A FIRST LOOK AT COMMUNICATION THEORY

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Mediational Theory of Meaning

of Charles Osgood

Have you ever wondered where theorists get their ideas? In the case of mediational theory, picture a young boy with a sweet tooth playing word games made up by his grandfather.

"What's the difference between *anger* and *frustration?*"

"Can you think of a word for the feeling of joy that shows even greater intensity?"

Every time the boy could correctly distinguish between two shades of meaning, he was rewarded with a jelly bean. His aunt felt the older man had an unfair advantage and tried to even the game with a gift of Roget's *Thesaurus.* At first the youngster thumbed through the book of words as a means to win more candy, but soon he came to take an intrinsic delight in grasping the subtle differences among synonyms.

The boy was already a science fiction buff—his mind filled with images of deep space, rocket ships, and travel between stars. It seemed natural to think of the thesaurus as an intergalactic chart which mapped similar words as points in starlike clusters. The boy is an adult now. His name is Charles Osgood (not the TV news commentator), and he never outgrew the interstellar metaphor. In the 1950s, when most scholars avoided the concept of meaning as too vast or intangible to handle, this University of Illinois professor of psychology and communication put forth a theory that pictures the meaning of a word as a position in semantic space.

THE STIMULUS-RESPONSE ROOTS OF OSGOOD'S THEORY

In order to understand Osgood's mediational theory, you need to think of a specific person in a specific situation. Imagine a young father named Keith with his daughter by a lake on a muggy summer afternoon. Suddenly there's a loud clap of thunder overhead. Osgood says Keith will process the thunder on three separate levels of increasing complexity, each affecting behavior. Osgood thinks

it's foolish to study language apart from its ultimate effect on the hearer's conduct.

The first and most basic process level is raw sensation. Keith hears the sudden crack of static discharge in the atmosphere and experiences a reflexive tightening in the muscles of his stomach. This is a classic stimulus-response (S-R) reaction. The loud sound doesn't stand for anything, doesn't need decoding. No meaning takes place on the sensory S-R level; it's merely a mirror of what is.

Perception takes place on the second process level. The perceptual process integrates the input of our ears, eyes, nose, throat, and skin with our past experience. In that sense, perceiving reflects not what is, but what we expect it to be.

From watching a hundred thunderstorms over the course of his life, Keith has developed the expectation that dark rolling clouds, lightning, thunder, and driving rain go together. He makes this association because these natural phenomena often all occur at roughly the same time. That's why he won't let his daughter swim in the lake when he hears rumbling from the sky. The sound won't hurt her, but a high-voltage discharge could easily kill.

Early notions of language acquisition claimed that words take on the meaning of their referent through the same process of paired association. Keith hears someone say "thunder" almost every time there's a rumble in the sky. A simplistic learning theory would claim that the word comes to acquire the same meaning for Keith as the noise itself. But Osgood says it doesn't. Keith has no qualms about swimming when he hears the word *thunder*. The symbol does not hold a static electrical charge. The mere association of a word with an event fails to capture the full impact of the real thing.

*P*AINTING A PARTIAL PICTURE

How then does a word become a sign of something else? How does it become meaningful to us? According to Osgood, "words represent things because they produce some replica of the actual behavior toward these things, as a mediation process."[11] This "representational mediated process" occurs on a more complex mental level than sensation or perception. It mirrors not what the word is, nor what we think it should be, but what it signifies.

Osgood refers to this third process level as representational because the response replica of the word *thunder* in Keith's mind is only a fractional part of his total reaction to the real meteorological event. An actual crack of thunder produces an involuntary cringe, a quick look toward the sky, a search for cover, and an avoidance of swimming. The symbol *thunder* calls up only a reduced portion of this complex pattern. Keith may imagine a tightening in his gut and a quickened step, appropriate responses to static discharge from cumulo nimbus clouds. But equally fitting responses concerning umbrellas, shelter, or swimming have failed to rub off on the word *thunder*. The word doesn't draw up a mental video in which he yanks his daughter out of the water or dashes for

cover. Osgood says that's because those images would reflect actions which require high energy.

The greater the effort required to perform an act in response to a stimulus, the less chance the association will stick to the word describing the event. Running for shelter is a potentially embarrassing, maximum-effort act that would disrupt whatever else Keith was doing. Therefore, it's not one of the images tied with his response to the word *thunder*. His mental picture is representational in the sense that it's part of the whole, but it's highly selective in that it picks up only the easier moves.

The process as it is diagrammed in Figure 3-1 is a gross oversimplification. The top line suggests Keith has experienced only one clap of thunder. Not so. He can recall his frustration when a thunderstorm washed out the best golf score he ever had through seven holes. He'll never forget the white-knuckle fear brought on by a plane ride through thunder, lightning, and turbulence at thirty thousand feet. He also remembers a long kiss by the fire in a room made even more cozy because of its contrast to the explosive sounds outside.

Osgood says this complex batch of reactions is divisible into a finite number of components. In other words, there is a mental shorthand that can synthesize all of the responses which make up Keith's representation of thunder. The following section on the semantic differential will explain how a word is located in semantic space. But for now it's important to realize that a given word means different things to different people because their responses to the thing it represents are so varied. Perhaps you've never associated thunder with a sense of loss, sweaty palms, or sexual arousal, but portions of these reactions form a composite image that defines the meaning of thunder for Keith.

Meaning is mediational in that the S-R process is rehearsed in the head. Keith's internal replica of thunder response is projected on the wall of his mind and triggers a self-stimulation appropriate to the event. A scenario of tightened stomach muscles and brisk walking are covertly role-played as the body prepares for an overt response to the word.

Figure 3–1 The Representational Mediation Process (Adapted from Osgood, Suci, and Tannenbaum, *The Measurement of Meaning,* p. 7. © 1957 by the Board of Trustees of the University of Illinois. Used by permission.)
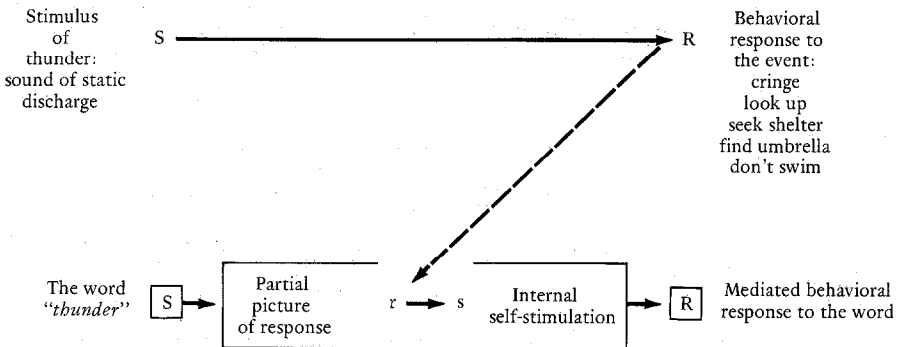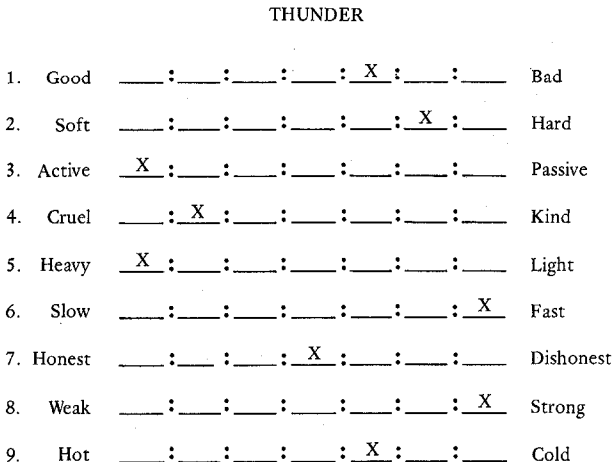
From Figure 3-1 you can see that Osgood has created a three-stage model of meaning: (1) The word *thunder* gets through our sensory and perceptual filters and is decoded to the extent that it's recognized as a sign of something else. (2) Our meaning for the word is then established through association with the actual event, but this is a process of mediated representation rather than a knee-jerk cause and effect relationship. (3) Finally, internal self-stimulation is encoded into an overt behavioral response to the word. Osgood apologizes for the convoluted nature of the model but notes that when it comes to explaining how words come to hold meaning for a person, complexity is the price of sufficiency.

THE SEMANTIC DIFFERENTIAL: A WAY TO MEASURE AFFECTIVE MEANING

I've already suggested that you and I may mean something different when we say the word *thunder*. But how would we know? Osgood has created the semantic-differential technique to compare the meanings words have for people. The idea of a quantitative measurement of meaning may strike you as a bit ambitious, but the possibility intrigued Osgood ever since he pictured synonyms from his thesaurus as close neighbors in semantic space. Figure 3-2 shows a typical semantic-differential survey form as Keith would fill it out, given his mediated representation of the word *thunder*.

Notice that the words at the ends of each scale are polar opposites. Four thousand years ago Chinese philosophers spoke of the *yang* and *yin* of the world—the faceoff between forces of light and dark. Osgood believes that nothing has changed. By giving the respondent a chance to identify the word between "reciprocally antagonistic adjectives," he is certain that he's tapping into

Figure 3–2   Semantic Differential

THUNDER

1.	Good	___ :	___ :	___ :	___ :	X :	___ :	___	Bad
2.	Soft	___ :	___ :	___ :	___ :	___ :	X :	___	Hard
3.	Active	X :	___ :	___ :	___ :	___ :	___ :	___	Passive
4.	Cruel	___ :	X :	___ :	___ :	___ :	___ :	___	Kind
5.	Heavy	X :	___ :	___ :	___ :	___ :	___ :	___	Light
6.	Slow	___ :	___ :	___ :	___ :	___ :	___ :	X	Fast
7.	Honest	___ :	___ :	___ :	X :	___ :	___ :	___	Dishonest
8.	Weak	___ :	___ :	___ :	___ :	___ :	___ :	X	Strong
9.	Hot	___ :	___ :	___ :	___ :	X :	___ :	___	Cold

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the natural order of life. The test is essentially a written form of the game Twenty Questions, in this case trying to zero in on the concept of thunder. Is it good (not bad)? Is it strong (not weak)? Is it fast (not slow)?

Consistent with mediational theory's focus on reactions, the words used to anchor the scales are concerned with feelings (connotation) rather than description (denotation). Osgood thinks we all know what thunder is. The question of meaning centers on how we respond to it? How does thunder feel?

He was impressed with studies showing that emotional moods translate across the senses. Fast music looks red and feels hot. The blues are slow and cool. Elevator music is sweet. Black Sabbath is sour. Since all of the scales are labeled with adjectives, they aim at establishing affective meaning.

SCORING THE DIFFERENTIAL FOR DIMENSIONS OF MEANING

Scoring for the odd-numbered scales in Figure 3-2 runs: -3 -2 -1 0 $+1$ $+2$ $+3$. The even-numbered items reverse that scheme. The center of each

scale represents a point of at least momentary indifference. We can almost see Keith shrugging his shoulders or muttering that they've asked the wrong question. He obviously had that feeling when confronting the honest-dishonest choice on thunder. But the strong–weak scale had great significance. The placement of his "X" makes the statement, "I think thunder is *very* strong." Osgood equates intensity with significance. The further Keith's responses are from zero, the greater meaning the word *thunder* holds for him.

Since there are nine scales in the sample semantic differential, does this mean that Keith's semantic space has nine dimensions? Perhaps. Osgood realizes he's asking us to do the impossible—"to imagine a hypothetical space of some unknown number of dimensions."[12] It could be nine. But you'll recall from the discussion on meaning as a representational mediation process that he believes all complex reactions can be factored down to an interlocking set of basic judgments. He's committed to getting it down to as few as possible.

Because we can picture three-dimensional space, let's suppose for a moment that Osgood discovers that all our feelings toward things can be plotted on three irreducible axes that cut through semantic space. Like all self-respecting space, semantic space has an origin or frame of reference through which each of the dimensions runs. You might picture a big ball of yarn with three knitting needles stuck through at right angles—all intersecting at the center. A notch on each needle could provide coordinates that would locate a specific point within the ball. That's what Osgood wants to do with words. If there were three root dimensions to semantic space, his scales with seven differential positions would render 343 discrete points of affective meaning ($7 \times 7 \times 7 = 343$).

Meaninglessness resides at the exact center of semantic space. An object located there is neither hot nor cold, hard nor soft, kind nor cruel. For the person who sees it that way, the object is one big cipher. Meaning can be pictured as an arrow or vector that moves away from zero. The direction is the quality or type of emotional reaction, the distance out is the intensity of that feeling.

So much for supposing. In an extensive research program at the University of Illinois in the 1960s, Osgood discovered that the bulk of our reactions can be reduced to just three dimensions. This is the shorthand I spoke of earlier. He had thousands of people judge hundreds of concrete objects and abstract ideas using every bipolar scale he could imagine. When the computer finally shook them all down in a statistical process called "factor analysis," it turned out that most of the judgments could be classified as one of three types:

1. An overall positive/negative evaluation.
2. An assessment of potency.
3. A commentary on the degree of activity.

This major finding deserves a closer look.

*E*VALUATION, POTENCY, ACTIVITY

Scales 1, 4, and 7 gave Keith a chance to rate thunder over a basic like-dislike range. Is he for it or against it? Even if there were many more bipolar choices such as valuable-worthless, beautiful-ugly, healthy-sick, he wouldn't be expressing new thoughts. His response on one item is a reliable indicator of how he'd rate the others.

Keith's average rating on the evaluation items is -1. This somewhat negative response is consistent with his mediated representation of thunder as a blend of golf course frustration, airplane panic, and romantic warmth. Fifty percent of the meaning Osgood squeezes out of language usage can be reduced to a simple plus or minus evaluation.

Another 25 percent of identifiable meaning is due to judgment of potency. The strong–weak, hard–soft, heavy–light scales pick up this power metaphor. Adding more scales would only confirm what items 2, 5, and 8 already show—that Keith's representation of thunder depicts it as a potent force ($+ 2.67$).

Items 3, 6, and 9 gauge how Keith sees thunder in terms of activity. Osgood often finds a movement dimension in responses that people make to an object or idea, but it isn't as prominent as judgments of potency. Keith obviously sees thunder as fast moving ($+ 2.33$).

Less than 10 percent of the meaning Osgood can detect falls in categories other than these three clusters. When we know Keith's feelings concerning evaluation, potency, and activity, we have a reliable index of what thunder means to him.

Evaluation, potency, activity. There is nothing magical about those particular labels. They are merely Osgood's intuitive terms to describe the clusters of affective judgment that pop up again and again in his studies. Figure 3-3 is a visual depiction of the scale clusters in our sample semantic differential. Although two people may have different responses to thunder, they think about it in the same categories. It appears that semantic space is marked by three natural grooves or seams.

The semantic differential isn't Osgood's private preserve. This tool to measure meaning has been used in thousands of applied studies. Audience rating of speaker credibility usually boils down to issues of trustworthiness, expertise, and dynamism. A crazy quilt mix of nonverbal impressions can be sorted into categories of relational closeness, relative status, and personal responsiveness. Political pollsters using the semantic differential find that voters think in terms of approachability, competence, and vision. The labels may be different, but the thought process is the same. Osgood encourages practitioners to select scales that make sense for the concept in question. There is no one form of the test. But whatever mix is used, the three dimensions usually emerge. Most of us realize that others will evaluate our words positively or negatively. We often miss that our hearers will weigh the feeling of potency and activity as well.
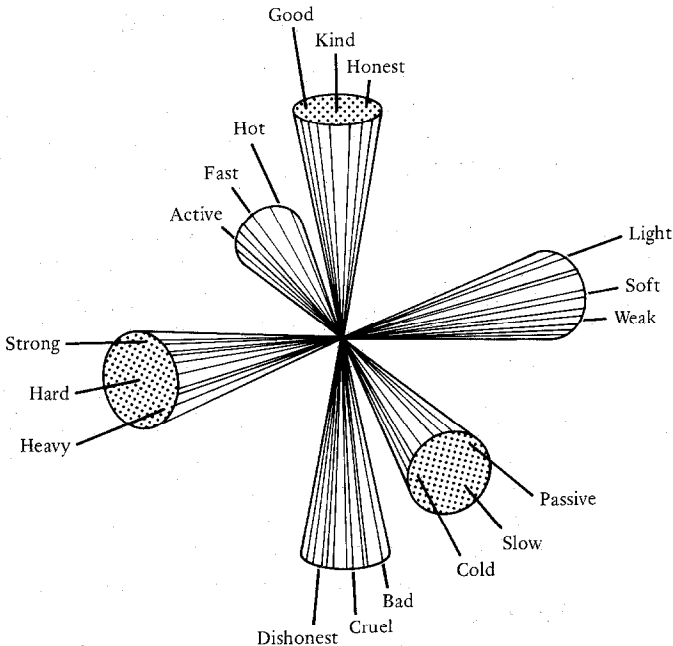
Figure 3–3 The Evaluation (E), Potency (P), and Activity (A) Structure of Affective Meaning (Adapted from Osgood, "Probing Subjective Culture, Part I: Cross-linguistic Tool-making," p. 24.) (Copyright © 1974, Journal of Communication. Used by permission.)

EVIDENCE FOR UNIVERSAL CRITERIA OF JUDGMENT

Are these three dimensions strictly American ways of responding, or are they universal categories which transcend cultural boundaries? Osgood and colleagues throughout the world set out to answer that question. They started with six languages: Finnish, Chinese, Japanese, Arabic, Farsi (Iran), and Kannada (India), but the study has now been run in thirty countries. If you read the details of their procedures in the last two references cited at the end of the chapter, you'll find that they took great care to avoid an English-speaking bias.

As you might expect, specific reactions varied with the culture. For example, male Japanese teenagers evaluated adolescence more positively than their American counterparts. Yet many of the concepts were remarkably similar from country to country. Keith's profile for thunder (evaluation −, potency +, activity +) was replicated in most cultures. Osgood and his team have put together an atlas of affective meanings that charts semantic reaction to 620 concepts around the globe.

But did people from around the world make their affective judgments along the same dimensions? The answer is yes. Regardless of how they were labeled, clusters concerned with evaluation, potency, and activity appeared as

the three main criteria of judgment, and they emerged in the same order and in roughly the same magnitude.

Taken as a whole, these findings are a direct contradiction of Whorf's hypothesis of linguistic relativity. Whorf claimed that language shapes thought. Osgood says it's the other way around. He is hard-pressed to explain the universal patterns of affective meaning, but he suspects it's because of the centrality of emotion in human affairs. When a cave dweller encountered a saber-toothed tiger, three issues had to be dealt with in rapid succession:

1. Is it good or bad for me?   (evaluation)
2. Is it stronger or weaker than me?   (potency)
3. Is it faster or slower than me?   (activity)

Regardless of their origin, Osgood believes that these three emotional reactions are universally held and that the semantic differential has proven to be a worthy craft to explore semantic space.

CRITIQUE: RATING THE RATINGS

Osgood presents his mediational theory in the first chapter of *The Measurement of Meaning*. He devotes the rest of the book to the development of the semantic differential. You would expect that the measuring tool would grow naturally out of the theory, but the connection between the two is not immediately obvious. Why do depictions of responselike behavior in the representational mediated process suggest the yin and yang edges of semantic space? Osgood presents no compelling rationale for regarding the valuable research results obtained with the semantic differential as evidence for the theory's validity. He seems to value the measurement technique more than the theory.

One can understand his priority; the semantic differential is an impressive tool. Of course many anthropologists doubt the validity of Osgood's conclusion that evaluation, potency, and activity are universal dimensions of affect. Anyone who claims they've punched a hole in the language barrier is bound to draw fire. But a decade of rigorous cross-cultural testing with the semantic differential suggests that Osgood has made a quantum leap in understanding the meaning of meaning.

Since the evaluation-potency-activity coordinates ignore denotation, some would question whether locating a word in semantic space is really a measurement of meaning. But even if Osgood's assessment of meaning is only partial, his way of doing it is certainly better than everyone else's way of not doing it. The semantic differential deserves a favorable rating:

Valuable __X__ : _____ : _____ : _____ : _____ : _____ : _____ Worthless

Strong _____ : __X__ : _____ : _____ : _____ : _____ : _____ Weak

Sharp _____ : __X__ : _____ : _____ : _____ : _____ : _____ Dull

Perhaps Osgood would be satisfied if his mediational theory received a rating one notch lower on each scale.

A SECOND LOOK

Recommended resource: Charles E. Osgood, "An Exploration of Semantic Space," in *The Science of Human Communication,* Wilber Schramm (ed.), Basic Books, New York, 1963, pp. 28–40.

Original statement: Charles E. Osgood, "The Nature and Measurement of Meaning," *Psychological Bulletin,* Vol. 49, 1952, pp. 197–237.

Comprehensive presentation: Charles E. Osgood, George Suci, and Percy Tannenbaum, *The Measurement of Meaning,* Univ. of Illinois, Urbana, 1957.

Subsequent development: Charles E. Osgood, "On Understanding and Creating Sentences," *American Psychologist,* Vol. 18, 1963, pp. 735–751.

Final summation: Charles E. Osgood, *Focus on Meaning Volume 1: Explorations in Semantic Space,* Mouton, The Hague, 1976.

Semantic differential: James G. Snider and Charles E. Osgood (eds.), *Semantic Differential Technique,* Aldine, Chicago, 1967.

Cross-cultural research: Charles E. Osgood, "Probing Subjective Culture, Part 1: Cross-linguistic Tool-making," *Journal of Communication,* Vol. 24, 1974, pp. 21–35.

Atlas of affective meaning: Charles E. Osgood, W. H. May, and M. S. Miron, *Cross-Cultural Universals of Affective Meaning,* Univ. of Illinois, Urbana, 1975.

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11 Charles E. Osgood, "The Nature and Measurement of Meaning," *Psychological Bulletin,* Vol. 49, No. 3, 1952, p. 204.

12 Charles E. Osgood, "Probing Subjective Culture Part I: Cross-Linguistic Tool-Making," *Journal of Communication,* Vol. 24, No. 1, 1974, p. 22.