about', and some one tries to deny that, he would have to produce an actual physical object which would be the word,—impossible of performance, even in asylums for the 'mentally' ill. Hence my security, often 'blasphemously cheerful', as one of my friends calls it. (231-232)

Korzybski is asserting here, according to Black, that putting a statement in a negative form puts the burden of proof on whoever denies it. Black argues that "It ought to be obvious that a negative statement is in general no more 'secure' than its logical contradictory, which of the two is true depending entirely on the nature of the situation to which the statements refer" (232).

It ought to be obvious that Korzybski *does not* at all claim here that putting a statement in negative form, *in itself*, makes any statement more secure. He would agree with Black that the security of a statement does depend on the situation to which it refers.

Korzybski's argument can be seen rather as a form of reductio ad absurdum. He asserts non-identity by taking its denial seriously. To deny non-identity involves asserting that 'identity,' defined as absolute sameness in all aspects of any two things, events, formulations, etc., (S&S 194) can be shown. Very well, says Korzybski, show me non-verbally. He asserts that such a demonstration cannot be made. Korzybski views 'identity' as "false to facts."

Black finds a deeper flaw here, in Korzybski's appealing to facts when he challenges the law of identity and the other so-called aristotelian laws of thought. Korzybski, Black contends, "expressly states his objection to the view that logic has no physical
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content" (232).

To the contrary, Black continues by asserting:
The propositions of logic have long been recognized as being "necessary" and so nonempirical; and this view of the nature of logic is held almost without exception by logicians and philosophers. If Korzybski insists on regarding logic as empirical, he must be willing to dispense with the support of expert authority for this part of his doctrine...abandonment of the principle that logic must be "true to fact" would, I am afraid, play havoc with another plank of the platform of general semantics--the principle that scientific knowledge is restricted to reflection of the structure of reality. (232)

Black, I believe, misinterprets what Korzybski says. True, Korzybski does object to the notion that 'logic' has no physical content. However, Korzybski used quotes around the word 'logic' in the passage to which Black refers (S&S 73). The quotes serve as an "extensional device" which provides a warning flag around terms whose standard implications may mislead. Korzybski indicated that we should treat the term 'logic' with suspicion insofar as it implies a discipline purely 'formal' and completely separate from human purposes and 'physical' applications.

In doing so he did not thereby reject the formal, non-empirical aspects of logic:
"Formalism of the most rigorous character is an extremely important and valuable discipline...The formal elaboration of some language is only the consistent elaboration of its structure, which must be accomplished independently if we are to have means to compare verbal with empirical structures." (S&S 437)

Korzybski did not say that "scientific knowledge is restricted to reflection of the structure of reality. "This would exclude from science 'pure' mathematics and formal logic. In these disciplines, as he notes, by definition "all particulars [are] included. Deductions work absolutely if correctly made" (S&S 68).

Korzybski did say that "...in empirical science and life, we are engaged in exploring and discovering the unknown structure of the world as a means for structural adjustment" (S&S 437). Insofar as mathematics and logic are applied to the empirical world then "particulars [are] left out. Deductions work relatively, no matter how correctly made" (S&S 68). On this basis, it seems justifiable to compare these symbolic structures to empirical facts and Korzybski does so.

Black appears to be 'sticking his tongue out' at Korzybski when he writes:
If we find that a woman loses weight after studying semantics, we ought similarly to say not that identity is an illusion, but rather that the principle "A is A" is not intended to be applicable to that sort of situation. (We may notice, however, that it is perfectly correct to say that the lady in question is still the same woman--Korzybski's warnings against identity to the contrary.) (233)

Yet Korzybski's point remains. The lady in question is precisely not still the same woman in all aspects. Indeed, insofar as the '=' in A=A is interpreted as absolutely the same in all aspects it too represents an impossibility.
Korzybski does not thereby reject A=A or 1=1 as illusions. Since he views logic and mathematics as forms of human behavior involving semantic reactions, he reinterprets the '=' as indicating equivalency, which is a function of agreement by humans to ignore differences. Thus the law of identity is replaced with a principle of equivalency in Korzybski's non-aristotelian system.

Although Black doesn't discuss them in this chapter, I would like to mention the two other aristotelian laws of thought with which Korzybski dealt, the law of contradiction and the law of the excluded middle. The law of contradiction states that nothing can both be A and not-A. The law of the excluded middle states that everything must be either A or not A. Together these 'laws' constitute basic premises of "two-valued" logic.

In a later book, *The Labyrinth of Language*, Black asserts Korzybski's "unnecessary... rejection of 'two-valued' conventional logic" (149). This critique has been echoed by Martin Gardner and other writers. Again, this involves misreading Korzybski who, focusing on its human, applied, semantic (evaluational) aspect, accepted two-valued 'logic' as "only a limiting case and so, as a general principle, must be unsatisfactory" (S&S 405). His acceptance needs emphasis here.

What Korzybski rejected was a dogmatic, inflexible two-valued *orientation* to which, he believed, two-valued aristotelian logic would lead if viewed as 'the' logic rather than 'a' logic. Korzybski found promise in the work of Lukasiewicz and others who formulated multi-valued logics. Most emphatically he noted the importance of a multi-valued *orientation*, evaluating in terms of degrees, continua, etc. in which two-valued 'logic' had a place:

> It should be realized that we may have one-, two-, three-, many-, and [infinite]-valued orientations, which with the exception of one-valued, we should utilize when conditions warrant a particular use in a particular case. Thus in mathematics, for the sake of having mathematics as a standard of evaluation, we select a sharply two-valued orientation by which in the old language "A is B or not B', to allow sharp statements that for instance, 1+1=2. If we would deliberately postulate that 1+1 may sometimes be equal to 2 and sometimes not equal to 2, we would have forms of representation which would apply perhaps more readily to science and life, but mathematics as such would be impossible, and we would be deprived of this sharp tool of evaluation. (S&S 761)

In his later work, Black admits that "...It seems at least plausible that if we have been forced to recognize 'non-Euclidean' geometries, belief in a single and unmodifiable logic might also be merely a hangover from earlier dogmatisms" (*Labyrinth* 97). Uh-huh.

More recent corroboration of Korzybski's multi-valued focus can be found in the field of "fuzzy logic" which has been successfully applied to machine control systems, especially by the Japanese. This field was started by Lotfi Zadeh, a professor of electrical engineering at the University of California at Berkeley, who reformulated set theory in light of Lukasiewicz's multi-valued logic. In fuzzy logic sharp exclusion or inclusion in a set is replaced with graded membership. Sharp, two-valued distinctions are formulated...
as special cases of multi-valued or fuzzy sets. Fuzzy logic shows in an exact manner how something can be considered both A and not-A (McNeill and Freiberger).

To summarize this section, Korzybski, contra Black, was not anti-aristotelian. Aristotelian logic still has an important though no longer exclusive role to play in useful formulating. Korzybski’s main emphasis, however, was not on ‘logic’ per se but on understanding and enhancing the entire scope of human reactions including ‘thinking’-‘feeling’-‘perceiving’-‘doing’, etc., our semantic reactions. His objections to Aristotle’s views and those of his followers were directed toward the orientation or system of semantic reactions which they represented. The aristotelian orientation encourages identification or confusion of levels of abstracting. A non-aristotelian orientation encourages non-identification or consciousness of abstracting. Let us now examine Black’s critique of Korzybski’s theory of abstraction.

3.3 Korzybski’s Theory of Abstraction

Before finding it "logically incoherent" (246), Black "try[s] to give a sympathetic account of Korzybski’s central theory of abstraction without injecting any comment of [his] own" (240). As in other areas, Black's account does appear surprisingly sympathetic. Black also shows surprising naïveté if he thinks that he has not injected his own comments. Indeed, I will show that the logical incoherence that Black finds resides not in Korzybski’s views but at crucial points where Black’s comments misrepresent them. All quotes are of Black unless otherwise specified.

Black refers again to the neurological slant of Korzybski’s approach. According to Black the process of abstracting involves "the relation between the external physical event and the reactions in the nervous system of the person who perceives..." (235). Our experience, say of an apple, its redness or sweetness, occurs inside us and, as Black quotes Korzybski, is "manufactured by our nervous system inside our skins..." (235). The physical event itself, what Korzybski calls the "scientific object" consists of an "inextricable knot of subatomic energy processes," in Black's words, and has "infinitely many characteristics" (235-236).

At the perceptual level, the process of abstracting "consists essentially in the omission of details" from this infinite process since the apple as we experience it "has only a finite number of characteristics" (236). Black summarizes this first level of abstraction as follows:

The "scientific" object, the real object outside the skin, is the source of energy radiations which impinge upon the nervous system of the receiving organism. This proceeds to "leave out" details and to "manufacture" the gross macroscopic object, the so-called ordinary object. (237)

I will return to this notion of abstracting as leaving out or omitting details, which Black criticizes, since it leaves out important details of Korzybski’s view of abstracting.
Black notes accurately that the term "the ordinary object" refers to "something nonverbal" (237). When we label or describe this nonverbal object, we go to a second level of abstraction and if we make a statement about our labeling or description or make an inference we go to a higher order of abstraction, thus generating a "hierarchy of orders of abstraction" (237).

Black also makes it a point to emphasize that "the hierarchy of orders of abstraction... constitutes a series containing increasingly more subjective components" (238). Indeed Black emphasizes this subjectivity of our abstractions when he states what he considers "a central doctrine of general semantics,"...the sole reality of the so-called scientific object, that swarm of infinitely complex submicroscopic processes of which the "ordinary object" and all the higher abstractions are mere shadows" (240).

Korzybski quite clearly did not say that any level of the abstracting process was more 'real'. It seems quite incorrect to say that he found higher and higher levels of abstraction more 'subjective' or 'mere shadows'.

Korzybski did not accept the traditional dichotomy of 'subjective'/'objective' with 'objectivity' implying most reliable, established, 'true', etc. Insofar as the term 'subjective' refers to human factors, points of view, interests, etc., in other words semantic reactions, 'subjectivity' cannot be avoided.

Korzybski would argue that every level of abstraction involves these factors and that no levels, certainly not the higher levels, are more or less 'subjective' in this sense. He surely did not consider as more 'subjective' the higher levels of abstracting represented by established scientific theorizing at a given date. Indeed these can give us the most reliable knowledge we have about the world.

Korzybski most emphatically emphasized the dangers of not taking sufficient account of the implications of our language. He advised against the use of terms such as 'objective', 'subjective', 'real', etc. without awareness of their traditionally deceptive baggage. Thus the use of single quotes to flag them.

Black points out that Korzybski emphasized application of an understanding of the abstracting process by learning to distinguish the different levels of abstraction. Otherwise we confuse or identify levels. This consciousness of abstracting results from retraining the nervous system. Black takes special note of Korzybski's introduction of "silence at the objective level" as a training method and makes brief mention of the important goal of delayed reaction, as well as the use of indexing and of multi-ordinal terms. This depiction seems accurate if too brief.

Black finds Korzybski's account of the 'scientific object' and abstraction muddled in "hopeless logical circularity." He writes:
The characteristics ascribed to the scientific object, energy, electric and magnetic charge, and so on, are by no means experienced directly...they are, on the contrary, defined in terms of complicated manipulations of scientific instruments and calculated with the help of theoretical physics of a very high degree of abstractness. (240)

So far this seems in keeping with Korzybski's views. Then Black makes a bold leap away from any resemblance to them, "Now if we should assert, with Korzybski, that all abstractions are "manufactured by the nervous system" we should be compelled to say also that the "mad dance of electrons" constituting the scientific object is likewise manufactured by the nervous system." (240)

On the contrary, with Korzybski we should be compelled to note that the world outside our skins (and inside our skins as well--since the scientific object includes us), which we talk about as a "mad dance of electrons," is not words and is not manufactured by the nervous system. But whatever we know and say about it does indeed result from the abstracting process. We cannot transcend our nervous systems to directly contact 'naked reality'. Therefore our best scientific knowledge about the world remains inferential and highly abstract.

Black's misreading appears crucial to his claim of logical incoherence:
The reason for giving a superior status to the scientific object--for referring to it as a reality and to the series of abstractions emanating from it as shadows--was its alleged independence of what went on "inside our skins"; the swarm of electrons, unlike the abstractions derived from it, was not manufactured by the nervous system. If it be granted, however, that the scientific object, also, is a complex of abstract characteristics, the original basis for differentiation between reality and subjective abstractions disappears...And we shall have to go a stage further. For the "nervous system" itself is a physical (or physicochemical) object of a complex sort, whose characteristics are known to us not directly, but rather by complicated inferences from observation and physiological theory. To be consistent, therefore, we shall have to say also that the nervous system itself is manufactured by the nervous system. Or, as Adam said in William Blake's poem, "It is all a vain delusion of the all-creative imagination." (240-241)

Indeed Black's creative imagination here seems deluded. Korzybski decidedly did not say that the inferred external world that physicists formulate about, "is a complex of abstractions." However, he viewed that our understanding, formulating, talking about it does constitute a complex of abstractions. Likewise, although the nervous system itself does not consist of words, whatever we say about it including the label "nervous system" does. Our understanding of the nervous system is manufactured by our nervous systems.

Korzybski called this "the circularity of human knowledge," asserting that our scientific knowledge at a given date, inferential in character, gives us the most reliable knowledge of the world, more reliable than our 'naked eye' sense data.

In his last paper, "The Role of Language in the Perceptual Processes," he wrote: Scientifically it is known that the submicroscopic levels [which include us] are not "perceptible" or
"perceptual." We do not and cannot "perceive" the "electron," but we observe actually the results of the eventual "electronic processes." That is, we observe the "effects" and assume the "causes." In other words, as explained before, 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. (Collected Writings 715)

This quotation seems thoroughly in line with the formulations of *Science and Sanity*, which Black misinterprets:

*The status of the event, or the scientific object, is slightly more complex, because the event is described at each date by very reliable, constantly revised and tested, hypothetical, structural, inferential terms, exhibiting the peculiar circularity of human knowledge. If we should treat these inferential structures, not as hypothetical, but should identify them semantically with the eventual processes on the level of the sub-microscopic event, we would have semantic disturbances of identification.* (S&S 407)

The structural differential model shown below (Figure 1) provides a visual aid for summarizing Korzybski's theory of abstraction and showing the confusion behind Black's charge of incoherence. Korzybski devised it for the express purpose of showing the structure of knowing, i.e., the abstracting process and its different levels.

The parabola represents the non-verbal event or process level, which we cannot experience directly. The human nervous system is implied by the strings. The dangling strings represent omission and the connecting strings selection of elements in the neurological process of abstracting. The circle indicates the level of non-verbal experience or 'perception' at which we experience `objects, 'qualities,' 'feelings,' `images,' etc. Below this, the more or less rectangular shapes represent the different verbal level
The broken-off rectangle at the bottom indicates the highest level abstractions we can make at a date. Since the process of theorizing, generalizing, making statements about statements, etc. can continue indefinitely I indicate this with the label, "Et Cetera". The arrow from here to the parabola represents the circularity of human knowledge. The smaller circle represents animal experiencing. The lack of strings here doesn't indicate the lack of abstracting. Rather it indicates that without language animals don't have the potential to become conscious of the abstracting process.

The structural differential diagram clearly shows that Korzybski differentiated between the event level, not words, and our highest verbal level (including mathematical) abstractions at a given date. Whatever we know about the event level results from these abstractions, called science. But these abstractions are not it.

Black's version of Korzybski's theory eliminates the parabola as representing a separate non-verbal event level. According to Black's version of Korzybski we might represent the event level as another verbal level of abstracting, perhaps at the top of the diagram, with no `reality' outside of our `subjective' abstractions. Incoherent? Yes. Solipsistic? Yes. Korzybski? No!!
Black, curiously, after tearing down what he thinks as Korzybski's view, takes a suggestion from Korzybski to present his own view which he then suggests is not Korzybski's. "Since abstractions are used to make verifiable predictions, their validity can reasonably be tested by the success of their predictions" (242). Of course, Korzybski emphasized repeatedly the importance of predictivity in assessing the merits of our 'maps' of the world (S&S 102,110).

Black never makes clear in his account what status he gives to 'electrons', 'sub-microscopic processes', etc. He does say that we can consider "valid" "...any abstraction [which] is an indispensable component of a system of statements whose truth is confirmed by observation and experiment..." (242). This statement implies that Black may impute greater certainty to these formulations than Korzybski did. Whether 'truth' can be 'confirmed' by observation and experiment has been questioned by Popper (Conjectures and Refutations) and by Korzybski, who emphasized the probabilistic nature of 'all' statements about the world.

Black also says that he finds "...no grounds for the sweeping assertion that terms such as 'red,' 'warm,' and 'sweet' refer only to events occurring inside the skin. Or that the objects to which we refer in everyday contexts are manufactured by the nervous system" (242).

If Black had more carefully examined the passage that he abstracts this from, he would see that Korzybski doesn't say that the abovementioned terms refer only to events occurring inside the skin. He does say, and Black quotes this on a previous page, "...the events outside our skin are neither cold nor warm, green nor red, sweet or bitter., but these characteristics are manufactured by our nervous system inside our skins..." (235). The terms 'red', 'warm', and 'sweet' are ascribed by us to events occurring outside our skin. Nonetheless, our experiences of 'red', 'warm', and 'sweet' and of objects constitute abstractions created by us as organisms with nervous systems.

This may seem like 'soft' 'idealism' to some but it constitutes a 'tough' scientific 'realism' based on data from physics and neuroscience; data that Korzybski took note of and evaluated as 'essential' for an up-to-date scientific epistemology (1933). And still (1998). The 'ontological' status or 'existence' of theoretical entities remains a lively area of controversy in the philosophy of science (Klemke 158-161). This discussion seems riddled with problems created by using terminology that reflects antiquated orientations. I would suggest that Korzybski's theory of abstraction may provide, counter to what Black says, a clarity that could clear away a great deal of confusion around this issue.

Black finds Korzybski's notion of abstraction inadequate for other reasons, however. I have already noted Black's statement that "Korzybski holds the view that abstraction consists in 'leaving out details'" (243). In this process of omitting details Korzybski,
according to Black, "thinks of the nervous system as a kind of coarse-grained sieve or filter...its role is passive..." (243). Black finds "this account of the function of the nervous system...dangerously oversimplified" (243).

If abstracting involves only this passive filtering out of details it cannot account for "what is commonly understood by abstraction. For we commonly mean a process in which we notice resemblances and common elements in a group of presented individuals" (245). Black gives the example of noticing that a group of figures "are all alike in being isosceles triangles. Not even this simple process could well be described as consisting in mere omission of details" (243).

Black chooses to emphasize what he calls the "positive" element of abstracting according to the way it is commonly understood:

If we abstract a general character from a group of specimens, we must allow ourselves to overlook certain respects in which the specimens differ among themselves; but we must also, on pain of failing to perform a genuine act of abstraction, see clearly the elements of resemblance on which our selection of the particular abstraction is founded...the self-critical employment of abstractions would require us to remember what it is that we have "left in" as well as what it is that we have left out. (243-244)

Black fundamentally misconstrues Korzybski's theory. Korzybski formulated abstracting as the neurological process whereby we 'map' or construct our experiences from the submicroscopic world and represent our experiences in words and other symbols. Indeed he emphasized that it always involves omitting details or characteristics from one level to the next. However, saying this does not by any means imply that it only involves omitting details.

The process of generalizing that Black describes is included in Korzybski's formulation of abstracting. He notes this in numerous places in his writing. For example:

If we enquire what we do in science, we find that we 'observe' silently and then record our observations verbally. From a neurological point of view, we abstract whatever we and the instruments can; then we summarize; and finally, we generalize, by which we mean the processes of abstracting carried further. In our 'acquaintance' with daily objects, we do substantially a similar thing. We abstract whatever we can, and, according to the degree of intelligence and information we have, we summarize and generalize...In the building of our language, a similar neurological process becomes evident. If we were to see a series of different individuals, whom we might call Smith, Brown, Jones., we could, by a process of abstracting the characteristics, segregate the individuals by sizes or colours.; then, by concentration on one characteristic and disregarding the others, we could build classes or higher abstractions, such as 'whites', 'blacks'., Abstracting again, with rejection of the colour difference., we would finally reach the term 'man'. This procedure is general. (S&S 377)

Yet Black seems intent on overlooking Korzybski's discussions of the integrative, generalizing, summarizing, etc., aspects of the abstracting process.

Black doesn't seem to consider "the mere omission of details" as important as noting
resemblances. For Korzybski, recognition that our abstractions are never 'it', and can never cover all of 'it', provides a crucial check against taking the resemblances we see too seriously.

I would paraphrase the previous quote from Black to give it a korzybskian cast: *If we abstract a general character from a group of specimens, we might, at our own risk, allow ourselves to overlook certain respects in which the specimens differ among themselves. Instead, on pain of thus identifying or confusing levels of abstraction, we must also remember the differences among the individuals that we have classified together. The self-critical employment of abstractions requires us to make generalizations but to remember that it is we who have made them and to remember what we have left out.*

Korzybski called this self-critical employment of abstractions, consciousness of abstracting.

Not surprisingly, Black has difficulty finding a common relation between the different levels of abstracting, e.g., from "scientific object" to perceived object, from perception to verbal description, from description to inference, etc.:

> It seems to me...that the first three steps in Korzybski's hierarchy of orders of abstraction are based on different relations, and that neither the second or third of the steps could be regarded as involving "abstraction," either on Korzybski's view of that process or on any other which is generally accepted today. (245-246)

Korzybski depicted abstracting as involving a "stratification of 'human knowledge' " (S&S 435-436). He also proposed structure as the only content of knowledge, with structure involving a pattern of relations (S&S 20). Each level of abstraction involves some pattern of relations that appears more or less similar in structure to the previous level. In other words, it can be said to 'map' or represent the previous level. Thus abstracting consists of a mapping or representational process which includes silent level 'perceptions', verbal descriptions, inferences, etc. This representational mapping, involving similarity of structure, provides a unitary relation among the different levels of abstracting. Black misses this.

Black's characterization of Korzybski's account of the nervous system as "passive" and "oversimplified" also appears inaccurate. Contrary to what Black claims, the nervous system, as an abstracting mechanism, is considered by Korzybski to play a quite active role in how we function. He anticipated the notion of "feedback" in his writing about the complex cyclic order of nervous processes and of the profound effects of higher order abstractions, e.g., doctrines, assumptions, linguistic structures, etc. on our ongoing functioning. He emphasized the importance of applying what we know about these processes and developed the practical training methods that Black notes in passing.
However, Black is not the only person critical of Korzybski’s discussion of neurology and of the electro-colloidal changes associated with neurological events.

Anatol Rapoport, a co-worker of S.I. Hayakawa's, who over the years has waxed hot and cold about general-semantics, noted his difficulty with Korzybski’s formulations in these areas:

Allusions of this sort are evidence of "scientism"--the use of technical terms to create an impression of a scientific formulation of a theory. In view of Korzybski's fundamental thesis, his misuse of scientific terminology is ironic, and many scholars and scientists were quick to dismiss Korzybski as a dilettante, at times a crank. This impression was reinforced by Korzybski himself. On occasions he lectured to scientists in the manner of a patronizing schoolmaster on subjects to which they had devoted many years of hard, careful work and of which he had only a smattering of knowledge. (Rapoport 392)

Although some scientists, including Rapoport, may have felt patronized by Korzybski or may have dismissed him, it appears that many did not (Collected Writings 845-854, 862-892).

Korzybski’s discussions of colloidal behavior and neurology were based on his view of the importance of having a structural, 'material' basis for 'life', 'mentality', etc. He recognized the datedness and tentativeness of his discussion in these areas (S&S 111, 456).

Jeffrey A. Mordkowitz has examined Korzybski’s views in relation to colloids. He has concluded that although the terminology of "colloids" is not used nowadays in biology, Korzybski’s statements about them appear in keeping with the science of his time (1933). Korzybski’s overall structural viewpoint, despite changes in vocabulary and much new knowledge, remains, in Mordkowitz's opinion, in no serious need of revision. As Mordkowitz notes, "...the new molecular biological disciplines...represent an out-growth of the colloidal chemistry of the 1920's and 30's, and not a denial of the data on which Korzybski based his formulations" (Mordkowitz 88).

Similarly, Korzybski’s views on neurology were based on a sound understanding of the science of his time. Russell Meyers has written critically on some of the underlying assumptions upon which this science was and perhaps still is based ("Semantic Dilemmas" 42-49). Nevertheless, Meyers, who distinguished himself as a neurosurgeon and neuroscientist, recently wrote "...there appears to be no need to retract or revise any of the key formulations published by Korzybski in 1933" ("Potentials" 15).

Korzybski’s formulation of abstracting as a mapping process seems to have predated and been corroborated by recent work in neuroscience.

For example, Gerald Edelman's theory of neuronal group selection places importance on the notion of mapping among different levels of nervous system organization (19).
Patricia Churchland has called for efforts to develop what she calls "a unified theory of the mind/brain" (ix). Viewing the brain as an abstracting mechanism, as well as greater consciousness of their own abstracting could, it seems to me, offer a great deal to those who wish to develop sounder theoretical foundations for such an endeavor.

4. Conclusion
As I hope to have shown, Black misinterprets Korzybski’s theory of abstraction and his critique of aristotelianism. The confusion Black finds in general-semantics results from his misunderstanding of it.

This misunderstanding has not prevented many others from using Black’s work as grounds for dismissing Korzybski. Part of this may be due to Black’s reputation in the academic philosophy community and to his writing skills. Once one writer referred to Black’s article it may have become easier for other writers to perpetuate his mistaken notions.

Given the failure of Black’s critique of general-semantics, Korzybski’s claim to have formulated the first non-aristotelian system providing a foundation for a unified, applied science of humanity needs to be taken seriously. Yet as of 1998, such a science seems hardly to have gotten off the ground. How do we account for this?

In his book, The Moral Collapse of the University: Professionalism, Purity, and Alienation, Bruce Wilshire proposes that higher education and thus our society flounder through an overly restrictive professionalism which creates water-tight boundaries between disciplines. This results, he argues, from overdependence on restrictive "positivistic" views of science inherited from the seventeenth century and a failure to acknowledge the human and bodily bases of learning. He contends that such professions depend more or less on rituals of purity to exclude "unclean" formulations or individuals from their midst.

To the extent that Wilshire accurately depicts higher education in the twentieth century, his analysis provides some plausible explanations for the relative lack of acceptance of korzybskian general-semantics within academia as well as the wider community. Korzybski’s formulations might appear "unclean" and thus desirable to dismiss for a number of reasons.

Korzybski developed his work as a 'free intellectual' outside of academia. Thus he could be viewed by some academics as an interloper in their fields. His findings, coming from his interdisciplinary focus on structure, evaluation, abstracting, etc., challenged the traditional divisions among disciplines, between theory and practice and between 'intellectual' and 'emotional' aspects of living in a way that did and still may seem threatening.
Korzybski's creation of a unified theory of knowledge based on a broadened understanding of 'science' that goes beyond 'restricted positivism' might also alienate fundamentalists of various stripes as well as some (but not necessarily all) 'post-modernist' and 'new age' types. Many in these groups seem eager to point out the limits of scientific knowledge as they define it perhaps to preserve their own distinct methods of revelation and insight in contrast to it.

Meanwhile, despite such resistance, knowledge in various fields seems to expand exponentially. People are deluged with information. And conflict and suffering seem as prevalent as they ever did.

For these reasons, I believe that there still exists great interest in the issues about which Korzybski formulated. These include concerns about interdisciplinarity, critical inquiry, conflict-resolution, human agreement, etc.

Korzybski's work has been ignored or rejected by too many for too long. A reassessment is long overdue. Philosophers, natural scientists, social and behavioral scientists, and other thinking people ought to reexamine previously accepted dismissals of general-semantics. The reevaluation and reengagement of human 'reason' that general-semantics provides needs to be studied and used.

Notes (Click Number to return to text)

1. Unless otherwise specified all references to Black will be to *Language and Philosophy*.

2. See *General Semantic Bulletin* 57 and 58 for recent applications of Korzybski's system to psychotherapy.


4. Black quotes from *Science and Sanity*, 400.

5. See Whorf for discussion of Sapir.


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Emptyping Your Cup: Non-Verbal Awareness and General-Semantics

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Wishing to talk about Zen philosophy, a professor visited a Zen master. As they sat together
the Zen master poured tea. He kept on pouring as the tea overflowed onto the floor. "Stop!" said the professor, "you have filled the cup, no more will go in." The Zen master replied, "You are like that cup, full of your own ideas and speculations. If you wish to know Zen, you must first empty your cup."

Like Zen, an important aspect of general-semantics (g-s) training involves guided practice in "emptying your cup": looking, listening, tasting, feeling, experiencing, etc., at what Korzybski called "the silent, un-speakable level". This includes an attitude towards living that involves an awareness of yourself as an organism-as-a-whole-in-an-environment.

Some people who come to a g-s seminar-workshop expecting to learn about language use and word 'meanings' are surprised by this. However, g-s is not about 'semantics', understood as the study of linguistic 'meanings'. Rather, g-s involves a practical and personal study of what we call our semantic or *evaluational reactions*. Evaluational reactions include non-verbal as well as verbal, 'thinking' and 'feeling' responses to any events, not just words and symbols. Our focus is on internalizing some notions that can benefit our personal lives beyond the level of verbal, intellectual understanding alone.

**Multiple Amphibians, Multiple 'Worlds'

Aldous Huxley pointed out, "Every adult human being is a multiple amphibian, the inhabitant, simultaneously or by turns, of several worlds" (1972, 419). These 'worlds' do not occupy metaphysically separate realms. Rather, I interpret the term 'worlds' as metaphorically referring to important, differentiated but not separate, aspects of the universe that we participate in.

The first of these 'worlds' is the physical 'world' as postulated by natural science. Theoretically, we can understand our functioning as physico-chemical organisms within complex ever-changing physico-chemical environments. What we know about 'world', is inferred, i.e., not directly known in our immediate experience. We know about it through scientific theorizing tested through experimentation and observations. Scientific methods provide more or less reliable information about ourselves and our surroundings. Korzybski referred to the theoretically understood physical 'world' as the "event" level of existence and represented it as a parabola in his structural differential model (s.d.) [See Figure 1]
The second 'world' is that of sensations/perceptions which we abstract (select-construct) from events within and around us. As infants we experience ourselves fully in this sensory-perceptual 'world' which includes tastes, smells, sights, feelings, etc. Korzybski referred to this 'world' as the "silent, un-speakable, objective" level represented in Figure 1 by a circle. What we know at this level is not theoretical and has a direct aesthetic value.

As we mature, we enter the third 'world' that we function in as 'multiple amphibians': language. Korzybski referred to 'world' as the "verbal level". Language allows us to further abstract from or symbolize our 'world' sensory experiences. The 'world' of language contains within it many successive levels: everyday conversation about particulars, as well as the higher-order abstractions of science, mathematics, philosophy, etc. These successive verbal levels are represented in Figure 1 by the labels hanging underneath the circle.

We can easily become entranced by this third 'world' of language, to the neglect of our senses. Our education system seems to put an undue focus on the verbal, symbolic realm to the neglect of the non-verbal one. Even when we exercise or play sports, we can become
dominated by fixed, symbolic ideas of self-improvement or competition that prevent us from experiencing the present moment. Consistent with g-s goals, Huxley called for an education aimed at developing ourselves in the non-verbal as well as the verbal realms. How do we proceed to develop this potential within ourselves, 'to empty our cups'?

**Consciousness of Abstracting and Non-Verbal Awareness**

Together, 'world'₂ and 'world'₃ constitute the realm of consciousness. As conscious humans, our nervous systems select-filter from 'world'₁ events occurring inside, on and outside our skins in order to construct 'world'₂ (sensory-perceptual) and 'world'₃ (verbal) 'maps' of what is going on. This brain operation of 'mapping' experience makes up the process of abstracting.

Consciousness thus involves abstracting. We select something(s) to notice and filter out others. We give our attention to some aspect of a given situation with a concomitant neglect of other aspects. By becoming conscious that we abstract, we develop a greater ability to choose what we abstract: what we attend to and what we neglect. Such consciousness makes it less likely that we become fixed in our present set of abstractions (perceiving, labeling, etc.).

Remembering that we abstract gives us evaluational (semantic) flexibility and can help us to stay in better touch with what is going on in all of the 'worlds' or levels of so-called 'reality'. This flexibility is fostered by remembering the difference between what you say ('world'₃) and your non-verbal sensory-perceptual experience ('world'₂). In this way you can leave the verbal, intellectual realm at times in order to more fully experience the non-verbal realm of your senses.

**Pinch your ear lobe! Do it now. Now keep on pinching it and say "I'm pinching my ear lobe." Now stop pinching your ear lobe and say "I'm pinching my ear lobe." (You will not get any benefit from this, if you don't actually do it. Words will not suffice!)**

This experiment illustrates that the territory of the non-verbal experience of the pinch is not the same as the word-maps you use to describe it. Whatever you say about your experience, for example, "ouch!", "it hurts!" or whatever, is not it. This may seem like "baby stuff". So why do I mention it?

Korzybski noted that we live and experience our lives on the silent, un-speakable, non-verbal level of existence. Yet talking to ourselves about our experience can seem to take up a major part of attention and consciousness. Turning down the volume of the endless chatter inside our heads and quieting down the internal noise gives us more of a chance to receive new signals and thus to learn new things about ourselves and the world. Not only can this make us more adaptable to changing circumstances; it can also make life more fun.
I am not recommending that you eschew language altogether. Talking to yourself and others cannot and should not be avoided. Our ability to talk makes us human. Yet we need to bring ourselves frequently to the non-verbal levels of experience to look, listen, observe, etc., if we want our talking literally to make sense -- a major aim of g-s training.

Remember also that our language behavior has important non-verbal aspects. For example, it seems all too easy to continue talking to oneself, preparing a response, when someone else is speaking. Practicing non-verbal awareness when listening to others involves making a decision at some point to cease rehearsing our answer to what someone says while they are talking. This means getting quiet inside and remaining open to what the other person is saying, not only to their words but also to their tone, gestures, etc. We can also listen to how we talk to ourselves and others. Quietly observing our own speech involves another level of internal silence that can lead to useful insights about ourselves and more fruitful ways of acting.

Experiments in Sensing

There are also ways we can learn to talk to ourselves to help us experience the non-verbal level more fully. In the group sessions that I lead at Institute of General Semantics (IGS) comprehensive seminar-workshops, participants do experiments in sensing. These are mostly non-verbal explorations, during which each individual is helped to bring his/her attention to what's going on within and around him/her. This is based on the work of Elsa Gindler and Charlotte Selver as taught to me by Charlotte Schuchardt Read, who led this type of session at IGS seminar-workshops for many years. During simple activities, group members are guided toward increased non-verbal awareness by means of verbal directions, mostly in the form of questions. See the 'Sense-able Questions' template for examples of the types of questions that can be asked.

These sessions have as a major goal that of helping each person become more awake and present to here and now events. The work emphasizes the importance of not immediately jumping in with judgements of right or wrong but rather of accepting, although not necessarily liking, what happens. Questions asked during an experiment may include: "What more can I find out in this situation?", "What do I need for this moment?"

Directions for an experiment in listening follow:

Spend the next few minutes letting sounds from your surroundings come to you. Notice any tendency to label what you hear or talk to yourself in any other way. How well can you put aside these labels and bring yourself back to the sounds?

After several minutes, the experiment stops and people are typically invited to share some description of their experience. Listening to the varied responses of people to the 'same' experiment provides a graphic illustration of how each of us abstracts somewhat differently
Eventually one can begin to construct these kinds of sensing experiments and ask sense-able questions for oneself. There are endless experiments to do. Sensory awareness can be done anywhere, anytime: while waiting in lines, for a bus or in traffic, sitting in a lecture or at your computer keyboard, etc. When experimenting in this way you may have a concern about looking silly or childish. Remember, getting more in touch with the non-verbal world indicates that you have an admirable curiosity about what's going on. Gently pinching your ear lobe (or finger, arm, etc.) can help you to remind yourself at these times to become quiet inside.

Kinesthetic Awareness

Our musculoskeletal structure and our movements constitute a major part of our reactive mechanism as organisms-as-wholes-in-environments. Our awareness of our muscles and movements is called kinesthesia. Kinesthesia or kinesthetic awareness includes our sense of muscular tension or ease, joint position, balance and movement, and involves input from muscles, joints and the vestibular system of the inner ear.

Korzybski was aware that our evaluational reactions involve various levels of 'emotional' tension that are both affected by and affect our neuro-muscular tension levels. Through greater kinesthetic awareness, we can learn to control our tension levels and move towards greater evaluational flexibility.

Korzybski noticed that making quiet and firm hand contact could have a visibly calming effect on "jumpy" horses and people. Following this insight, he and his associates, especially Charlotte Schuchardt Read, developed a technique which they called "neuro-semantic relaxation".

Neuro-semantic relaxation involves a gentle handling of the soft tissues of the limbs and trunk in order to bring about a state of improved circulation and muscular tone. The individual learns to apply this method to him/herself. The result as reported is not so much a passive relaxation as an optimal state for activity. In People in Quandaries, Wendell Johnson described how to do the procedure to your hands:

With one hand you simply feel the palm and fingers of the other, holding the hand gently without pinching or squeezing it, slowly and with light pressure bending the fingers under and back again, noting how the hand feels. Is it soft, warm, and dry, or stiff, cold, and moist? Do the fingers bend readily? You hold the hand with firm but light pressure for a few seconds, then release even this light pressure, then apply it again. Now you bend the fingers gently again two or three times. You reverse hands and repeat the process. That is essentially all there is to it. What it amounts to is simply feeling with one hand the state of tension of the other, and
"loosening up" the one with the other, not so much by physical pressure and active massage as by direct manual expression of calmness, ease, warmth, reassurance. It is the semantic rather than the mechanical aspect that is important. (1946, 234)

Johnson and others reported that a dedicated application of this technique seemed to encourage the ability to delay reactions, which is an important goal of g-s training.

A state of neuro-semantic relaxation and and improved ability to delay reactions can be encouraged by other approaches as well. In IGS seminar-workshops after Korzybski, Charlotte Read focused more on the sensory awareness work of Gindler and Selver to accomplish this. More recently I have been influenced both by her and through my studies of the F. M. Alexander Technique, in developing the group work that I do.

The Alexander Technique

As a young actor, F. M. Alexander (1869-1955) had an increasing tendency to lose his voice during performances. Given the possibility of having to give up his career as an actor, he decided to explore what he was doing with himself when he lost his voice. By observing himself in mirrors as he spoke, he gradually became aware that he had a persistent pattern of tightening his neck, pulling his head backwards on his neck and thus depressing his larynx when he spoke. This was part of a total pattern which he came to see included gasping and sniffing for air, thrusting his chest forward, narrowing and shortening his back, tightening his legs, and gripping his feet. The summary effect was one of a general shortening of his stature and undue compression of his joints. This general shortening occurred at other times as well but seemed especially apparent during the stress of performances; it could be controlled by specific attention to the relationship of his head, neck and back.

Alexander began to develop this control when he realized that what he did with himself was very much a function of habit. Just the thought of reciting appeared enough to set off the entire fear-based pattern of tension. He realized that he needed to bring conscious awareness into this pattern. To accomplish this he began to inhibit or stop his immediate reaction to his intention to speak, while giving his attention to what he was doing with his head, neck and back. Specifically, he would provide himself the stimulus to speak, inhibit his immediate reaction to do so and instead give himself directions "to let the neck be free, to let the head go forward and up, to allow the back to lengthen and widen".

Through persistent self-observation he realized that what he thought he was doing with himself when he gave himself these directions was not necessarily what he in fact did do with himself. In other words, his non-verbal kinesthetic map of his actions did not fit what he saw himself doing in the mirror. He therefore made it a point not to "do" the directions he gave himself but to use them to guide his self-observation. In time he found he could more accurately sense
what he was doing with himself and undo his habitual tensions and shortening.

By breaking up an action, such as speaking, into very small steps and applying the tools of awareness, inhibition and direction, Alexander discovered a method for bringing conscious awareness and poise into everyday actions. His method of kinesthetic re-education has significant connections with g-s. Its principles inform the sessions I lead in the non-verbal awareness segment of Institute of General Semantics seminar-workshops.

G-s involves the study of our evaluational reactions: our total response, verbal and non-verbal, to words, symbols, and other events in terms of their 'meanings', significance, etc. This response has 'thinking', 'feeling', 'self-moving', 'electro-chemical', etc., aspects that intertwine inseparably. The Alexander Technique focuses especially on the self-moving or sensory-motor aspects of our evaluative reactions while not ignoring the other aspects. Alexander's focus on the organism as a whole, kinesthetic awareness, the relation of 'thinking' to activity, the role of 'emotions' in neuro-muscular use, etc., complement and reinforce g-s concerns in these areas.

Korzybski talked about delaying our reactions as an important result/indicator of consciousness of abstracting. He noted that "Negative reactions or 'inhibitions' must be interpreted as the neurological foundation of 'human mentality'..." ([1933] 1994, 356). Alexander's application of "inhibition", learning how to pause before and during an activity in order to observe oneself in activity and to "let the neck be free", etc., provides a tool for directly practicing delaying our reactions on a neuro-muscular level.

Alexander Technique work provides practical experience in the physical concomitants of 'thought'. This accords with Korzybski's teaching of 'thought' as a nervous system activity of the organism. Directing my awareness especially to my head, neck and back can actually result in observable changes in functioning. My 'emotional' reactions as evaluative reactions have a powerful neuro-muscular aspect that I can gain some control over by means of the Alexander Technique. Anxiety, fear, etc., have neuro-muscular concomitants that I can learn to recognize more precisely. The balanced resting state that one can learn to elicit in oneself can provide a tool for alternative reactions when experiencing some 'emotional' state. Of course what we say to ourselves also plays a part.

Alexander discussed an extremely important elementalism that general-semanticists should consider. In g-s terms, an elementalism consists of the verbal separation of what does not in actuality exist in isolation. Alexander taught that the elementalistic separation of ends and means can lead us to focus on what we intend to do (the end) to the exclusion of how we do it (the means). Alexander highlighted, in particular, our neuro-muscular habits as important means upon which to remain focused. He emphasized that the neuro-muscular means in an activity conditions the end we achieve.

**Conclusion**
G-s is not just about developing better language habits. We evaluate as a whole on non-verbal as well as verbal levels: 'thinking', 'feeling', 'sensing', 'moving', etc. Thus, developing more consciousness of our evaluational habits and more control over them involves developing better non-verbal as well as verbal skills. Helping each individual get a more integrated sense of him/herself as an organism-as-a-whole-in-an-environment has constituted an important goal of g-s training from the beginning of IGS seminar-workshops. If you wish to know g-s, you must first "empty your cup" and thus increase your non-verbal awareness.

Works Cited


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