EVALUATIVE ASSERTION ANALYSIS*

Evaluative assertion analysis is a type of content analysis. Its general purpose is to extract from a message the evaluations being made of significant concepts. The method involves a minimum dependence on the effects of the message on receivers or the existing attitudes of coders. It derives from the combined application of a congruity principle of attitude formation and change, currently being investigated at the Institute of Communications Research[1], and certain principles of linguistic analysis. It begins with a sample of "raw" messages as received from some source and ends up with an evaluative scaling of attitude objects as used in these messages.

In applying this method of content analysis certain assumptions are made: (1) *That attitude objects in messages can be distinguished from common meaning materials by reasonably sophisticated users of English.* Attitude objects are signs whose meaning or significance (particularly evaluative) depends upon and varies with the life history of the source or receiver, e.g., the evaluative significance of SOCIALISM clearly depends upon the past experiences, sociological, educational, and so forth, of the individual encoding or decoding it. Common-meanings are signs upon whose meaning or significance all users of the English language must agree if they are to be able to communicate with one another, e.g., all users of English must agree that *atrocity* is something bad, that *people of good will* is something favorable, and so on, if they are to communicate. (2) *That reasonably sophisticated users of English can make reliable and valid judgments as to when two alternative constructions are equivalent or non-equivalent in meaning.* For example, we assume that coders can judge whether or not (a) /COMMUNISTS/are denounced by/*people of good will*/and (b) /COMMUNISTS/are/ *aggressors*/together con-

1 Cf., Osgood, C. E., and Tannenbaum, P. H., The principle of congruity in the prediction of attitude change. *Psychol. Rev.*, 1955, *62*, 42-55.

* This research was supported in part by the United States Information Agency, under Contract SCC-21437.

stitute an adequate and sufficient translation of the evaluative significance of (c) "People of good will denounce these Communist aggressors." (3) *That reasonably sophisticated users of English can agree to a satisfactory degree on the direction and intensity of assertions.* We assume that coders will agree that /X/ *are denounced by* /Y/ is a negative or dissociative assertion of considerable intensity while /X/ *may have been* /Y/ is a positive or associative assertion of weak intensity. (4) *That reasonably sophisticated users of English can agree on the direction and degree of evaluativeness of common meaning terms.* We assume that our coders will agree that /X/ is/*a news item*/ has zero evaluativeness, that /X/ produces/*authentic reports*/is slightly positive in evaluation, that /X/ is/*a fabricator*/is quite negative in evaluation, that /X/ is accepted by/*millions of people of good will*/is extremely positive in evaluation, and so forth. These are all assumptions capable of empirical tests, some of which are included here.

Evaluative assertion analysis involves stages which can be done serially by a single coder or, preferably, serially by a set of coders each trained in a special operation. *Stage I* involves the identification and isolation of attitudinal objects within the messages being analyzed; arbitrary "nonsense" symbols are then substituted for the attitudinal objects and the material transcribed. *Stage II* involves the translation of this transcribed message material into an exhaustive set of evaluative assertions relating to attitudinal objects. In *Stage III* the assertions and common meaning evaluations are assigned directions and weights. Finally, in *Stage IV,* the assertions relating to each attitudinal object are collected and averaged in terms of common meaning evaluation; this operation allocates each attitudinal object to an evaluative scale. A further application of the congruity principle makes possible an internal check on the consistency of the entire analysis.

This report includes both a description of the logic and procedure, and a partial evaluation of the reliability and validity of the method. The coders used in this study were selected from a graduate course in English Structure and maintained a high degree of interest and carefulness throughout the session.[2] In view of the rigor of this method of evaluative content analysis and the high reliabilities shown, we feel that it should be further studied. Its face validity is also high, as will be seen from inspection of the final evaluation scal-

2 The authors wish to thank Mrs. Thelma Chalmers and Dr. Nathan Hakman for their help on this project. They also express their gratitute to the coders, Lillian Weaver, Myra Spicker, Doris Smith, Don Pennington, Joan Wallin, and Nancy Cloyd for their unstinting cooperation. A seventh coder, the first author (always indicated as #1), also contributed data on materials with which he was not familiar.

ings in relation to the original messages. Although it is somewhat laborious in its present form, it may serve as a criterion against which to evaluate various short-cut procedures. Where very precise message analysis is required (e.g., in preparing experimental materials), this method is probably superior to most others now available.

STAGE I: IDENTIFICATION AND ISOLATION OF ATTITUDE OBJECTS

The first stage in evaluation assertion analysis is to identify and mark all attitude objects, whether they appear directly as nouns or indirectly in pronoun form, and to isolate the attitude objects from whatever evaluative material may surround them. The following description applies mainly to the original procedures we worked out, and which we refer to below as the *Long Method.* In the course of working with this method, it was discovered that essentially the same results could be obtained with a much quicker short-cut, which we refer to below as the *Masking Technique.* As a matter of fact, the reliabilities obtained with the latter are higher than with the former. However, it must be pointed out that these coders had already been trained by the *Long Method,* which presumably sensitized them to the kinds of decisions to be made, and therefore it seems likely that coders should be trained to think about their work along the lines indicated by the *Long Method* even though they may later use the *Masking Technique* in practice.

A. *Identification of AO.*

Definition 1. *Attitude objects* (AO) *are signs whose evaluative meanings vary extremely with the person producing or receiving them.*

Definition 2. *Common-meanings* (cm) *are signs whose evaluative meanings vary minimally with the person producing or receiving them, e.g., signs upon whose evaluative meanings users of a common language have to agree in order to communicate.*

This distinction seems to be an easy one to make in practice. This is because most AO are what in conventional grammar are called *proper nouns,* i.e., names of places and persons and the like, and in the orthography are usually identified by the use of capitals. Users of English will disagree considerably in their evaluations of signs like THE BRANNON PLAN, NEW YORK CITY, INDOCHINESE,

BING CROSBY, SENATOR McCARTHY, and PRAVDA. It should be kept in mind that by "users of English" we refer to all real and potential users of this language, including Russian diplomats, Pandit Nehru, and English language broadcasters in foreign countries as well as members of American and English nations. Thus the fact that most contemporary Americans agree on the negative evaluation of COMMUNISM — and in a sense this term has practically become a negative common meaning term in this country — does not remove it from the AO class, because there are many real and potential users of English in other countries who disagree on this evaluation. On the other hand, all users of English must agree on the approximate evaluative meaning of signs like *noble, machinations, distortion, farce, fair-play, murderer, tasty, disturbing, leader, friendship,* and *selfish* in order to talk to each other. Thus, if a speaker were to say "X is *unfair*" with the intention that he was making a favorable remark about X, he obviously would not be understood. On the other hand, were he to say that "SOCIALISM is unfair," his listener might disagree with him but would nevertheless understand quite accurately how he felt about this attitude object.

Occasionally material that is being used as AO will not be capitalized, i.e., will not appear as a proper noun. The term "atomic weapons" may in some contexts be AO and in others *cm;* the term "college professors" may be AO in a column on the alleged radicals in our universities yet be non-evaluative *cm* in the statement "Robert Jones is a college professor," non-evaluative in the sense that the message itself does not evaluate Robert Jones in terms of this identification even though the receiver may. The sign "army" may be AO in a discussion of the hearings on McCarthy vs. the Army, yet be *cm* in a discussion of the number of soldiers of various classifications in the army. This means that at this first stage it is necessary for the coder to consider the context in identifying AO's.

All pronouns standing for AO's are also AO. In the following sequence, "Secretary Dulles today made a speech at Geneva. *He* praised the progress of NATO and claimed that *it* was a bulwark against...," for example, both *he* and later *it* are functioning as AO, and in the Long Method the coder must substitute the appropriate proper nouns, DULLES and NATO, in their place. Pronouns serving for AO's may appear as objects, relatives, possessives as well as subjects. Some pronouns and relatives may not refer simply to an AO, but to an entire phrase in which an AO is imbedded, for example, "The remarkable progress of NATO is encouraging. *This* has raised the

hopes of...," in which case the entire phrase must be substituted, e.g., "the remarkable progress of NATO" for "this." When using the Long Method, the coder in his first reading indicates all such points requiring substitution by insertion signs beneath the pronouns, relatives, and so on. Occasionally an insertion or substitution is indicated by the structure where no pronoun or relative is given. For example, after having talked about the "hopes of the people of Europe for peace" previously in the message, the following may occur: "However, all hopes are vain unless the Russians change their tune." Implicit in this statement is the insertion"... all hopes *(of the people of Europe for peace)* are vain," e.g.,"... all *(these)* hopes are vain." The most general rule of substitution is that anything that refers to something else in the message which includes an AO, either via a function word like *he, it, this, here, there,* and so forth, or via an implied function word as in the last example, must be indicated and substituted for in the Long Method. Finally, it should be noted that *cm* materials are occasionally substituted for AO's in messages. An example would be the following: After referring to ANTHONY EDEN (AO) in an early paragraph, the message continues "... as hinted at by *the diplomat"* or *"The foreign representative said..."* In these cases also, the implied AO should be substituted.

The following general suggestions for coding have proven useful. (1) All proper nouns (capitalized) are AO. (2) AO's are most often nouns (the subjects or objects of sentences), and when occurring as other parts of speech are usually derived from nouns (e.g., adjectival forms such as "AMERICAN aggressors," "KOREAN newspaper," "BIBLICAL saying"). (3) AO's are not evaluative in themselves, but only in terms of the existing attitudes of the producers or receivers of the message; *cm* may be evaluative in themselves (e.g., *villain* means something bad in the language itself, but THE KREMLIN is only bad to certain users of the language). (4) In doubtful cases, where capitalization is not used, the trial insertion of capitals will not change the message if the item is AO.

B. *Isolation of AO.*[3]

The structure of most English sentences is such that an appropriate set of pronouns and relatives can be substituted for everything but verbs and certain function words. In other words, all meaningful content but "action" content can be replaced. The following materials illustrate:

[3] Although this applies chiefly to the Long Method, training and practice at this is useful for later assertion analysis in Stage II.

(HE) began shouting that
(1) (The unruly prisoner in the dock) began shouting that
(THEY)
(his rights)
were being stolen by (THEM)
were being stolen by (a bunch of crooked lawyers.)

(IT) was condensed to make room for
(2) (Much of the material in the record) was condensed to make room for

(THAT) which has become available since
(the vast amount of new information) which has become available since

(IT) was obtained from (THERE)
(the book) was obtained from (Germany.)

In practice here, we shall only put brackets about the parts of sentences thus isolated if they include an AO. The general procedure is to look for the verbs bounding each AO previously identified and bracket the message segment in which it appears; this segment of material should be replaceable wtih some pronoun or relative while retaining the original sentence structure.

The material within each bracket, then, constitutes a phrase in which a particular AO is located. Since most AO's are nouns, they will often be the heads of noun phrases, the remainder of the material in the bracket being adjectives or subordinate clauses. Where subordinate clauses modifying an AO include a verb, it is simpler analytically to treat the whole as a single bracket, e.g., "(The KOREANS who are good) have made..." rather than "(The KOREANS) (WHO) are (good) have made..." Other illustrations of noun phrases would be "(The resigned KOREANS)," "(The KOREANS from the south)," "(The governments of EASTERN EUROPE)," and so forth. The AO may also be in the form of an adjective, "(A KOREAN newspaper)" or a possessive, "(PRAVDA'S reply)." The extended (bracketed) AO can never include the main verb of a sentence, but occasionally may include a dependent verb.

Having bracketed each extended AO phrase by following this pronominal substitution rule between major verbs, the next step is

to isolate the actual AO from all evaluative content within its bracket. The AO as finally isolated should not include any common-meaning material having an evaluative function; it does include common-meaning material that has an *identifying or classifying function.* Common-meaning material that is neither evaluative nor identifying is *not* included in AO. In general, we change into arbitrary symbols (AZ, BY, CX, etc.) all those proper nouns, or substitutes for proper nouns, which denotatively specify the name or label for a person, place or thing. The underlying purpose is to mask the "true" attitudinal content of the message so that the coders working on subsequent stages will avoid bias due to their own personal attitudes. Each AO as roughly identified in the preceding step must be formed into trial assertions with its bracketed common-meaning material and tested for evaluativeness or identification. The following are some simple examples, the final AO's being indicated by capitals:

(1) (The Koreans who are good) becomes (The KOREANS who are good)
because /(some) Koreans/are/*good*/ is evaluative.

(2) (The Koreans from the south) becomes (SOUTHERN KOREANS)
because /(some) Koreans/are/from the south/ serves to identify but not to evaluate.

(3) (The governments of Eastern Europe) becomes (EASTERN EUROPEAN GOVERNMENTS)
because/Eastern Europe/has/governments/ is non-evaluative.

(4) (by the American aggressors) becomes (by the AMERICAN aggressors)
because /America/has/*aggressors*/ is clearly evaluative.

(5) (by the American delegates) becomes (by the AMERICAN DELEGATES)
because /America/has/delegates/ is not evaluative but classificatory.

In other words, we include as part of the AO those *cm* within the brackets which serve to further specify the AO without evaluating it; we exclude from AO those *cm* which serve to evaluate it. Those *cm* which serve neither function are also excluded.

Evaluative terms often appear as parts of titles — of organizations, nations, institutions, and the like — or as parts of what are

phrased as if they were titles. The general rule here is this: if the evaluative term is part of a standard formal title which is used commonly by both those favorable to and those against this institution, then it is part of the AO; if the evaluative term (a) is used only by those for *or* against the institution, but not by others, or (b) is a coinage (novel and original combination) by the source, it is treated as evaluative *cm.* Observe the following examples:

(1) The *United* States of America = /the STATES OF AMERICA/are/united/
(but this is a standard title used by friends and foes).

(2) The Korean *People's* Army = /the KOREAN ARMY/is/a *people's* army/
(this is not used by most American speakers).

(3) Women's *Christian Temperance* Union = /WOMEN'S UNION/is/a *temperance* union/ and /WOMEN'S UNION /is/*Christian*/.
(but both Wet's and Dry's use the same term and it has a standard abbreviation, WCTU).

(4) Fifth-Amendment Communists = /(users of the) FIFTH AMENDMENT/are/COMMUNISTS/
(but this title is not used by all speakers of English).

We would conclude that cases (1) and (3) are to be included as single AO's whereas cases (2) and (4) are to be analyzed as evaluative assertions.

Occasionally two or more potential AO's will appear in the same bracket, e.g., (AMERICAN delegates to the UN) or (AMERICAN fighters against COMMUNISM) or (AMERICAN supporters of the UN). The same general rule applies here: If one AO serves to further specify, identify and delimit the reference of another within the same bracket, both are treated as a single AO. In the first example above it is clear that AMERICAN DELEGATES as a class is further delimited by TO THE UN and UN is resticted in meaning by AMERICAN DELEGATES TO; therefore AMERICAN DELEGATES TO THE UN is treated as a single AO. On the other hand, if one AO serves to evaluate another within the same bracket via an implied assertion, they must be treated as separate AO's. In the other two examples above we can generate the following assertions: /(some) AMERICANS/fight against/COMMUNISM/ and /(some) AMERICANS/support/the UN/, both of which are evaluative in the sense

that one's evaluation of AMERICANS influences his evaluations of both COMMUNISM and UN, and vice versa.

When two AO's in the same bracket are connected by *and,* each is treated as a single AO. (The English and the French) remains (the ENGLISH and the FRENCH); (The English and the French Heads of State) becomes (the ENGLISH HEAD OF STATE and the FRENCH HEAD OF STATE).

C. *The Masking Technique.*

Once the coder has been trained in and has practiced the procedures above, he will find it easier and actually more reliable in practice to follow a simple Masking Technique in place of Stage I as described above. The general purpose as before is to substitute arbitrary and hence meaningless symbols for everything in the message which would elicit specific attitudinal reactions from a subsequent reader, e.g., we mask everything which would give a subsequent reader information as to WHO, WHAT, and WHERE. In this method it is usually not necessary to include non-evaluative *cm* in the AO, e.g., "American delegates to the United Nations" becomes "AZ delegates to BY." There is, of course, the problem of categories here as in the Long Method — how many variants should be included as the same AO and hence given the same symbol? Should THE UNITED STATES, THE AMERICAN PEOPLE and THE U. S. GOVERNMENT be given the same symbol? The answer we suggest here is an empirical one — each variant of the same general category can be given an identifying subscript, e. g., BY_1, BY_2, and BY_3 for the three variants of American reference above, and either combined or kept separate in the final scaling (Stage IV) depending upon whether their evaluative positions are clearly the same or different. In some materials one finds a definite difference in evaluation of THE AMERICAN PEOPLE as compared with THE U. S. GOVERNMENT.

D. *Sample Message Carried Through Stage I*

(1) *Long Method.*

AZ (BY)

In [the DAILY TELEGRAPH (Conservative),] however, the

CX DW

leading article discusses the problem facing (France, Britain, and

EV FU
the United States) over (the proposed European Defense Community.)
AZ
(Daily Telegraph) GT CX
(The newspaper)says that when(Mr. Dulles)warned (the French)against
GT
FU (Dulles)
rejecting(the E.D.C.,)he expressed himself with undiplomatic blunt-
GT's GT's
(Dulles' words) (Dulles' words)
ness. But(his words)did not provoke a crisis;(they)merely expressed a
crisis which already exists. There is very real danger,(the DAILY
AZ EV
TELEGRAPH) states, that if(the E.D.C.)does not materialize,
EV HS
(the United States)will abandon (continental Europe)as indefensible.
HS
(abandonment of continental Europe)
It is irrelevant to argue that(such a step) would be a mistake; it is
EV
often forgotten that(the United States)has a public opinion as fallible
EV CX
as anyone else's. (The Americans,)however, cannot push(France) from
DW
behind; and neither can(Britain,)who has steadily refused to wet
DW's DW
(Britain's feet) (Britain) CX
(her feet) in the very river into which(she)expects(the French) to
AZ
plunge. There remains but a single alternative, (the DAILY TELE-

GRAPH)concludes; that(the British)should assume(the European Leadership)which(the French)reject.

(2) *Masking Technique* (same message as above in final transcribed form).

In AZ (BY), however, the leading article discusses the problem facing CX, DW, and EV over the proposed FU. AZ says that when GT warned CX against rejecting FU, he expressed himself with undiplomatic bluntness. But his words did not provoke a crisis; they merely expressed a crisis which already exists. There is a very real danger, AZ states, that if FU does not materialize, EV will abandon HS as indefensible. It is irrelevant to argue that such a step would be a mistake; it is often forgotten that EV has a public opinion as fallible as anyone else's. EV, however, cannot push CX from behind; and neither can DW, who has steadily refused to wet her feet in the very river into which she expects CX to plunge. There remains but a single alternative, AZ concludes; that DW should assume the HS leadership which CX reject.

E. *Reliability Check on Stage I*

After training and practice, all coders were run through a reliability check on Stage I. The coders first used the *Long Method,* with which they finished only about half the material given[4] in a two hour period, and then used the *Masking Technique,* with which they finished all the material in less than a two hour period. This means that only the last half of the materials was done "fresh" by the *Masking Tecnique;* however, no consistent differences between the two halves of the material were evident in the results.

A simple *percentage of agreement* index was employed to determine the consistency between each pair of coders:

$$\frac{2\,(AO_{1,2})}{AO_1 + AO_2}$$

in which AO_1 is the total number of AO's isolated by coder 1 (each AO counting as many times as it appeared), AO_2 is the total number

[4] For the most part, the materials used in this study were excerpts from Voice of America, British Broadcasting Corporation and Radio Moscow broadcasts.

of AO's isolated by coder 2, and $AO_{1,2}$ is the total number of AO's isolated by both, this last value being multiplied by two to yield a percentage value. If in a particular sample, coder 1 isolated 22 AO's and coder 2 isolated 28 (for example, due to more detailed substitution for pronouns in the latter case), and if they *agreed* (see below) on 16 of their identifications, then we should have:

$$\frac{2\,(16)}{22 + 28} = 64\%$$

as the percentage of agreement. It can be seen that 100% agreement can only occur when both coders isolate the same total number of AO's and agree perfectly in their identifications, e.g.,

$$\frac{2\,(28)}{28 + 28} = 100\%$$

In other words, we treat the fact that one coder notes more AO's than another as cases of disagreement and hence unreliability.

Rather stringent criteria for agreement were employed for both the Long Method and the Masking Technique. (1) Exactly the same words must be included as AO, the only exceptions being the inclusion or exclusion of articles *(the, an,* and the like). Thus, if one coder included all three words of EUROPEAN ARMY TREATY and another included only EUROPEAN ARMY, it was counted as a difference. However, differences of this kind only counted once (e.g., if these two coders consistently differed in this respect, it only counted as a disagreement on the first occurrence). (2) If symbol substitution for a pronoun was made by one coder but not by another, it counted as a disagreement. (3) If some material was considered AO by one coder but not by another, it counted as disagreement. In both (2) and (3) these discrepancies counted as disagreements each time they ocurred. (4) If coders differed in their choice of symbols, e.g., whether the same or different symbols should be used for variants in wording, this was counted as a disagreement the first time it occurred in a given message, e.g., CONTINENTAL EUROPE and later EUROPEAN being called the same symbol by one coder and being given two different symbols by another.

Table 1 gives the average percentages of agreement between each coder and every other coder, the results for the Long Method appearing in the upper right and the results for the Masking Technique in

the lower left. There is no question but what the Masking Technique (perhaps after training on the full method) yields higher agreements —in no case was the Long Method superior or equal to the Masking Technique.

Table 1

Per cent agreement on Stage 1

(Long method upper right; masking technique lower left)

Coder	1	2	3	4	5	6	7
1		70	77	75	74	76	80
2	79		72	72	73	67	66
3	85	82		71	68	71	69
4	84	79	86		66	78	69
5	81	77	81	77		66	64
6	87	81	87	88	79		72
7	87	81	86	87	79	86	

(Long method: Average of 9 messages, Masking technique: Average of 18 messages)

STAGE II. TRANSLATION OF MESSAGE INTO ASSERTION FORM

The transcription of the message into a form in which all AO's appear as arbitrary nonsense symbols guarantees that the coder operating at the second stage will depend upon the common-meaning content of the message itself and not upon "outside" information as to how these particular AO "really" are evaluated. In other words, this guarantees some degree of objectivity of the method. The purpose of Stage II is to transform the message into a set of evaluative assertions which are equivalent in meaning to those included in the actual message but restructured into a common form. Depending on the pur-

pose of the content analysis, the coder may either (a) extract exhaustively all evaluations relating to all AO's in the message or (b) may extract only those evaluations which relate to a limited set of AO's, as selected for some specific purpose.

A. *Identification of Evaluative Common-meaning.*

A number of factor analyses of meaningful judgments, by Osgood and others,[5] have provided evidence for a pervasive evaluative factor in human thinking. This has always, been the first factor to appear in such studies and has always had the heaviest loadings. As might be expected, it's defined best by the polar terms, *good* and *bad.* Other pairs of polar terms which have high loadings on this factor are: *pleasant-unpleasant, beautiful-ugly, tasty-distasteful, sweet-sour, fragrant-foul, nice-awful, fair-unfair, valuable-worthless, honest-hishonest, kind-cruel, clean-dirty, high-low, white-black, sacred-profane,* and so forth. These are all closely parallel to *good-bad* and highly evaluative adjectives. Many other adjectives, however, will have some degree of evaluative meaning, for example: *interesting-uninteresting, brave-cowardly, strong-weak, active-passive, smooth-rough, warm-cool, peaceful-ferocious, easy-difficult, open-closed, relaxed-tense,* and so on. It is relatively easy in these cases to decide which one of each pair of terms is closer to *good.* Of course, parts of speech other than adjectives may have evaluative loading. In the noun class, for example, would be *love-hate, friend-enemy, peace-war, courage-fear, patriot - traitor,* and many which do not as readily form polar opposites. Most adjectives like those given above may occur in nominal form (e.g., *goodness-evil, kindness-cruelty,* and son on). Similarly, adverbs may be derived from adjectives *(fair - ly, honest - ly, lethal - ly)* and may have evaluative loading. Verbs, since they generally occur as connectors in assertions, must be given special treatment, as will be indicated below — they may also include evaluative information (e.g., /X/ *lied about* /Y/ also says that /X/is/*a liar*/).

Definition 3. *A common-meaning element in a message is evaluative when it is clearly closer in meaning to one pole of the evaluative dimension than the other.*

In most cases this judgment can be easily made. "Peace" is clearly toward the GOOD direction, "having ideals" is clearly toward the GOOD direction, "having ideals" is clearly toward the GOOD direc-

5 Osgood, C. E., and Suci, G. J. Factor analysis of meaning. *J. exp. Psychol.,* 1955 (in press).

tion, "squalid" is clearly toward the BAD direction, as is "liar", and so on.

In cases of doubt as to evaluativeness of a *cm* element, the following test is often helpful in arriving at a decision: Substitute in succession two definitely evaluative and opposed AO's for the one involved in the present message; if the *cm* element seems appropriate for one polar AO but not for the other, it is probably evaluative. Take the assertion /YM/have/*a government*/; substituting alternatively HEROES and VILLAINS for example, it can be seen that both make acceptable, appropriate statements regardless of one's point of view, and therefore this *cm* is not evaluative. On the other hand, take the assertion /YM/are/*moderate in their demands*/; since it seems more appropriate for HEROES rather than VILLAINS to be "moderate," this *cm* is to some extent evaluative.

Special problem: "good-bad" vs. "fortunate-unfortunate." There are certain *cm* which are evaluative in themselves but which do *not* evaluate the associated AO in any moral sense. Rather, they evaluate the AO on some dimension other than moral, such as *fortunate* to *unfortunate*. Although it is true that "happy" is a nice word in itself and "sad" is an unpleasant word in itself, to say that /AO/was/happy/ or that /AO/was/sad/ does not evaluate the AO. Our basic test above makes this clear: we can say with equal appropriateness /THE SAINT/was/ happy (or sad)/ and /THE SINNER/was/happy (or sad)/. The same holds for words like "young" and "old," and "poor," "healthy" and "unhealthy." /THE SAINT/was/ old / and / THE SINNER/was/old/make equally feasible statements and we might expect to hear one as readily as the other. Note that there *are* connotative terms for "old" — to say that /THE SAINT/was/*senile*/ is not quite as fitting as to say /THE SINNER/was/*senile*/; to say that /THE SAINT/was/*venerable*/, however, is somewhat more congruent than to say that /THE SINNER/was/*venerable*/. In many such cases we are dealing with *cm* which describe states of mind or existence of individuals which, although they may be either fortunate or unfortunate, are states to which all people are liable. All people, good or bad in the moral sense, may be "healthy" or "sick," "alive" or "dead", and "angry", "happy", or determined — but not perhaps *fearful, calm,* or *vituperative*. Application of the test above will usually indicate a tendency toward *good* or *bad* if it is present in noticeable amounts.

B. *Translation into Assertions.*

(1) *General remarks.* In order to compare and cumulate the eval-

uative assertions relating to various AO's, it is necessary to cast them into a common linguistic form. It is also convenient in analysis to have all AO appear in a constant location in structure, all *cm* in another location, and so on. The linguistic form selected here is probably the most common in English, the ACTOR-ACTION-COMPLEMENT form. The actor is usually a noun (AO), the action is a verb or a verb phrase, and the complement may be another noun (either AO or *cm)* or an adjective (AO or *cm).*

Definition 4. *An assertion is a linguistic construction in which an actor is associated with or dissociated from a complement via a verbal connector* (c).

Thus all assertions will have the form /X/c/Y/ (e.g., /The boy/kisses /the girl/or/The boy/is/strong/). Letting the attitude object being analyzed be indicated by AO_1, other attitude objects by AO_2, evaluative common-meaning content by *cm (underlined),* non-evaluative common-meaning content by cm, and the verbal connector by c, the following classes of assertions are possible:

(a) /AO_1 / c / *cm* /; example, / THE GENEVA CONFERENCE / is / *a failure* /

(b) /AO_1 / c / AO_2 /; example, / CAESAR / did not love / BRUTUS /

(c) /AO_1 / c / cm /; example, / BOSTONIANS / like / baked beans /

(d) /cm_1 / c / cm_2 /; example, / Humility / is / a fine trait

Classes (a) and (b) are counted in evaluative assertion analysis; classes (c) and (d) are excluded. In other words, in this kind of content analysis; classes (c) and (d) are excluded. In other words, in this kind of content analysis we are only interested in assertions involving both objects of attitude *and* some sort of evaluation.

The coder working on this stage uses an *Assertion Chart.* As shown in the sample on pp. 33-34, the Assertion Chart contains four main columns:

(1) SOURCE	(2) AO_1	(3) connector	(3c)	(4) *cm* or AO_2	(4c)

The SOURCE is usually that from which the message is received (e. g., VOICE OF AMERICA, RADIO MOSCOW, BBC, a speech by

DULLES, The NEW YORK TIMES, etc.) and is simply indicated by "S" in column (1). If a secondary source is indicated within the message, it is indicated in the first column by its particular symbol. If, for example, a direct quotation or indirect paraphrase appears in the primary message — e.g., "... a peace conference. GV stated that GV would not oppose any attempts at peaceful settlement of the issue with MJ. MJ, however, has never wanted to cooperate, GV added..." — the secondary source must be indicated in the first column for assertions drawn from such material (GV in this example). All attitude objects about which assertions are made must appear in column (2). Whenever an assertion of class (b) occurs, e.g., in which AO_1 is related to AO_2, it must be immediately followed by another assertion in which what was AO_2 becomes AO_1 and the connector is indicated by a reciprocal sign, $\rightleftharpoons$, e.g.,

S	XY	have been at odds with		PF
S	PF	$\rightleftharpoons$		XY
MP (says)	XY	are helping		TS
MP (says)	TS	$\rightleftharpoons$		XY

The reciprocal sign simply saves the coder the effort required to reverse the connector, where active becomes passive and vice versa (e.g., from "are helping" to "are being helped by"). Column (3) contains the verbal connector. This should be as close a possible to the words used in the message; in certain cases, as described below, it is necessary for the coder to construct a suitable connector or modify an existing one. When the assertion relates two AO, the relevant content should be included in the connector, leaving the two AO isolated; material directly tied to the AO's should be indicated in parentheses, e.g.,

S	(some) XY	are trying to make a deal with		TS	

Column (4) includes either evaluative *cm* or other AO's. The *cm* in column (4) should also be as close to the wording in the message as possible. There is often a question as to what to include under *connector* (column 3) and what under *complement* (column 4); in practice, this decision does not seem to affect the final results. Take the following example: "AO has a record of persecuting subversives." This may be analyzed as /AO/has/*a record of persecuting subversives*/, in which case the connector is + and the *cm* is also +; or it may be translated as/AO/has a record of persecuting/*subversives*/, in which case the connector is - and the *cm* is also -. In either case, as

will be seen, the evaluation of AO comes out the same. Columns (3c) and (4c) are for coding and will be discussed later.

(2) *Assertions within brackets.* Although the coder working on Stage II does not have to indicate brackets about AO's on his copy of the message, it is usually convenient for him to extract the "within bracket" assertions relating to a given AO before extracting assertions which go outside of its bracket. For this reason, he should also be familiar with the rules governing bracketing (see 7-10). Since the only verbs within brackets occur in subordinate phrases, usually modifying nouns, most assertions formed within brackets require the insertion of a verbal connector. The basic rule is that the assertion which translates some portion of the message should not change its meaning. The following outline covers most of the "within bracket" constructions to be found in English.

I. *AO is a noun*

a. *cm* evaluation by an adjective

FORMULA: *adj.* plus AO = / AO / verb "to be" / *adj./*
EXAMPLE: the *crafty* AO = / AO / is / *crafty/*

b. *cm* evaluation by several adjectives

FORMULA: adj_1 plus adj_2 plus AO = / AO / verb "to be" / adj_1 /
and
/ AO / verb "to be" / adj_2 /

EXAMPLE: the *good-looking, intelligent* AO = AO / is / *good-looking* /
/ AO / is / *intelligent* /

c. *cm* evaluation is one of two or more adjectives

FORMULA: adj_1 plus adj_2 plus AO = / (adj_2) AO / verb "to be" / adj_1 /
or
adj_1 plus adj_2 plus AO = / (adj_1) AO / verb "to be" / adj_2 /

EXAMPLES: the *brave,* young AO = / (young) AO / are / *brave* /
the big, *evil* AO = / (big) AO / is / *evil* /

NOTE: In the constructions under b and c above, the adjectives are usually coordinated, e.g., the order of the adjectives can be shifted — ("the good-looking, intelligent boy" equals "the intelligent, good-

looking boy"). There are some cases where this cannot be done, but they will usually be cases where one adjective, that nearest the noun, is included in the AO, e.g., "the patient Yellow race" does not equal "the Yellow patient race" but in this case we would actually have "the patient AO," because "Yellow race" is the AO.

d. *cm* evaluation is another noun (usually connected by "of," "in," etc.)

FORMULA: *Noun* (of, in, etc.) AO = / AO / verb "to have" /noun /

EXAMPLES: the *fine traditions* of AO = / AO / has / *fine traditions* /;/ *freedom* in the AO = / AO / have / *freedom* /

e. *cm* evaluation is a noun and AO is a noun in the possessive case

FORMULA: AO's *noun* = / AO / verb "to have" / *noun* /

EXAMPLE: AO's *tendency to lie* = / AO / has / *a tendency to lie* /

NOTE: Sometimes other connectors may be more appropriate to the context: EXAMPLE: AO's **unfair tactics** = / AO / uses / unfair **tactics** /.

f. *cm* evaluation is an adj clause

i. AO modified by adj clause (which can be translated into an evaluative adjective)

FORMULA: AO plus *adj clause* = *adj* plus AO = / AO / verb "to be" / *adj* /

EXAMPLE: the AO who (which, that) are *honest* = the *honest* AO = / AO / are / *honest* /

ii. Non-evaluative adjective, AO, adj clause (translatable to evaluative adjective)

FORMULA: adj_1 plus AO plus adj_2 *clause* = adj_2 plus adj_1 plus AO = / (adj_1) AO / verb "to be" / adj_2 /

EXAMPLE: the mountain AO who are *very brave* = the *brave,* mountain AO = / (mountain) AO / are / *very brave* /

iii. Evaluative adjective, AO, adj clause (translatable into evaluative adjective)

FORMULA: adj_1 plus AO plus adj_2 *clause* = adj_1 plus adj_2 plus AO = / AO / verb "to be" / adj_1 (and) / AO / verb "to be" / adj_2 /

EXAMPLE: the *brave* AO who are *very honest* = the *very honest, brave* AO = / AO / are / *very honest* / (and) / AO / are / *brave* /

NOTE: non-evaluative cm appearing in adj clauses do not need to be made into assertions, e.g., the **brave** AO who live in the mountains = / (mountain) AO / are / **brave** /.

II. *AO is an Adjective*

a. *cm* evaluation is a noun

i. AO modifies a noun

FORMULA: AO plus *noun* = / AO / verb "to be" / *noun* /

EXAMPLE: the AO *aggressors* = / AO / are / *aggressors* /

ii. AO modifies a noun phrase

FORMULA: AO plus *noun phrase* = / AO / verb "to have" *noun phrase* /

EXAMPLE: the AO *tendency to tell the truth* = AO / have / *a tendency to tell the truth* /

NOTE: it is often more feasible to convert the noun in such noun phrases into the connector: EXAMPLE: the AO **supporters of the truth** = / AO / are / **supporters of the truth** / / AO / support / **the truth** /

b. *cm* evaluation is another adjective

i. Usual case

FORMULA: *adj* plus AO plus noun = / AO (noun) / verb "to be" / *adj* /

EXAMPLE: *magnificent* AO books = / AO (books) / are / *magnificent* /

ii. Rarer case

FORMULA: AO plus *adj* plus noun = / AO / verb "to be" or "have" / *adj* (noun) /

EXAMPLE: the AO *loyal* government = / AO / have / a *loyal government* /

NOTE: this construction is mainly used to emphasize contrast; in the example above one would expect to find elsewhere in the message "the AO **rebel** government." In many cases that appear to fit this form the apparently evaluative adjective is actually part of a standard title, and the whole phrase is an AO, e.g., the Versailles **Peace** Conference. See discussion under identification and isolation of AO's (pp. 3-11) and discussion of contrastive evaluative adjectives (pp. 30-31).

(3) *Assertions between brackets.* Assertions formed beyond the

confines of a single bracket usually utilize the verbs as they appear in the message. Many outside-bracket assertions will be between AO's. Since the within-bracket assertions have already been extracted, only the AO itself, and identifying material, needs to be specified in forming outside-bracket assertions — e.g., common-meaning material within brackets does not need to be repeated.

Many of the rules covering within-bracket analysis also apply here. (i) Only assertions of types *a* and *b* are extracted. (ii) Assertions of type *b*, / AO_1 / connector / AO_2 /, must be immediately repeated with the AO's reversed and a reciprocal sign (⇌) shown in the connector column. (iii) In general, the AO_1 (column 2 in assertion chart) and the complement (column 4) of assertions should be kept as simple as possible, relegating as much material as possible to the connector; this is particularly true when assertions between AO's (type *b*) are being constructed.

I. *Simple Between Bracket Assertions*

(a) Where the complement is *cm* (active constructions)

FORMULA: AO plus verb plus *cm* = / AO / verb / *cm* /

EXAMPLE: AO hates *plotters*^{a} = / AO / hates / *plotters*^{a} /

or

FORMULA: *cm* plus verb plus AO = / AO / verb / *cm* /

EXAMPLE: *decent people*^{a} praise AO = / AO / is praised^{p} by / *decent people* /

(b) Where the complement is *cm* (passive constructions)

FORMULA: AO plus verb plus *cm* = / AO / verb / *cm*)

EXAMPLE: AO is denounced^{p} by *everyone* = / AO / is denounced^{p} by / *everyone* /

FORMULA: *cm* plus verb plus AO = / AO / verb / *cm* /

EXAMPLE: *decent people* are persecuted^{p} by AO = / AO / persecutes^{a} / *decent people* /

NOTE: all of the translation formulae above have a single purpose — to have all AO appear in column 2 of the assertion chart — and the underlying rule is that the meaning should remain the same.

(c) When the complement is another AO (same formula for all types of verbs)

FORMULA: AO_1 plus verb plus AO_2 = / AO_1 / verb / AO_2 / / AO_2 / ⇌ / AO_1 /

EXAMPLE: John loves Mary = / AO_1 / loves / AO_2 /
/ AO_2 / $\rightleftharpoons$ / AO_1 /

NOTE: the last would read "Mary is loved by John," not "Mary loves John."

II. *Complex Between Bracket Assertions*

(a) Complex subject, simple *cm* complement

FORMULA: (cm_1AO) plus verb plus cm_2 =
(1) / AO / verb "to be" / cm_1 /
(2) / AO / verb / cm_2 /

EXAMPLE: self-seeking AO support reactionary candidates =
(1) / AO / are / *self-seeking* /
(2) / AO / support / *reactionary candidates* /

(b) Simple subject, complex complement

FORMULA: AO_1 plus verb plus ($cmAO_2$) =
(1) / AO_2 / verb "to be" / *cm* /
(2) / AO_1 / verb / AO_2 /
(3) / AO_2 / $\rightleftharpoons$ / AO_1 /

EXAMPLE: AO_1 has denounced the unfair AO_2 =
(1) / AO_2 / are / *unfair* /
(2) / AO_1 / has denounced / AO_2 /
(3) / AO_2 / $\rightleftharpoons$ / AO_1 /

(c) Complex subject, complex complement

FORMULA: (cm_1AO_1) plus verb plus (cm_2AO_2) =
(1) / AO_1 / verb "to be" / cm_1 /
(2) / AO_2 / verb "to be" / cm_1 /
(3) / AO_1 / verb / AO_2 /
(4) / AO_2 / verb / AO_1 /

EXAMPLE: Joyful AO_1 join hands with AO_2 who are sincere in their hearts =
(1) / AO_1 / are / *joyful* /
(2) / AO_2 / are / *sincere in their hearts* /
(3) / AO_1 / join hands with / AO_2 /
(4) / AO_2 / $\rightleftharpoons$ / AO_1 /

(d) Constructions involving coordinators (and, but, or, etc.)
i. Between cm_1 and cm_2

FORMULA: AO plus verb plus cm_1 (and, etc.) cm_2 =
(1) / AO / verb / cm_1 /
(2) / AO / verb / cm_2 /

EXAMPLE: The AO denounce dishonesty and blackmail in government =
(1) / AO /denounce/*dishonesty in government*/
(2) / AO /denounce/*blackmail in government*/

EXAMPLE: The AO condone minor squabbles but not civil war =
(1) / AO / condone / *minor squabbles* /
(2) / AO / do not condone / *civil war* /

ii. Between AO_2 and AO_3

FORMULA: AO_1 plus verb plus AO_2 (and, etc.) AO_3 =
(1) / AO_1 / verb / AO_2 /
(2) / AO_1 / verb / AO_3 /

NOTE: and similarly for AO_1 (and, etc.) AO_2 plus verb plus AO_3.

EXAMPLE: AO_1 voted for both AO_2 and AO_3 =
(1) / AO_1 / voted for / AO_2 /
(2) / AO_2 / ⇌ / AO_1 /
(3) / AO_1 / ⇌ / AO_3 /
(4) / AO_3 / voted for / AO_1 /

III. *Special Cases*

(a) *The connector is in itself evaluative.* The statement "XQ is opposed to FG" merely dissociates the two, but the statement "XQ murdered FG" does more than dissociate the two — it also gives a negative evaluation to XQ. To determine whether a connector is itself evaluative, the same basic test suggested above (pp. 17-18) may be used, e.g., substitution of two polar AO. Note that the statement "Gangster murders policeman" is congruous, but the statement "Policeman murders gangster" is unlikely to occur. Instead, some less evaluative synonym is usually substituted, e.g., something like "The policeman fatally shot the gangster." This indicates that "murders" is more than just a dissociator. Therefore, the statement, "XQ murders FG" must be translated into:

/ XQ / murders / FG /
/ FG / ⇌ / XQ /
(and) / XQ / is / *a murderer* /

The same treatment is required by connectors to *cm*, and the criterion is the same. Compare the two statements: "LM disregards the facts" and "LM distorts the facts." In the first case, both favorable and unfavorable AO can (with different objects) be subject of the verb "disregard" (e.g., The policeman disregards the danger.) However, only

unfavorable AO can be subject of the verb "distort." The latter word is therefore evaluative and an additional statement, / LM is / *a distorter* (of facts) / is needed. When the connector is an evaluative word word and is also an intransitive verb (i.e., does not take an object) the assertion must be made with the verb "to be."

EXAMPLE: He lied = / AO / is / *a liar* /.

This is in keeping with our basic notion, that each assertion must consist of three elements. The assertion: / AO / lied / — obviously needs a third element.

Intransitive verbs are often modified by an adverb instead of an object. It is tempting to substitute this adverb (when evaluative) as the *cm* in the third element. However, this is probably not as accurate as transferring the adverb into a corresponding adjective and using the verb "to be" as connector. For example: "AO walks *gracefully,*" could be simply considered as the assertion: / AO / walks / *gracefully* /. However, the problem then arises as to what degree "walks" is an associator (or dissociator). To eliminate this problem, it is more convenient to use the assertion: / AO / is / a *graceful* walker /.

(b) *The form AO plus Verb$_1$ plus Verb$_2$ (-ing).* This is equivalent to two statements: AO plus Verb$_1$ and AO plus Verb$_2$.

For example: He deserted, completely neglecting his duties = He deserted. He completely neglected his duties.

which is translated to:

/ AO / is / *a deserter* /.
/ AO / completely neglected / *his duties* /.

(c) *Conditional clauses.*

(1) Simple conditional. When the message includes a simple conditional identifiable by function words like *if* and *whether,* or modal auxiliaries like *would* and *should,* two alternatives are always possible and both should be expressed on the assertion chart.

EXAMPLE: "If A is good, B will hire A" implies "If A is not good, B will not hire A," therefore both alternatives are listed on the assertion chart and connected by heavy brackets.

/ A / is / *good* /
/ A / is not / *good* /

/ B / will hire / A /
/ A / ⇌ / B /
/ B / will not hire / A /
/ A / ⇌ / B /

Based on information secured later in the analysis (Stage IV), it is usually possible to determine whether concepts A and B are favorable or unfavorable, and hence to select which of the alternatives in each bracket is congruent with the remainder of the message. For the purposes of the present stage of analysis, both alternatives must be indicated along with the bracket to notify the coder at a later stage that a choice must be made.

(2) Question forms. Most questions occurring in written messages are rhetorical in the sense that no immediate answer, at least, can be expected from the receivers. This being the case, they have an essentially *conditional* function and must be treated like the conditional constructions above.

EXAMPLES: "Is AO an honest man?" can have either a positive or negative implied answer elsewhere in the message sample, therefore both alternatives are listed on the assertion chart and connected by heavy brackets.

/ AO / is / *honest* /
/ AO / is not / *honest* /

"Will acceptable peace terms be proposed by AO?"

/ AO / will propose / *acceptable peace terms* /
/ AO / will not propose / *acceptable peace terms* /

Again, selection among these alternatives must be made at a later stage in terms of information as to the evaluative location of AO and the congruity principle.

(3) The conditional "countrary to fact." This type of conditional always implies a negative assertion, and is almost always of the "If... were..." form.

EXAMPLES: "If XL *were* a PJ, ..." implies that XL is *not* a PJ, therefore:

/ XL / is not / PJ /
/ PJ / ⇌ / XL /

"If AO were only dependable, he would make a good leader."

/ AO / is not / *dependable* /
/ AO would not make / *a good leader* /

(d) *The use of between-bracket information in making within-bracket assertions.* There are several types of sentences in which information outside of a bracket either negates or alters assertions which otherwise might be made within the bracket.

(1) Contrastive evaluative adjective within brackets. The adjectival modifier of a noun is *contrastive* when its opposite is either expressed or implied in association with the same noun. In spoken English this is usually indicated by primary stress on the adjective, whereas a non-contrastive adjective usually does not carry primary stress: compare — *the eager beaver* vs. *the eager beaver* (the former implies that there are some beavers that are not eager), *all loyal Americans* vs. *all loyal Americans* (the former implies that some Americans are *not* loyal). This cue in spoken English is hard to apply to written messages (except where italics are used), but trying out the two alternatives in vocal speech may help one make the decision. If the contrasting opposite is expressed or clearly implied elsewhere in the message, of course, the adjective must be treated as contrastive. The actual difference in treatment applies only to the *intensity of the connector* of the within-bracket assertion. Compare the following:

EXAMPLE 1. "YM was (an intelligent Communist)" (Contrastive)
*/ COMMUNISTS / *may be* / *intelligent* /
/ YM / was / *intelligent* /
/ YM / was / a COMMUNIST /

EXAMPLE 2. "YM was (a dirty Communist)" (Non-contrastive)

*/COMMUNISTS / *are* / *dirty* /
/ YM / was / a COMMUNIST /

(Note that the additional assertion, / YM / is / dirty / is not required here, since this evaluation will be indicated in subsequent analysis when the value is inserted for COMMUNIST in the assertion / YM / was / a COMMUNIST /.)

* Note that in Example 1, the implied fact that only some COMMUNISTS are intelligent is indicated by the weak connector "may be," whereas in Example 22, the inplied fact that all COMMUNISTS are dirty is indicated by the strong connector "are."

In other words, the association of a contrastive adjective with a noun implies that only *some* of the noun class have this characteristic and requires that we lower the intensity of the connection; the all-inclusive implication of the noncontrastive adjective requires no such adjustment.

(2) Implied conditional within bracket. Take for example the statement, "I am in favor of (peace in Indochina)." By the within-bracket rules listed earlier, it appears that we should form the assertion / Indochina / (has) / *peace* /, but it is clear that the original statement does *not*, in this case, indicate whether or not Indochina does have peace. In other words, it is a kind of conditional that might be translated into two alternatives: "If Indochina had peace, I would be favorable" and "If Indochina did not have peace, I would not be favorable." Linguistically, the use of (or possibility of substitution of) *the definite as compared with the indefinite article* may serve as a clue in such cases. With the original statement above, compare "I am in favor of *the* peace in Indochina" — in this case, it is clear that / Indochina / *has* / peace /. One of the most difficult cases is illustrated by a comparison of the two sentences: "I would vote for good Republicans," *(if* there are some), versus "I would vote for *the* good Republicans," (there are some).

There are many cases, of course, where the remainder of the message outside a particular bracket leaves no doubt about the within bracket assertion. Observe the following example: "(Peace in Germany) cannot occur" — the apparent within-bracket assertion, /GERMANY / (has) / *peace* /, is completely denied by the rest of the sentence. Compare this sentence with "(Peace in Germany) is not likely to last," where the internal assertion *is* required, e.g., in spite of the somber implication of the remainder of the sentence, / GERMANY / (now) has / *peace* /. The most general rule underlying all assertion analysis applies here — that the process of translation into assertions

should not change the original meaning of the message. Where conditionals *are* implied, *both* alternatives must be listed in the assertion chart with brackets.

(3) *Sample Analyses*

The following are some sentences completely analyzed according to the above suggestions for translation:

EXAMPLE 1. "The extent to which ZY is at war with the finest traditions of BA should be determined."

(Within) /BA/has/*fine traditions*/

(Between) /ZY/may be to some extent at war with/BA/

/BA/ ⇌ /ZY/

EXAMPLE 2. "AZ attacks the expansionist ambitions of both BY and CX."

(Within) /BY/has/*expansionist ambitions*/
/CX/has/*expansionist ambitions*/

(Between) /AZ/attacks/BY/
/BY/ ⇌ /AZ/
/AZ/attacks/CX/
/CX/ ⇌ /AZ/

EXAMPLE 3. "An editorial in AZ warned against BY's intolerant attitude."

(Within) /BY/has/an *intolerant attitude*/

(Between) /AZ/warned against/BY/
/BY/ ⇌ /AZ/

EXAMPLE 4. "Although AZ supported BY's crusade against crime in CX, AZ did not vote for BY in 1948."

(Within) /CX/has/*crime*/
/BY/crusaded against/*crime*/
/BY/is/a *crusader*/

(Between) /AZ/supported/BY/
/BY/ ⇌ /AZ/
and
/AZ/did not vote for/BY/
/BY/ ⇌ /AZ/

Note: / AZ / supported / BY / is apparently contradictory to / AZ / did not vote for / BY /. One of these would turn out to be incongruent. However, a re-

check would indicate that both are correct. The effect of such contradictions is to move the evaluative position away from the poles toward neutrality.

C. *Sample Assertion Chart*

1 S	2 AO	3 Connector	3c	4 cm or AO_2	4c
S	CX	is accused of		high treason.	
S	AZ(officials)	are accused of		high treason.	
S	DW	is the official newspaper of		AZ.	
S	AZ	⇌		DW.	
DW(indicated)	CX	is undergoing		a purge operation.	
S	CX	has been		ousted.	
S	CX	has		six alleged co-conspirators.	
S	CX	will be tried under		EV.	
S	EV	⇌		CX.	
S	EV	is a		purge.	
S	EV	prescribes a		secret death penalty.	
S	EV	denies		right of accused to be present at his own trial.	
S	EV	prohibits		appeal or pardon.	
S	CX	will have		a long show trial for propaganda purposes.	
S	CX	will be		tried, convicted and executed	

D. *Reliability of Assertion Analysis*

The process of constructing assertions in standard form from a transcribed message is liable to considerable variability on the part of coders — particular choices of wording, how much of the original message is included in connectors and predicates, degree to which all possible assertions are extracted, and so on. However, due to the process of averaging evaluations for each AO in the final stages, minor variations at this stage tend to be compensatory. Furthermore, as will be seen in the next section, the reliability of the coding of both connectors and evaluators as to direction and intensity (using a standard set of assertion materials) proves to be extremely high. For these rea-

sons, it was decided to estimate the reliability of this assertion-making stage by the consistency of the final evaluations of the AO's included, when subsequent coding and computing stages are handled by the same coder. In other words, given the knowledge that Stage III is highly reliable and that Stage IV is simply computation involving no judgments whatsoever, we assume that most of the variation in final evaluative ranking will be due to variations in this Stage II assertion-making.

(1) All seven coders independently made their own assertion charts for the following masked message:

MATERIAL B

The AZ of the DW people's republic, AZB, has sent the BY of the BYA a notice on the present position of the CX problem. AZB said that the situation in CX has now reached a critical stage. Explanatory work has not been done upon CX and DW war prisoners now subject to the EV's repatriation, for 20 days now, because of the terroristic actions of the FU agents aimed at detaining the prisoners. The conference in GT which is discussing the HS has also come up against serious difficulties. The FU side is deliberately delaying the convocation of the HS.

The present critical situation in CX, says AZB's letter, is due entirely to the criminal policy of the FU government. The FU government is trying to scuttle the IR, forcibly detain the war prisoners of CX and DW, and obstruct the peaceful solution of the CX problem so as to keep up the international tension. If the BY refuses to accept the BY's responsibility for FU's detention of war prisoners and condones the wicked activities of the FU government, the situation in CX will become even more serious and the BYA will become an even greater tool in the hands of the FU government in creating international tensions.

The AZ of the DW's people's republic, AZB has made a statement on the JQ passed by the BY. The JQ is based on the FU fabrication about atrocities allegedly committed by CX and DW troops on war prisoners. AZB characterizes the JQ, which was adopted in the absence of the DW and CX representatives, as obviously illegal and libelous. This FU government slander against the CX and DW people's troops, AZB says, "has no foundation in truth whatsoever." "The whole world knows that the CX and DW soldiers defended the population of CX, and CX and DW soldiers were lenient with FU prisoners of war." "In contrast with the CX and DW defense of the population," says the AZ, "the FU troops of aggression grossly violated the principles of international law and humanity during the war in CX." FU armed forces dropped millions of tons of bombs on peaceful CX towns and villages — not stopping at the use of napalm and chemical bombs for the mass destruction of the people. FU troops and reactionary KP gangs adopted the cruelest and most savage methods and violated the LO, persecuting and killing CX and DW war prisoners. Even now, says the statement, the FU military authorities continue to direct the work of FU's KP and MN agents in the prisoner of war camps of the demilitarized zone; KP and MN agents who are terrorizing the prisoners not subject to direct repatriation.

AZ's statement says indisputable proof of all these atrocities committed by the armed forces of the FU can be found in the impartial reports of investigations made by a number of international commissions; in dispatches of NM and FU correspondents and in many other records. In an attempt to mislead world public opinion, the ruling quarters of the FU have now fabricated a libelous story about atrocities supposed to have been committed by the CX people's army and the DW volunteers. AZB says the FU government is thus striving to maintain the tension in the OL and in PK, to delay the convocation of a HS on CX, to disrupt completely the explanatory work among the war prisoners and to push through its military plans.

The AZ goes on to say that instead of promoting a speedy peaceful settlement of the CX problem, most member states of the BYA have taken another line. Member states of the BYA continue to follow the policy of the FU which is one of continuing the cold war and of provocation. Member states of the BYA continue to ignore the existence of the DW people's republic, and DW's legal rights in the BYA and have adopted a JQ based on the new FU falsehood which slanders the CX and DW people's troops. FU falsehoods and slanders, says the statement, will again damage the role and authorty of the BYA in maintaining universal peace and cooperation. By yielding to the pressure of the FU, the majority of the member states have forced the BYA even farther than ever from its original aims and aggravated the crisis in which BYA is laboring. The BYA has become a propaganda machine for the FU government and a willing tool in encouraging the FU warmongers to build up international tensions.

The DW people, says AZB, express their deep indignation at this shameful JQ which was illegally passed by the BY of the BYA. In the name of the government of the DW people's republic, the AZ most resolutely condemned this action of the BYA. AZ calls on the peace-loving people in all lands and all those who uphold justice to launch an active struggle against all schemes to turn the BYA into an instrument of the FU war policy. AZ calls on the peace-loving people of the world to do everything in their power to return the BYA to the path laid down for BYA in the QI. The government and the people of the DW people's republic, AZ says, are prepared to cooperate with all peaceful governments and the people of all lands in order to reach this goal.

(2) To even further minimize variability introduced beyond Stage II, a single coder entered the directions and intensities for Stage III in columns 3c and 4c for all assertion charts and then made the Stage IV computations for all AO's for which there was sufficient information.

(3) Table 3 summarizes the relevant data for this reliability check on Stage II. For each of the seven coders (columns), the final evaluative locations of each of the symbolized AO's is given, as based only on the *cm*-type assertions *(A)*, as based only on the AO_2-type assertions *(B)*, and as based on the total assertions *(C)*. From inspection of these values it can be seen that there is considerable stability in the evaluations deriving from the different coders' assertion charts; in the total evaluation *(C)*, for example, there is only one

TABLE 2

Evaluative Locations of Test AO's Based on Assertion Charts of Seven Coders

(based on subsequent coding and computations by same coder)

Coders	1	2	3	4	5	6	7	
A. *Based on common-meaning only*								Av. N Assertions
DW	+2.00	+2.14	+2.00	+1.94	+2.06	+2.00	+1.50	10.4
AZ	+3.00	+3.00	+3.00	+3.00	+3.00	+2.20	+2.50	3.1
BY	—1.75	—	+0.33	—	—1.00	—	—2.00	1.0
BYA	—0.69	—0.71	—1.05	—0.89	—1.50	—0.83	—0.17	6.6
CX (sit)	—0.75	—1.00	—1.33	—1.50	—0.40	—1.00	—0.17	3.4
CX	+2.05	—	+2.00	+1.70	+2.00	+1.00	+0.20	4.0
FU	—2.27	—2.19	—2.24	—1.89	—2.48	—2.42	—1.97	34.0
JQ	—3.00	—2.33	—2.64	—3.00	—2.27	—2.38	—2.25	3.4
KP	—2.73	—3.00	—2.84	—2.82	—2.84	—2.63	—2.82	5.3
MN	—3.00	—3.00	—3.00	—3.00	—3.00	—3.00	—3.00	1.0

operation. By yielding to the pressure of the FU, the majority of the member states *has not, accept, lose,* and so on) and this test need not be applied.

B. *Based on AO_2 only*								
DW	+2.25	+1.67	+1.94	+2.04	+2.05	+2.10	+1.97	15.7
AZ	+1.61	+0.70	+0.97	+1.37	+1.30	+0.95	+0.85	3.3
BY	—1.40	+0.72	—0.95	—1.04	—2.13	—2.40	—0.60	5.3
BYA	—1.14	—0.29	—0.49	—0.67	—1.37	—0.73	—0.73	14.7
CX (sit)	—1.55	0.00	—1.10	—0.58	—1.25	—1.20	—0.76	2.3
CX	+2.46	+2.01	+2.20	+2.27	+2.50	+2.41	+2.35	11.1
FU	—1.75	—1.97	—1.64	—1.77	—1.73	—1.42	—0.75	28.3
JQ	—2.16	—2.18	—1.57	—1.63	—1.66	—2.06	—1.38	5.4
KP	—2.20	—2.16	—2.13	—1.82	—2.23	—1.63	—1.63	5.4
MN	—2.13	—2.20	—2.20	—1.85	—2.50	—2.40	—1.37	2.6

C. *Based on both cm and AO_2*									Av. Dev. about Mdn.
DW	+2.16	+1.89	+1.96	+2.00	+2.06	+2.06	+1.77	26.1	0.11
AZ	+1.93	+2.08	+1.31	+1.72	+1.61	+1.42	+1.68	6.4	0.23
BY	—1.51	+0.72	—0.70	—1.04	—1.95	—2.40	—0.86	6.3	0.87
BYA	—0.97	—0.42	—0.71	—0.73	—1.40	—0.77	—0.57	21.3	0.24
CX (sit)	—1.02	—0.43	—1.26	—1.20	—0.69	—1.13	—0.44	5.7	0.34
CX	+2.30	+2.01	+2.13	+2.06	+2.68	+2.25	+1.63	15.1	0.26
FU	—2.05	—2.11	—1.99	—1.83	—2.16	—1.95	—1.46	62.3	0.18
JQ	—2.63	—2.28	—2.06	—2.21	—2.04	—2.21	—1.88	8.9	0.19
KP	—2.45	—2.39	—2.63	—2.30	—2.63	—1.99	—1.83	10.7	0.26
MN	—2.35	—2.50	—2.50	—2.09	—2.71	—2.76	—1.72	2.6	0.30

instance where the direction of evaluation, favorable or unfavorable, deviates (Coder #2 on BY), and in general the magnitudes in each row tend to be closely the same. This can perhaps be seen more clearly in Figure 1, where the data in Table 3 (C) are plotted. A straight line across the graph would indicate perfect reliability, e.g., all coders yielding the same evaluation for that attitude object. Despite the small absolute amount of material entering into this analysis, most of the AO's show high stability, and the evaluative separation between classes of AO's is generally maintained (CX, DW, and AZ highly favorable; BY, BYA, and CXs slightly unfavorable; and FU, MN, KP and JQ extremely unfavorable). From the fact that the source of this message was Radio Moscow, this also appears to be a valid content analysis.

Closer inspection of Figure 1 (and Table 2) indicates that in general stability or reliability increases with the amount of material sampled, e.g., with the number of assertions upon which evaluative allocation is based. The average number of assertions on which the allocations of each AO are based is given at the right of Table 2. The final column of figures (bottom right) gives the average deviation about its median value for each AO, based on total assertions. It can be seen that of the five AO's having the largest number of assertions available (FU, DW, BYA, CX, and KP), three have the lowest variabilities among coders (FU, DW, and BYA) and these happen to be those with the largest number of assertions; of the five AO's having the smallest number of assertions (MN, CXs, BY, AZ, and JQ), three are those having the greatest coder variability (BY, CXs, and MN). The concept BY is clearly the most ambiguous.

Rank-order correlations between coders for the final evaluations *(C)* are uniformly high. This is shown in Table 3.

TABLE 3

Rank-order Correlations *(p)* between Coders in Evaluative Allocation of 10 AO's in Reliability Check on Stage II

Coders	1	2	3	4	5	6	7
1							
2	.88						
3	.93	.94					
4	.98	.92	.98				
5	.90	.90	.93	.90			
6.	.87	.71	.71	.81	.88		
7	.95	.87	.88	.92	.88	.82	

With the exception of coder number 6, all correlations are .87 or better and most are .90 or better. The lowest correlation between coders is .71. These findings indicate a sufficient reliability for Stage II and further suggest that reliability in the location of AO's increases with the amount of material sampled.

STAGE III. ASSIGNING DIRECTIONS AND INTENSITIES TO CONNECTORS AND EVALUATORS

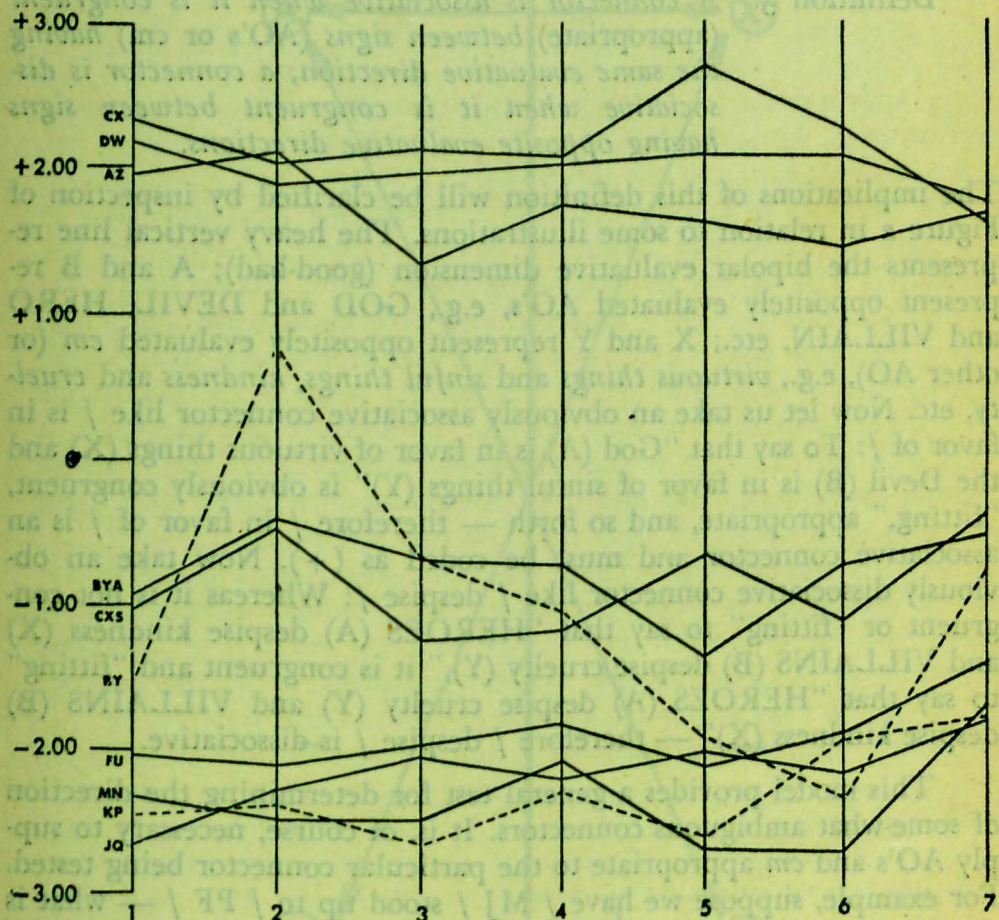
The previous stage in evaluative assertion analysis provides an *assertion* chart, in which connectors appear in column (3) and evaluative common-meanings and other AO's appear in column (4). The narrow columns (3_c and 4_c) besides columns (3) and (4) are provided for coding the direction and intensity of both connectors and evaluative common-meaning. The coder working on Stage III deals with the assertion chart, not with the original or transcribed messages. Moving steadily down through the material, he codes first the connectors and then, in a second reading, the *cm* evaluators, entering the values (+2, —1, —3, etc.) in the narrow columns beside the assertion material.

A. *Connectors*

Connectors are verbs or verb phrases, often accompanied by other common-meaning material, which serve to either associate (+) or dissociate (—) the AO in column (2) and the common-meaning evaluation or other AO in column (4). Connectors thus have *direction.* Connectors also vary in *intensity,* from complete and definite association or dissociation (±3), through probable or partial association or dissociation (±2), to only possible or weak association or dissociation (±1). Occasionally the coder may find connectors which neither associate nor dissociate (e.g., /BY/discussed/CX/) and therefore should be coded as zero (0).

(1) *Direction of connection.* The direction of connection is *associative* (+) when the two other members of the assertion (in columns 2 and 4) are tied to each other, brought closer together, shown to be similar and so forth; the direction of connection is *dissociative* (—) when the other two members of the assertion are separated, made less related, shown to be different, and so forth. It should be emphasized that *association and dissociation have nothing necessarily to do with evaluation:* the following examples are all cases of association

FIGURE 1 Final Evaluations — Stage II (Assertion Analysis) Reliability



CODERS

CX	KOREA(N)	CXS	KOREAN SITUATION
DW	CHINA(-ESE)	FU	AMERICA(N)
AZ	CHINESE FOREIGN MINISTER	MN	CHAING KAI SHEK
BY	UN GENERAL ASSEMBLY	KP	SYNGMAN RHEE
BYA	UNITED NATIONS	JQ	UN RESOLUTION

— / the villain / condones / sin / , / the villain / commits / Crimes, /, / the villain / loves / evil — and the following are all cases of dissociation — / the hero / runs away from / evil /, / the hero / condemns / sin /, / the hero / confuses / the enemy /.

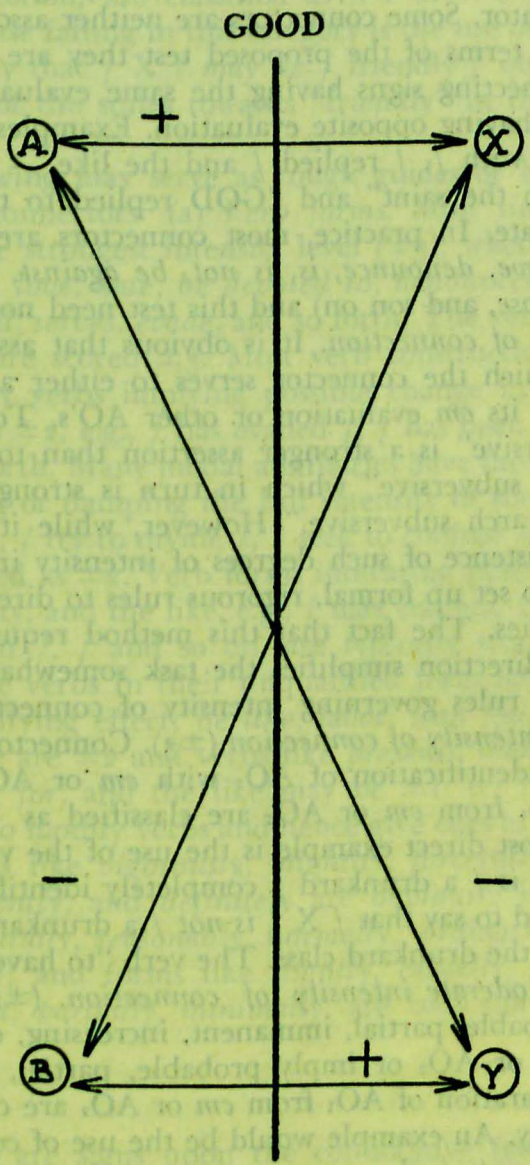
A more formal definition of the direction of connectors may be phrased as follows:

Definition 5. *A connector is associative when it is congruent* (appropriate) *between signs* (AO's or cm) *having the same evaluative direction; a connector is dissociative when it is congruent between signs having opposite evaluative directions.*

The implications of this definition will be clarified by inspection of Figure 2 in relation to some illustrations. The heavy vertical line represents the bipolar evaluative dimension (good-bad); A and B represent oppositely evaluated AO's, e.g., GOD and DEVIL, HERO and VILLAIN, etc.; X and Y represent oppositely evaluated *cm* (or other AO), e.g., *virtuous things* and *sinful things, kindness* and *cruelty,* etc. Now let us take an obviously associative connector like / is in favor of /: To say that "God (A) is in favor of virtuous things (X) and the Devil (B) is in favor of sinful things (Y)" is obviously congruent, "fitting," appropriate, and so forth — therefore / in favor of / is an associative connector and must be coded as (+). Now take an obviously dissociative connector like / despise /: Whereas it is not congruent or "fitting" to say that "HEROES (A) despise kindness (X) and VILLAINS (B) despise cruelty (Y)," it is congruent and "fitting" to say that "HEROES (A) despise cruelty (Y) and VILLAINS (B) despise kindness (X)" — therefore / despise / is dissociative.

This model provides a general test for determining the direction of some-what ambiguous connectors. It is, of course, necessary to supply AO's and *cm* appropriate to the particular connector being tested. For example, suppose we have / MJ / stood up to / PF / — what is the direction of / stood up to /? Since it seems much more appropriate to say "The HERO stood up to his enemy" than "The HERO stood up to his friend," i.e., more appropriate connecting signs of opposed evaluation, / stood up to / must be dissociative. If *cm* evaluation is included in the assertion, only appropriate AO's need be supplied for the test. For example, we have the assertion / MJ / printed / *pornography* / — since "The evil man printed pornography" is more congruent than "The good man printed pornography," / printed / is an associative connector (note that the same conclusion would be

FIGURE 2



obtained from / printed / *bibles* /, since again it would be appropriate connecting similarly evaluated signs). Sometimes it is helpful to substitute familiar synonyms for the test connector, e.g., for /SW/ condones / *lying* / substitute / SW / permits / *lying* / and it becomes an obvious associator. Some connectors are neither associative nor dissociative, e.g., in terms of the proposed test they are equally appropriate when connecting signs having the same evaluation and when connecting signs having opposite evaluation. Examples are / examined /, / reasoned with /, / replied / and the like — note that both "GOD replied to the saint" and "GOD replied to the sinner" are equally appropriate. In practice, most connectors are obvious as to direction (e.g., *love, denounce, is, is not, be against, repudiate, has, has not, accept, lose,* and son on) and this test need not be applied.

(2) *Intensity of connection.* It is obvious that assertions vary in the degree to which the connector serves to either associate or dissociate AO_1 with its *cm* evaluation or other AO's. To say that "MJ *is* an arch subversive" is a stronger assertion than to say "MJ *probably is* an arch subversive" which in turn is stronger than saying "MJ *may be* an arch subversive." However, while it is easy to demonstrate the existence of such degrees of intensity in connectors, it is very difficult to set up formal, rigorous rules to direct the coder in assigning intensities. The fact that this method requires only three degrees in each direction simplifies the task somewhat.

The general rules governing intensity of connection are as follows: (a) *Strong intensity of connection* (± 3). Connectors which imply either complete identification of AO_1 with *cm* or AO_2 or complete separation of AO_1 from *cm* or AO_2 are classified as $+3$ or -3 respectively. The most direct example is the use of the verb "to be" — to say that / X / *is* / a drunkard / completely identifies X with the drunkard class and to say that / X / *is not* / a drunkard / completely separates X from the drunkard class. The verb "to have" has the same properties. (b) *Moderate intensity of connection* (± 2). Connectors which imply probable, partial, immanent, increasing, etc., association of AO_1 with *cm* or AO_2 or imply probable, partial, immanent, increasing, etc., separation of AO_1 from *cm* or AO_2 are classified as $+2$ or -2 respectively. An example would be the use of compound verbs like / try to ———/, / plan to ———/, and the like — to say that / X / *tried to protect* / the nation / implies a definite tendency toward association of X with the nation, but not complete identification, and saying / X / *planned to confuse* / the enemy / implies a definite tendency toward dissociation of X from the enemy, but not completely executed dissociation. (c) *Weak intensity of connection* (± 1). Con-

nectors which imply only possible or hypothetical relation between AO_1 and *cm* or AO_2, but still a positive direction, or imply only possible or hypothetical separation between AO_1 and *cm* or AO_2, but still a negative direction, are classified as +1 or —1 respectively. The most obvious case falling in this category is the use of probative verbal moods — to say that / X / *may be* / friendly / obviously implies a slight tipping of the scales towards "friendly" in the case of X, but only that.

The following may serve as rough guides or hints in assigning intensities to connectors: (a) *Verb forms.* Most simple, unqualified verbs are at the strongest intensity level (±3), whether in present or past tense, e.g., *love, hate, be devoted to, denounced, confused, commits, committed, serves, evade,* and so forth. The verbs *to be, to have, to do* usually are scored ±3. Most verb constructions involving the use of auxiliary verbs implying possible change in status over time are classified as ±2, e.g., / has evaded /, / has been seen /, / used to live /, and so forth. Many modal auxiliaries have the function of somewhat qualifying or damping the full intensity of the infinitive in the compound, e.g., / try to divide /, / seek to confuse /, / want to join / and are classified as ±2. Verb forms indicating possibility, obligation, future possibility, and the like, e.g., / may commit /, / might agree /, / ought to join /, / and so on, are typically scored ±1. (b) *Verb meanings.* Some verbs in their unqualified form have something less than full identifying effect; *be like, favor, lean toward, use methods of,* and the like are ±2 and verbs like *presents, makes available, provide something for,* and the like may be ±1. (c) *Indexing adverbs.* Adverbs serve to modify verbs and hence give cues as to their intended intensity: forms like *vigorously, mightily, forcefully, absolutely, entirely, permanently,* and *definitely* are *obviously* indicators of ±3; forms like *naturally, reasonably, normally, ordinarily* and *typically* are *usually* ±2; and forms like *slightly, casually, occasionally, possibly, somewhat, partially, minimally,* are indicators of ±1 level of intensity.

B. *Evaluators*

Evaluators are signs upon the connotative (good-bad) meaning of which users of English must agree in order to communicate — exactly in terms of direction and at least roughly in terms of intensity. On the assertion chart evaluators always appear in column (4) as *cm,* and they are to be scored for both direction and intensity in column (4c). Of course, AO's also have evaluative significance for a particular message and source, but this is always determined by their association

with evaluative *cm* — in evaluative assertion analysis as in individual life history. In his second reading of the assertion chart, the coder working at this stage codes the *cm* material in column (4) on a scale running from +3 to —3, entering these values in column (4c).

(1) *Direction of evaluation.* Again, this judgment is probably easier to execute than to describe or formalize. The following discussion may be helpful for general orientation, however. If we think of the total *meaning* of a sign as being its point of location in a multidimensional space defined by as many scales as there are factors in meaning judgments, then we may think of the *evaluation* of (or attitude toward) a sign as the projection of this point onto the single factor defined by *good-bad.* In other words, regardless of the position of a point in an n-dimensional space, it must project onto *some* portion of the evaluative continuum. Figure 3 illustrates this logic in a two-space, the evaluative factor being represented as usual by the vertical dimension. The use of a 7-step scale corresponds to other research on attitude measurement[6] and will facilitate coordination of evaluative assertion analysis with direct assessment of attitudes in sources or receivers of messages. The horizontal line indicates all those other factors of meaning which are independent of, unrelated to, evaluation.

Any concept falling precisely on this line would have zero evaluativeness; concepts falling close to it are essentially non-evaluative (e. g., *a speech, light eater).* Concepts projecting clearly more toward the "good" side are scored + and concepts projecting clearly more toward the "bad" side are scored -. The basic congruency test is also useful in deciding questionable cases of evaluativeness, in this case by successively substituting for the given AO a pair of maximally polar AO's. Suppose we have the assertion / AO / is / *careful* / — since it seems somewhat more appropriate to say that "SAINTS are careful" than that "SINNERS are careful" (and so on for other tests), this is probably slightly favorable in direction. Certainly, substitution of the opposite, *careless,* leads to a negative conclusion.

(2) *Intensity of evaluation.* This is largely a semantic problem and there are few linguistic guides. In general, it is helpful for the coder to keep in mind a three-degree scale on each side of neutral and try to assign the material in such a way that the three degrees are used with approximately equal frequency over the total messages he analyzes, from many sources and of many types. Having first judged the direction of an item (+, 0, —), he will then assign it a 3 value if it is "extremely" favorable or unfavorable, a 2 value if it is "quite" favor-

[6] Cf., Osgood, C. E., and Tannenbaum, P. H., ibid.

FIGURE 3

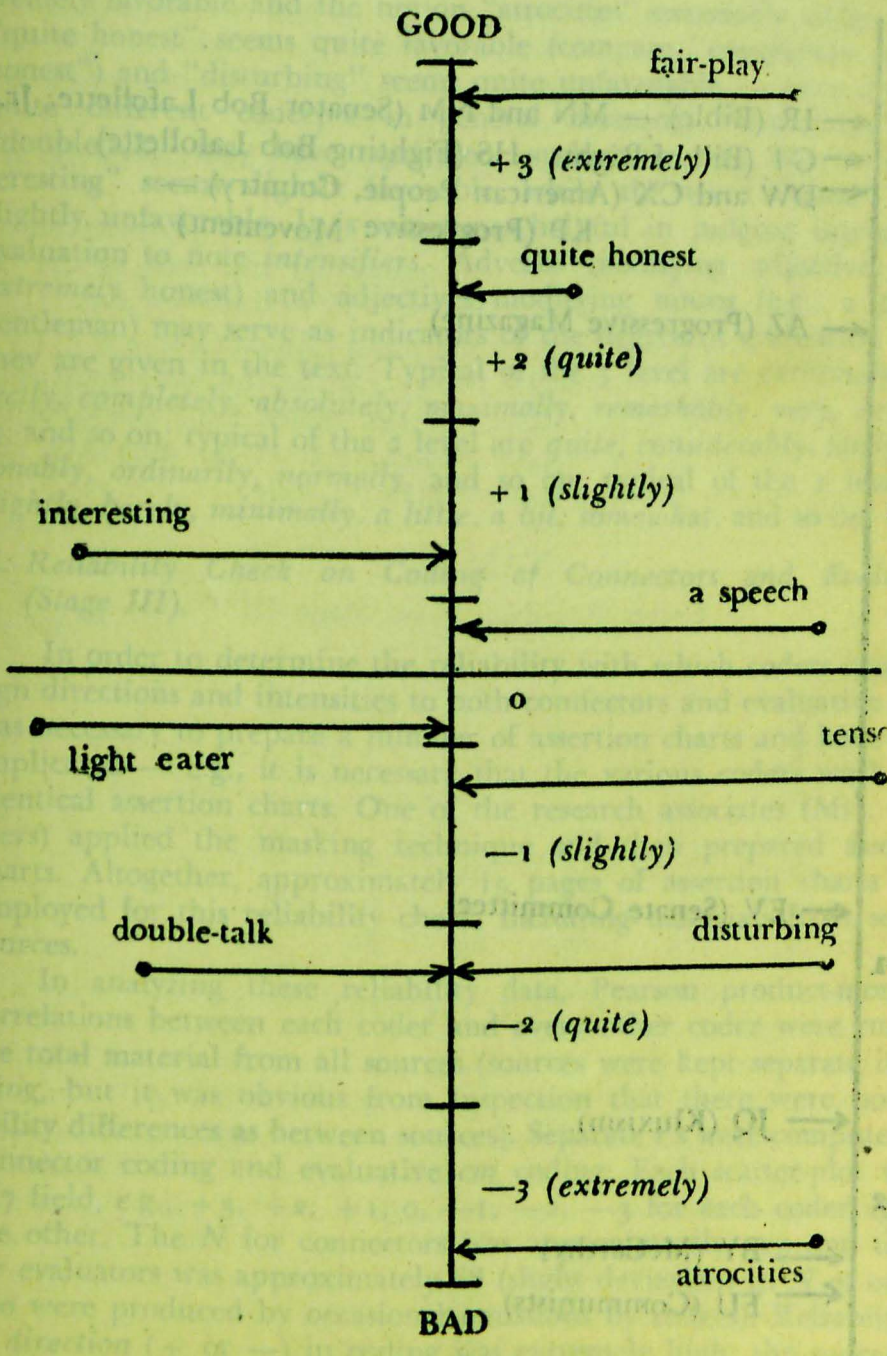
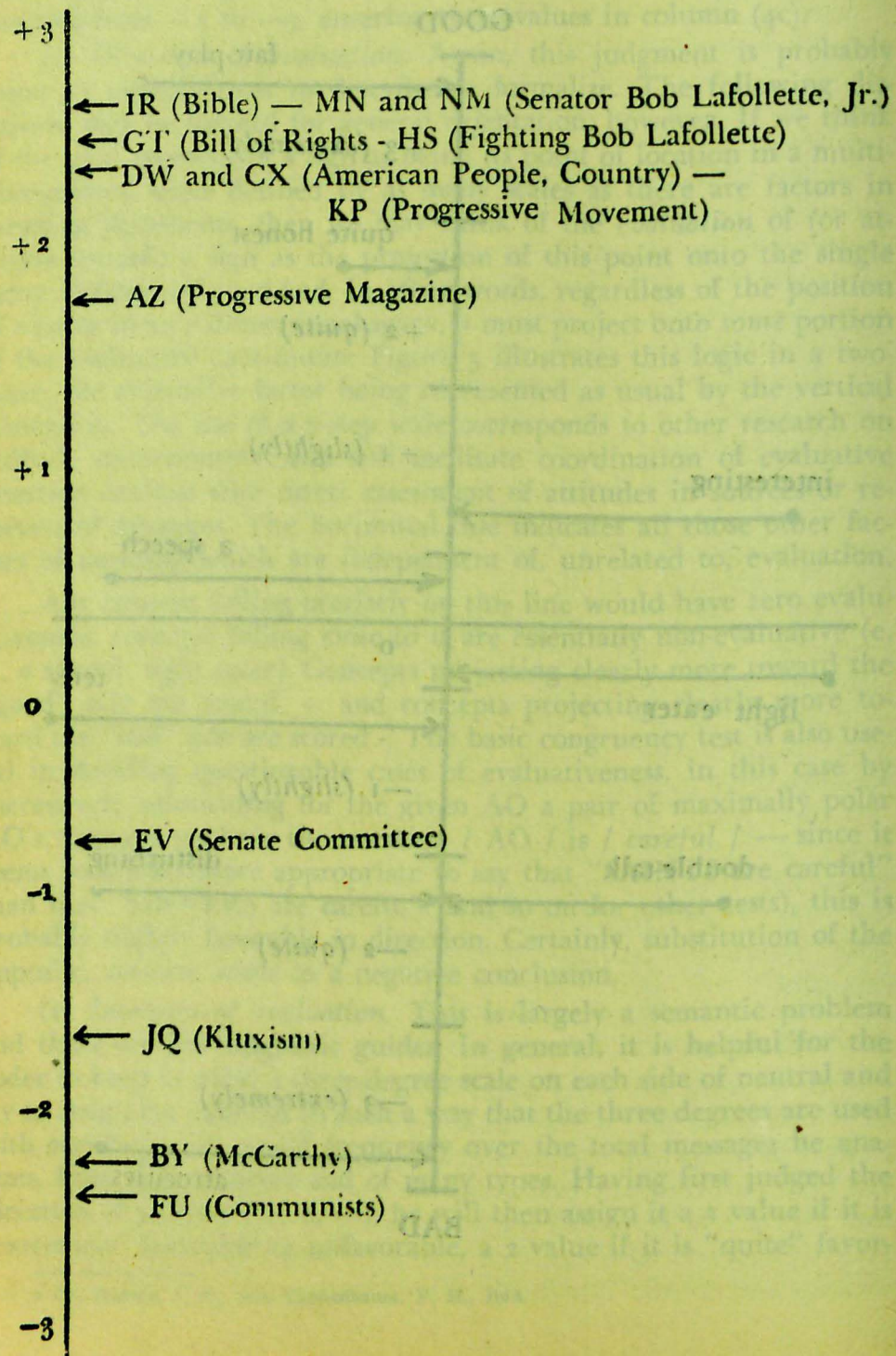

GOOD
fair-play
+3 (extremely)
quite honest
+2 (quite)
+1 (slightly)
interesting
a speech
0
light eater
tense
—1 (slightly)
double-talk
disturbing
—2 (quite)
—3 (extremely)
atrocities
BAD

FIGURE 4

Standard 7 - step Evaluation Scale
Material: Excerpt from "The Progressive Magazine"
Coder: Number 5



able or unfavorable, and a *1* value if it is only "slightly" favorable or unfavorable. The examples given in Figure 3 show how the writers would scale some *cm* materials: The notion "fair-play" seems extremely favorable and the notion "atrocities" extremely unfavorable; "quite honest" seems quite favorable (compare "completely or very honest") and "disturbing" seems quite unfavorable — note that two quite different concepts in general meaning, "disturbing" and "doubletalk," may have equivalent evaluation; and the word "interesting" seems slightly favorable, while the word "tense" seems slightly unfavorable. It is sometimes helpful in judging intensity of evaluation to note *intensifiers*. Adverbs modifying adjectives (e.g., *extremely* honest) and adjectives modifying nouns (e.g., a *perfect* gentleman) may serve as indicators of the degree of evaluation when they are given in the text. Typical of the *3* level are *extremely, perfectly, completely, absolutely, maximally, remarkably, very, definitely*, and so on; typical of the *2* level are *quite, considerably, fairly, reasonably, ordinarily, normally*, and so on; typical of the *1* level are *slightly, barely, minimally, a little, a bit, somewhat*, and so on.

C. *Reliability Check on Coding of Connectors and Evaluators (Stage III).*

In order to determine the reliability with which coders could assign directions and intensities to both connectors and evaluative *cm* it was necessary to prepare a number of assertion charts and have them duplicated — e.g., it is necessary that the various coders work with identical assertion charts. One of the research associates (Mrs. Chalmers) applied the masking technique and then prepared assertion charts. Altogether, approximately 15 pages of assertion charts were employed for this reliability check, including materials from several sources.

In analyzing these reliability data, Pearson product-moments correlations between each coder and every other coder were run for the total material from all sources (sources were kept separate in tallying, but it was obvious from inspection that there were no reliability differences as between sources). Separate *r*'s were computed for connector coding and evaluative *cm* coding. Each scatter-plot was a 7/7 field, e.g., +3, +2, +1, 0, —1, —2, —3 for each coder against the other. The *N* for connectors was approximately 225 and the *N* for evaluators was approximately 68 (slight deviations in *N* of one or two were produced by occasional omissions by coders). Reliability as to *direction* (+ or —) in coding was extremely high; the percentage of entries falling in the "error" diagonal (opposite signs) was only

4% for connectors and 3% for evaluators. The product-moment correlations in Table 4 (A) and 4 (B) take into account intensity as well as direction in coding, for connectors and evaluators respectively. The high level of these *r*'s makes it possible for us to conclude that coding of this sort can be done with very considerable reliability. For only one coder (#2) on coding connectors are the correlations below .80.

STAGE IV. EVALUATIVE SCALING OF ATTITUDE OBJECTS

Completion of the preceding stage (Stage III) provides an *assertion chart* on which each of the connectors and each of the *cm* elements is coded both as to direction and as to intensity, e.g.,

/ S / ZY / have taken advantage of / —2 / *human decency* / +3 /.

The coder working on Stage IV (which can be the same individual that worked on Stage III) collects together values of all assertions for each AO, determines the average evaluative score for each AO, and finally assigns each AO to a 7-step evaluative scale.

TABLE 4

Coder Reliabilities on Stage III

A. CONNECTORS

Coders	1	2	3	4	5	6	7
1							
2	.84						
3	.85	.72					
4	.92	.78	.87				
5	.89	.71	.82	.91			
6	.85	.72	.82	.88	.87		
7	.89	.75	.86	.89	.80	.83	

B. EVALUATORS

Coders	1	2	3	4	5	6	7
1							
2	.83						
3	.89	.89					
4	.87	.90	.97				
5	.91	.84	.93	.90			
6	.82	.87	.95	.93	.92		
7	.94	.89	.95	.92	.95	.90	

The coder working on this stage uses an *evaluation computation chart*. As shown below with a sample computation, this chart has a column (1) for listing the AO's in order along with their determined evaluation (in lower lefthand boxes); a column for *cm*-type assertions, including the directions and weights of connectors (column 2), the directions and weights of *cm* evaluations (column 3), and their product (column 4); and a column for listing AO-type assertions similarly, with the addition of specifying the AO_2, (columns 5-8).

TABLE 5

Sample Evaluation Computation Chart

AO	cm EVALUATION			AO EVALUATION			
	connector	cm	product	connector	AO	eval.	product
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
DC	+1	+2	+2	+1	BA	+2.5	+2.5
	+3	+3	+9	—2	ZY	—2.7	+5.4
	—1	+1	—1	+2	XW	+1.0	+2.0
	—3	—3	+9				
	$\Sigma\|c\| = 8$			$\Sigma\|c\| = 5$			
		Σ cm: +19				Σ AO: +9.9	
+2.4	←	$\div\Sigma\|c\|$: +2.4				$\div\Sigma\|c\|$ +2.0	
	Σ cm + Σ AO: +28.9						
+2.2	← $\div\Sigma\|c\|$ cm + $\Sigma\|c\|$ AO: +2.2						
etc.							

Briefly, assertions including common-meaning evaluation (and hence directly determinable evaluation) are treated first, giving weights to assertions in proportion to the intensity of their connectors. Then, for those AO's whose evaluation is reliably determined by *cm* materials, their average evaluations are substituted in type *b* assertions in place of the AO_2 — e.g., AO's whose evaluations are determined become equivalent to *cm* in determining the final locations of other AO's. In actual practice, it is more efficient to transfer all data bearing on a given AO from assertion chart to the evaluation computation chart in one operation; for *cm*-evaluation the value of the connector and the value of the evaluator for each assertion are entered, but for AO_2-evaluation only the value of the connector and the symbol for

AO_2 are entered at this time, the evaluation value for this type of assertion being inserted later. It is also important at this stage to keep the various sub-classes of each AO separate (e.g., BY (war prisoners) separate from BY (government) and so on); these sub-classes of attitude objects may be combined in the final evaluative scale if they are found to have essentially the same location.

The steps in Stage IV may be summarized as follows: (I) List the first AO encountered on column (2) of *the assertion chart* in column (1) of *the evaluation computation chart* (e.g., DC); for that assertion, if it is *cm-type,* list the direction and intensity of the connector (e.g., +1) under column (2) and the direction and intensity of the *cm* evaluator (e.g., +2) under column (3). List the value of the connector (e.g., +1) and the AO_2 symbol (e.g., BA) for each AO_2-type assertion in columns (5) and (6). Continuing down column (2) in the assertion chart, list in the same way every assertion for which this same AO is the actor. Do the same for each AO in the assertion chart. (II) Multiply each *cm* value in column (3) by its connector in column (2) and write the product in column (4). The product is + when the signs for connector and *cm* are the same and — when the signs are different. Note that where the connector is — this has the effect of reversing the direction of the evaluation, e.g., / AO / is not / *a thief* / becomes equivalent to / AO / is / *a non-thief* (or honest man) /, and therefore all assertions become equivalent and can be summed. Weighing the evaluation in terms of the intensity of the assertion seems reasonable for content analysis purposes, e.g., an intense assertion is assumed to be equivalent to a less intense assertion repeated *n* times. (III) Sum the products in column (4) algebraically and divide this value (Σ *cm)* by the sum of the *absolute values* (regardless of sign) of the connectors in column (2) ($\Sigma |c|$); enter the resulting value (e.g., +2.4) in the bow indicated by the upper arrow. This is the evaluation of this AO as based on the available *cm* information, expressed in terms of a 7-step scale from +3 to —3.

Special treatment of assertions by secondary sources. The evaluations in assertions by secondary sources, as they relate to the evaluative locations of AO's, depend upon both the evaluation of the secondary source itself by the primary source and upon the connection of the secondary source to the assertions. It is obviously a quite different matter for PRAVDA, as a secondary source, to assert that / AMERICAN DELEGATES / are condoning / atrocities / than for PRESIDENT EISENHOWER to make this assertion; it is also obvious that there is a difference between / PRAVDA / says that / AMERICAN DELEGATES / are condoning / atrocities / and the statement that PRAVDA / denies that / ..... and so forth. Before any analysis of assertions by secondary sources can be

made, it is necessary to determine the evaluative direction (not the precise magnitude) of the secondary source as an AO. This will usually be clear from analysis of the cm-type assertions for which this AO is subject. The connector which relates this secondary source to the assertions must now be coded as + (associative) or - (dissociative) according to the general rules for coding connectors; typical associators for secondary sources are **say, assert, state, declare, write, note,** and so forth, while typical dissociators are **deny, retract, contradict, correct,** and so on. When the evaluative direction of the secondary source and the direction of the connector of secondary source to assertion have been determined, the following rules should be followed:

If the signs of secondary source and its connector are the same (both + or both —), leave the sign of the connector in the assertion as it is.

EXAMPLES: EISENHOWER says that / AO / is / honest /
= / AO / is / honest /

MOLOTOV denies that / AO / is / honest /
= / AO / is / honest /

If the signs of secondary source and its connector are different, change the direction of the sign of the connector of the assertion in analysis of evaluation of AO.

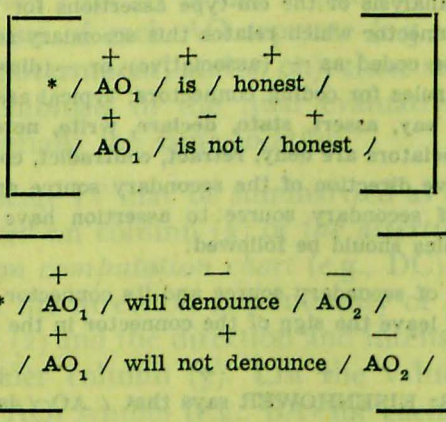
EXAMPLES: EISENHOWER denies that / AO / is / honest /
= / AO / is not / honest /

MOLOTOV asserts that / AO / is / honest /
= / AO / is not / honest /

In other words, in treating assertions by secondary sources whose signs are different from those of the connectors which relate them to the assertions, reverse the sign of the connector within the assertion when entering values in the evaluation computation chart. These values may be included in determining the final evaluative locations of AO's (lower lefthand box).

Special treatment of conditionals. Conditionals appear on the assertion chart as paired alternatives in brackets. If the AO's involved in such bracketed assertions have been definitely determined as to evaluative direction on the basis of unconditional (unbracketed) cm, this information may be used in selecting among the conditional alternatives. Enter the determined evaluative sign (+ or —) for each AO in the conditional assertions; test the alternatives for congruency (cf., next section for details on this test); eliminate (draw a line through) the incongruent assertion in each pair. Assuming that AO_1 is + and AO_2 is

— in the following example, where the original statement was "if AO_1 is honest, he will denounce AO_2":



The upper assertion (*) in each bracket is congruent and is retained. The values from such assertions may be included in determining the final evaluative locations of AO's (lower lefthand box).

When all AO in the sample of messages being analyzed have been treated in this fashion, some will be found to be well determined in evaluation, e.g., the estimate in the upper box in column (1) being based on a considerable number of *cm* that are consistent in magnitude and direction. These may be treated like *cm* in subsequent operations under AO EVALUATION in *the evaluation computation chart.* (IV) For those AO_2 in column (6) whose evaluations are well determined, enter these evaluations in column (7). Compute the algebraic products as before and enter them in column (3). (V) as soon as all of the AO-type assertions for a given AO are completed, sum the products in column (8) algebraically and divide by the absolute sum of the connectors, as before; this value (e.g., +2.0) is the evaluation of this AO as based on the evaluations of other AO's with which it is connected via assertions (e.g., as being associated with favorable AO's and dissociated from unfavorable AO). Assuming general congruence in the messages produced by the source, the evaluations based on *cm*-type and AO-type assertions should be in the same direction and of approximately the same magnitude. If this is not the case, the final coder should check back through the data on that particular AO for possible errors; if the discrepancy remains, this indicates that the source *does,* in fact, handle *cm* statements about this AO differently than AO statements (e.g., using relatively mild *cm* assertions about a highly-placed person, yet associating him with other AO to which are given very low evaluation).

The final evaluation of each AO is based on information from both *cm*-type and AO-type assertions. (VI) When the complete AO-type evaluation for a given AO has been made (in column 8), add together the product totals from column (4) and (8), e.g., Σ *cm* and Σ AO which in this case equals +28.9; divide this value by the total absolute sum of all connectors in columns (2) and (5), e.g., Σ |c| cm plus Σ |c| AO which in this case equals 13; enter this value in the box opposite the lower arrow (here, +2.2). This is the final evaluation for this AO. In general, AO_1's for which only a small number of *cm* evaluations are available should not be counted as AO_2's in the final evaluation of other AO's.

The final step in this stage is to transfer these evaluations to *the standard 7-step evaluation scale.* As shown in Figure 4, the final evaluative location of each AO is indicated on the scale by an arrow. Each arrow is labelled with the nonsense symbol for that AO and then, in parentheses, the actual name of the AO is written in, as determined by comparison of the transcribed messages with the original. In some cases AO's which have been analyzed separately may be combined for the final report; this should only be done where (a) the same general AO is involved and (b) the evaluative locations are approximately the same (if enough material is available, a significance test may be run between the evaluations in columns (3) and (7) for the two AO's, as corrected for sign). An example of combinable AO's would be AMERICANS —2.3 and AMERICAN RULING CIRCLES —2.6 as derived from a Radio Moscow sample. An example of AO's which should not be combined would be PEOPLE OF EASTERN EUROPE +1.2 and GOVERNMENTS OF EASTERN EUROPE —2.1, as derived from a different source — in this case, note, the source is making a definite evaluative distinction between the people and their governments.

SPEED CHECK

It is realized, of course, that this type of content analysis is much more laborious than most other procedures[7]. The question exists, however, as to just how rapidly a team of well-trained coders can process message material. At the conclusion of this series of studies of the method, an attempt was made to obtain at least a rough check on this matter. The six employed coders were paired into three-man

[7] For a representative bibliography, cf. Berelson, B., Content Analysis, *Handbook of Social Psychology* (ed. G. Lindzey), Vol. I (1954), pp. 519-522.

teams. Man A, working directly onto a typewriter, masked the attitude objects in his message and substituted nonsense letter symbols for them, making a list of these symbols and their referents as he went along. Each completed page of the masked material was handed to Man B, who translated the material into assertion form, e.g., made the assertion chart for the material. When Man A had finished his masking job, he took the assertion chart that had been prepared *by two other coders on material with which he had no familiarity* and scored the connectors and evaluators as to direction and intensity. Man A finally did the computations and made up the final evaluation scale. In this way, six coders were able to work on three sets of different materials.

The total number of triple-spaced pages involved was 24. There being about 200 words per page, this means a total of about 4,800 words. The total time spent by our six coders was approximately six hours (three 2-hour periods). This means that to process 133 words of material completely, or about one triple-spaced page, takes about one hour of coder time; includes all stages, of course, and transcription of the masked message. This is certainly time-consuming. However, a set of six well-trained coders working steadily through a 40-hour week should be able to handle as much as 240 pages of material. In any case, the question of laboriousness of the method must be weighed against the precision and dependability of its results, as compared with more rapid methods.

PRELIMINARY EVALUATION OF A SHORT-CUT METHOD

Since the "full" method of evaluative assertion analysis is relatively timeconsuming, it is worth asking whether or not short-cuts can be found. In this connection, it is probably necassary to use coders who have already learned the "full" method. Time and funds permitted only a single exploration in this direction, a single alternative among many possibilities.

Four coders were given a message that had been masked by one of the research associates. The original was a St. Louis Dispatch editorial on the Oppenheimer Case. The coders were told to read carefully through the message twice. On the first reading they were to underline all evaluative *cm* and code directly on the message both as to direction and intensity; they also double-underlined evaluative verbs and coded them as to direction and intensity; secondary sources were indicated by writing SS. On a second reading they made within-

bracket and between-bracket assertions mentally, noting directions and intensity of connectors; they then entered values for *cm*-type assertions directly onto an evaluation computation chart, keeping different AO's separated; they also entered values for connectors and the symbol of the AO_2 in the AO-type assertions. In other words, starting from transcribed (masked) materials, these coders were to produce an evaluation computation chart directly, doing the other stages in their heads. This material was three pages long (triple-spaced) and the coders averaged about one hour to do the task. This short-cut, then, makes it possible for coders to process material at the rate of three pages per hour, better than three times as fast as the "full" method.

How reliable is this short-cut method? Table 6 gives the set of rank-order correlations for those AO's having a reasonable amount of material on which to base locations (8 AO's). Comparing these correlations with those given earlier for application of the "full" method to an equivalent amount of material, it can be seen that the short-cut yields generally lower reliabilities. However, considering the relative speed of this short-cut and the amount of "head-work" it involves, these correlations are reasonably good. This result encourages us to believe that short-cut methods can be introduced and validated against the longer procedure.

TABLE 6

Reliability Coefficients for Short-cut Method

Coders	※1	※3	※4	※5
※1				
※3	.68			
※4	.81	.97		
※5	.83	.44	.60	

CONGRUITY CHECK

The principle of congruity in human thinking and language behavior[8], as it applies here, is simply that in the messages from a given source, favorable attitude objects should be associated with good common-meanings (and other favorable attitude objects) and dissociated from bad common-meanings (and unfavorable attitude objects), and vice versa for unfavorable attitude objects. Granted one assumption — that sources are always internally congruent — this would provide us with a perfect check on the validity of the entire process of evaluative assertion analysis. Since this assumption of perfect internal consistency on the part of the source is rarely met (and decreasingly, we suspect, as the source becomes ambivalent about certain AO's), we have here only a partial check. However, it is still useful because it often points up errors at various places in the total analysis.

The congruity check proceeds on the assumption of perfect consistency on the part of the source and lays bare places in the message where incongruities occur. The checker then examines those portions of the material to determine if these are real incongruities on the part of the source or errors on the part of the coders. The procedure here can be described quite succinctly: (1) For each secondary source and AO in *the assertion chart enter* a + or a — depending on its evaluative direction, as determined from *the evaluation computation chart.* The general source of the message (S) is always considered to be + . Also make sure that all connectors (both within assertions and those relating secondary sources to assertions) and *cm* materials have signs indicating connective direction (i.e., associative or dissociative) and evaluative direction respectively. (2) Each line on the assertion chart is now checked separately for *congruence.* To be congruent, there should be an even number of minus signs (or none) on the line which includes a source-connector-AO-connector-*cm* (or AO_2); or, in other words, the algebraic product of the entire set of associative and evaluative signs should be positive. If any line fails to meet this test, place an *X* on the lefthand margin at that point and continue with checking process. The following example will illuminate the nature of this check:

---

8 Osgood, C. E. & Tannenbaum, P. H., ibid.

	SOURCE	(CONNECTOR)	AO	CONNECTOR	cm or AO_2
	+	+	—	—	+
(1)	S	(says)	RUSSIA	is blocking	peace
	+	+	—	+	+
X (2)	S	(says)	KREMLIN	is being helped by	NEHRU
	+	+	—	+	+
X (3)	NEHRU	has said that	CHINA (RED)	must achieve	own place in sun
	+	—	+	+	—
(4)	NEHRU	denied that	INDIA	has	aggressive aims
	+	+	+	+	+
(5)	S	(says)	NEHRU	is	a very able person
	+	+	—	—	+
(6)	S	(says)	RUSSIA	has not supported	NEHRU ('s views)

Note that lines (2) and (3) fail to check, and both concern NEHRU. Judging from the remainder of the hypothetical message sequence, it seems likely that this source is actually ambivalent about NEHRU and this is a valid analysis; however, in any case, such instances of incongruity should be checked for possible errors. (3) Having checked each line of the assertion chart in this manner, the checker now examines the original message in connection with the assertion chart to determine if each of the marked incongruities is an error on the part of the coders or a valid reflection of the source's message.

VARIOUS CONTENT MEASURES DERIVABLE FROM THE METHOD

(1) *Evaluative location.* The direct measure provided by evaluative assertion analysis is the allocation of the set of attitude objects in the message to a common evaluative scale. This tells us how the source of the message evaluates the various concepts discussed, those toward which he is relatively favorable, neutral and relatively unfavorable. Because the same procedures and scaling units are applied to all messages from all sources, it is also possible to compare sources and messages directly; we can say which of several sources corresponds best with any other source in the evaluations being made of various

people, countries, and so on, we can correlate across sources and messages for attitude objects they discuss in common, and we can determine which of several alternative messages best communicates some "desired" evaluative ordering of concepts.

The same measure is applicable to different types of messages. For example, in certain types of literature, the method provides a way of determining empirically, how each character (as well as the author) feels about the other characters. A student of biography might profitably use the method in determining how several biographers evaluate the same historical person, and, similarly, how any one biographer evaluates a number of persons. In psychotherapy, this type of measure might be used to indicate a change in the evaluation of a certain person (e.g., therapist) by the patient.

In addition, there are a number of secondary measures which can be obtained from the same data.

(2) *Incongruity index.* The proportion of lines on the assertion chart which include valid incongruities (e.g., actual incongruities on the part of the source rather than errors) is an interesting and probably significant measure. We may hypothesize, for example, that the more polarized the attitudes of a source, the fewer the incongruities in its messages. We may also hypothesize that portions of messages in which untruths, half-truths, and other evasions based on mixed motives are involved will be characterized by higher frequencies of incongruities. This sort of measure might reveal significant information about points of ambivalence in propaganda as well as in a patient undergoing therapy, for example. In literature, incongruities may be an index of certain types of style, such as satire, irony, and humor.

(3) *Assertion type.* Inspection of the various materials which were used in the present methodological study suggests that there may be real differences between sources in the types of assertions typically employed. Some sources, for example, seem to use a relatively high ratio of *cm* evaluations to the total of both types, i.e., they tend to "come right out and say it" in everyday English words. Other sources, on the other hand, show a higher proportion of AO-type assertions, evaluating concepts indirectly via the polar AO's with which they are associated in messages. Again, an extension to the therapeutic situation suggests itself. This type of measure might indicate whether, in the course of therapy, a patient was indicating his feelings more

directly, and, consequently was more aware of them. In certain types of prose, such a measure might be useful in defining different types of character portrayal.

(4) *Polarization.* Sources may be compared in terms of how far out toward the extremes of the evaluative scale they typically place concepts. Some sources display an extremely bi-polar or two-valued orientation of concepts; others cluster their evaluations nearer the neutral point. It seems a reasonable hypothesis that polarization should increase with the emotionality of the source, which might have bearing on psychotherapy materials as well as propaganda. The analogy in literature might well be such genres as the epic poem, where the "hero" and the "villain" are clearly drawn and most characters are either on one side or the other.

(5) *Density of evaluation.* Messages from various sources differ in how much of the material is evaluative in nature. Some index of this (perhaps the average number of evaluative assertions per 100 words) should be useful in differentiating various types of messages, e.g., scientific writing should be very low in evaluative density as compared with propaganda. At the other extreme, certain lyric poetry might be very high in evaluative density.

(6) *Contingency analysis of AO's.* Every assertion of type *b* (association of one AO with another) is a pairing or association of two concepts in the thinking of the source. In contingency analysis we are interested in the greater-or-less-than chance pairing of attitude objects — in a certain propaganda source, for example, are references to INDIA associated with references to CHINA with greater-than-chance frequency? In a therapy case, are references to FATHER associated with references to SEX ACTIVITY with *less*-than-chance frequency, suggesting repression or inhibition?

These and other measures can be evaluated with larger and more representative samples of material than have been used in the present methodological study.

CERTAIN LINGUISTIC IMPLICATIONS

Some of the solutions offered in connection with the method presented in this study suggest a comparison with similar problems

in linguistic analysis. For example, the relation between *verb forms* and *intensity* of *connectors* (p. 69) may be related to the linguistic categories of *tense* and *aspect*. Verbal forms expressing tense (whether past or non-past) are usually at the strongest intensity level, whereas verbal forms expressing aspect (whether imperfectivity or perfectivity) usually express moderate intensity of connection. For example, the expressions / AO / denounces / BZ / , and / AO / denounced / BZ / express strongest possible dissociation between AO and BZ (—3); on the other hand, / AO / used to denounce / BZ /, and /AO/ has denounced / BZ / suggest a more moderate dissociation (—2). To what extent similar intensive effects may be correlated to verb forms in other languages requires further investigation.

The principle of congruity (p. 71 et passim) suggests a comparison with the attempts of certain linguists to extend the methods of descriptive linguistics beyond the limits of a single sentence[9]. In contrast to the methods of descriptive linguistics, the present study suggests a technique for subdividing classes of morphemes and morpheme sequences beyond the conventional 'parts of speech'. For example, HEROES and VILLAINS are both members of the same form class, i. e. nouns, so that both / HEROES / denounce / *pornography* / and / VILLAINS / denounce / *pornography* / are grammatical sentences; however, they are not both congruent sentences. Subclasses of morphemes may then be established on the basis of such contrasting frames as (A) ——— denounce pornography, and (B) ——— condone pornography; or (C) Heroes denounce ———, and (D) Villains denounce ———; or (E) Heroes ——— pornography, and (F) Villains ——— pornography. Clearly, the selection of a particular sequence is in part determined by the congruity of the resulting sentence.

Charles E. Osgood, Sol Saporta, & Jum C. Nunnally
Institute of Communications Research
University of Illinois

9 Cf. particularly, Harris, Z. S., Discourse analysis, *Language* 1952, *28*, 1-30, 474-494.