

what they signal in structure (as maps and pictures do) or in some sensed quality. Indices result from what they mean, as clues and symptoms do. But words and other Symbols don't necessarily resemble or result from what we may take them to mean. We can say almost anything, so we need to question words, and their causes and results.

We may find such questioning more apt to happen when we put quotation marks around such trickily ambiguous, multiordinal, and sometimes explosively emotional terms as 'love,' to remind ourselves and our readers that these words are only words, sounds or marks we use as labels, possibly misleading, and that we could use other words to label the same event or experience, and often with very different results.

The X-is-Y calls its subject two names, X and Y, noun + noun-or-adjective, a static and often only verbal classifying which may make us forget that nothing exists alone or had any meaning apart from its time, place, causes and results, the connections by which hyphenated terms may define their subjects. Connect two of the ways we see something, as we do when we speak of Einstein's mass - energy equation ($E=mc^2$ -- how one quantity varies as, and perhaps because, another quantity does), of stimulus-response psychologies and other cause-result relationships, of import-export balances, and we may see situations in more of their connections and complexity as interconnected, self-balancing-yet-always-changing structures. Our growing awareness of ecology may produce more such terms, which may change our view of the world and ourselves, and change our lives--man-world relationships, perhaps, and life-death balances - opposites seen as coexisting and mutually dependent, and not as mutually exclusive, despite medieval logic. Index numbers, dates, etc., and quotation marks seem easier to use, and more common, but limit only single terms or phrases; hyphenated terms refer to, require, and change our understanding of whole fields as structures of relationships, and by using such complex-describing compounds, we may describe subjects by what they do, thus avoiding misleading identifications and oversimplifications which lead to inaccurate predictions and other frustrations, including the two-valued orientations and resulting polarizations which make squabbles harder to avoid, and harder to settle. Also, by inventing and trying out hyphenated terms, we can look for unexpected connections, using experiments with language as a way to make discoveries about the world beyond our language.

Choosing Grammars

Without these extensional devices, the X-is-Y makes such blindly intensional and general judgments as 'She's stupid!' and such unanswerably abstract questions as 'What is love?' all too easy. But even with Korzybski's devices, the X-is-Y gives us judgments when we need reports and explanations first: 'In 1970, Belinda wasn't intelligent about Jack's Volvo 122, etc.' still leaves us wondering what happened. We need a more informative sentence-pattern, one which asks and answers more useful questions than just the often only intensional 'how do I want to name and classify this subject?' In his essay 'The Chinese Written Character as a Medium for Poetry,' written in or before 1908, Ernest Fenollosa claimed that using is caused what he called 'the tyranny of medieval logic.' He suggested that we use active verbs and the sentence-pattern subject-verb-object instead.³ In thus distrusting is, Fenollosa anticipated Korzybski. In seeing other types of verbs -- the negative, the passive, the copula or linking verbs (including is), and presumably also the various complex verbs -- as less direct, less emphatic variations of the active verbs, and hence other sentence-patterns as less basic variations (transformations) of the active verb's subject - verb - object pattern, Fenollosa seems to anticipate at least a part of one of the basic assumptions of Noam Chomsky's transformational grammar some fifty years later. Both Fenollosa and Chomsky seem to assume that we can transform any sentence-pattern into any other, but if so, then which pattern we choose as a basis for a grammar becomes a matter of convenience, because then no pattern can claim to provide the only possible basis for all the rest; we can start a grammar from any sentence-pattern, which makes a multiplicity of grammars possible.

Chomsky's grammar starts from the sentence-pattern noun-phrase + verb-phrase, NP + VP for short, which we may see as another way of saying what traditional grammars do, that sen-

tences have a subject plus a predicate containing a finite verb. Fenollosa starts from a more specific pattern, subject-verb-object, SVO for short, which he claims communicates facts more concretely and tersely than the X-is-Y can, because the SVO structure resembles that of the actor-action-acted upon cause-result relationships which comprise the world. We have here a distinction between an intensional grammatical structure (the X-is-Y) and an extensional one (the SVO), and two principles to guide our choice of grammars: generally, the more complex the pattern basic to a grammar, (1) the more unambiguously specific and informative the questions and answers that pattern generates, and (2) the less complicated the grammar, for any given size of lexicon, and level of morphemic complexity and of descriptive adequacy. We might wish that Chomsky had started from some more complexly specific kernel than NP+VP, and that he had made a clear semantic and syntactical distinction between the judging-and-classifying X-is-Y and the reporting-what-happens SVO, but apparently he took the NP+VP for granted, as the only possible kernel from which sentences and grammars can start, when in fact we have a choice. The 1957 version of his grammar excludes semantics, and the 1965 version looks for semantic classifications of our world and words within an implicit 'deep structure' of simple statements whose nouns, at least, he classifies in series of two-valued choices as animate or not, human or not, which seems to me an oversimplification of the many-valued matrices we may actually use--but here we need experimental tests. Nowhere, so far as I know, does Chomsky mention Fenollosa or Korzybski or seem concerned that his terms 'grammatical' and 'mind' may have no clear extensional reference. He defines a successful grammar as one which produces all the grammatical sentences of a language, and no ungrammatical sentences, but since grammatical sentences are in turn defined as those a successful grammar produces, his definition seems a merely verbal circle. He apparently hopes to discover the structure of human minds by analyzing the structures of the sentences they produce, as if he thinks that results always resemble their causes, and thinks of the structures of languages as both the Index and the Icon of our minds. Since he denies the possibility of non-human languages but not that other animals have brains, he apparently means something in or additional to brains by 'mind.' In any case, his use of 'kernel' to mean the basic sentence-pattern of a grammar suggests that he assumes that from such simple seeds or kernels whole sentences and grammars grow ('in the mind') but other kernels than his NP + VP may provide more usefully productive and specific recipes for forming sentences (and longer pieces of speech or writing), and his NP + VP-based analyses of already-formed sentences may not describe whatever actually happens in the brain or mind as we form such sentences. We need to try a variety of grammars.

We can classify grammars by the sentence-patterns they use as kernels and by what they use these kernels for, as in this paradigm of a few of the many grammars possible (see next page). The numbers 1 - 24 identify some but not all of the grammars possible. Since we can arrange the SVO in five other orders (one of them the VSO shown here), the SVOQ in 23 other orders, the J, I, SVOQ in 719 others, since omission generates still more patterns, and since we may find other uses or activities for grammars, this diagram represents only one corner of a very large and complex set of possible grammars, a set whose boundaries we cannot yet determine. Each grammar has its characteristic scope, activity, and degree of intensionality or extensionality:

Grammar 1: Like Latin grammars, traditional English grammars concentrate on analyzing sentences, on taking them apart in order to name and classify their parts, but since their definitions of these parts (words, phrases, clauses) include ambiguities, so do their analyses, as C. C. Fries has shown.⁴

Grammars 4 and 6: Chomsky calls his 1957 and 1965 grammars 'generative', but he also uses them to analyze existing sentences (grammar 4). Like traditional grammar, their scope includes isolated single sentences; in other words, they tend to ignore the expansion of single sentences into whole pieces of speech or writing, and the verbal, social, and paralinguistic and kinesic contexts and causes and results of the isolated sentences they generate or analyze.

Grammars 7 and 9: Bruce L. Liles' transformational grammar adds a sentence-modifier such as an adverb or an interjection before Chomsky's NP + VP, thus producing a greater variety of

CHARACTERISTIC ACTIVITY

BASIC PATTERN
(kernel)

analysing sentences predicting which word comes next in sentences generating sentences

a sentence =

subject + predicate

NP + VP

sentence-modifier + (NP + VP)

1234

SVO

SVOQ

J,I,SVOQ

VSO

(etc.)

1	2	3	--	--	--
4	5	6	--	--	--
7	8	9	--	--	--
10	11	12	--	--	--
13	14	15	--	--	--
16	17	18	--	--	--
19	20	21	--	--	--
22	23	24	--	--	--
			--	--	--

sentences.⁵

Grammars 2, 5, 8, 11, etc. : Claude Shannon and Warren Weaver's information theory concentrates on predicting what word might come next in any pattern, but does not say which words or patterns to start with, nor which patterns produce grammatical English sentences.⁶

Grammars 10 and 12: C. C. Fries' code for the parts of speech and sentence-patterns suggests that he thought 1234 (noun + linking verb + adjective + adverb, as in 'Sue is sad now') the basic sentence-pattern of English: we may see it as a more specific variation of the X-is-Y, and thus see Fries' grammar as particularly intensional. Fries ignored questions of meaning, including the semantic consequences of such a choice of pattern, and used 1234 to classify words as this or that part of speech (grammar 10). He also ignored how we get from one sentence to the next, as when we expand a single sentence into a whole piece of writing, as did Paul Roberts, whose high school textbook Patterns of English shows students how to use various patterns, 1234 included, to generate sentences.⁷

Grammar 15: Fenollosa advocated SVO's as the basis from which to produce prose and poetry; he said the SVO's terser, more concrete sentences represent the world's actor-action-thing acted upon cause-result relationships more vividly, directly, and precisely than does the X-is-Y's merely verbal classifying, which, if true, makes 15 a particularly extensional grammar (and 18 and 21 even more precisely so).

Grammar 18: By adding adverbial qualifiers to Fenollosa's SVO, the SVOQ includes the dates Korzybski recommended, to produce sentences which tell us not only who? did what? to whom? (the SVO) but also when? where? how? why? We need to ask the first six of these questions to have information to report, and the last question, the why, to explain those reports. Permutations of the SVOQ define the degrees of grammaticality of sentences (the more scrambled or

interrupted the SVOQ, the fewer native speakers of English find the sentences grammatical, or even understandable), and word-blocks representing the S, V, O, and Q and the types of words which cluster with them make the distinctions between permutation, addition, and omission (rearranging, adding, or removing such parts of patterns as the S or V or O or Q: the three basic types of transformation) and clustering (rewriting one part of a pattern in a more complicated way) and substitution (of one word for another in any one part of a pattern) more clearly than Chomsky's grammars do. Also, by expanding upon and repeating SVOQ's in complex and compound ways with subordinate and coordinate conjunctions, we can expand single sentences into whole pieces of writing, and can do so extensionally and coherently by using the S, V, O, and Q to ask connected series of usefully specific questions.⁸

Grammar 21: I devised grammar 18, which I call 'transformational rhetoric,' to produce tersely informative written English; by adding interjections (such as yes, oh, ow) plus invocations to name the person to whom the speaker addresses the sentence to the SVOQ, we can produce such conversational sentences as 'Hey, John, I love Mary now!': J for interjection, I for Invo-
cation.

Grammar 22: James D. McCawley of the University of Chicago proposes a VSO-based grammar for analyzing the deep structures of English sentences. He sees this grammar as transformationally tidier and semantically more accurate than grammar 4, but my experiments with permutations of the SVOQ show that without an extra transformation back to the order SVO, speakers of English find verb-first rearrangements of sentences less grammatical and more confusing than any other orders.⁹

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Of the others, the possible grammars apparently not yet developed by anyone,

3, 6 and 9 would produce sentences, but 15, 18 and 21 seem more economically specific, generating a greater variety of grammatical sentences (and of useful questions and answers) with fewer operations;

13, 16, and 19 analyze sentences as variations or combinations of SVO, SVOQ and J, I, SVOQ, Analytic grammars (1, 4, 7, etc., down the lefthand column) tend to rewrite single sentences as many simpler sentences, as in Chomsky's search for a deep structure, the very simple pattern NP + VP, which he seems to hope to find in every sentence of every language, Generative grammars (such as 12, 15, 18) tend to assemble simpler parts and patterns into more complex patterns, including whole pieces of writing (and grammar 24 seems an exceptionally roundabout and cumbersome way to do so).

One of Korzybski's students, D. David Bourland, Jr., writes and advocates what he calls E-prime, English without the verb to be in any of its forms, and has begun a paper on its sentence patterns.¹⁰ A grammar of a part of English should prove at least a little simpler and shorter than a grammar of all the language (among other patterns, an E-prime grammar would exclude passive verbs, many complex verbs, and Fries' 1234 and its variations). A grammar can show us how to choose which patterns, and which words to put into those patterns, one word after another. Why bother? Think of the time needlessly wasted by people trying to write, or writing in confusing ways which mislead or puzzle others, and of the consequences of such misuses of language.

Some Recipes for Is-less Writing

The reliable uses of X-is-Y apparently include only

1) sentences about systems of signs that say one sign or combination of signs equals or means the same as or can replace another, as in '1+1=2' and in the rewrite rules of Chomskian grammars, where the arrow in 'NP → D + N' means the NP (noun phrase) can be written as a D plus an N (a determiner like the plus a noun like dog) but notice that an ambiguity here may

confuse us: we can in fact write or rewrite a noun phrase in many ways, but does the writer of the rule distinguish precisely between his limited set of rules as a never-total map of the language, and the much more complex language itself? Does he mean his arrow to mean (1) can be re-written only in this way, or (2) may be rewritten in this among many other ways?

2) negative statements defining the limitations of language, such as Korzybski's reminder that cow 1 is not cow 2, etc.;

3) statements about measurements, such as 'It's thirty below!' whose accuracy needs checking, changes in time and place, etc.;

4) other predictions, such as 'There's a cat in my desk,' where is means you will find, whose accuracy needs checking and changes in time, etc.;

But in all four cases, more specific active verbs such as equals, differs from, measures, find, can replace the ambiguous is, and we need them to distinguish between its four uses here. In arithmetic, for instance, $1 + 1 = 2$, but in fact, add two one-pound forces and the result may measure anything from zero to two pounds, depending upon the angles involved and possibly also other factors: statements about self-contained systems of signs (1) differ from statements of facts (3 or 4).

Linguists often list is as one of the ten most-used words, and the most-used verb, in English, but to say 'Grass is green' can blind us to the complex and changing cause-result relationships between the light, the air, the grass, and our eyes, which may make some grass seem what we but not everyone calls 'green' to some observers. To say 'I'm sad' may seem a report, but it judges sensations, we can say it without cause, and it may prove a deceptive or a destructive self-fulfilling prophecy: say it often enough, and you may make it true by a process of self-hypnosis.

Instead of the X-is-Y, we may use these patterns (and their various elaborations) as recipes not just for sentences, but for whole pieces of writing:

- 1) SVOQ (or J.I. SVOQ) to ask and answer the questions we need to make reports and inferences, and to produce such variations as 2, 3, 4 and 5;
- 2) balanced equation sentences, such as 'The more X, the more (or less) Y! to sum up how one function varies as another does, thus making some hyphenated term more specific: we can make the weight-speed-stopping distance clearer as well as more specific by saying 'The greater the weight or speed, the longer the stopping distance' (which a mathematical formula would make still more precise);¹¹
- 3) predictions link two or more SVOQ's in compound or complex ways to say 'do what, and what else might happen?'
- 4) recipes list a series of steps, operations to perform, all in the right order, as in 'To make ginger snaps, first do 1, then 2, then . . .,' using a series of subjectless VOQ commands until the last step completes the finished product. Like other predictions, recipes help us choose what we want to do, and we judge their usefulness and accuracy by whatever actually happens. Recipes also tell us precisely what to do to achieve a goal, and when and how, and thus whether we can. No other pattern so concentrates on both particular physical acts and their order, making both its references and its structure so directly extensional;
- 5) thesis-proof-conclusion arguments can make us look beyond words to facts by giving us one or more reasons after an 'SVOQ because' or one or more examples after an 'SVOQ, as we can see in . . . ': both the reasons and the examples invite us to check

their accuracy, and thus our willingness to believe the argument. The conclusion answers some version of the question 'so what?' and its answer also invites or needs extensional checking.

From such repetitions, variations, and questionings of SVOQ's we can start to write. To such is-less structures, we can add any or all of Korzybski's extensional devices. We can also replace any one-word S or O in them with more complexly informative clusters of words, including the pattern X-as-Y (or Z or...), which may encourage us to look at a subject in many different ways, as in these variations of the X-as-Y:

Considered as a politician, Hamlet...

As a son, Hamlet...

As a worried king's stepson, Hamlet...

does what to whom?

As a lover for Ophelia, Hamlet...

Used as an excuse for repressive actions, Hamlet...

As an example of manic-depressive behavior, Hamlet...

We may find many such combinations trivial because predictable, of course, in that they tell us little or nothing we didn't know already. But as Arthur Koestler has shown, unexpected combinations and connections produce discoveries, including jokes, poems, tragedies.¹² Changing from the dogmatically static and final X-is-Y to the tentative looking at an X as Y, as Z, etc., in many different ways, may help us escape the blind ruts of habit by finding such combinations or connections, letting us turn apparent failures into successes: what doesn't work as synthetic rubber might work as snuff or glue or a fuel for rockets... some 'mistakes' seem worth making, for what we can learn from them: when at first something doesn't work, try again in a different way or time or circumstances (the changes and differences which Korzybski's extensional devices help us notice).

Korzybski's map-territory metaphor, itself an example of the X-as-Y, suggests that we can map any territory in many different ways, and can analyze or produce samples of a language by many different grammars. Traditional grammars analyze sentences by naming the parts they isolate 'noun,' 'verb,' etc. Transformational grammars analyze sentences in terms of the changes needed to transform one sentence-pattern to another. But a generative is-less grammar can extend our awareness beyond words to the world, by giving us recipes which produce reports and explanations, and questions for finding facts and testing them, and X-as-Y's to suggest fresh approaches, thus helping us to explore the world before we judge it.

FOOTNOTES

1. Alfred Korzybski, Science and Sanity: An Introduction to Non-Aristotelian Systems and General Semantics, 1933, 4th ed. (Lakeville, Conn.: International Non-Aristotelian Library, 1958), xlvii-iii
2. C.S. Peirce, Philosophical Writings, ed. Justus Buchler (New York: Dover, 1955) 102-115
3. Ernest Fenollosa, 'The Chinese Written Character as a Medium for Poetry,' in Instigations, ed. Ezra Pound (New York: Boni and Liveright, 1920), 357-388; Noam Chomsky, Syntactic Structures (The Hague: Mouton, 1957) and Aspects of the Theory of Syntax (Cambridge, Mass.: M.I.T. Press, 1965); Robert Ian Scott, 'Two Ways to Determine the Most Useful Kernel for English,' Linguistics, 45 (1968), 67-75
4. C.C. Fries, The Structure of English (New York: Harcourt, Brace, 1952):
5. Bruce L. Liles, An Introductory Transformational Grammar (Englewood Cliffs, New Jersey: Prentice-Hall, 1971)
6. Claude Shannon and Warren Weaver, The Mathematical Theory of Communication (Urbana: University of Illinois Press, 1949)
7. Paul Roberts, Patterns of English (New York Harcourt, Brace, 1956)
8. Robert Ian Scott, The Writer's Self-Starter (Toronto: Collier-Macmillan, 1972) and 'Teaching Elementary English Grammar with Color-Coded Word-Blocks,' Elementary English, XLV, 7 (1968), 972-891; see also Wendell Johnson, 'You Can't Write Writing,' in The Use and Misuse of Language, ed. S. I. Hayakawa (Greenwich, Conn.: Fawcett, 1962), 101-111
9. James D. McCawley, 'English as a VSO Language,' Language, 46, 2 (part 1) (1970), 286-299; Robert Ian Scott, 'A Permutational Test of Grammaticality,' Lingua, 24, 1 (1969), 11-18; Andreas Koutsoudas, 'Gapping, Conjunction Reduction, and Coordinate Deletion,' Foundations of Language, 7, 3 (1971), 337-386
10. D. David Bourland, Jr., 'A Linguistic Note: Writing in E-Prime,' General Semantics Bulletin, 32-33 (1965-66), 111-114; 'The Semantics of a Non-Aristotelian Language,' General Semantics Bulletin, 35 (1968), 60-63; Anonymous, 'The Un-Isness of Is,' Time, Canadian ed., 23 May, 1969, p. 40. I want to thank Mr. Bourland also for his detailed comments March 5, 1973, on an earlier version of this paper.
11. Notice that we can omit any part of the SVOQ: the S in commands, the V in such 'balanced equations,' the O, the Q, but we understand these omissions in terms of the SVOQ as a whole set or field of relationships which have a topology of their own.
12. Arthur Koestler, The Act of Creation (London: Hutchinson, 1964)