

## HOW ARE DATA INTERPRETED? A TRANSACTIONAL VIEW

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A STORY is told by Otto Klineberg about a patient who was convinced that he was dead. Neither entreaties nor reasoning could sway the self-styled corpse from this conclusion. As a last resort, it occurred to one of the doctors to ask whether dead men bleed. "Why no," the patient replied, "as a matter of fact, we don't." A jab with a scalpel brought a flow of blood. "By golly," howled the patient, "dead men *do* bleed!"

Science rests on interpretation. The scientist provides categories for the integrated consideration of his research results.[1] It is even hoped that the synthesis of such constructs might lead to schemes whereby each fragment will somehow fall into place, and interpretation become a matter of derivation or deduction.

In other words, the empirical scientist assigns meanings to data, thereafter manipulating these meanings as if they constituted shorthand for the data, expecting to arrive at more inclusive summaries corresponding to more data. Since such correspondence would in each case be contingent on the validity of preceding steps, the psychological determinants which enter into the assignment of meaning, and their effect on the potential validity of such meanings, are an important factor to consider in gauging the success of the general enterprise.

It is here that the personal equation enters, since objects do not have inherent meanings which are simply passively registered by us. "Telling the meaning of" something is always a joint product of the "something" and the person doing the "telling." This kind of product has become known as a "transaction," after Dewey and Bentley. [2] Even perception, the means whereby data are arrived at, is a joint product of what is perceived and of the purposes and past experiences of the perceiver.[3] As Hadley Cantril has put it, "the meaning we relate to any sense impression is derived only *through* our past experiences as we have tried to carry out our purposes." [4]

It has been shown by means of a simple demonstration that the image

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thrown on the retina by a chair may be the same as that projected by a variety of arrangements which look most unlike chairs if inspected from any other angle; yet, one unfailingly sees a chair.[5] Why a chair? Because the retinal image involved has always in the past belonged to something "sittable on," four-legged and rectangular. When one approached the object and sat down, one never landed on the floor. Past experience *tells us* we are dealing with a chair, even when we are not, as in the demonstration.

If interpretations are shaped by interpreters, objectivity, in the sense of *accepted* meanings or interpretations, can thus only refer back to a communality of experiences and purposes on which the meanings are based. Everybody sees chairs in the demonstration referred to, given the common benefit of many years of successful chair-sitting.

**S**UCH CONSENSUS is a poor criterion of validation. For one, it carries the unfortunate implication that it is desirable to share other people's purposes and past experiences. Moreover, what is unorthodox at one time often becomes orthodox at another, so that, in endorsing a contemporary "fact" we may reject a future one. Further, continuous agreement tends to preclude progress, since it prevents the emergence of anything new. The scientist, therefore, cannot rely on consensus alone to validate his interpretations.

Neither can he check his interpretations directly, since what is experienced is never available other than in experience: the reliability of an interpretation (in experience) is the only possible test of its validity. However—and this is perhaps the point—the same type of psychological factors which may make the original interpretation invalid may operate with regard to the interpretations against which it is compared, as in Klineberg's story.

Psychological factors impairing validity have frequently been discussed under the heading of "bias," defined as "the way in which opinion and prejudice and egoism intrude upon and influence scientific belief." [6] The premise is that "opinion," "prejudice," "egoism," or what have you are extraneous and alien to the process of "believing," and that they operate by "influencing" its somehow pre-determined course.

However, if one refrains from visualizing man as a passive recipient of ready-made meanings, one cannot speak of qualitatively different categories "biased" and "unbiased." There are merely beliefs in the formation of which certain psychological determinants are given more weight than they are with others. The extent of their influence, of course, ultimately affects the chances that what is believed comes close—as close as human limitations will permit—to the object of belief.

It will be the contention of the following that the stronger the motives underlying an interpretation are, and the more systematic and structured the interpreter's psychological world is, the greater are the chances that his interpre-

tation will not be reliable, and that he will tend never to discover this fact himself.

### *Purpose and Potential Validity*

IF ONE could speak of an overall psychological function of interpretations, it would fall under some heading such as "need for the categorical." Meanings, after all, provide bases for action by structuring and stabilizing what is intrinsically unstructured and indeterminate. Without stability and reliability in percepts, beliefs or scientific postulates, purposive living would be impossible. In this sense, every meaning denotes an act of faith. It takes place in the face of the potential confusion in which it has its roots. It is this point, I think, which Horace Kallen makes when he writes that "cravings for safety and certainty appear to be sustained by the indeterminateness pervading the most singular human situation. . . Determining the indeterminate alleviates the cravings; and since this is a passage from what is, to what is not yet and need not be, it is an act of faith with its intrinsic risks." [7]

"Intrinsic risks" probably refers to the point of diminishing returns implied in the process. If no intellectual discomfort is tolerated, what has been a protective screen becomes the foundation for a prison. An excess of faith leads to precipitous betting on unsafe odds.

This caution may be extended to purposes underlying specific meanings. William James has written that "as a rule we disbelieve all facts and theories for which we have no use." [8] What probably comes closer to the truth is that, other things being equal, the less use we have for something the greater will be the tendency not to accept it, and vice versa.

A number of experiments by psychologists may be summoned in support of such a statement. One finding of this kind is that words of special interest to a person will tend to be recognized much faster than others which are not. Similarly, distasteful or threatening words need to be exposed for long periods in order to be "legible." It has also been found that convincing a person under hypnosis that he is "poor" will make him over-estimate the size of coins, whereas the *same* person will tend to underestimate the *same* coins if he has been persuaded that he is "rich." Disks with emotionally laden symbols (such as dollar signs or swastikas) are seen as larger than disks containing drawings which represent something neither liked nor disliked.[9] Studies of election appeals have shown that arguments with which the prospective voter agrees are noted and remembered at the expense of those with which he disagrees. Similarly, when prohibition was an issue, advocates of one or the other side regarded their respective views reinforced by the same set of printed statements. Pro- or anti- Russian "rumors" were found to be "accepted" in line with previous attitudes about Russia.[10]

If an interpretation may be thought of as a categorical statement covering

certain data, the amount of such data required for a given interpretation, that is, the evidence necessary and adequate for a bet to be placed, can be regarded as decreasing as motivation increases. Interpretations which satisfy the person's requirements extremely well would need a minimum of experiential verification, an extreme instance being the *credo quia absurdum* of the devout. By the same token, interpretations running counter to purposes would tend to have higher empirical requirements.

RICHARD RUDNER, in a recent paper on value judgments in scientific validation, has indicated that in validation "the scientist must make the decision that the evidence is *sufficiently* strong or that the probability is sufficiently high to warrant the acceptance of the hypothesis." [11] What is true of interpretation thus becomes equally true of validation.

"Objective" failure or success need not necessarily be experienced as failure or success. Moreover, if and when it is, the validating act can be dissociated from its premises or otherwise have its significance changed to deprive it of its relevance to the validity of these premises. By this means, something a hypothetical outside observer would regard as invalidating can even be reinforcing to an interpretation. A sufficiently highly motivated interpretation may tend to be self-validating, and therefore self-perpetuating.

One such self-validating mechanism is illustrated in the story of the patient who thought that he was dead, and wanted to sustain this belief. The means the patient chose to accomplish this end was to retract the proposition "blood, therefore not dead" (implicit in the admission that dead men do not bleed) at the sight of blood. As an alternative, he could have indulged in invalid reasoning like "dead men don't bleed; I bleed, but I am *so* dead." He might also have blinded himself to the blood, or maintained that it was ink. Still simpler would have been a retroactive qualification, such as "*some* dead men may not bleed, but . . ."

A more down-to-earth illustration is provided in a recent article in the New York Herald-Tribune (March 8, 1954) about the Nazi concentration camp in Dachau, now a memorial to atrocity victims. A part of this memorial had to be closed because German authorities found it "offensive to good taste." "Relatively few Germans," the article reads in part, "are among the steady flow of visitors to the Memorial. One of the caretakers said some of the guests had said the larger of the crematories was built by the Americans after the war for propaganda purposes. Other informants in Munich said this view is still fairly widely held in Bavaria."

The observation of crematoria is thus made compatible with the motivated premise "people didn't really suffer at German hands," by interpreting the data on the basis of another premise, the belief that Americans conspire to discredit Germany. The latter probably satisfies the same ethnocentric motives.

The process of validation is not automatic, but may be channeled by the validator in a multiplicity of ways. The more incentive to devious courses is provided by purpose, the more suspect is the validation, as well as the interpretation being validated.

### *The Closed System*

AS A RULE highly systematic, logically consistent interpretations also provide strong means for selectively processing data. Koestler lists, as one of the characteristics of a closed system, that it "refuses to be modified by newly observed facts but has sufficiently elastic defenses to neutralize their impact—that is, to make them fit the required pattern by a highly developed technique of casuistry." [12] Another former communist declares, with regard to the influence of this system on his interpretations, that "developments which seemed detrimental to Russia were regarded as ephemeral, dishonestly interpreted, or canceled out by more significant countervailing developments." [13]

The closed system thus operates to prejudge data, by providing "correct" interpretations for them, which do not threaten its premises. In its "essential features," as William James has noted, the closed system is therefore "irreversible." [14] The believer is confined to move *within* the system, unless and until he abandons it.

The prime function of the systematic aspect of any system is probably simplification and unification. Carried to an extreme, these functions may be satisfied at the expense of validity. Criteria of validation may become exclusively formal ("does it fit?") and no further checks may be demanded. A closed system is an economical one. Like a bird's cage, it limits the world, but provides for maximum security and a minimum expenditure of energy.

Psychotic delusional systems yield many illustrations of predetermined interpretation of data, in line with key interpretations (such as "I am being persecuted by individuals in high places who are communists," or "I am a reincarnation of Vishnu").

Such extreme examples are not qualitatively different from more ordinary versions of interpretations of particular events. Any systematization carries with it the predefinition (within limited degrees of freedom) of a universe of potential data, which are categorized, evaluated, and structured in terms already provided for. As in the immortal trial scene in *Alice in Wonderland*, the defendant may be condemned and ordered to be executed before testimony has ever been considered.

### *Validity vs. Security*

IT IS necessary not only to distinguish between subjective validating criteria and hypothetical criteria of actual validity, but even more essential to recognize the relationship between the two, as implicit in the above.

What we have argued is that the more the personal validating criteria tend toward satisfaction and feelings of security, the further would the hypothetical "objective" criteria depart from those the interpreter uses. Further, the more functional an interpretation is to the interpreter (either as satisfying a set of purposes or as fitting into some predetermined scheme), the more functional—and therefore the less reliable—would be the validating criteria.

It boils down to an opposition of potential validity to security, of objectivity to vested interest. In order to maximize potential validity, it is necessary for the interpreter to derive his satisfactions from his *dealings with* the data and theory, not from the interpretations themselves. A scientist must gain his security through the scientific process, never through the product.

In short, to the extent to which ideas become causes, they diminish, for psychological reasons, in the faithfulness with which they mirror the happenings to which they refer. Since science aspires to maximum potential validity, the scientist must be content with minimum satisfaction from the substance of his interpretations. He must, like the saint, stand steadfastly on guard against the ever-present manifold of temptations from within.

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