WHOEVER reads Science and Sanity¹ attentively, whether he fully agrees with the author at all points or not, will readily understand why it has been so heartily acclaimed by so many distinguished scholars representing so many widely separated fields of research, anthropology, biology, physics, psychiatry, education, semantics, physiology, mathematics, and other fields. So immense and manifold is its content, explicit and implicit, and so farreaching its diversified ramifications, that no one can form a fairly just estimate of its character and importance without examining it open-mindedly and deliberately, with due regard to all the cardinal criteria for judging the merits of any elaborate work of science. It is necessary, that is, to consider its aim, its means, its principles, the group of its focal concepts, its major theses, and its bearings, direct and indirect, upon the interests of mankind.

AIM

Korzybski's aim, first publicly intimated by him twelve years ago in his *Manhood of Humanity*, is truly magnificent, being nothing less than that of constructing the foundation of what ought to become, and, unless our race decays, eventually will become, the greatest of all the sciences, the Science of Man, the science, that is, of the science-maker and the maker of the arts as well, the science of the great

¹ Science and Sanity: An introduction to Non-Aristotelian Systems and General Semantics. By Alfred Korzybski. The Science Press Printing Company, Lancaster, Pa., 1933. Pp. xx + 798.

achiever and the great blunderer, creator and destroyer, potentially sane, unsane, and insane, criminal, genius, imbecile, and saint. What, asked the author in that earlier work, is the special characteristic that sharply distinguishes man from animal? It is, said he, the *capacity*, which humans have and animals have not, for *capitalizing* ancestral achievements, and for thereby advancing, increasingly and endlessly, the human subjugation of the world. That distinguishing capacity, insightfully characterized as the *timebinding* capacity, supreme among all the powers and agencies of life, is obvious, and had been often remarked and even signalized by others. But it was Korzybski who first perceived and asserted that it affords the only basis for a scientific conception of man and for a really significant, because functional, *definition* of man; and this, though only a beginning, was a notable achievement, compelling our attention to a fact of the utmost human significance—to the fact, I mean, that humans constitute, and to be rightly understood must always be regarded as constituting, the timebinding class of living organisms. No science of man can be erected upon the biological conception of man as an animal nor upon the theological conception of man as a degenerate or fallen creature dependent for well-being upon some miracle of redemptive grace. Obviously the science of man can have for the central core and burden of its subject-matter nothing else than the structure and the functioning of that peculiar, organic, human power, at once so strange and so familiar, in virtue of which man is man. And so we may say, if we choose, that the aim of *Science and Sanity* is to construct the foundation for the general theory, or the science, of Time-Binding.

MEANS

Naturally the aim determined the means. These involved a dozen years of arduous researches in what one may

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call, for the want of a better term, the anatomy of human Behavior, not in any puny Watsonian sense of the term, but in the most comprehensive sense, by which any action, conscious or unconscious, "physical" or "psychical," of any human organism is a constituent part of human behavior. Here was, evidently, an undertaking to daunt any but the stoutest of hearts. For it plainly demanded prolonged and difficult studies in an astonishing variety of seemingly farsundered fields: (1) the comparative neurology of animals and humans, with special reference to the structure and the corrresponding responsiveness of the human nervous system; (2) the comparative examination of the characteristic behavior-patterns both of "normal" primitives and of "normal" children and "normal" adults in "civilized" society; (3) difficult analyses of numerous works of Science and Mathematics regarded, not merely as special products or outcomes, but as the most significant modes and forms, of human behavior at its *best*; (4) the comparative study of the various characteristic, or typical, performances (both verbal and non-verbal) of the pathologic, the "mentally" ill, the "insane," regarded as exhibiting human behavior at its *worst*; and (5)—perhaps the most difficult and most revealing of all—the study of the delicate structure and the subtle agency of human Speech, with a view to discovering, estimating, and ultimately controlling, in the interest of education and sanity, the great and commonly unrealized potencies of language both for helping, and for hindering, the processes essentially involved in all "normal" activities of the human organism-as-a-whole.

PRINCIPLES, ASSUMPTIONS, POSTULATES

It would be a very interesting and highly instructive critical task to present in the form of a table clear enunciations of all the propositions, or principles, the author has employed as constituting the basis of his work, and to de-

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Original from UNIVERSITY OF CALIFORNIA termine for each of them whether he expects the reader to regard it as a statement of known fact or-what is fundamentally different—as merely a convenient assumption or postulate; but the task would be far from easy and is guite too extensive and complicate to be undertaken here. zybski has not himself attempted such a tabulation, and it is highly probable that he is not fully prepared to say precisely what the table, were it complete, would contain; for, as no one knows better than he, it is always exceedingly difficult, perhaps impossible, for any author of an extensive discourse to be fully aware of all the presuppositions involved Moreover, though Korzybski speaks much of mathein it. matics, especially of mathematics regarded as a language and as a type of human behavior, his work neither attempts to formulate a branch of *sheer* mathematics nor attempts to make, in the accepted sense of the term, an application of It is an attempt to show us the potentiality mathematics. and the rudiments of a new *science*, and, being thus scientific and hence empirical in contradistinction to mathematical, it is not be be judged by the rigorous standard of strictly postulational procedure.

Nevertheless the author does state some of his principles (1) The structure of the quite explicitly. Examples are: world is such that it is made up of absolute individuals; (2) there is no such thing as an object in absolute isolation; (3) Words are not the things they speak about; (4) every assertion of identity is false—all identifications being blunders; (5) no discourse can define all of its terms; and there A fairly good general clue to further are other examples. principles of the work—some of them seemingly submitted as facts, others as assumptions—is found (pp. 92–94) in an incomplete but extensive list of traditional postulates explicitly *rejected* by the author, and in an immediately following list of explicit acceptances. Among such rejec-(1) The postulate of the adequacy of the subjecttions are:

predicate form of propositions; (2) the postulate of the universal applicability to propositions of the so-called Law of Excluded Middle; (3) the postulate that in rational discourse one may legitimately employ the *is* of identity; (4) the postulate of the cosmic validity of grammar; (5) the postulate of elementalism, underlying the well-nigh universal practice of employing such phrases as "soul" and "body," "space" and "time," "matter" and "spirit," "emotions" and "intellect," and so on, as if the meaning of either term of any such couple differed ultimately and radically from the meaning of its mate and admitted of separa-The negatives of all the traditional postution therefrom. ·lates thus explicitly rejected are, of course, to be regarded as belonging to the system of postulates accepted. It thus appears that the principles or postulates or premises of the work are, most of them, negative. This negativity of his premises the author signalizes as an element of special strength for the reason that, so he contends, they "cannot be denied without the production of impossible data." For example, to overthrow the principle of non-identity, it would be necessary to cite at least one instance of two identical things, and this is held to be impossible.

CARDINAL CONCEPTS

The premises of a discourse and the ideas involved in it belong, respectively, to two different categories, which ought never to be confused. The principal ideas or focal concepts which it is the concern of *Science and Sanity* to present, expound, and evaluate, and which give the work its substance, its distinction, its dignity and its significance, are not difficult to list, being denoted by such oft-recurring terms and descriptive designations as the following: *order*; *relation*, both symmetrical and especially asymmetrical; *structure*, structure of the world, structure of *language*, *neurological* structure, structure of *knowledge*; *abstracting* (conscious and unconscious), abstraction of higher and lower orders or levels; speakable and unspeakable levels of abstraction, identification or confusion of the different orders or levels and of the corresponding abstracts or products (events, objects, labels, and so on endlessly), objectification of abstractions, consciousness of abstracting; human copying of animals; confusion of descriptions and inferences; systematic ambiguity, or multiordinality, of the meanings of familiar terms; non-identity; elementalism and non-elementalism; organism-as-a-whole; non-allness; infinity; Aristotelian and non-Aristotelian; behavioristic and linguistic aspects of Mathematics and Science; semantics and semantic reactions.

Such are the chief ones among the burden-bearing terms of the whole discussion. Some of them—order and relation, for example—are frankly employed as primitives, as requiring, that is, no definition. The very weighty term structure, though rightly said to be definable in terms of order and relation, is in fact not defined. But this term and indeed all the other cardinal terms are made sufficiently clear, not so much by formal definition, as by the easier and more effective means of description and exemplification. Such clarifications cannot be undertaken here, save for the following brief explanations of the term abstracting and the term semantics.

In virtue of their constitutions all organisms, even plants, continually make various abstractions, or selections, from the wealth of their respective worlds. Such abstractions may be conscious or unconscious—they may be as lowly as an ameba's organic selection of elements for its nutrition. In addition to such lowly abstractions all of the higher organisms and especially human organisms make abstractions of higher order. To a human organism the world presents itself as a continual flow of instantaneous and unrepeated *events*—of transient situations that do not recur. Each of these has many parts and countless characteristics or marks. From such passing events the organism abstracts certain of the parts that can be recognized and have distinguishing marks abstracted from among those of the vanishing or vanished events. Because recognizable such abstracted parts are called *objects*. Above the level of these, which are always "unspeakable," is the level of names or labels. Next above this level is the level of speech *about* speech, of ideas *about* ideas; and so on upward from level to level of what is, for humans (but not for animals), a summitless hierarchy or scale of abstractions.

It is hardly possible to exaggerate the gravity of the term, semantic reactions. Every reaction of an organism is a reaction of the organism-as-a-whole, and, if meaning be involved, the reaction is called semantic. And so the general science of *human semantics* must have for its subjectmatter the entire range and body of significant reactions or responses of the human organism to the countless kinds of stimuli, internal or external, verbal or non-verbal, that play upon it at any stage of its life from the first to the last. It is, in a word, the science of significant behavior.

MAJOR THESES

It remains now to indicate, very briefly and imperfectly, as follows, some of the major theses of the work.

The dominant aim of human activity, individual or societal, should be fullness and sanity of life.

Since fullness and sanity of life are impossible without unceasing adjustments to the conditions and possibilities inherent in the *structure* of the world, and since such adjustments are impossible unless the functioning of the organism regularly conforms to its neurological *structure*, it is seen that realization of the stated aim demands the service of Science, for it is Science that has for its primary concern the discovery and understanding of such structures, structure being indeed the sole content of knowledge. Supreme among the means essential to the enterprise of science is human Speech. Every language has a structure of its own. The effectiveness of a language as a scientific instrument, or (more generally) as a human instrument, depends upon the similarity of its structure to the structure of the human nervous system and the structure of the world, quite as the effectiveness of a map depends upon the similarity of its structure to the structure of the territory represented by it.

Deeply and subtly imbedded in the structures of all existing languages are to be found many vestiges, impressions and elements derived, in the course of long ages of linguistic evolution, from primitive beliefs, primitive metaphysics, and prescientific or primitive views of lie and the These languages—because their structures are thus world. infected by obsolete metaphysics and myth, by every manner of elementalism, by innumerable objectifications of sheer abstractions, by countless identifications or confusions of the various levels of abstraction, and are thus radically dissimilar to the known structures of the human nervous system and the world—are, in fundamental respects, ill adapted, not only as instruments for scientific research and scientific communication, but also, and even more unfortunately, as educational instruments for the protection, guidance, disciplining, and development of children in ways most favorable to sanity and plentitude of life. In virtue of structural defects in the language in which we are bred, it often misguides us as would a map of America representing San Francisco to be between Chicago and New York.

It is contended that the great achievements of Mathematics and of modern Science, especially physics—achievements so far in advance of the developments in any other great field or fields of activity—would not have been possible save for the gradual construction of languages more and

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more fitted by their structures to serve the enterprises that Mathematics and Science, respectively, represent.

It is held that to establish sanity, peace, and prosperity in the private and the public life of mankind it is absolutely essential, and almost sufficient, to do two kindred things. both of them regarded as feasible. One of them is so to transform and reconstruct our familiar inherited languages that the structure of our daily speech shall be free from the manifold vicious elements of primitive mythologies and primitive metaphysics now ingrained in the intimate structure of even the most refined of vernaculars. The other is the relatively easy education of children, and the relatively difficult education of adults, in the Consciousness that, by neurological necessity, they continually abstract, that their abstractions belong to different orders or levels, and that, in the interests of sanity, right evaluations, and life-promoting or time-binding adjustments, it is both necessary and possible habitually to avoid identifying or confusing the things of one order or level with those of another. For use in such education, in home and in school, the author has invented and fully explained an ingenious device called the Anthropometer or Structural Differential.

SOME QUERIES, DOUBTS, AND RESERVATIONS

It would be futile to attempt to give in a small space a fair impression of the amount and diversity of the relevant factual materials which Korzybski has assembled for his purpose from many provinces of Science and modern Mathematics. It would be equally impossible, without extensive quotation or elaborate and tiresome description, to give a just sense of the way in which he has contrived to build these materials into the structure of an imposing edifice. To gain that impression and that sense one must read the book itself.

Moreover, what I have said of the aim, the means, the

principles, the cardinal concepts, the major theses, and the bearings of the work has had for its chief aim to signalize these elements rather than to discuss or to appraise them with reference to questions of validity, cogency, and adequacy. It would be quite unexampled, however, if a boldly pioneering work having the proportions and character of Science and Sanity-sharply challenging, as it does, and rejecting so many long-established principles, and ardently urging so many far-reaching reformations of methodologydid not raise some such questions in the reader's mind; and it is, evidently, among the duties of a commentator to indicate them if they seem to him important enough to merit consideration.

Non-Aristotelian and non-Identity. The book is submitted as an "Introduction to non-Aristotelian Systems," it being understood that such a system is a system containing among its principles the denial of at least one of the principles employed by Aristotle or, if not by him, at all events by representatives of the "Aristotelian tradition." The system proposed by Korzybski is said by him to be properly called non-Aristotelian in virtue of several such denials. One of them he stresses as paramount. I refer to his denial of the so-called logical principle, or law, of Identity. This agesold principle, in each and all of its many guises, is repeatedly and categorically denied as being "invariably false to facts." In relation to this matter I venture to submit the following remarks:

(1) The author's unqualified denial of identity seems to show that his own principle of non-identity is regarded by him as an indubitable fact and not as just a convenient postulate to be employed merely as a hypothetical implier. One wonders how such indubitability may have been ascertained by him and whether it seems to him to rime well with another principle of his-"The general principle of uncertainty in all statements" (p. 93).

(2) It is, I think, very noteworthy that the denial (p. 194) of identity regarded as signifying "absolute sameness in all respects" is not a denial of identity as conceived and employed by Aristotle. If one will take the trouble to examine W. D. Ross's translation of Metaphysica and especially the translations (under Ross's editorship) of Topica, De Sophisticis Elenchis, Analytica Priora, and Analytica Posteriora, he will find that Aristotle never regards identity as signifying sameness in all respects (with the possible exception of self-identity) but only in some respects, usually but one. This fact is made quite clear at various points in the above-cited works and especially in the Topics, as follows (the italics being mine):

"First of all," says Aristotle, "we must define the number of senses borne by the term 'Sameness.' Sameness would be as falling, roughly generally regarded speaking, into three divisions. We generally apply the term *numerically* or *specifically* or *generically*: numerically where there is more than one name but only one thing, e.g. 'doublet' and 'cloak'; specifically, where there is more than one thing but they present no differences in respect of their *species*, as one man and another, or one horse and another, for things like this that fall under the same species are said to be 'specifically the same'; similarly, too, those things are called 'generically the same' which fall under the same genus, such as a horse and a man."

Readers interested to consider the question of identity from the psychological, as distinguished from the philosophical, point of view will find it profitable to weigh the words of William James in his *Psychology*, chap. XII, Vol. I.

(3) The fact that the "*is* of identity" is deeply embedded in the structures of all the great languages of the world has been often remarked, and sometimes reprobated, as by George Santayana, for example, and especially by Bertrand Russell, who regards it as a striking witness to human stupidity. In proposing to eliminate the "*is* of identity" completely from all linguistic structure, Korzybski has gone far beyond all other critics, Aristotle included. In fairness, however, to Aristotle, it must be said that he did not fail to note that peculiar sense, among the several senses, of the term "is" and did not fail to indicate the danger of employing it uncritically.

(4) Korzybski is among those, including such eminent mathematicians as L. E. J. Brouwer and Hermann Weyl, who deny the universal applicability to propositions of Aristotle's Law of Excluded Middle, or Excluded Third. As, however, Korzybski's own discourse contains many quite deliberate assertions of the *either-or* type, and as he states explicitly (p. 761) that the law in question "applies to a large extent to contentless technical mathematics, including the so-called 'formal logic' of that system," it is clear that, in his view, the law is valid in some cases. In what Though he says (p. 281) that the "problem of the cases? new revision of the foundation of mathematics has perhaps been solved in the present non-elementalistic, non-Aristotelian system," I have not been able to discover it in any criterion for discriminating the cases in which the law is valid from those in which it is not.

(5) The trilogy — Aristotelian, Euclidean, Newtonian — has long been familiar. At length come non-Euclidean (Lobachevski, Bolyai, and others), then non-Newtonian (Einstein and others), and now Korzybski adds non-Aristotelian, and so we are confronted with a new trilogy, even more impressive, because more generic, than the old one. We are told (pp. 90–91) that, just as the three old systems "were strictly united by one structural metaphysics," so, too, "the three new systems have *also* one underlying structure and metaphysics." In following the author's elaboration of this general statement, I am led to surmise that a certain critically important fact escaped his attention. I

mean the fact that the three "nons" of the three "non"systems differ fundamentally in respect of significance. For example, in replacing the Euclidean postulate of a unique parallel by a new postulate inconsistent with the old one, and so providing for one or another variety of non-Euclidean geometry, there is implied, as every one knows, no assertion that the old postulate is false or that the new one is true. But in replacing the so-called Aristotelian principle of identity by the principle of non-identity, and thus giving birth to a non-Aristotelian system, it is contended that the old principle "is invariably false to facts" and that the new one is true.

This principle, whose great impor-Non-elementalism. tance is continually emphasized throughout the book. forbids us to behave, in our thinking or in our speech, as if things that are naturally inseparable admit of being separated, as if things functionally interdependent were mutually independent, as if, for example, there could be "thought" without "emotion" or "emotion" without "thought," "space" without "time " or "time" without "space"; as if the problem of the human "mind" and that of the human "body" were essentially distinct problems, as if a living organism were the sum of its organs, as if such an organism and its environment were not inextricably interlocked, as if an electron's position and velocity at a given instant could be completely isolated from each other, as if past, present, and future did not each of them essentially involve the other two, and so on endlessly. It is exceedingly difficult, perhaps quite impossible, to make our thinking or our speech conform rigorously to the demands of the principle in question. The difficulty is mainly due to two factors. One of them is that we are all of us bred in a language so elementalistic in its structure—so saturated, so to speak, with expression-forms implying elementalistic views of the world-that the very language we use in explaining the

meaning and importance of non-elementalism is almost certain to contain conscious or unconscious violations of the This fact is exemplified, as principle we are advocating. Korzybski is doubtless aware, in his pages.

For example, the author again and again warns me, one of his readers, that so long as I suffer my thinking and speaking to go on in the ways of a language whose structure does not accord with the structure of my nervous system I am more and more damaging my organism-as-a-whole and correspondingly diminishing the prospect of my attaining such a sanity and fullness of life as I might otherwise reasonably hope to achieve. My statement of this warning is not an exact quotation from the book but its virtual equivalence may be readily found there in scores of instances. Note the two symbols "I" and "my organism-as-a-whole." Do these symbols denote but one thing? If so, we have here a perfect example of one type of Aristotelian identity or sameness, as noted above, two symbols for one thing. But if the two symbols denote different things, then evidently we have something hard to distinguish from the kind of elementalism manifest in such familiar statements as that "I ought to care for my body" where, as commonly interpreted, the symbol "I" denotes one thing (a personality or a mind or a soul) and the symbol "body" denotes another, separable from the former one. It seems worth while to emphasize this fact if only to confirm Korzybski's own statement that it is extremely difficult to condemn elementalism in terms of a language that subtly involves it.

The second factor contributing to the difficulty is due to the fact that, although any given thing which we wish to investigate may be functionally connected with all other things whatsoever, yet we are obliged in our investigation of it to isolate it from all the matters not affecting it in any important or essential way. That is, we are practically obliged to treat it as if it were independent of most things

in its environment. For example, to determine the number and the size of John Smith's fingers, it is not necessary and it would be inexpedient to have regard to the function of these fingers in the life of a certain organism viewed as a whole. For the purpose in question the fingers may be treated as independent things or "elements" in the world.

Infinitesimal, Infinite, Non-allness. Korzybski is strongly opposed to any and all use of the term infinitesimal. As is well known, this term was long employed both by mathematicians and by philosophers to signify an "infinitely small quantity"—a quantity, that is, that is neither finite nor zero. Naturally, no one was able to conceive such a small quantity, much less to discover one. At length, as Korzybski properly reminds us, Weierstrass made it clear, at least to mathematicians, that to employ the term in question in such a literally meaningless sense was without any justification, being not only a quite useless but obviously inju-Soon thereafter, as the author well knows, the term, rious. instead of being banished from use, was given a genuine meaning, clear, definite, and grave. It was defined to denote a variable whose limit is zero. And this is the meaning which the term has ever since been understood to have throughout the mathematical world. Even if use of the term itself were to be discontinued, the notion for which it stands would remain indispensable, for without it modern Analysis would be impossible and a vast part of the great fabric of Geometry would collapse. Nevertheless Korzybski boldly recommends complete elimination of the term from human speech, proposing to use in its stead the term indefinitesimal or the phrase "indefinitely small quantity." I have been unable to discover any reason for thinking that this proposal will commend itself to the judgment of mathematicians.

The author rejects outright the modern doctrine of mathematical infinity, especially that built up by Georg Cantor



and his followers. He contends that the term infinite cannot be properly used as a noun but only as an adjective to describe an endless *process*, such, for example, as the process by which any given integer is followed by another greater In this contention he is quite in line with an inby one. creasing school of mathematicians including L. E. J. Brouwer and Hermann Weyl. So strenuous is Korzybski's warning against what he calls unjustified infinities or infinites that he deliberately searches for the enemy in works whose authors were quite unconscious of its presence or seeming presence in their thought. For example, he fancies that he has discovered three infinites in the Elements of Euclid despite the fact that the most eminent Euclid commentators have found none there (see, for example, Vol. I of Heath's finely critical edition of the *Elements*).

It is noteworthy, I think, that Korzybski's attitude in the matter of the infinite, far from being non-Aristotelian, is in fact quite strictly Aristotelian, as any one may discover who will take the trouble to examine what Aristotle has said respecting infinity. Having made this examination, Ι venture to quote what I said in my article "Mathematics as a Culture Clue" Scripta Mathematica, Vol. I, no. 3, p. 203) as follows: "Finally Aristotle, after a searching analysis of the matter, concluded that nothing infinite can exist, neither an infinite series of causes, nor an infinite actual number of multitude, nor an infinite actual body or magnitude, nor an infinite actual anything else. For him Nature is *finite*, its boundary being the outer sphere of the fixed Even his Prime Mover, the Supreme Actuality, stars. though marvelously endowned, was *finite*."

The author's strictures upon the use of the term all to denote a totality, though they are not new, are fresh, vigorous, and helpful. In the case of an unending step-by-step process, yielding a new result at each step, one is never justified in speaking of all the results thus obtainable, as if

the endless series of steps had been actually taken. The author, being a perfectly candid man, will no doubt be glad to have his attention called to the fact that he has himself, inadvertently, violated the principle of non-allness and that, curiously enough, he has done so at one of the very highest among the peaks of his discourse. On page 432 we find the "The single semantic law of nonitalicized statement: identity covers all confusions of orders of abstraction." As the orders of abstraction constitute a summitless hierarchy or scale of orders and as any given order may be confused with any one of those above it in the scale, it is obvious that the sequence of possible confusions starting with any given order is an unending sequence, and so we are forbidden to speak as if they constituted a totality. Fortunately the author's meaning is perfectly clear and so his slip will cause no damage.

LINGUISTIC AND BEHAVIORISTIC ASPECTS OF MATHEMATICS

The book contains pretty extensive mathematical dis-The aim of these is not to add to the body of cussions. known theorems, in the ordinary sense of the term, nor to establish a new branch of the subject nor to enlarge the boundaries of old branches nor to expound mathematics for beginners. The aim of the discussion is epistemological, it is to advance our understanding of what W. K. Clifford called Kenlore. The importance and the originality of what Krozybski has said of mathematics are found in a twofold achievement. He has, I mean, demonstrated and signalized (a) the high importance of viewing mathematics as a *language* and (b) the high importance of contemplating mathematics as a form or mode of human *behavior*. It is held that, regarded as a language, mathematics has a linguistic structure conforming better than any other language to the structure of the human nervous system and the structure of the world. And it is held that as a mode of

behavior mathematics exhibits human behavior at its best. These are very significant theses, and, not only in their substance but in the form and emphasis of their presentation and defense, they are new. In reading the chapter on "The Semantics of the Differential Calculus" an inattentive reader may easily miss its import. But if attentive, he will find the discussion eye-opening, insightful, and richly suggestive. Such a reader will readily understand why Korzybski stoutly maintains that discipline in mathematics, with special regard to its linguistic and behavioristic aspects, is essential to the equipment of any one who would most effectively contribute to the science of human semantics, to the science, that is, of significant behavior.

FINAL ESTIMATE OF THE WORK AS A WHOLE

Despite all the reservations that I have felt constrained to make and of others that might be made, I feel bound to say that this work, taken as a whole, is beyond all comparison the most momentous single contribution that has ever been made to our knowledge and understanding of what is essential and distinctive in the nature of Man. There can be no doubt of its being a work that every serious student, no matter what the field of his special interest, ought to have as an indispensable part of his equipment. With its findings, all capable men and women desiring to be in touch with the best thought of their time will be obliged to reckon. No library that has not at least one copy of *Science and Sanity* can rightly claim to be quite up-to-date.

Korzybski's work is submitted as an Introduction to the Science of Semantics. His was a pioneering task. Great as is his achievement, it is only the beginning of his high emprize. Problems calling for further investigations by himself or by others under his leadership crowd upon him from every side. A department or chair or professorship of General Semantics ought to be established without delay in some great university where under the direction of Count Korzybski researches in Semantics could be carried on and where students could be trained to render similar service in other institutions. I can, moreover, think of no way in which colleges for the training of teachers could confer a greater boon upon their students and, through these, upon their future pupils than by providing a substantial course of instruction in the educational bearings of *Science and Sanity*.



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