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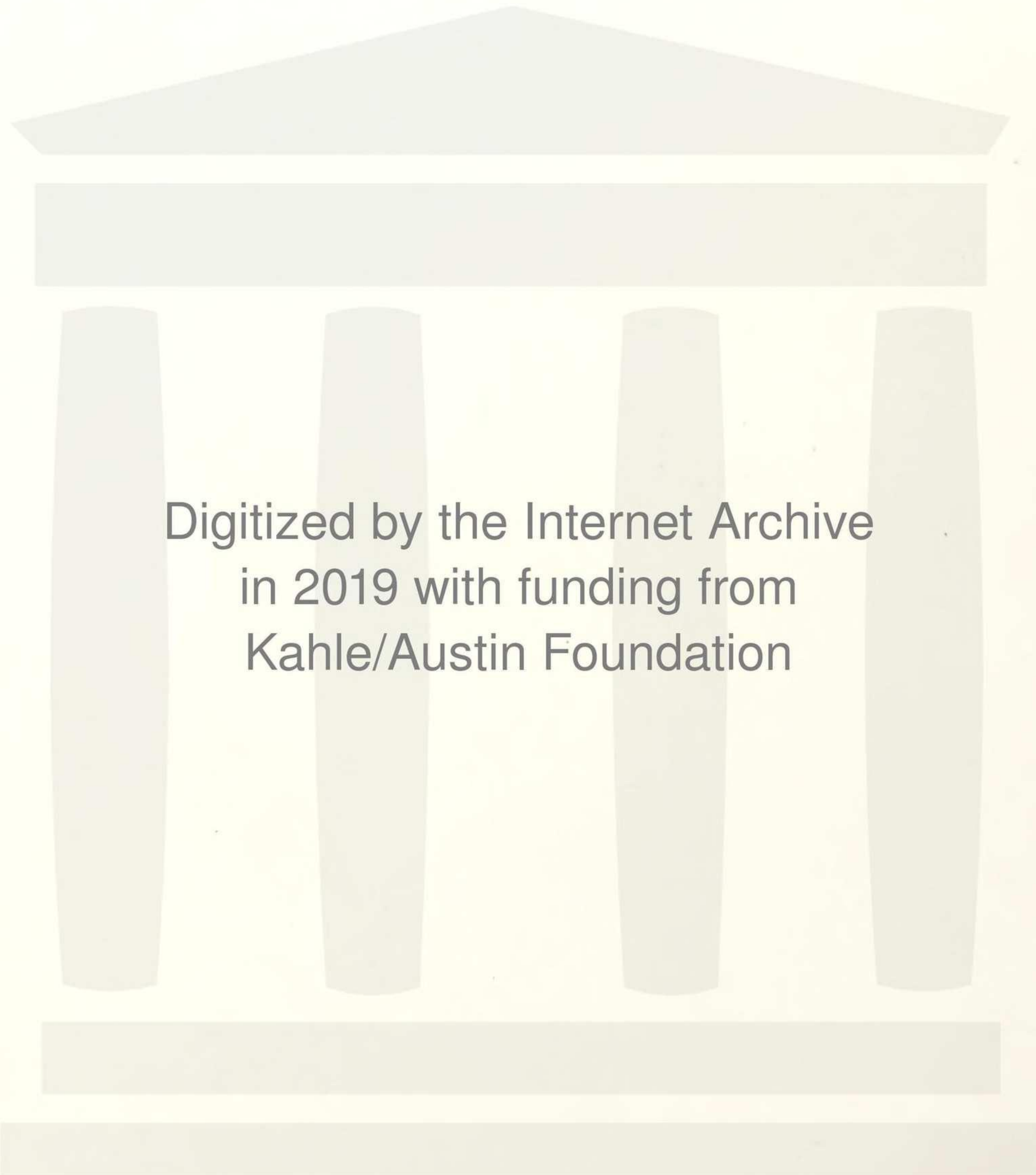
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COMMUNICATIONS

TRANSFER OF MEANING

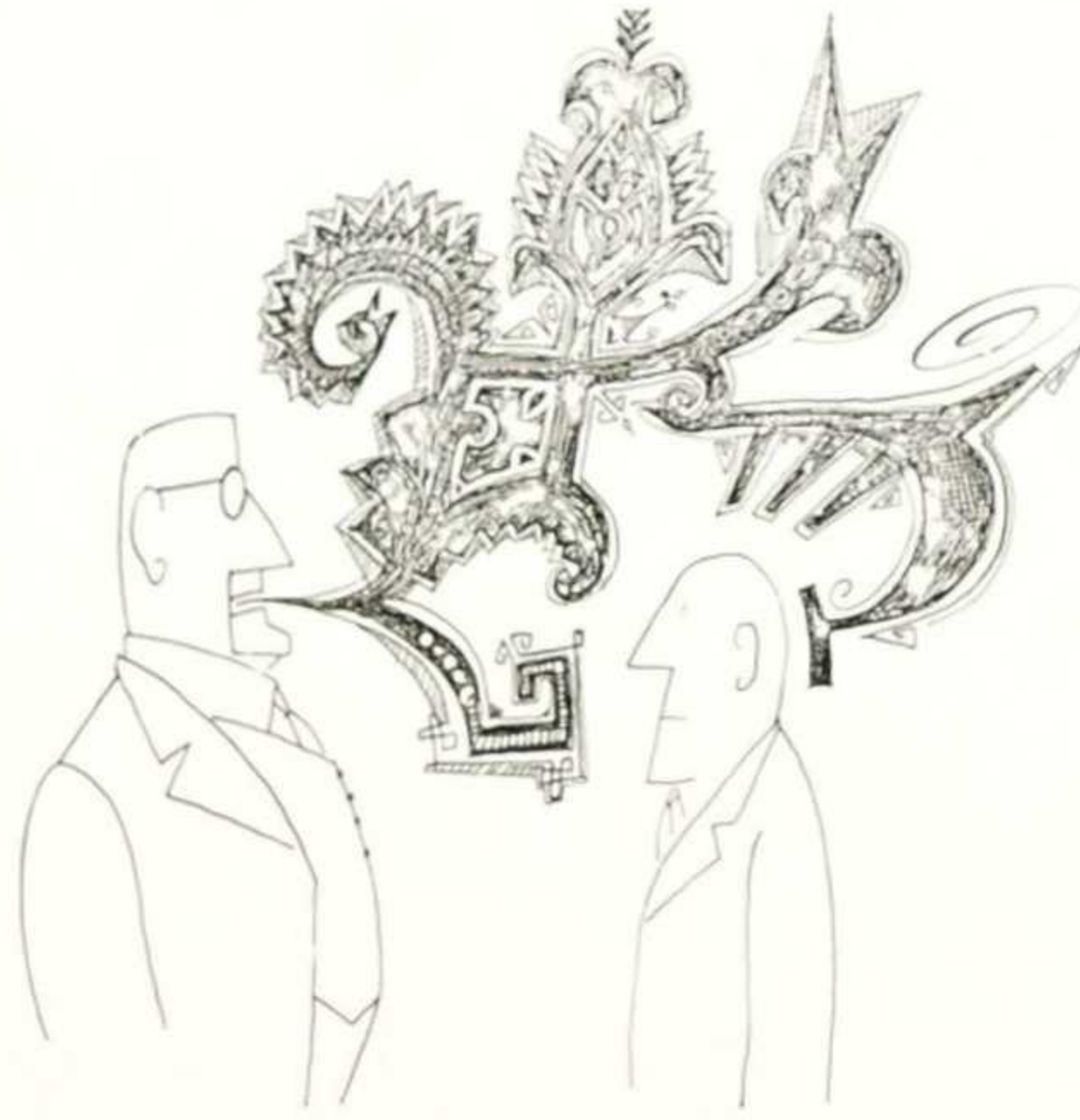
BY DON FABUN





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COMMUNICATIONS: THE TRANSFER OF MEANING

by DON FABUN, Publications Editor
Kaiser Aluminum & Chemical Corporation/with the assistance of
Niels Sundermeyer/Art Direction by Bob Conover



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IN THE BEGINNING WAS THE WORD — “AND”

Perhaps all stories should begin with the word “and.” Perhaps they should end with the word “and” too. It would remind us that no experience ever begins; there was always something that preceded it. What really began, for us, was our awareness of something going on. At the end, the word “and . . .” would remind us that no story ever really ends — something more will happen after. ☞ Thus, it may be said that we live in the world of “etc.” There is always more to start with than we can take into account. There is always more to say than we can possibly say. There is always more to end with than we can imagine. ☞ You are now invited to enter the world of etc.

■ “Man,” it has been said, “is the only creature on earth who can *talk* himself into trouble.”

After a couple of million years of practice, we’ve become pretty good at it.

Think back over the last few days —if you can bear to do so—and chances are that you will find that at least some of your tensions, anxieties and frustrations arose from situations in which you did not really understand what someone said—or they did not seem to understand what you really meant.

Perhaps:

- You turned in a composition that was unacceptable because you didn’t understand the assignment.
- You got into an argument with an acquaintance—an argument that would not have occurred if you had realized that you really were in agreement.
- You spent an hour listening to a lecture, and didn’t ever understand what the speaker was talking about.
- You read a chapter in a book from the assigned reading list and it made no sense to you at all.

When the process breaks down between different segments of our society — as between peoples of different races or backgrounds — the result may be violence. When it breaks down between different cultures, it may be catastrophic.

What is upsetting about all this is that you may feel that you are a pretty good communicator—it’s just that everyone else seems to do such a lousy job of it. After all, it should be perfectly easy for us to understand each other in our every day home and business life.

What can the matter be?

Is it not at least possible that we

have taken our ability to communicate with each other for granted? Perhaps we have felt that it is a rather simple, natural process, and “once we learn the language,” we should be able to understand each other pretty well.

Would it perhaps be useful to examine the process by which we communicate and see if there are any clues that will help us understand each other a little better?

For the most part, the work of the world gets done because people *do* cooperate with one another. Each of us is almost wholly dependent on what other people do for us. The modern world is not a “jungle of competition” as some have described it; it is more like an ocean of cooperation.

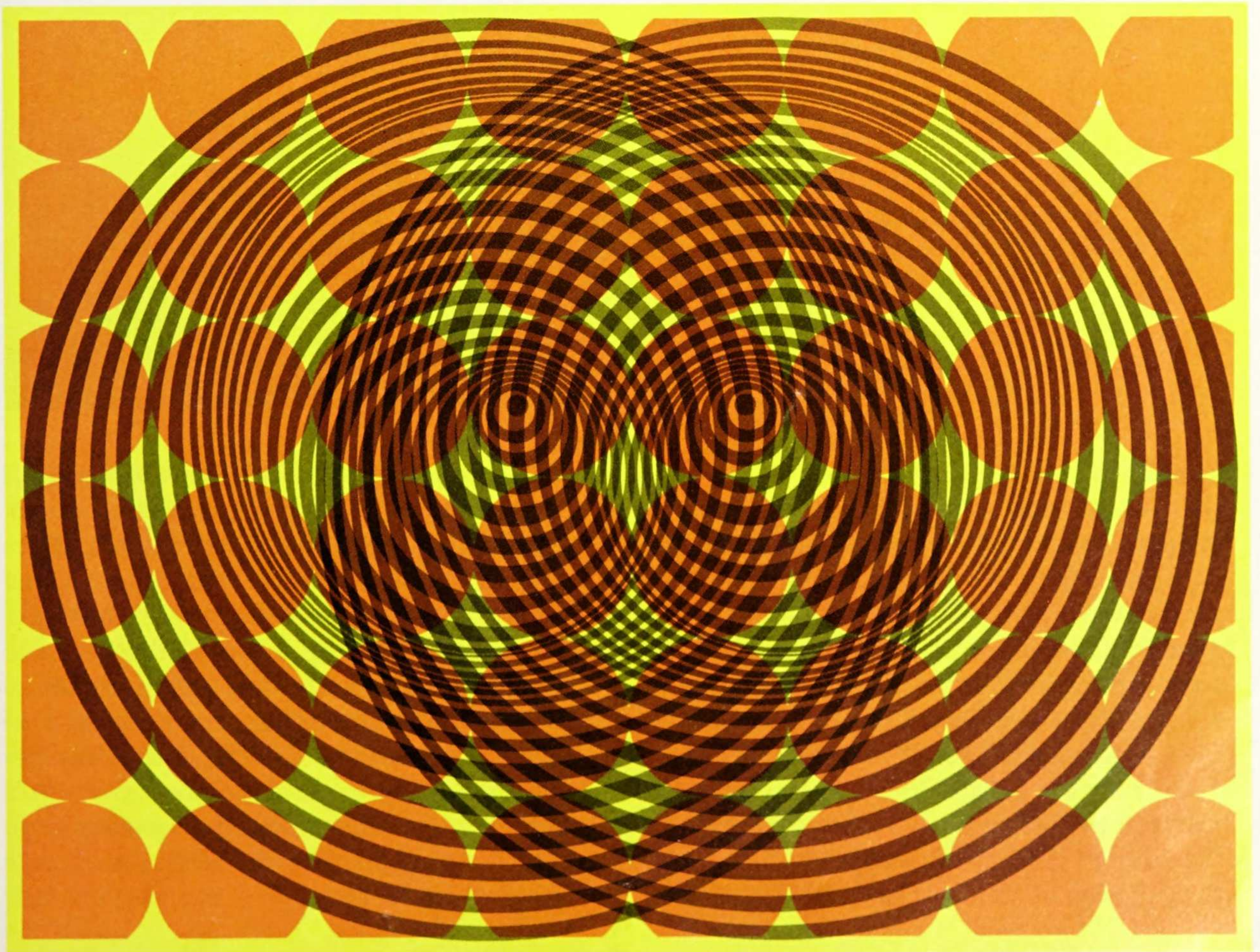
The cooperation that makes human society possible is almost wholly dependent on the skill with which we communicate. If we do not understand each other’s needs, we cannot fill them very well.

So, it seems eminently worthwhile to examine the process by which we communicate. Perhaps we will find that when communication fails, it is not we who are at fault, but that some part of the process has broken down.

And that is what we want to talk about on the following pages. ■

HOW IS IT WE KNOW SOMETHING TO COMMUNICATE?

Here's looking at you—one way, at least. Instead of thinking of yourself as a “thing” in a world of “things” you might try to think of yourself as a whole lot of activities going on near some point in space and at this moment in time. At this “somewhere/somewhen” you are immersed in a great ocean of other happenings. The interactions between the “happening” that is you and the “happenings” that are NOT you, are the raw, basic stuff we try to communicate about. ♪ **When you talk or write about something, what you are describing is those interactions that happened inside of you—not just what happened outside of you.**





The world outside us is believed to be made up of at least three levels of “happenings.” Of these, we are able to experience only one level with our unaided senses. Visually, the level we do see appears to be made up of radiant light, such as is emitted from the stars and our sun, and the reflection of this light from the edges and surfaces of “things,” which usually appear to us as patches and patterns of colors. What we “see” is not the “thing” itself, but a happening—the emission of light or the reflection of it.

Beneath the edges and surfaces of “things,” there is another layer of events that can be seen with special instruments, like microscopes and x-rays. What these instruments do is to bring this otherwise “invisible” world up to the visible world of colors, edges and patterns that we can experience. This microscopic layer appears to be a world of structures—which we might consider to be forces in equilibrium—and of motion—which we might describe as forces seeking equilibrium.

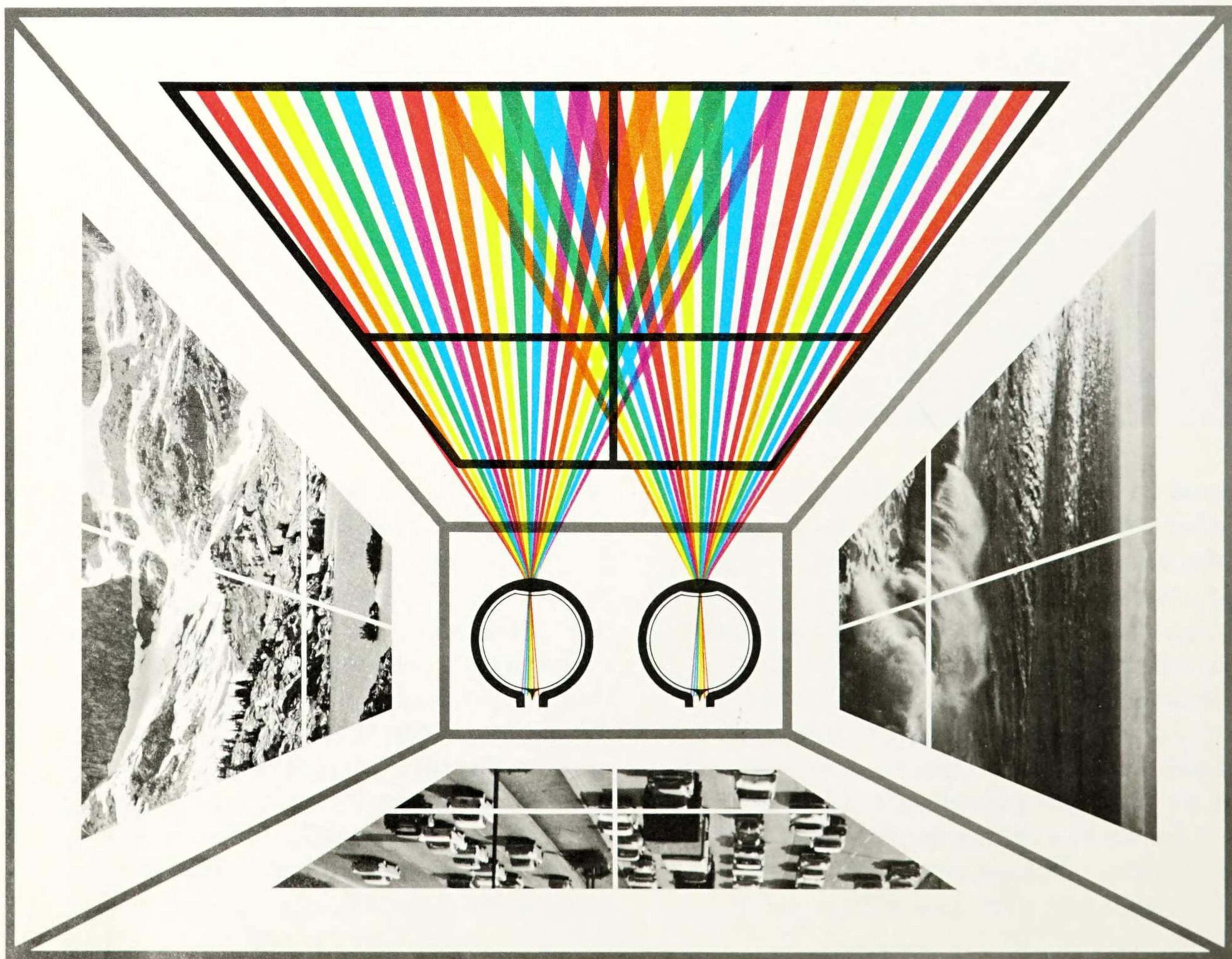


Beyond the microscopic layer is still another, which we believe to be made up of the interaction of electrical and magnetic forces in constant motion. We “see” this world, too, by bringing some of its effects up to the level of patterns of color and the edges of things—such as streaks on a photographic film, or a pointer on a dial. Thus, the world that we can experience directly is made up of patterns of color and edges of things, and it is the effect these have on us that we talk and write about.



We react to only a few of all the waves of energy that ceaselessly pour in upon us from all directions. The spectrum of visible light—our “window on the world”—is only a tiny band out of all the waves of energy our instruments tell us are out there. And out of all the sound waves—the “music of the spheres”—that beat in upon us, our ears can pick up and process only a very little bit. **What we can talk or write about is only a very small part of all that is going on “out there” . . .**

In a way, we “select” that part of the world that we want to experience at any one time. If we choose to stay indoors instead of going out, we have already selected one field to experience—and cut ourselves off from all the rest. And if we are in a room with four windows, we further narrow the field of our experience when we choose which window we want to look through. The particular place you are in, and the direction you choose to look, decide what experiences you are going to have. Since no two people can be in exactly the same spot at exactly the same time, all of our experiences are, to that extent, different. ☞ **Many of our problems in communication arise because we forget to remember that individual experiences are never identical.**



Another way we select the experience we are to have is by picking out some of the things that are in our field of vision and rejecting the others. These three photographs are all reproduced from the same negative—we show them as they might appear to:

So, even when we are looking at “the same thing”—that is, in the same direction and from almost exactly the same spot—we still do not necessarily experience it the same way. (A good example is the quite different reactions people get from watching the same motion picture).

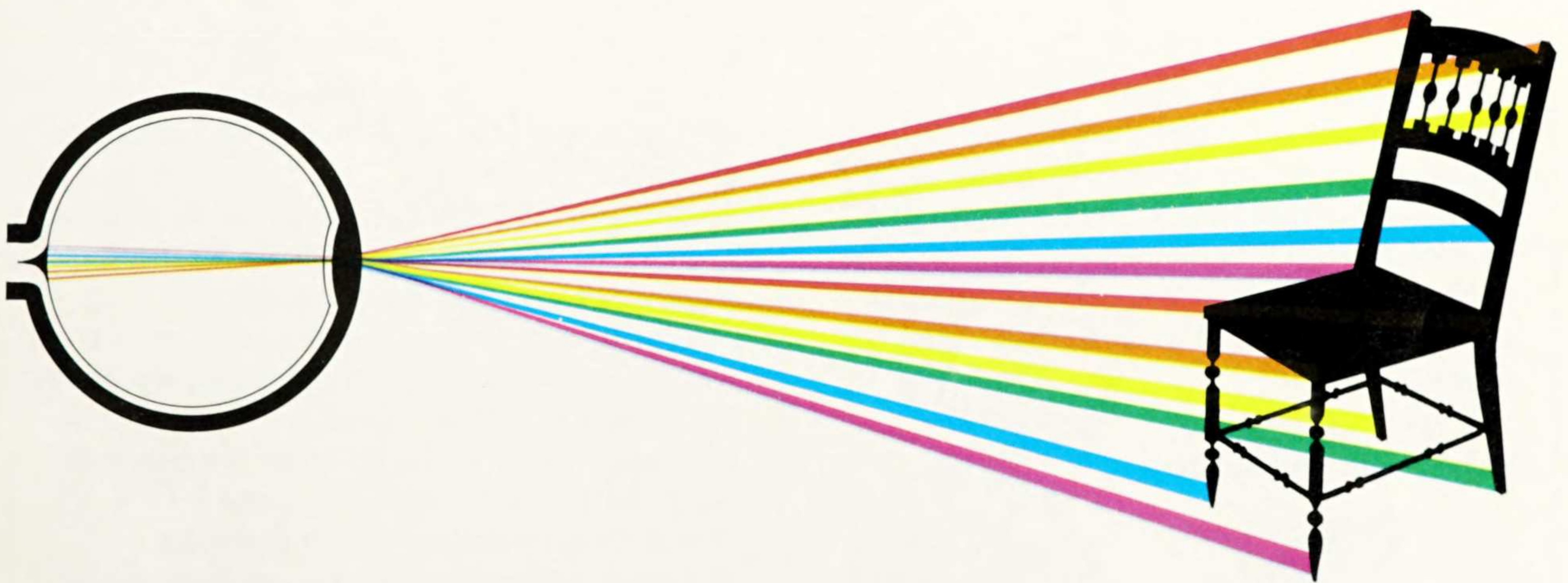
A young man “on the town”



A person needing to cash a check



Someone who is late for an appointment



What happens inside us when we see something? Two things, apparently. In the first place the light rays emitted or reflected from the outside events you have chosen to look at are focused on a tiny $\frac{3}{8}$ -inch spot on the back wall of the eye. Here, they are changed into electrical impulses which then trigger a chain of electrical and chemical events in your nervous system. When you talk about

what you have seen, what you talk about is that chain of events in your nervous system, its interaction with the object outside you. This experience—because of what you chose to look at, the time you chose to look at it, and the fact that the light rays that entered your eye never entered anyone else’s, make this experience individual and unique. It is not exactly like that of anyone else.

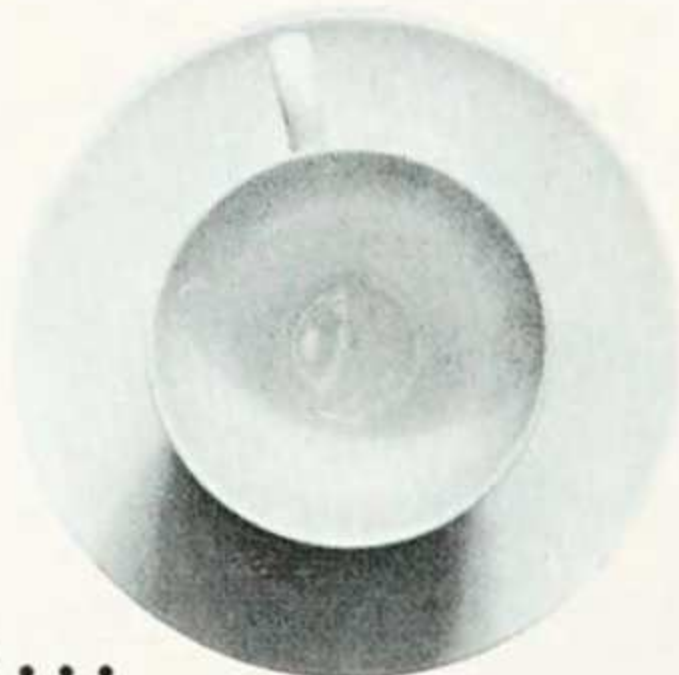
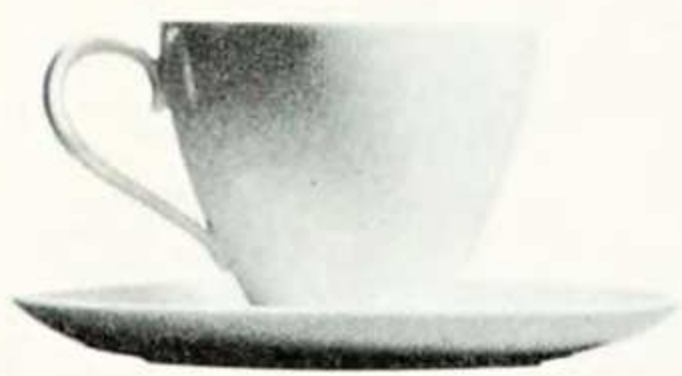
How then, can we ever discover what is **similar** in our individual experiences of the same outside event? Well, one theory is that, while any one experience is uniquely individual—the **series** of individual experiences is (or can be) nearly identical. If we walk around a chair, its shape will constantly change as we change the angles at which we look at it. If someone else then walks around the chair and looks at it in the same angles, he will have different individual experiences, but the series will be much the same for him as it was for us. Thus the **succession** of individual experiences enables us to agree upon what we have experienced, even though the individual experiences

are somewhat different. If this were not true, effective communication would be almost impossible. When we talk to someone, we establish communication best by discovering what is common in the succession of our experiences, while keeping in mind that we may differ in our interpretation of any individual experience. ~ **Although we experience the world in bits and pieces, the sequence in which we experience them flows together and we feel the world around us as a continuous panorama. When we try to communicate about it, we have to break it down into bits and pieces. Perhaps a large part of our trouble starts there.**



To a certain extent, we are “taught” what to see. The event which has not been experienced before does not “make sense.” Successive experiences enable us finally to recognize the sameness of the sequence of experiences, even though individually they are different. For instance, take these pictures:

This appears to be a cup and saucer



So does this...



So does this...



And this...

Yet, considered as separate experiences, each image we form of the cup and saucer is entirely different.

Somewhat the same thing applies to sounds. The interpretation of sounds as intelligible experience depends on our ability to recognize a sequence of patterned sound waves moving through time. Thus, we have to be taught to “see” what we see and to “hear” what we hear. Since we are each taught differently, the very basis of our understanding of what we see and hear differs to some extent from what others see and hear. This is one reason why verbal communications often are less satisfactory than written ones, because the spoken language allows of so many different intonations, pitches and variations. Two or more people, hearing the same sounds, do not experience nor interpret them the same way. When we assume that everyone sees or hears “the same thing,” then we base our personal communication on a false and misleading premise.



A good way to show that we have to learn to see is the ink blot. Looking at the one here, different people will “see” different things in it; their internal experience of this event will tend to be different than that of other people looking at it. You will find, also, that if you look away from it, and then look back again, you may discover new shapes that give you new experiences that you had not seen before. When you are talking to other people, it is sometimes

useful to keep in mind that if the experience you are talking about is new to them, they will have trouble “making sense” out of it, just as you perhaps had trouble “making sense” out of this ink blot when you first saw it. Much of our difficulty in introducing new ideas—and much of the very human resistance to change—arises from the fact that we have to learn **what** to experience in the events we experience.

These are some of the things different people have reported seeing in the ink blot on the preceding page. Did you see them? Looking back at the original ink blot, do you see them now? Have you perhaps been taught by other people what to see? When you are talking to someone, it is well to keep in mind that they may have been "taught" to experience things differently than you have, and perhaps the reason you have difficulty understanding them is that you are not allowing for this.



Two Statues



Two Birds Pecking Food



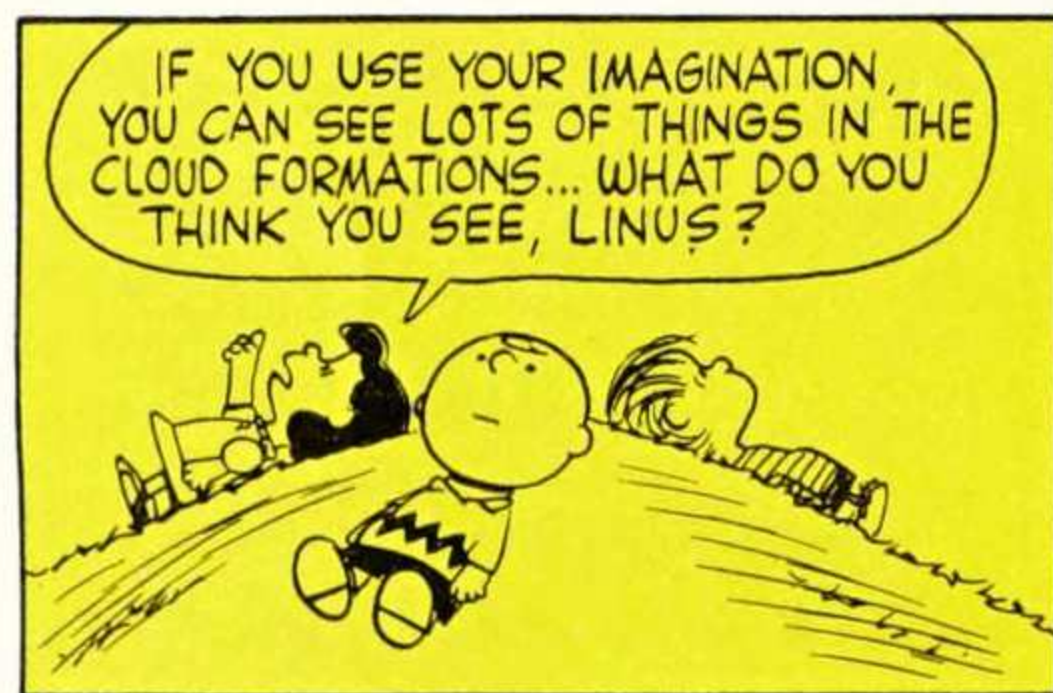
Butterfly



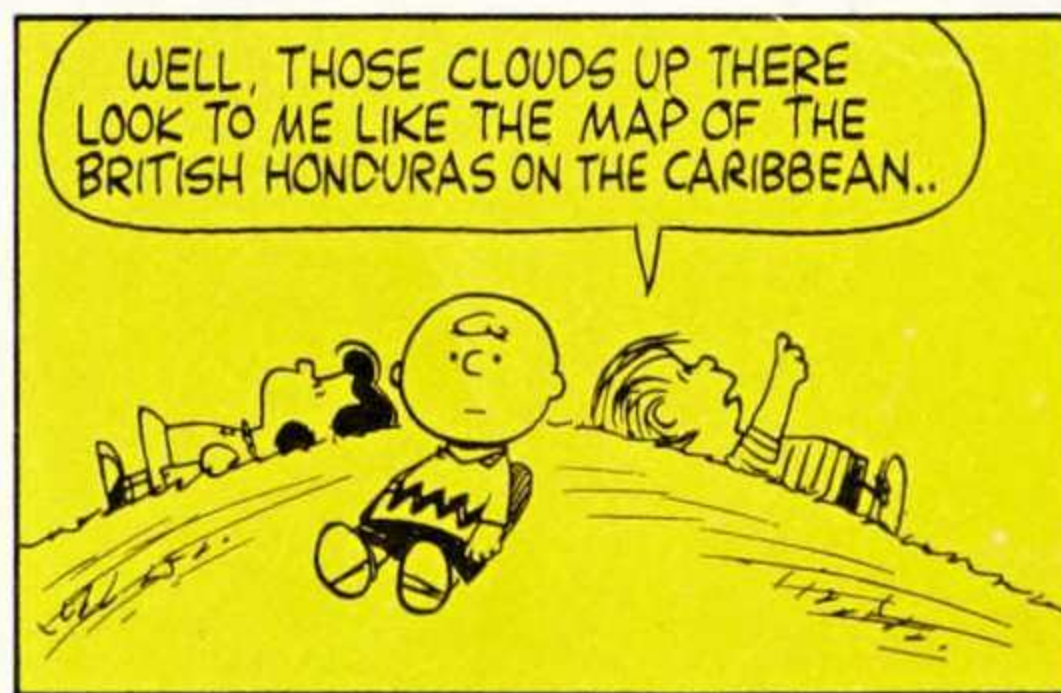
Flower



Two Pelicans Facing Each Other



IF YOU USE YOUR IMAGINATION, YOU CAN SEE LOTS OF THINGS IN THE CLOUD FORMATIONS... WHAT DO YOU THINK YOU SEE, LINUS?



WELL, THOSE CLOUDS UP THERE LOOK TO ME LIKE THE MAP OF THE BRITISH HONDURAS ON THE CARIBBEAN..



THAT CLOUD UP THERE LOOKS A LITTLE LIKE THE PROFILE OF THOMAS EAKINS, THE FAMOUS PAINTER AND SCULPTOR...



AND THAT GROUP OF CLOUDS OVER THERE GIVES ME THE IMPRESSION OF THE STONING OF STEPHEN... I CAN SEE THE APOSTLE PAUL STANDING THERE TO ONE SIDE...



UH HUH... THAT'S VERY GOOD... WHAT DO YOU SEE IN THE CLOUDS, CHARLIE BROWN?



WELL, I WAS GOING TO SAY I SAW A DUCKY AND A HORSIE, BUT I CHANGED MY MIND!

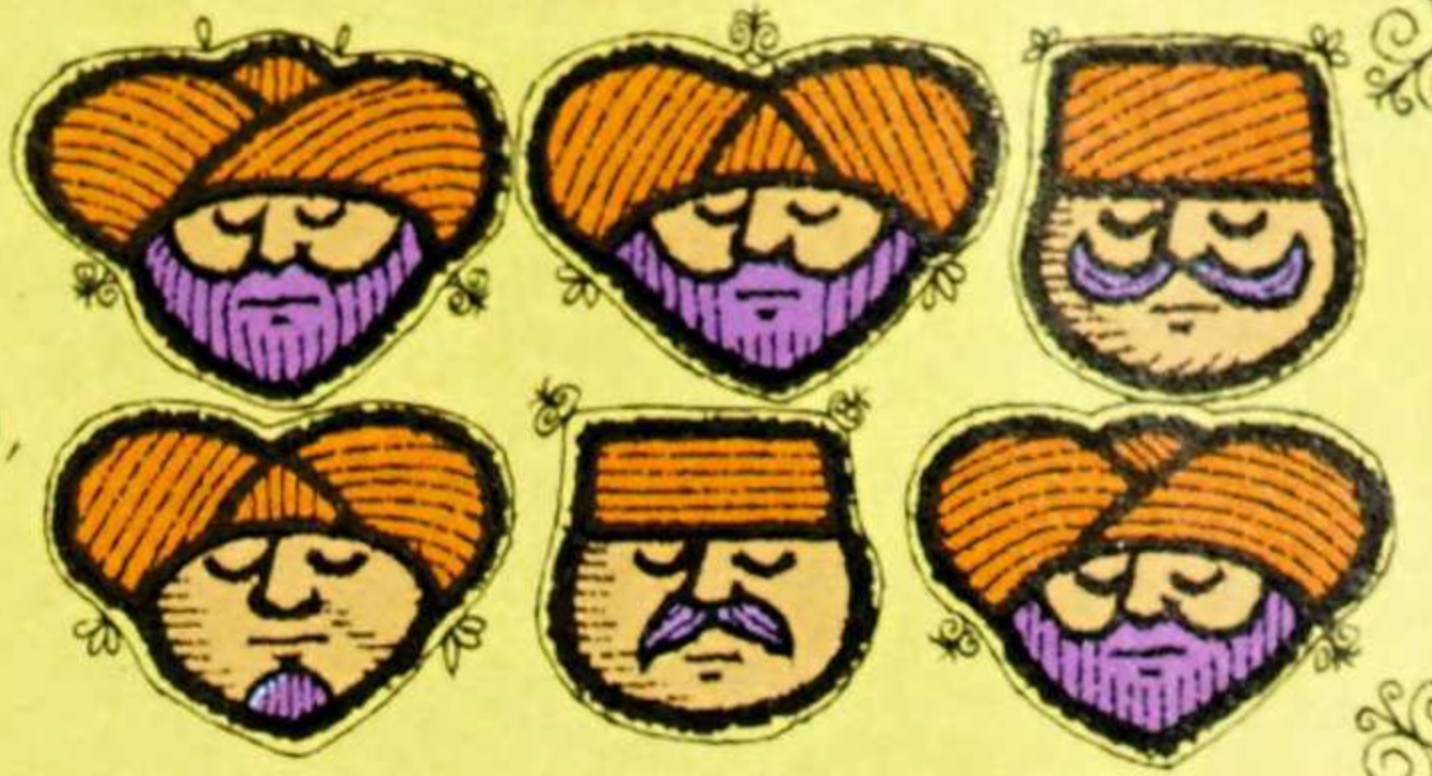
SCHULZ

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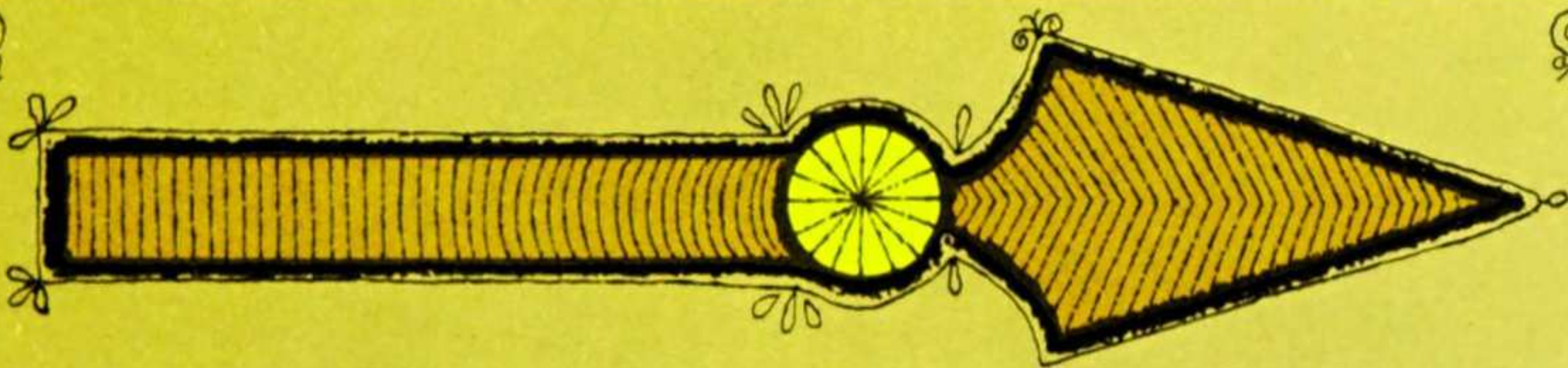
THE PARABLE OF
THE BLIND MEN
and
THE ELEPHANT

by JOHN GODFREY SAXE

It was six men of Indostan
To learning much inclined,
Who went to see the Elephant
(Though all of them were blind),
That each by observation
Might satisfy his mind.



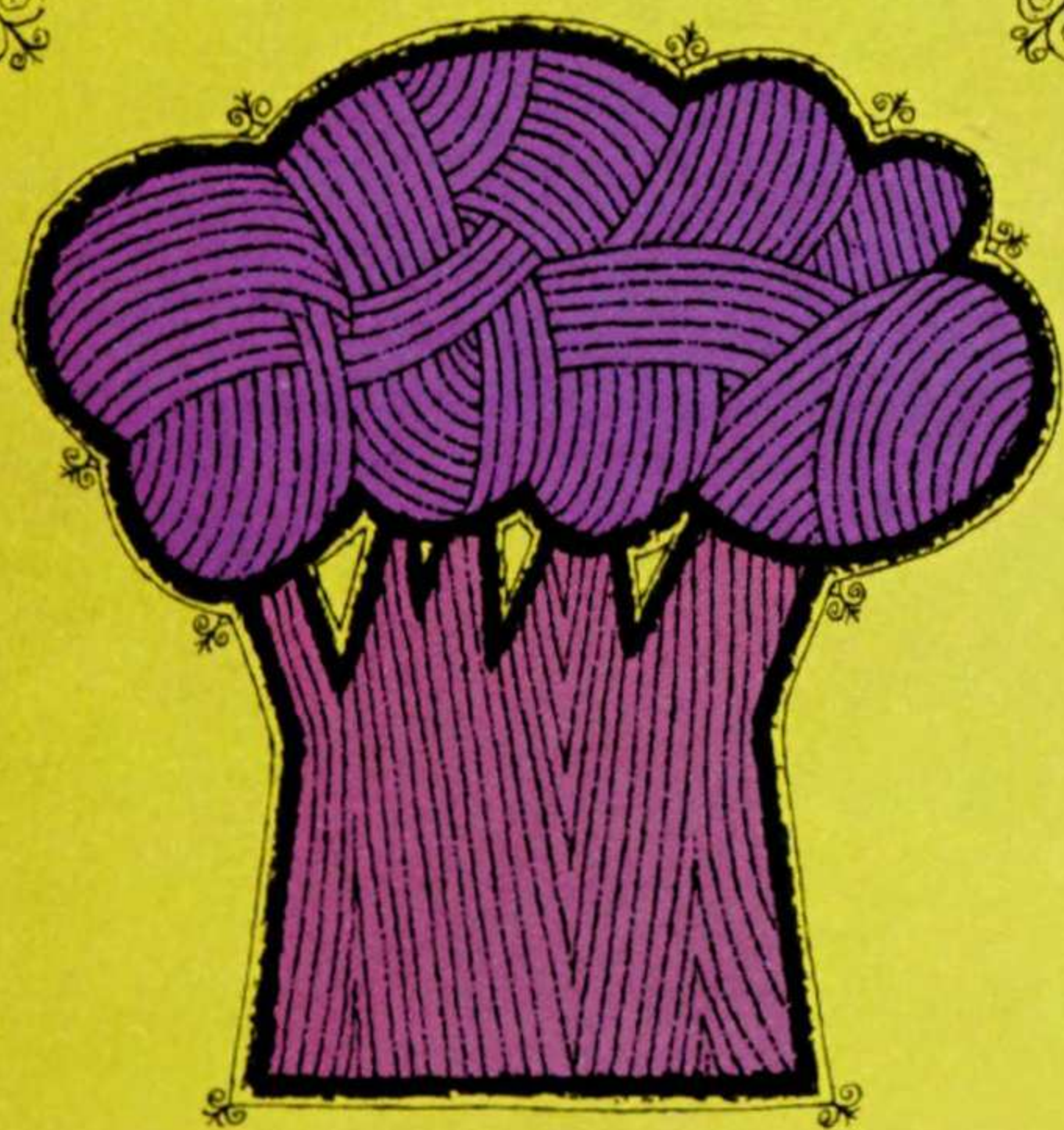
The First approached the Elephant, / And happening to fall
Against his broad and sturdy side, / At once began to bawl:
"God bless me! but the Elephant / Is very like a wall!"



The Second, feeling of the tusk / Cried, "Ho! what have we here
So very round and smooth and sharp? / To me 'tis very clear
This wonder of an Elephant / Is very like a spear!"



The Third approached the animal
And, happening to take
The squirming trunk within his hands
Thus boldly up he spake:
"I see," quoth he, "the Elephant
Is very like a snake!"



The Fourth reached out an eager hand,
And felt about the knee:
"What most this wondrous beast is like
Is very plain," quoth he;
"'Tis clear enough the Elephant
Is very like a tree!"



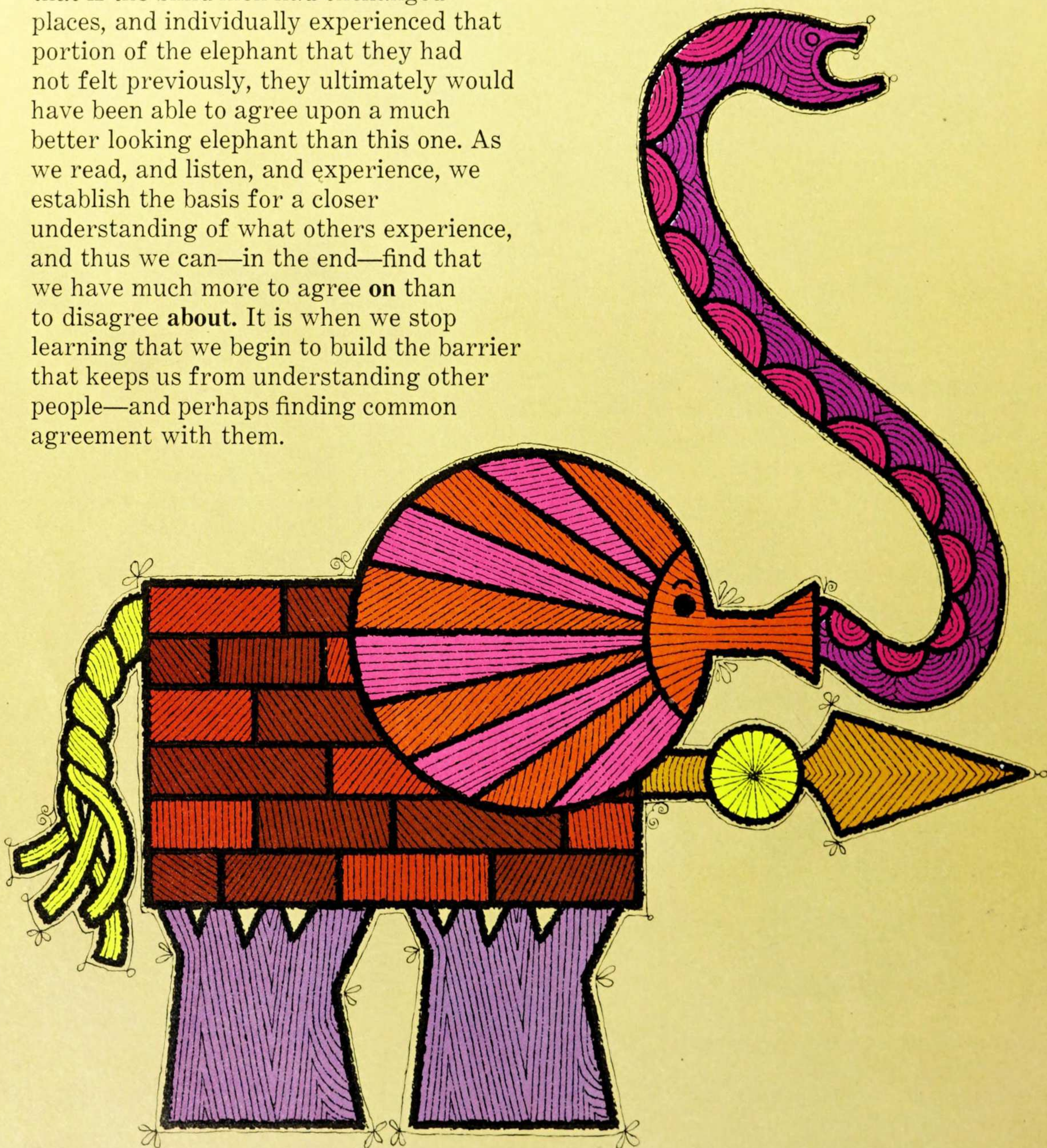
The Fifth, who chanced to touch the ear,
Said: "E'en the blindest man
Can tell what this resembles most;
Deny the fact who can
This marvel of an Elephant
Is very like a fan!"

The Sixth no sooner had begun
About the beast to grope
Than, seizing on the swinging tail
That fell within his scope.
"I see," quoth he, "the Elephant
Is very like a rope!"



And so these men of Indostan / Disputed loud and long,
Each in his own opinion / Exceeding stiff and strong.
Though each was partly in the right, / They all were in the wrong!

This is the composite elephant the blind men saw. It reminds us that the world we live in is built up of the quite different experiences that people have had, and which they have managed to communicate with each other. But let us also consider that if the blind men had exchanged places, and individually experienced that portion of the elephant that they had not felt previously, they ultimately would have been able to agree upon a much better looking elephant than this one. As we read, and listen, and experience, we establish the basis for a closer understanding of what others experience, and thus we can—in the end—find that we have much more to agree **on** than to disagree **about**. It is when we stop learning that we begin to build the barrier that keeps us from understanding other people—and perhaps finding common agreement with them.



HOW DO WE CREATE SYMBOLS?

So far, we have managed to get some part of some event happening outside-your-skin **inside** your skin. We have said that, as a result, you have had some kind of an experience inside of you, and you have tried to interpret it. Now the question arises—how can you get this interpretation you have made back out again so that it will pass through the world outside-your-skin and possibly inside-some-one-else’s-skin? How, indeed, can a purely personal, internally experienced event be shared with someone else? (For that is what we do when we communicate.) Well, for the most part, what you do is to create a new event in the world outside-your-skin. As we shall shortly see, this new event that you create has all the outside-your-skin “objectivity” of any other event in the world outside, and it is received by whomever you are talking or writing to, just like any other “real” event. **But it is not the original event you experienced—and it is not the inner event you experienced.** The word (or symbol) you create is not the event that it reports on—it is a new event entirely.

As far as we now know, there are three principal ways in which human individuals can communicate with each other:

By actual physical touch

We communicate this way nearly every day—we make ourselves understood with

- .. a tap on the shoulder
- .. a pat on the back
- .. a slap on the cheek
- .. and the ritualistic extension of the handshake.

The physical pressure of some part of your body, or an extension of it, acts as an outside event to stimulate responses in someone else’s nervous system.



We also communicate—

by visible movements of some portions of our bodies . . . much of our daily communication occurs by means of

- .. a finger pointing
- .. a wink of an eye
- .. a nod of the head
- .. a shrug of the shoulders
- .. a smile . . . grimace . . . or scowl

By moving some portion of our bodies in space, we change the angles of incidence and the angles of reflection of visible light waves. These changes, if seen by someone else, are an event to them which they can interpret in the same way they would any other “outside” event.



And we communicate by symbols, which "stand for" something we have experienced internally.

We use **audible** symbols . . .

Spoken symbols are "outside" events we create by directing our vocal muscles to vibrate a pulsed code, setting into motion similarly pulsed vibrations in the air. These are picked up as "real" outside events by the person we are talking to . . .



And we use **visible** symbols . . .

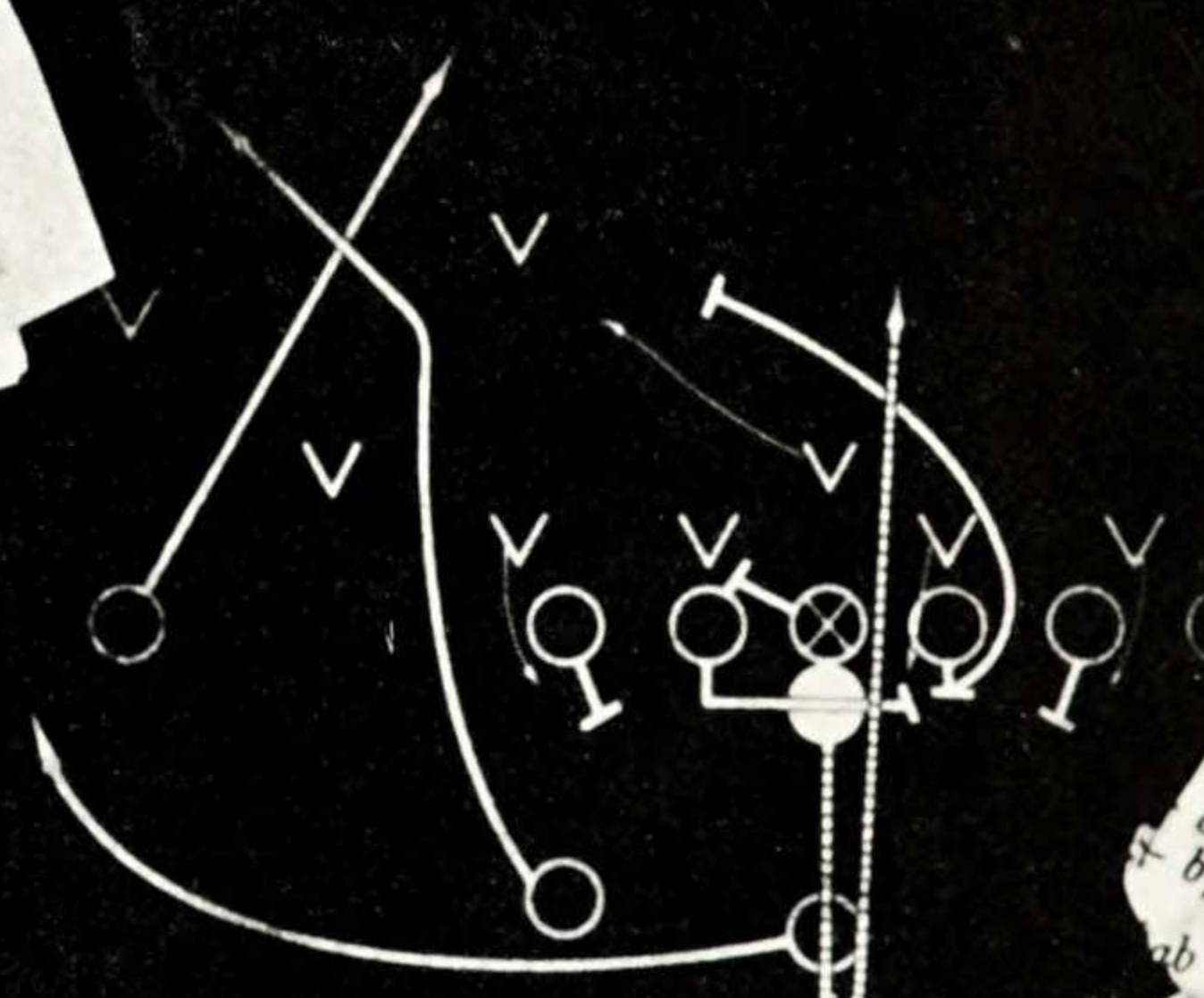
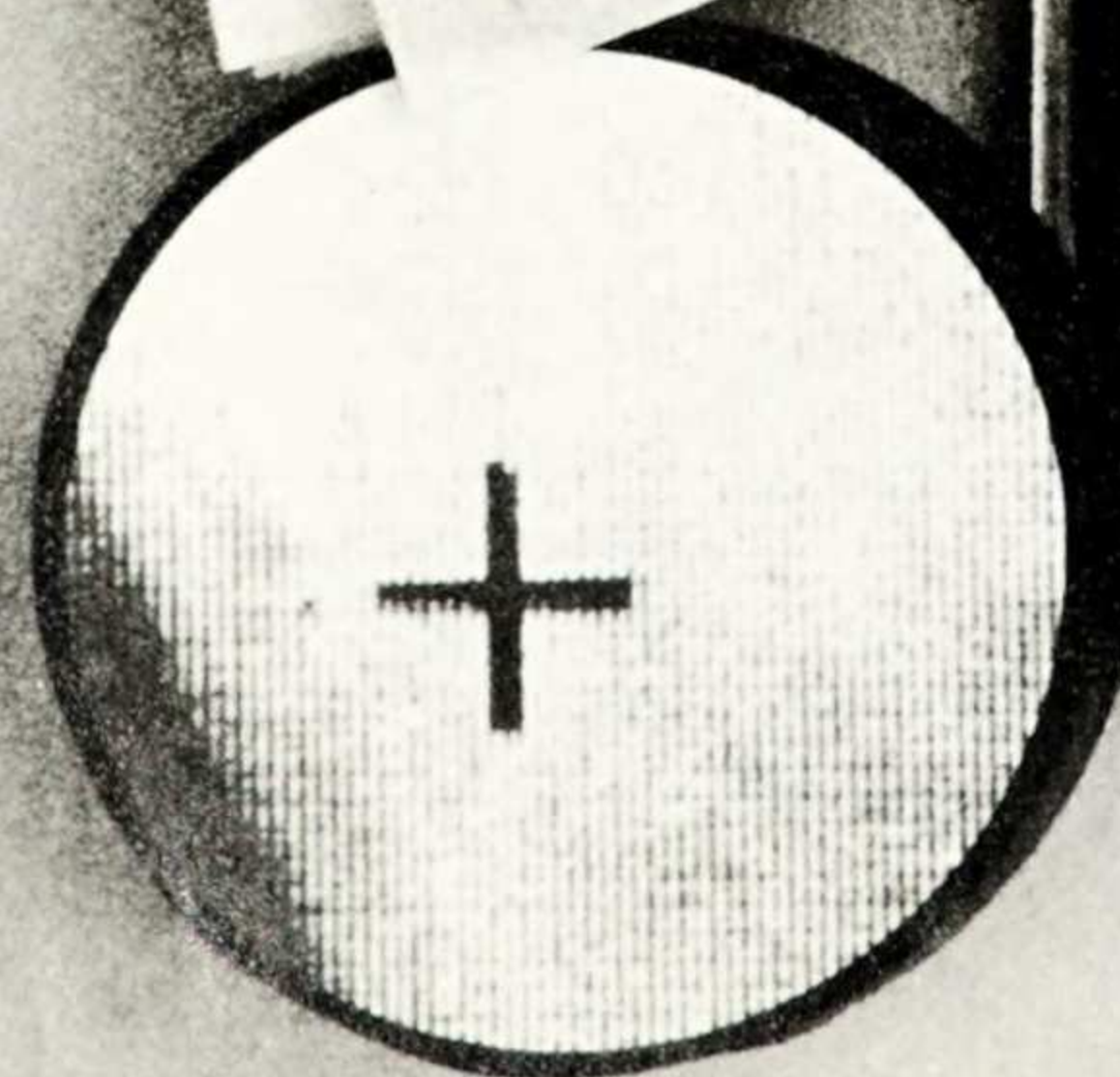
Visible symbols are created by manipulating our muscles to create patterns in some material that is not a part of our bodies. These patterns reflect visible light in unique ways, and can thus be distinguished from each other. To the person who sees them, they are real events that are experienced by him and can be interpreted internally, just like any other "real" event.



Most of our present day failures in communication can be traced either to misunderstandings of the role that symbols play in inter-human communication, or to inadequacies in the way that we create, transfer and perceive symbols—whether they are spoken or written.

Perhaps if we had some clear-cut idea of what symbols do (remember, they are **events**, as we create and experience them, not **things**) we would find it easier to reduce or even eliminate some errors we make that lead to our misunderstanding each other.

Here are some commonly used "visual" symbols:



Handwritten mathematical notes and formulas, including:
 $ab < a$
 $a < a + b$
 $< d) = (ac < bd)$
 $< d) = ((a + c) < (b + d))$
Other symbols and scribbles are also present.



New York Times

NEW YORK, MONDAY, OCTOBER 25, 1964

South's Negroes Slow to Register; U.S. Help Sought

Rights Leaders Urge More Examiners—Enrollments 50% Short of Forecasts

By GENE ROBERTS
Special to The New York Times
ATLANTA (AP) 24—Negro voter registration in the South has failed to live up to the predictions made by civil rights leaders when the Federal Voting Rights Act was passed in early August.



OUTING IN TEXAS
Bill to Lake Lyndon
to his ranch on State

Buckley P Will Ou

CATHOLIC REVIVES WORKER PRIESTS'

French Bishops Announce



GC475
INSTRUCTION CARD FLAG
13 D 03271 03174 C 094
02525 D 03261 03178 C 094
37 D 03181 03178 C 095

Since words, and combinations of words, seem to give us more trouble in communication than other types of visual symbols, let us see what a word appears to be when we consider it as a pattern that reflects wave lengths of visible light . . .

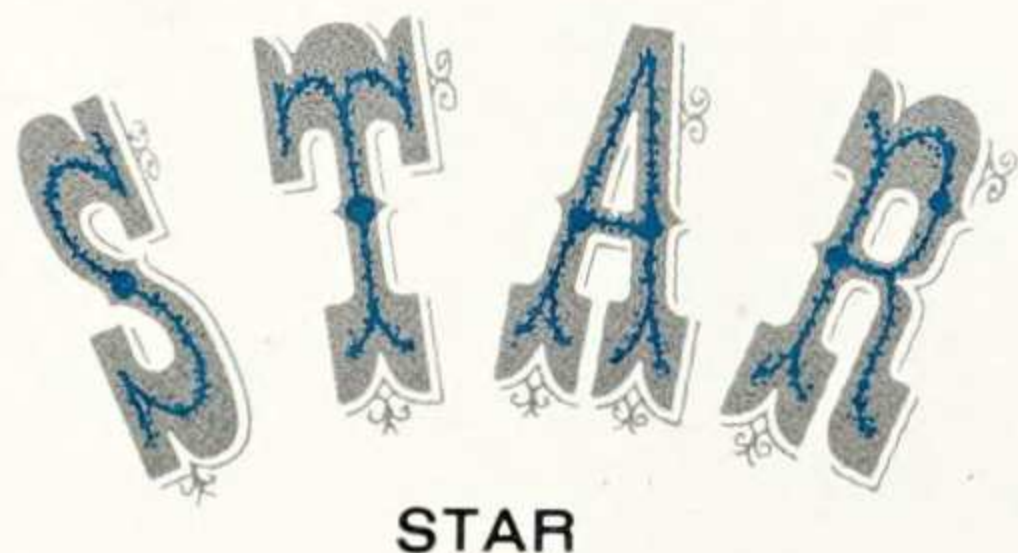
We might try the word **Star**.

The four configurations that make up the written word have 24 possible left-to-right combinations . . .

STAR	ASTR	TSAR	RSTA
SATR	ATSR	TASR	RTSA
SART	ARTS	TRSA	RATS
SRAT	ASRT	TARS	RTAS
STRA	ATRS	TSRA	RSAT
SRTA	ARST	TRAS	RAST

Notice that only **one** of the configurations reflects the wavelength pattern we call **Star**. So, in the patterns we create in our nervous systems and transmit to our muscles, which move a pen or paint brush or typewriter keys—we are instructing our muscles to arrange something outside ourselves in a left-to-right code.

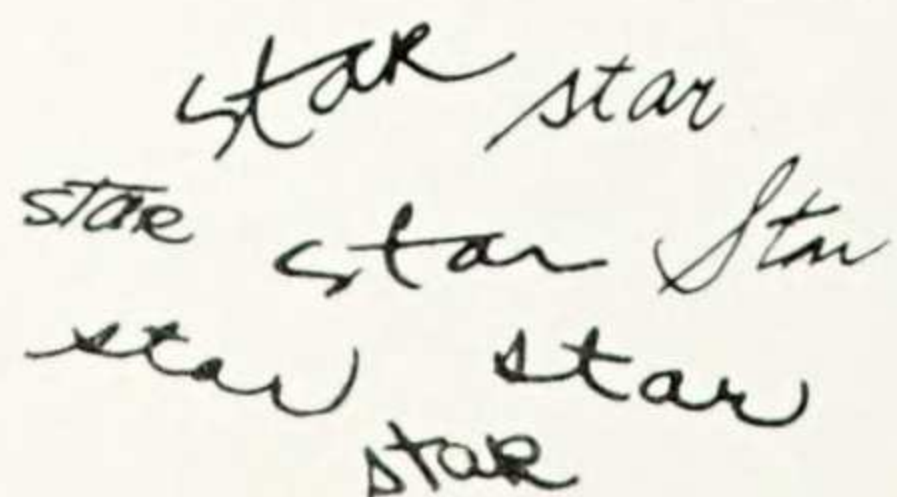
It does not matter whether the image we thus create is big or small . . .



It does not matter, within wide limits, what type faces the word is set in . . .



It does not matter if the word is set in type or written out in script . . .



It is still recognizable as the word "**Star**" and as nothing else, because the relationship of each letter, from left to right, or from top to bottom, is precisely maintained. If we were to "program" instructions for writing the word "**Star**" we could say . . .

"**S**" is always first whether the word is written from left or right, or from top to bottom.

"**T**" always appears immediately to the right, or just below "S".

"**A**" always appears to the right, or below "ST".

"**R**" always appears to the right or below "STA".

.....

A R S T A R S T A R S
R S T A R S T A R S T
S T A R S T A R S T A
T A R S T A R S T A R
A R S T A R S T A R S
R S T A R S T A R S T

We have to be taught to recognize these unique left-to-right patterns, in the same way we are taught to recognize a cup and saucer (as on page 10), no matter at what angle we view them, or under what lighting conditions, providing only that the edges remain visible.

Thus, in the use of words for communication, it is the spelling—the rigid adherence to a "positional notation"—that is of the most importance. It is not the "meaning" because the meaning is not in the word, but in the person who is using it.

Spellings change but slowly over a period of time, and when they do, the left-to-right uniqueness of the pattern remains much the same. Meanings change with speakers, regions, contexts, and time.

In summary:

We translate an inner experience, inside our nervous system, into pulsed electrochemical codes that instruct our muscles to contract or expand in specific ways . . .

Our muscles translate these codes into actions that move objects outside-our-skin into patterns that have a prescribed left-to-right or up-to-down order in space . . .

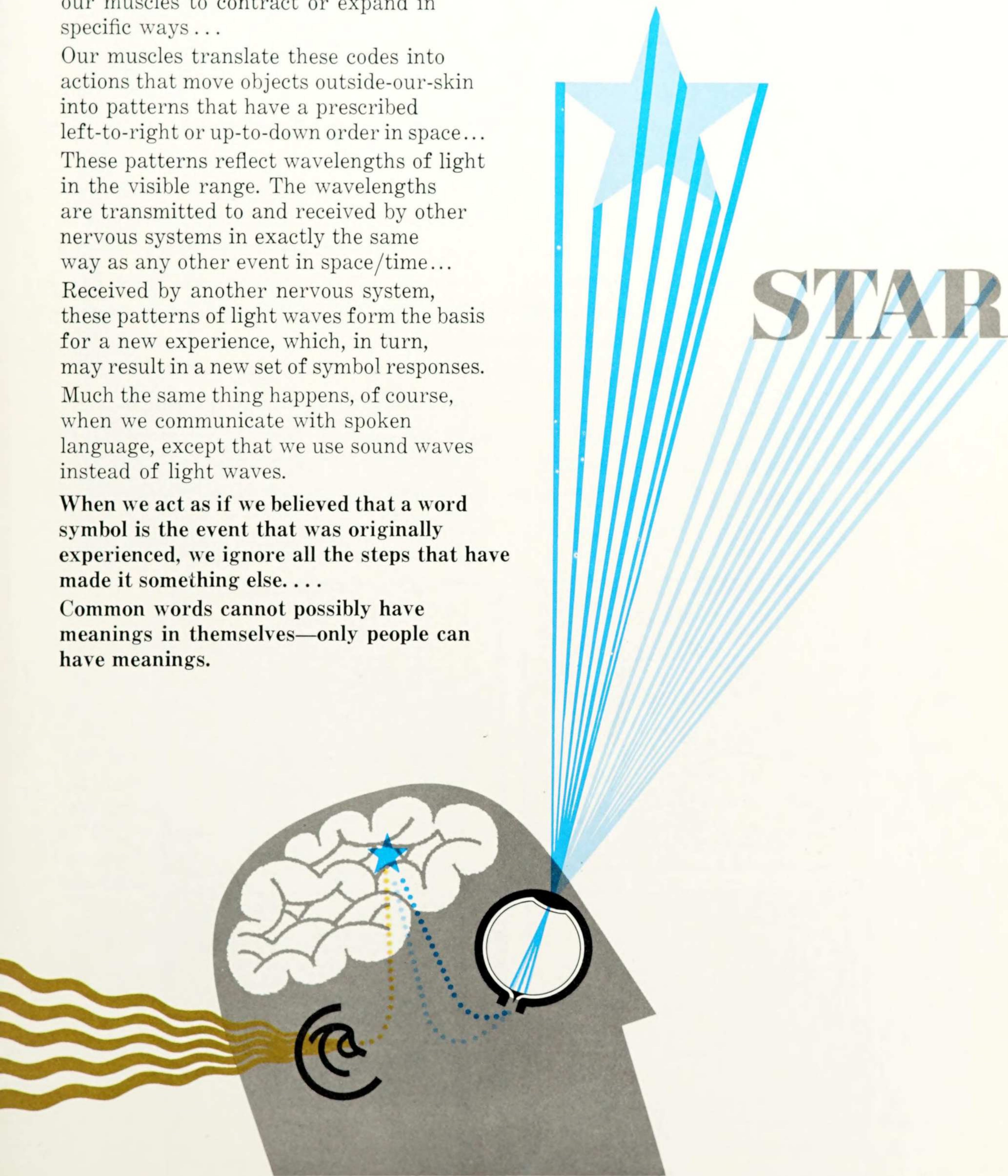
These patterns reflect wavelengths of light in the visible range. The wavelengths are transmitted to and received by other nervous systems in exactly the same way as any other event in space/time . . .

Received by another nervous system, these patterns of light waves form the basis for a new experience, which, in turn, may result in a new set of symbol responses.

Much the same thing happens, of course, when we communicate with spoken language, except that we use sound waves instead of light waves.

When we act as if we believed that a word symbol is the event that was originally experienced, we ignore all the steps that have made it something else. . . .

Common words cannot possibly have meanings in themselves—only people can have meanings.

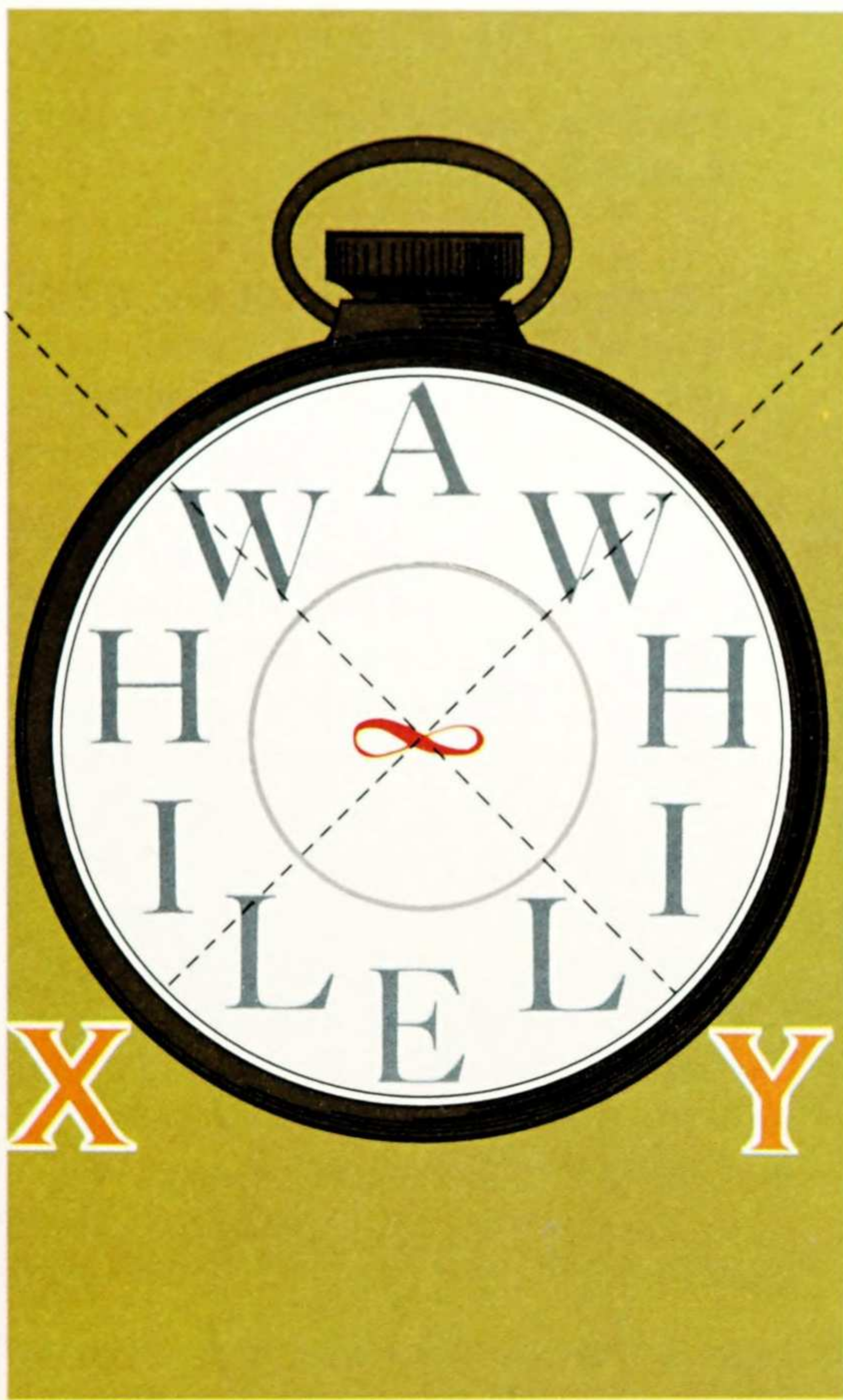


THE SILENT LANGUAGES

Although the fabric of our society is woven of spoken and visual symbols, we also communicate meaningfully in many non-verbal, non-symbolic ways. Consider, for instance, how silence itself is a way of communication. When someone says “Good morning,” and we fail to respond, we communicate something. When someone asks us a question and we fail to answer, we also communicate. We are social creatures and our society is made up of responses to each other. For one thing, we are in constant need of reassurance; not only that we are, indeed, alive (because we evoke responses from others) but also reassurance that those other creatures around us are friendly and not hostile. The stroked cat purrs; the petted dog wags his tail. We talk. When we fail to do so, a little bit of our world crumbles away. The world of silence may be a cold and bitter one; like the deep wastes of the Arctic regions, it is fit for neither man nor beast. Holding one’s tongue may be prudent, but it is an act of rejection; silence builds walls — and walls are the symbols of failure.



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THE LANGUAGE OF TIME

We may have a tendency to feel that time is experienced pretty much the same by everyone. After all, an hour is an hour, isn't it? What we sometimes fail to realize is that time, as we use and express it, is culturally determined and defined. Time for Americans, for instance, is experienced differently than for certain Indian tribes, who have no word for "waiting," because there is no established limit of time for an event to take place.

In our particular culture, we have "quantified" time by dividing it into years, seasons, months, weeks, days, hours, minutes, seconds, microseconds, milliseconds and nanoseconds. Not all

cultures do so, or, if they do, they assign different values to different segments. What is not always appreciated is that individuals have different time scales, too, and that failures to recognize this and to take it into account can lead to breakdowns in communication. Each carries his own "clock." It may or may not coincide with others.

The time of the president of the United States differs in important ways from that of the retired gentleman who is fishing off the pier. In the context of their social positions an hour—a minute—will be valued differently, both by society and themselves.

Let us look into the use of time in our culture a little more. If you were supposed to meet someone at 5 o'clock and showed up instead at 6—or didn't show up at all—you would be communicating something. Like the language of silence, the language of time is most eloquent.

Being early, as to a lecture or a concert, can communicate something, too. It is a projection in time of eagerness, looking forward to; it says something.

Think about "awhile." It is a word we frequently use. "This will take awhile," says the man who repairs your car or watch. What does he mean? Minutes, hours, days? "I'll be through in awhile," is an expression we often use. "Awhile" is an important means of communication; it trembles on the edge of perceptivity; it is our personal expression of time as it relates to others.

What is important about "awhile" as far as communication is concerned is that the interpretation is contextual. "Awhile" means different things in different situations and with different people. It may be well to remember this; our concept of time, and our use of it, depends on our cultural and personal way of evaluating it.

When you are "ahead of time," "on time," or "behind time;" when you are "early" or "late," you express something in our culture. Failure to keep this in mind may

lead you into situations in which communication becomes difficult, if not impossible. The mere fact of "being late" may create the sort of context in which you have to perform in an aura of hostility.

Another aspect of our expression of time, as it relates to communication, is the difference we make between points and duration.

Points are intersections on a four dimensional grid: "I'll meet you here at five," "class begins in Room 120 at eight," etc. The grid is an x,y,z , matrix (longitude, latitude, height from ground) plus a specified point on an agreed-upon time track. Failure to match these up may result in a communications failure.

Duration, on the other hand, appears to have (for us) a beginning and an end and an unsegmented middle. It is a psychological area—unmapped—it is the time we spend in the doctor's waiting room, in the dentist's chair, waiting for a loved one, or just listening to someone else. Duration is differently experienced by different people—something to keep in mind when you are talking to someone else. Their area of duration may be different than your own—they are no longer at x,y,z^t , but at some indeterminate part of the spectrum of duration. It is as if you had agreed to meet at a certain place at a certain time, but only one of you showed up.

Differences in the individual experience of duration can cause communication to break down.

THE LANGUAGE OF COLOR

Just as time "speaks" and space "speaks," so does color, through our conscious and unconscious use of it.

What people mostly see of us is patterns of color; our choice of what colors and patterns to display in different situations is a silent language of its own. The girl who chooses to show up at a semi-formal afternoon party clad in brilliant red capri pants and a shawl with a psychedelic design is not only saying something about herself, but expressing an opinion about her hostess and the other guests as well. The business man who shows up for work wearing a Beethoven sweatshirt and sandals is certainly communicating something, although he may not do so for long. The kind of communication that is likely to take place between one man in bathing trunks and another in formal dress is apt to be quite different than the communication that would take place if both were dressed alike.

Behavioralists claim it is probably not an exaggeration to say that a specific color situation is accompanied by a specific response pattern of the whole organism. The prevailing color in an environment may





have important effects on the kind of communications that take place there. In general, it is felt that the “warm” colors—yellow, orange, red—stimulate creativity and make most people feel more “outgoing” and responsive to others. “Cool” colors—blue, green, gray—have a tendency to encourage meditation and deliberate thought processes, and may have a dampening effect on both the level and the quality of communication. It has even been suggested that people should do creative thinking in a red room and then proceed to a green one to carry out the ideas.

THE LANGUAGE OF SPACE

The way in which we use space is another way that we communicate with one another. The distance between you and someone else may determine the nature of the communication. If you are a few inches away from someone’s ear, chances are that you will whisper and the nature of the communication will be “secret.” At a distance of several feet, the communication may still be private, but its tone and nature will have changed. The change is even greater if you are speaking

to a large audience. Here the nature of the message may be determined in part by the distance between you and the most distant member of the audience.

Space “speaks” also in the way that we distribute ourselves in a classroom, bus or lecture hall. As long as there is optional space, most people will tend to sit as far from strangers as possible. The distance they select to separate themselves from others in the audience—and from the speaker—is in itself a form of communication. In rigidized institutions, such as the military service, the distance to be maintained between persons of different ranks may even be a matter of regulation.

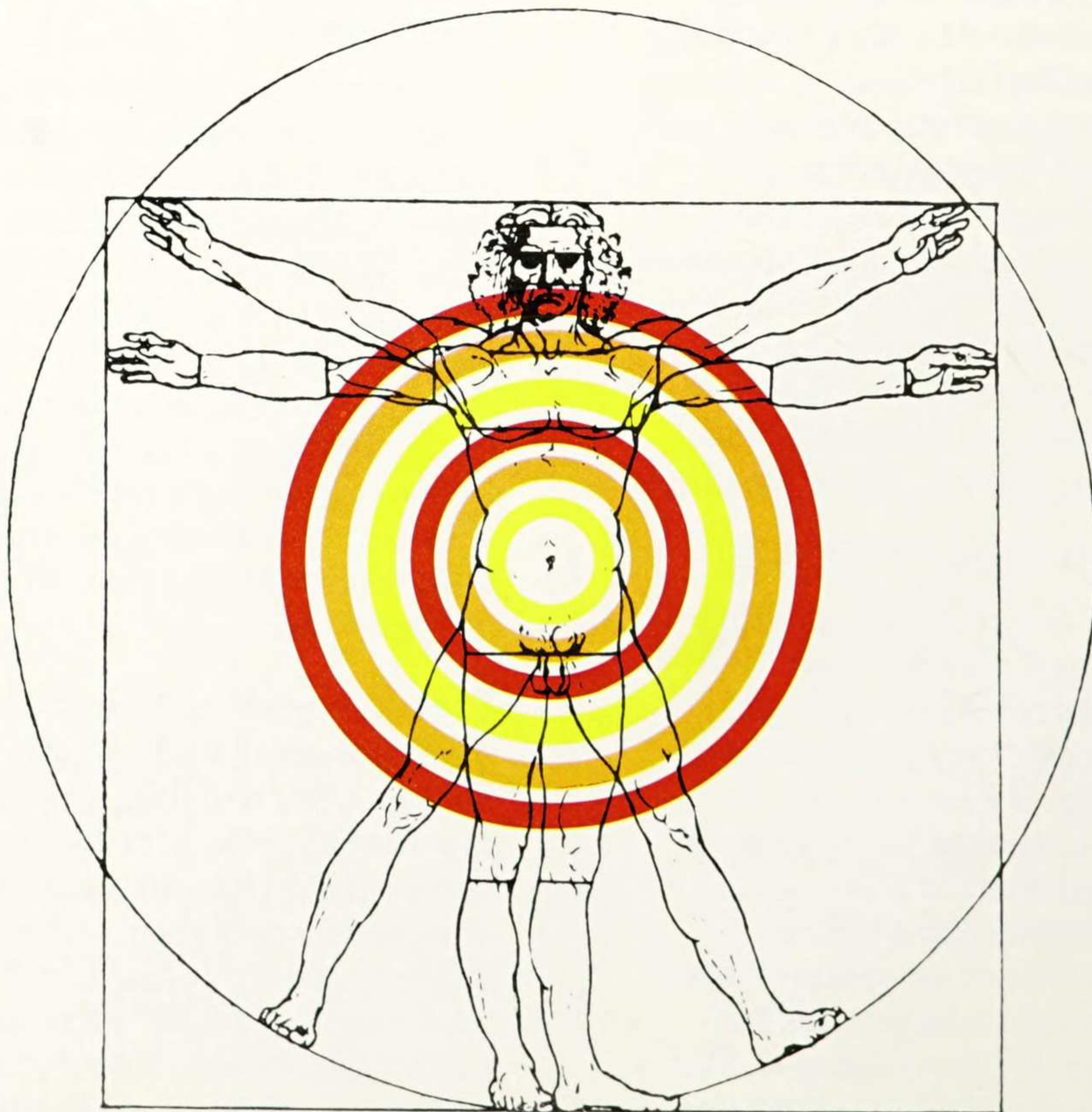
There is a cultural difference in the way we distribute ourselves in formal space—as in an office building. Thus Europeans are most likely to put their desks in the center of the room, and authority flows outward from the center. Proximity to the center is one way of saying, “That person is important.” Americans, on the other hand, tend to distribute their working space around the edges of a room,

leaving the center open for traffic and casual communication. Another way that Americans communicate through their use of space is in size and verticality. Most often, the size of an office will “say” something about the importance of the man who occupies it; the larger the space, the more important the man. Similarly, for many businesses and government departments and bureaus, the vertical distance between ground level and a person’s office may act as an indication of his importance. Usually executive offices are located at or near the top of the building they occupy. Occupying a large room at the top of a building not only “says” a great deal about the person occupying it, but in part determines the kind of communication that can be carried on with him.

In addition to the cultural and social communications through the use of space, each of us has spaces we feel are our “own”—a favorite chair, a seat on the bus,

a place at table, or even a favorite table in a restaurant. When someone (usually unknowingly) occupies one of these “private” spaces, we may become annoyed or upset. One is reminded of Goldilocks and the Three Bears: each successive violation of the bears’ private space made communication more difficult.

The private space that each of us has is sometimes called “territoriality”. It is as if we walked around with a plastic bubble hovering over us. When this space is violated—when someone gets “too close”—we may become tense or even hostile, and this will affect the nature of the communication that is possible. Most Americans and Englishmen prefer a certain distance for normal discourse. They feel more comfortable if a certain space between themselves and the other person is maintained. People of Latin descent apparently like a smaller distance. You can imagine a situation where a Latin talks to an American, and the American

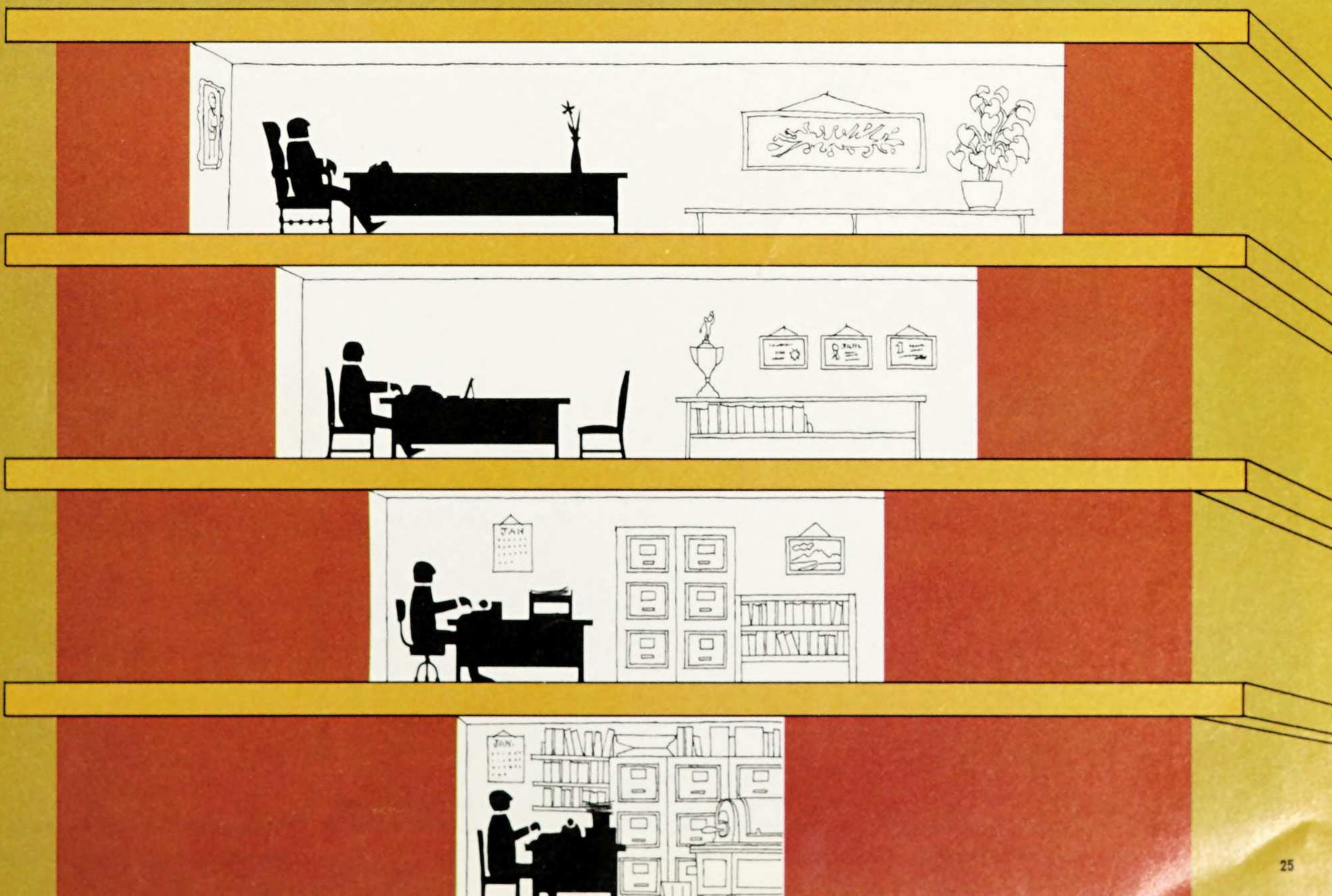


keeps retreating, trying to maintain his "proper" distance, all the way down a long hall.

In some situations—say riding on a crowded subway or bus—we are willing to sacrifice our personal territoriality and allow strangers to crowd up against us. We may feel uncomfortable about it, but in the interests of getting someplace we will temporarily allow our plastic "bubble" to shrink up about us. Such proximity in other situations would be intolerable. How close we allow others to get to us is one measure of our relationship to them, and helps establish the kind of communication that can take place. When we are face to face with another person, it is well to remember that he has his own plastic bubble surrounding him and that violating his territory by crowding too close may

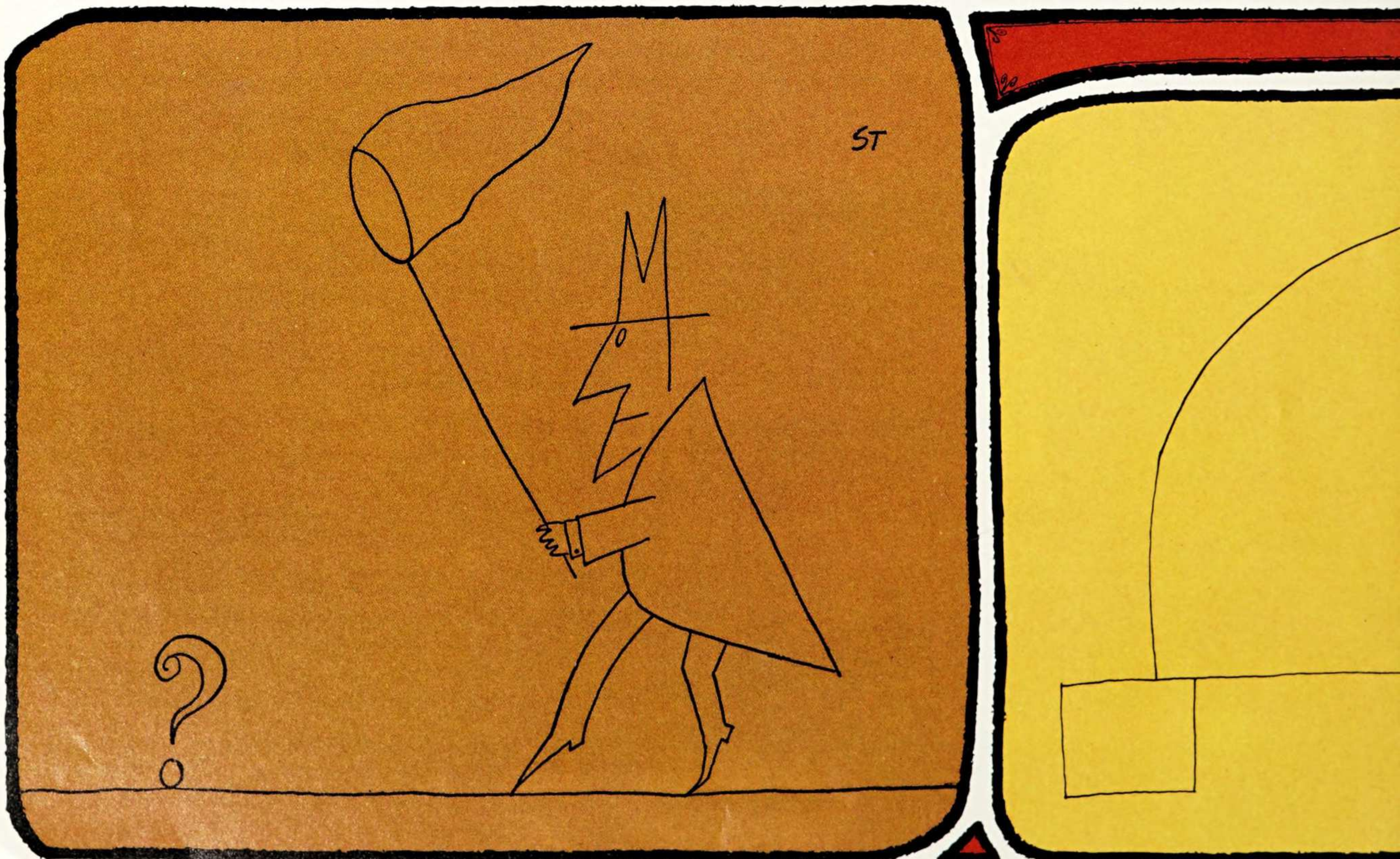
affect our ability to communicate with him.

Americans tend to see the edges of things and the intersection points of crossing lines, and to attach importance to them. Thus our streets are normally laid out in a grid pattern and we identify places by their proximity to intersections. Europeans and Orientals, however, are more inclined to attach importance to an area; thus a French street or avenue may change its name every few blocks; and houses in Japan may not have street numbers but be identified by name and area or the time at which they were built. As we travel more or are engaged in business with people from other cultures, it is well to remind oneself that they see and attach importance to things that you might not see or attach significance to.



IN SEARCH OF THE MEANING OF MEANING*

From now on we are going to talk about common words in everyday use, and not about all the other types of symbols and symbol systems that we use for communicating with each other . . . we also will try to explore what is meant when we talk about “meaning”—for it is the transfer of meaning that is the goal of interhuman communications.



There are believed to be about 600,000 words in the English language today. The number is constantly growing, as we add new human experiences to be reported upon (through the use of extensions of our natural senses—telescopes, microscopes, spectrosopes, etc.) or as we coin new expressions to describe present experiences—hula hoops, me-tooism, high camp, etc.

The number of words (other than technical ones connected with a business or profession) that an educated adult uses in daily conversation is about 2,000. Of these, the 500 most frequently used have 14,000 dictionary definitions.

This is a pitifully small number of symbols to describe the infinite richness and diversity of individual human experiences.

*With apologies to C. K. Ogden and I. A. Richards who wrote a book called "The Meaning of Meaning." They found 16 groups of meanings for the word "meaning" in the English language.

Some new technologies that add new experiences for us to report

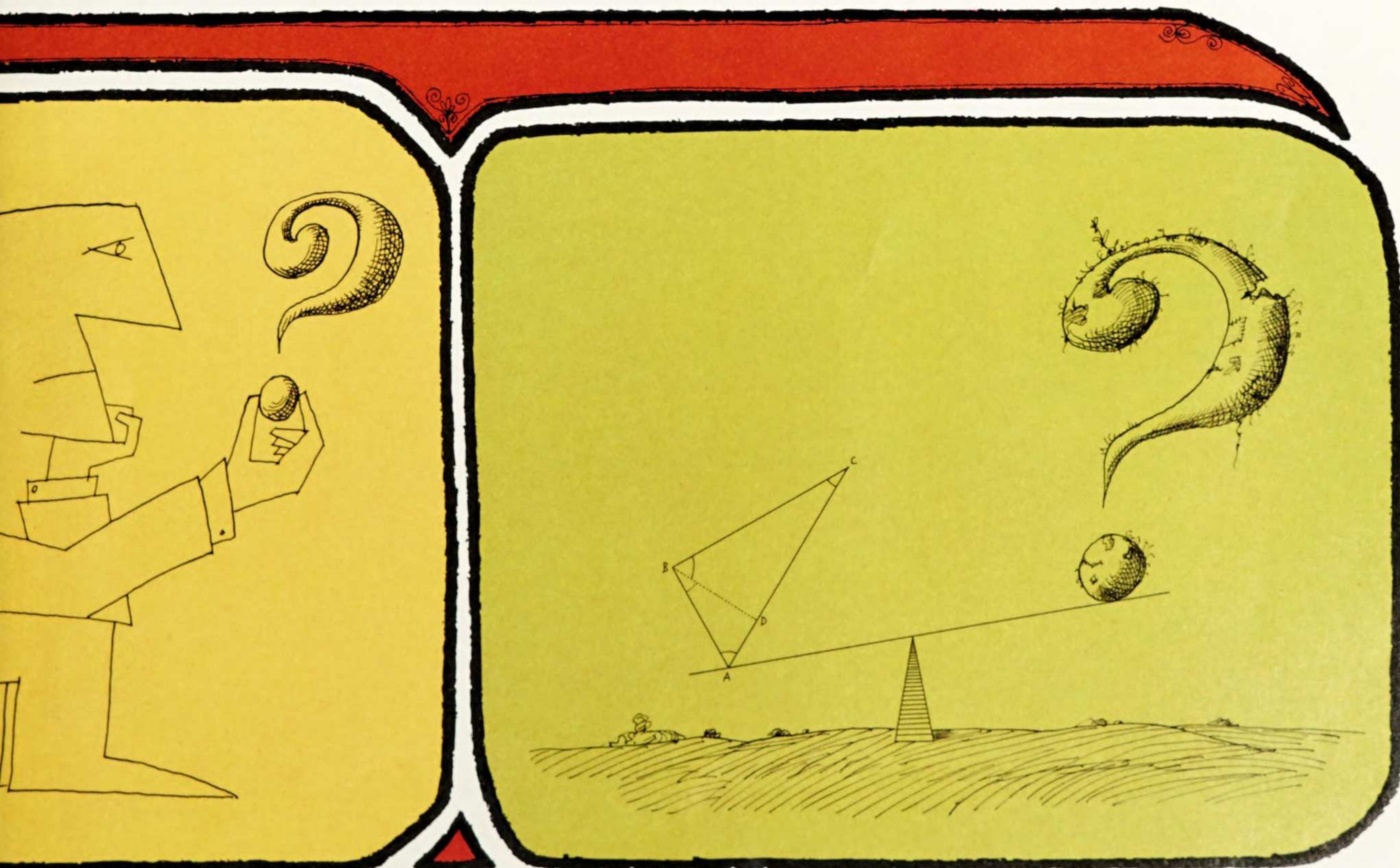
Cinematography
Cybernetics
Miniaturization
Microbiology
Cryogenics
Biocenology
Electrochemistry

Old technologies we no longer draw experience from, whose words are disappearing from common use

Alchemy
Chandlery
Heraldry
Blacksmithing
Falconry
Cannonry

Old words once used to describe one experience, that are now used to describe other experiences

Missile
Compact
Spectacular
Twist
Carpetbagger
Maverick
Gauntlet



There are about 298 million English speaking people alive in the world today.

To some extent, their individual experiences differ from all others. Every fraction of a second in their lives, they are experiencing something that is not exactly like any experience they have had before, or that anyone else has had.

Yet they have the same meager store of accepted symbols to use in reporting to each other what they have experienced.

Each common word/symbol must, therefore,

necessarily be used to cover a wide range of "meanings."

Let us look at one common word—perhaps you have used it once or more today—and see what a dictionary says it "means."

Having glanced at what the Shorter Oxford Dictionary has to say about the "meaning" of LEAD—can you write down here the "real meaning" of the word?

“ _____ ”

Of course you can't.

(A dictionary does not tell us what common words "mean." A dictionary is a history of how a word has been used most frequently in some contexts and at different times. A dictionary indicates various areas of meaning, at various periods of time.)

Lead (led), *sb.*¹ [OE. *lǣd* str. neut. = Du. *lood* lead, MHG. *lōt* (mod.G. *lot*, *loth*) plummet, also solder.] 1. The heaviest of the base metals, of a dull pale bluish-grey colour, easily fusible, soft and malleable. Chemical symbol Pb. Rarely *pl.* = kinds of lead. †b. Sometimes called *black lead* (= L. *plumbum nigrum*) in contradistinction to *white lead* (*plumbum album*), a name for tin -1753. 2. See RED LEAD, WHITE LEAD. 3. Short for BLACK LEAD, graphite, or plumbago. Hence, a small stick of graphite for filling a pencil. 1840. 4. The metal as fashioned into a leaden coffin, a bullet, etc.; the leaden part of anything ME. 5. a. A large pot, cauldron, or kettle. (Orig., one made of lead.) Now only *dial.* OE. b. *dial.* A leaden milk-pan. 6. A sounding-lead 1440. 7. *pl.* a. The strips of lead used to cover a roof; often *collect.* for a lead flat, a lead roof, †occas. construed as sing. 1578. b. The lead frames of the panes in lattice or stained glass windows 1705. 8. *Printing.* A thin strip of type-metal, used in type-composition to separate lines 1808.

1. Phr. †*To lie, be wrapt in l.*: to be buried in a l. coffin. So †*to lay, lap in l.* 4. Heauen keepe L. out of mee SHAKS. 6. Phr. *To cast, heave the l.* *To arm the l.*: to fill the hollow in it with tallow in order to discover the nature of the bottom by the substances adhering (Smyth). 7. a. A Goodly Leads upon the Top, railed with Statua's interposed BACON.

Combs.: **l.-arming**, the tallow used for arming a lead (see 6); **-ash, -ashes**, litharge; **-bath**, (a) the mass of melted l. in a lead-furnace; (b) the molten l. with which gold and silver ores are melted before cupellation; **l. glance** [= Du. *loodglans*], galena; **-light**, a window in which small panes are fixed in leaden frames, also *attrib.*; **-line**, (a) a sounding-lead or plumb-line; (b) a line loaded with leaden weights, running along the bottom of a net; (c) a bluish grey line along the gums at their junction with the teeth, indicating lead-poisoning; **-mill**, (a) an establishment for producing milled or sheet l.; (b) a circular plate of l. used by the lapidary for grinding or roughing; **-nail** (mostly *pl.*), a nail used to fasten a sheet of l. on a roof; **-ochre** = MASSICOT; **-paper**, a test-paper treated with a preparation of l.; **-pencil**, a pencil of graphite, often enclosed in cedar or other wood; **-plant** (U.S.), a shrub (*Amorpha canescens*) found in the west of the Mississippi valley, and believed to indicate the presence of l. ore; **-plaster** = DIACHYLON; **-poisoning**, poisoning by the introduction of l. into the system; **-spar** = ANGLBSITE or CERUSSITE; **-tree**, (a) a W. Indian name for the tropical leguminous tree *Leucaena glauca*; (b) a crystalline deposit of metallic l. or zinc that has been placed in a solution of acetate of l.; **-vitriol** = ANGLBSITE; **-water** (= Ger. *blei-wasser*), dilute solution of acetate of l.; **-work**, plumbers' work and material; work in l., esp. glaziers' work; **-works pl.**, an establishment for smelting lead-ore; **-wort**, a herbaceous plant of southern Europe (*Plumbago europæa*); also, any plant of the genus *Plumbago* or the order *Plumbaginaceæ*.

Lead (līd), *sb.*² ME. [f. LEAD v.¹] †1. The action of LEAD v.¹; leading -1510.

b. Direction given by going in front; example; esp. in phr. *to follow the l.* of 1863. c. *spec.* in *Hunting*, etc., chiefly in phr. *to give a l.*, i. e. to go first in leaping a fence, etc. 1859. d. A guiding indication 1851. 2. The front or leading place; the place in front of (something). Also, the position or function of leading (e.g.

The action or right of playing the first card in a round or trick; also, the card so played, or proper to be played, or the suit to which it belongs 1742. 5. *Curling.* The first player or the stone first played. 1685. 6. *Mining.* a. = LODE 5. 1812. b. *Gold-mining.* An alluvial deposit of gold along the bed of an ancient river 1855. 7. *Theatr.* The principal part in a play; also, one who plays such a part 1874. 8. *Friendly lead* (see FRIENDLY a. 2). Also simply *lead*. 1851. 9. *techn.* a. *Electricity.* (a) The angle between the plane through the lines of contact of the brushes or collectors of a dynamo or electric motor with the commutator and the transverse plane bisecting the magnetic field. (b) A conductor conveying electricity from the source to the place where it is used. 1881. b. *Engineering*, etc. The distance to which ballast, coal, soil, etc. has to be conveyed (see LEAD v.¹ 1 b.) to its destination 1841. c. *Horology.* The action of a tooth, as a tooth of a wheel, in impelling another tooth or pallet 1880. d. *Naut.* The direction in which running ropes lead fair, and come down to the deck (Smyth) 1860. e. *Steam-engine.* (See quotes.) 1838.

2. Phr. *To take the (or a) l.*, to occupy the front place, to assume the function of leader. Each of our porters took the l. in turn TYNDALL. 4. Phr. *To return one's partner's l.*: to play from the same suit on getting the l. 9. e. *L. of the crank*, the setting of the crank of one engine a little in advance of the right angle to the other; namely at 100° or 110° in place of 90°. This assists in rendering the motion of the piston more uniform, by moderating its velocity at the end of the stroke. *L. of the valve*, the amount of opening which a valve has when the engine is on the centre 1881.

Comb.: **l.-off**, a commencement; also that which leads off, the first of a series; **-reins** *Coaching*, the leaders' reins; **-screw**, 'the main screw of a lathe, which gives the feed motion to the slide-rest' (Webster).

Lead (līd), *v.*¹ Pa. t. and pa. pple. **led**. [Com. Teut. wk. vb.: OE. *lǣdan* :—OTeut. **laidjan*, f. **laidā* road, journey (see LOAD, LODE *sbs.*), related to OE. *līdan* to go, travel.]

1. To conduct. 1. *trans.* To cause to go along with oneself. †a. To bring or take (a person or animal) to a place. (Phrases like *to l. captive* are now understood in sense 2.) -1704. b. To carry or convey, usu. in a cart, etc. Now only *n. dial.*: To cart (coal, corn, etc.). *To l. in* (grain): to house. OE. c. To bring forward, adduce (testimony); to bring (an action). Now only in *Sc. Law.* ME. 2. To conduct, guide, esp. by going on in advance OE. b. Of motives, circumstances, etc.: To guide, direct to a place ME. c. Of a clue, light, sound, etc.: To serve (a person) as an indication of the way; to mark the course for. Also absol. *to l. in* (Naut.): to mark the course for entering port. 1697. d. *absol.* 1580. e. Phr. *To l. the way*: †(a) to guide, show the way to; (b) in later use, to take the lead in an expedition, etc. ME. 3. Of a commander: To march at the head of and direct the movement of. Also with *on*.

OE. *to l.* *To conduct (a person)* by holding the

by argument, etc., to a conclusion; to induce to do something ME. 6. Of a way, road, etc.: To conduct (a person) *to* or *into* a place. Hence *absol.* or *intr.*: to have a specified direction. ME. b. *intr.* To form a channel *into*, a connecting link *to* (something) 1833. c. *intr.* *To l. to*: to have as a result 1770. 7. *To l.* (a person) *a dance*: *transf.* and *fig.*, to put to the trouble of hurrying from place to place; hence, to compel to go through a course of irksome action. So *to l.* (a person) *a chase, a life*. 1529. 8. a. To conduct (water, steam) through a channel or pipe ME. b. To guide the course or direction of (something flexible; e.g. a rope, etc. *over* a pulley, *through* a hole, etc.) OE. c. *Naut. intr.* Of a rope: To admit of being led 1860. †g. To conduct (affairs); to manage, govern -1579.

1. b. Faith, sir, ha's led the drumme before the English Tragedians SHAKS. c. No evidence has yet been led to show SIR W. HAMILTON. 2. Therefore shall not Moses..his people into Canaan l. MILT. *P.L.* XII. 309. b. Instinct early led him into the political arena 1892. c. L., Kindly Light, amid the encircling gloom, L. Thou me on J. H. NEWMAN. d. Pray you l. on *Oth.* i. i. 311. 3. The Prince..led them on with great gallantry 1736. 4. The captive soldier was led forth GOLDSM. Phr. *To l. apes (in hell)*: see APE *sb.* *To l. (a bride) to the altar, to church*: to marry. b. The Moore..will as tenderly be led by th' Nose As Asses are *Oth.* i. iii. 407. 5. Tintoret..may l. you wrong if you don't understand him RUSKIN. 6. Broad steps l. down into a garden 1861. c. Several seizures of English cargoes led to reprisals on our part; reprisals led to a naval war M. PATTISON. 7. She had led him the life of a dog 1892. 8. b. Ropes..led through blocks fixed to stakes 1892.

II. To carry on. †1. To engage or take part in, to perform (dances, songs), to utter sounds. Cf. L. *ducere carmen, choros.* -1493. 2. To go through, pass (life, †a portion of time). Cf. L. *ducere vitam.* Rarely, †*To support life by* (bread). OE.

2. Do l. your own life and let ours alone! BROWNING.

III. To precede, be foremost. (Cf. sense I. 2.) 1. To have the first place in; *lit.* and *fig.* esp. in *to l. the dance, the van* ME. b. *absol.* To go first. Also with *off.* 1798. 2. *trans.* To direct by one's example; to set (a fashion); to take the directing or principal part in (a proceeding, performance, etc.); to be chief of (a party, a movement); to have the official initiative in the proceedings of (a deliberative body) 1642. 3. Of a barrister: *trans.* To act as leading counsel in (a cause); to act as leader to (another barrister); to take precedence of. Also *absol.* or *intr.* 1806. 4. *Card-playing.* a. *intr.* To play the first card. Also with *off.* Said also of the card. Also in *indirect passive*. b. *trans.* As first player, to play (a specified card); to play one of (a suit or a specified suit). Also with *out.* 1731.

1. b. The Admiral's frigate led 1900. 2. To l. an insurrection 1841, the singing 1859, the prayers 1866, the chorus 1883, the orchestra 1891. Disraeli still led the House of Commons 1891. 4. a. *To l. to or l. up to*: to play a card in order to bring out (cards held by another player). b. I l. a heart SWIFT. *Combs.* (with advs.). **Lead away.** a. *trans.* To

These are some of the most commonly used nouns and verbs in our language. Each one must serve to convey a vast number of different meanings . . .

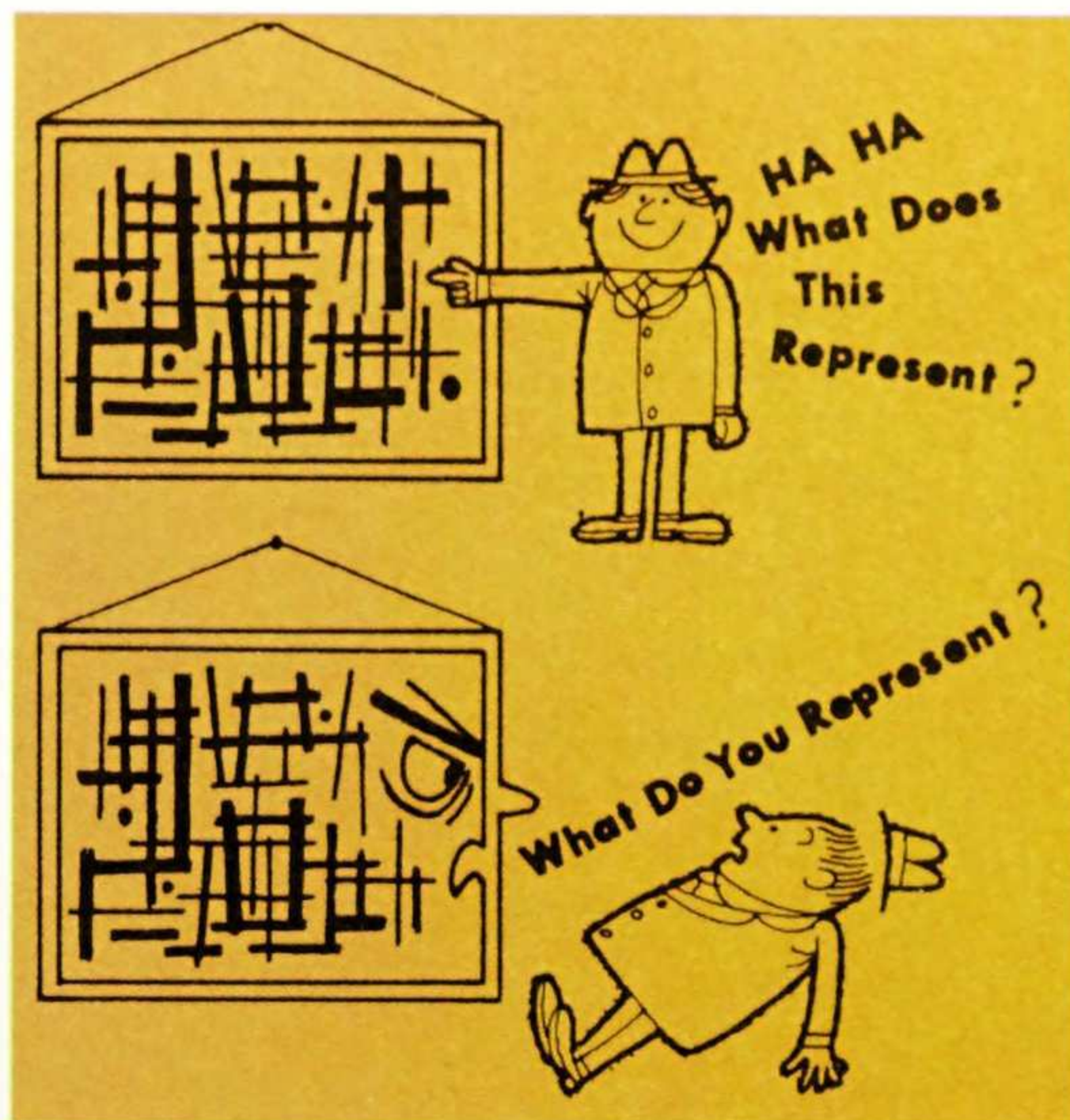
RUN CUT GO COME LIE
TELL TABLE WELL MAN DOG AIR AID etc.

When talking about everyday words—the kind we use in talking to our family and friends, and to our business colleagues, it does not get us very far to ask of a word that has just been used—

“What does **it** mean?”

It may get us further along the way toward understanding each other, if we ask the speaker (or writer—they are the same thing using different wave-length systems)—





“What do **you** mean?”



(Unavoidable parenthesis: it is equally unproductive to ask an artist about his painting—

“What does **it** mean?”

It is sometimes useful to ask the artist “What do **you** mean?”)

LEAD	LEAD	LEAD	LEAD
<p>Lead (<i>led</i>), sb.¹ [OE. <i>léad</i> str. neut. = Du. <i>lood</i> lead, MHG. <i>lôt</i> (mod. G. <i>lot, loth</i>) plummet, also solder.]</p>	<p>Lead (<i>led</i>), v.² ME. [f. LEAD sb.¹]</p>	<p>Lead (<i>lid</i>), v.¹ Pa. t. and pa. pple. <i>led</i>. [Com. Teut. wk. vb.: OE. <i>laedan</i> :—OTeut. *<i>laidjan</i>, f. *<i>laidâ</i> road, journey (see LOAD, LODE sbs.), related to OE. <i>liðan</i> to go, travel.]</p>	<p>Lead (<i>lid</i>), sb.² ME. [f. LEAD v.¹]</p>
 <p>1. The heaviest of the base metals, of a dull pale bluish-grey colour, easily fusible, soft and malleable. Chemical symbol Pb. Rarely pl. = kinds of lead. †b. Sometimes called <i>black lead</i> (=L. <i>plumbum nigrum</i>) in contradistinction to <i>white lead</i> (<i>plumbum album</i>), a name for tin —1753. 2. See RED LEAD, WHITE LEAD.</p>	 <p>1. To cover with or enclose in lead. Also with over. 2. To arm, load, or weight with lead 1481. 3. To fix (glass of a window) with leaden cames 1530. †4. To line (pottery) with lead or lead-glaze; to glaze —1686. 5. Printing. To separate lines of type with leads (see LEAD sb.¹ 8) 1841. 6. passive and intr. Of a gun-barrel: To become foul with a coating of lead 1875. 1. She leaded and paved the Friday Market Cross in Stamford FULLER. Hence LEA-DED ppl. a. (of panes of glass) fitted into leaden cames (1855); Printing, having the lines separated by lead.</p>	 <p>1. To conduct. 1. trans. To cause to go along with oneself. †a. To bring or take (a person or animal) to a place. (Phrases like to l. captive are now understood in sense 2.) —1704. b. To carry or convey, usu. in a cart, †1. To carry on. †1. To engage or take part in, to perform (dances, songs), to utter sounds. Cf. L. <i>ducere carmen</i>, choros.—1493. 2. To go through, pass (life, †a portion of time). Cf. L. <i>ducere vitam</i>. Rarely, †To support</p>	 <p>†1. The action of LEAD v.¹; leading —1510. b. Direction given by going in front; example; esp. in phr. to follow the l. of 1863. c. spec. in Hunting, etc., chiefly in phr. to give a l., i.e. to go first in leaping a fence, etc. 1859. d. A guiding indication 1851. 2. The front or leading place; the place in front of (something). Also, the position or function of leading (e.g. a party). leader</p>

Some day, we would like to correct what we feel is a misleading way that dictionaries describe common words. They list “meanings” in vertical columns, one below the other. We seem to give some value of “superiority” to that which is higher than something else. We have the feeling that the first definition is somehow “more right” than the second, third, etc.

Let us instead consider a dictionary that uses an illustrated “spectrum” to indicate areas in which a word has been used, how frequently, and over what period of time.

No such dictionaries apparently exist today. But it may be useful when you look up common words in a dictionary—one that has many definitions—to think of them as being distributed across a spectrum.

So far, we have talked about “small words”—these give us quite a bit of trouble when we use them in trying to express what we have experienced.

“Big” words seldom give us much trouble...

LOOK UP

● ICOSAHEDRON ●

IN ANY DICTIONARY. IT WILL SAY “A GEOMETRIC FIGURE HAVING 20 SIDES.”

WE MAY HAVE TROUBLE SPELLING

● ICOSAHEDRON ●

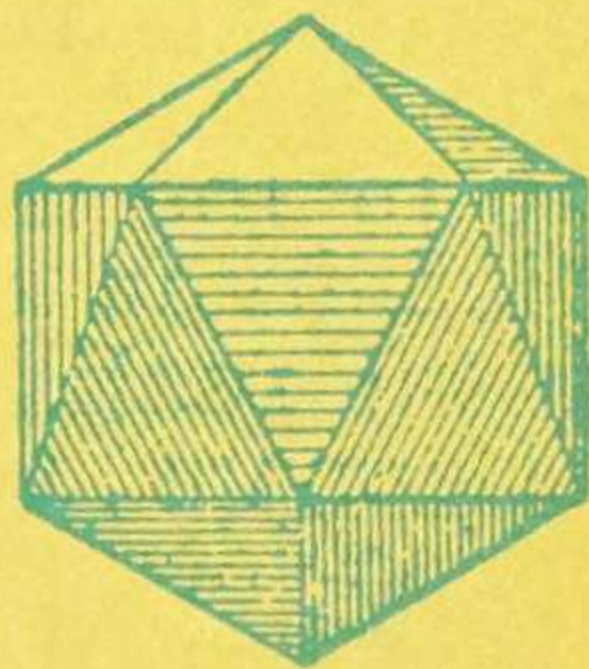
WE MAY HAVE TROUBLE SAYING

● ICOSAHEDRON ●

BUT WE HAVE NO TROUBLE UNDERSTANDING WHAT IS MEANT WHEN SOMEONE SAYS THAT SOMETHING IS AN

● ICOSAHEDRON ●

HERE IS A BETTER WAY OF SAYING



WHY DESCRIBE SOMETHING WHEN YOU CAN SHOW IT?

One reason for this is that “big” words frequently are “labels.” They “define themselves” and these definitions are nearly always “circular.” Most of the technical terms used in the professions and sciences fall into this classification.

“Little” words often tell us what is meant by them from the context in which they are used—

When your secretary says, looking ruefully at her hose
“I’ve got a run.”

We are pretty sure she does not mean the same thing as Willie Mays does when he says
“I’ve got a run.”

The “medium” sized words give us the most trouble because:

1. We get little or no comfort from looking them up in a dictionary.
2. We sometimes cannot figure out what the speaker “means” just from the context in which he has used the word.

Here are a few medium-sized words that we use nearly every day which can give us trouble...

country patriotism society government
democracy republic people experience
business management leadership objectives
politician natural virtue morals nation
communism delinquent criminal insanity
etc. etc. etc.

Here’s just one example: you will run into dozens of others every day, if you listen or look for them. Yet people actually believe they communicate when they use words in this way:

“Too much government is bad for business!”

This statement may mean something to the person who used it—but it is utterly without effective meaning to the person who hears or reads it.

You can lose a friend, but clarify the statement, by asking a few questions:

What government do you mean? Federal, state, county, city?
Executive, legislative or judicial?
Elective or appointed?

Where is the government you mean?
In Nigeria? Athens? Outer Slobovia?

What time are you talking about?
Today? Last month? In the Age of Pericles?
During the American Colonial Period?

Your friend may then rephrase his statement:
(I feel that) ^(he won't say this, but it is what he means) "The policies of
^(what?) the Committee of Ten ^(where?) in Carthage
^(when?) in the 4th Century, B.C.
were destructive ^("bad" in what way?) to the
growth of commercial competition.

(You may either agree or disagree with the
speaker—but at least you now know what
it is you agree or disagree with. Sometimes it
is useful to know that.)

At this point, you might be tempted to ask—
"Why didn't you say so in the first place?"

Don't do it! It's a sure-fire way to make
people mad at you.

**But it may be a good question to ask yourself
when people don't understand you.**

Think a moment, **before** you make profound
statements like

"_____"—Then, fill in the
what, the place and the time.

Sometimes you will discover that you don't
know the what, where or when—in fact, you
haven't the slightest idea what you
are talking about. This is always a rather
interesting discovery.

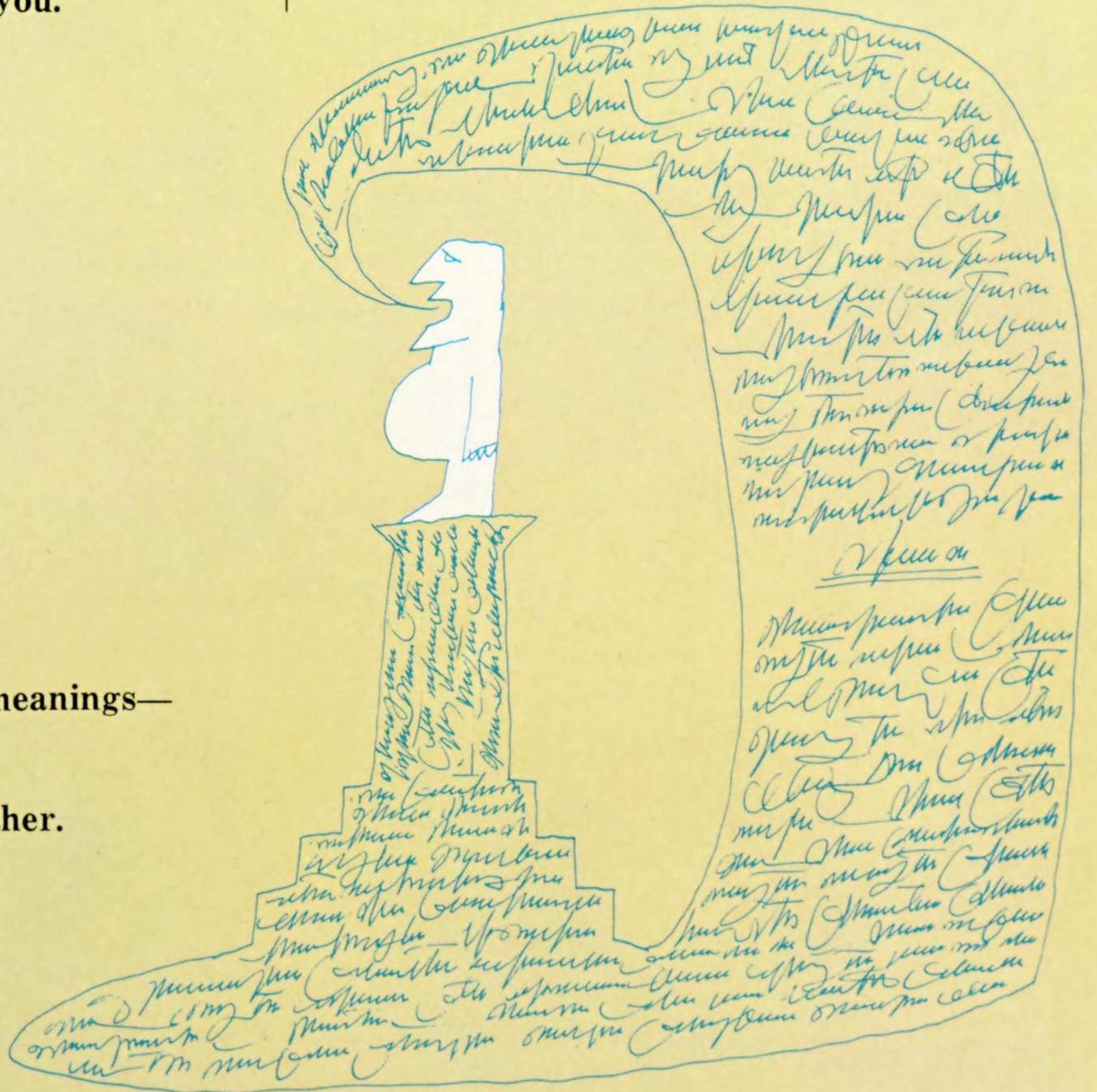
Or, you go ahead and say it, with names,
places and dates. Perhaps nobody will agree
with you, but at least they won't ask,
"Why didn't you say so in the first place?"

You already have—

Common words do not have meanings—

Only people do.

And sometimes they don't, either.

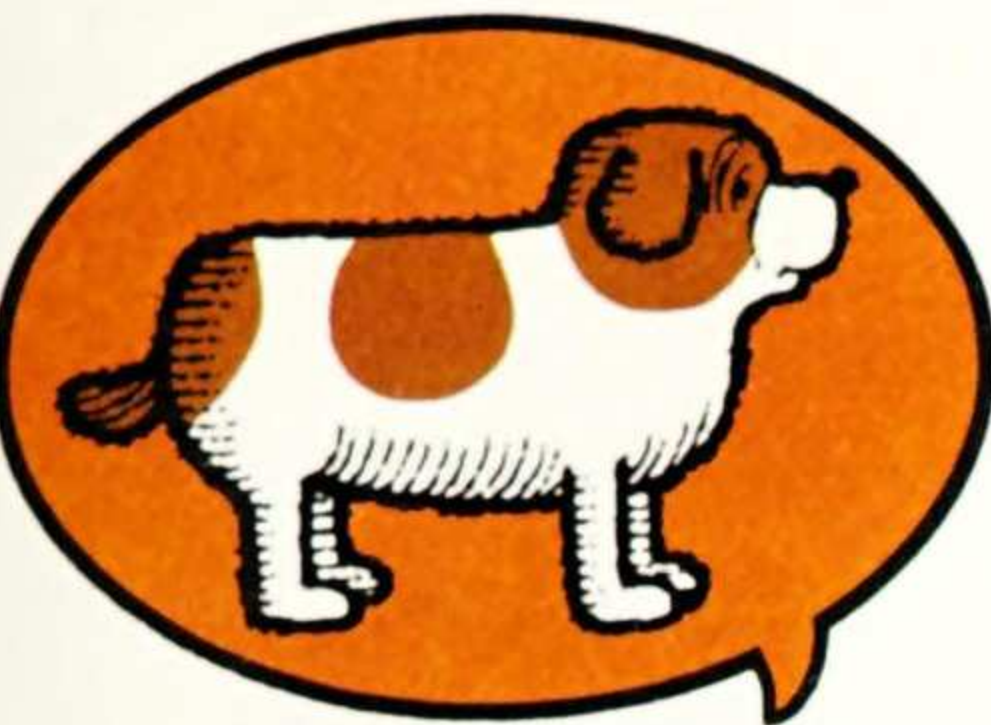


THE HUMAN TRANSACTION

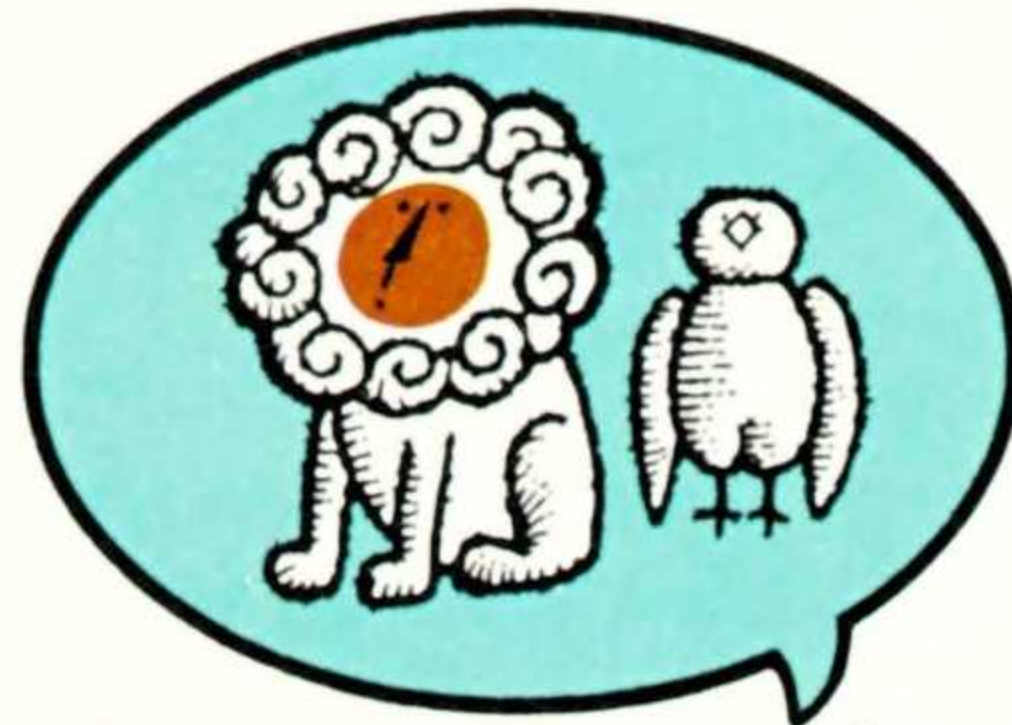
It is sometimes useful to think of human communications as “transactions.” In the sense we mean here, a transaction involves the interaction of the observer and what he observes. This can take place between ourselves and the world-outside-our-skin. Or it can take place between two or more human beings. The transaction may be an exchange of specially-created visual events, such as written words, works of art, photographs, charts, equations etc., or in the form of spoken symbols, as in ordinary conversation, speeches, songs and music. Whatever the symbolization, the basic ingredients of the transactions are the same.

These transactions may include:

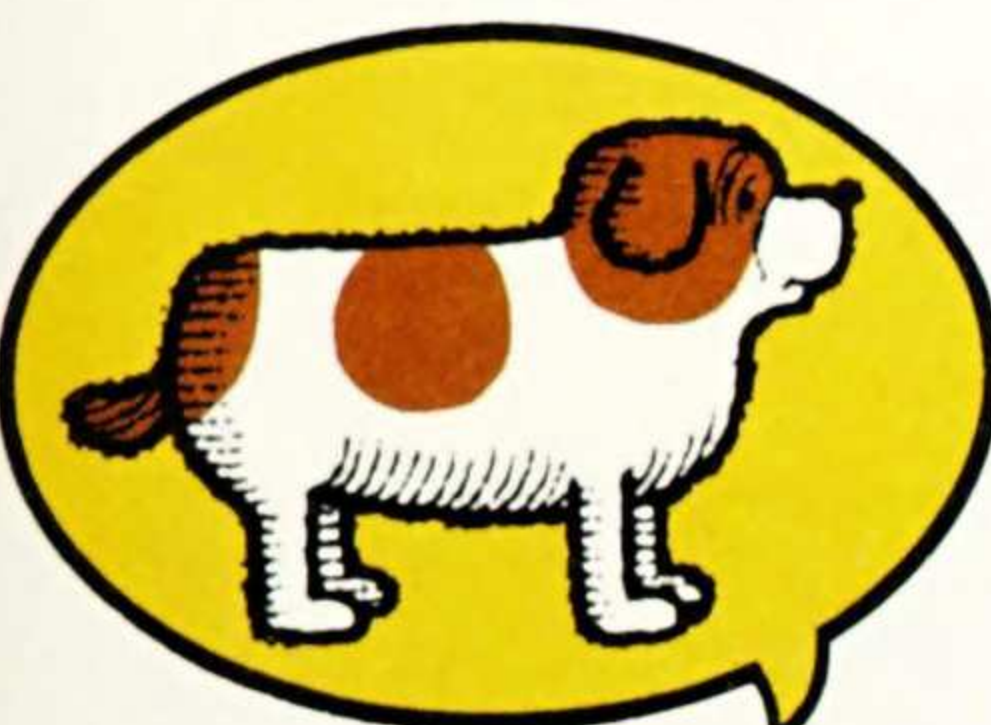
Something taken in	Light waves, sound waves, tactile impressions, odors, tastes, etc. from outside-our-skin-events
Something transformed	Light and sound waves transformed into electrical “codes” for transmission to the muscles
Something retained	Memory patterns stored in the nervous system as electro-chemical codes
Something created	Codes changed into muscular reactions
Something transmitted	Muscular movements move objects so that they emit or reflect unique patterns of visible light waves (or create pulsed sound waves) which are received by others as events seen or heard.



"I have a pet at home"



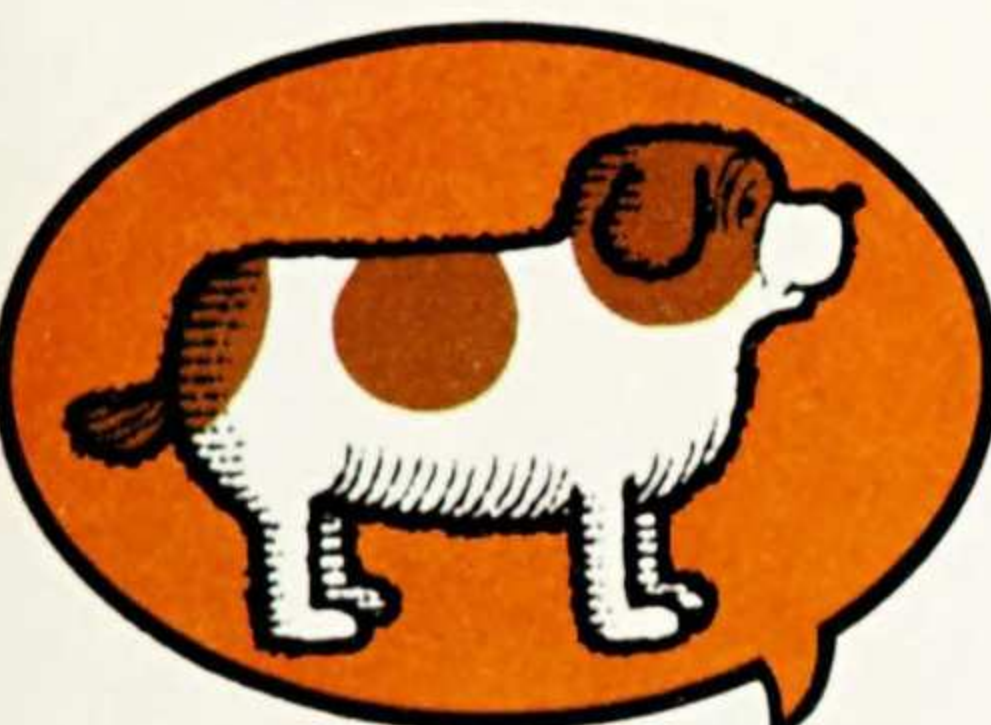
"Oh, what kind of a pet?"



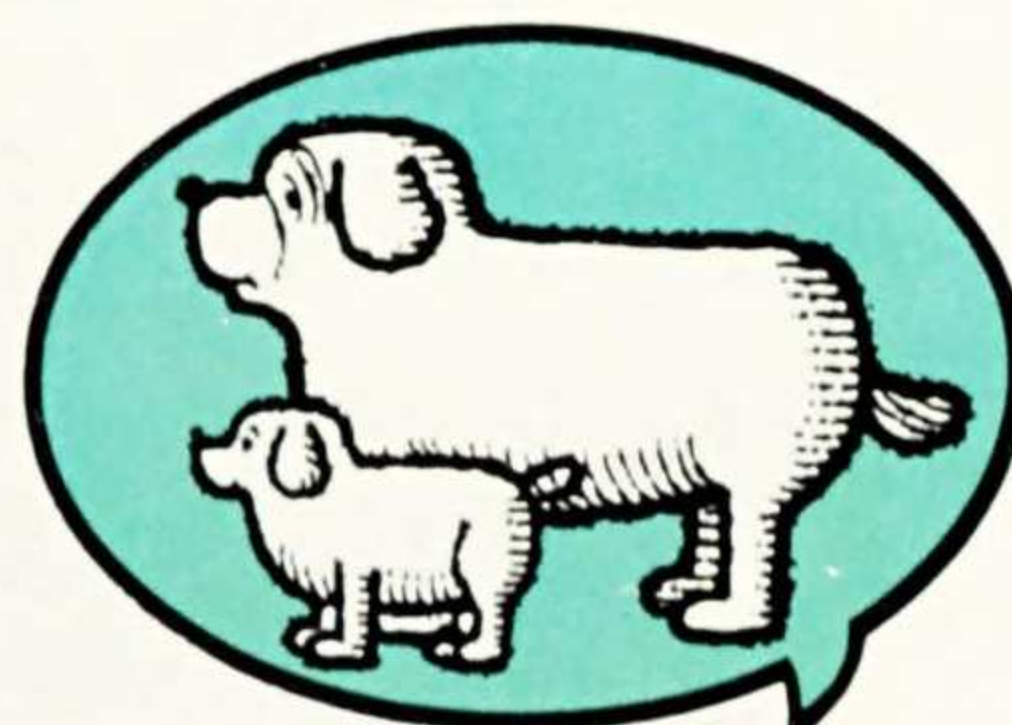
"It is a dog."



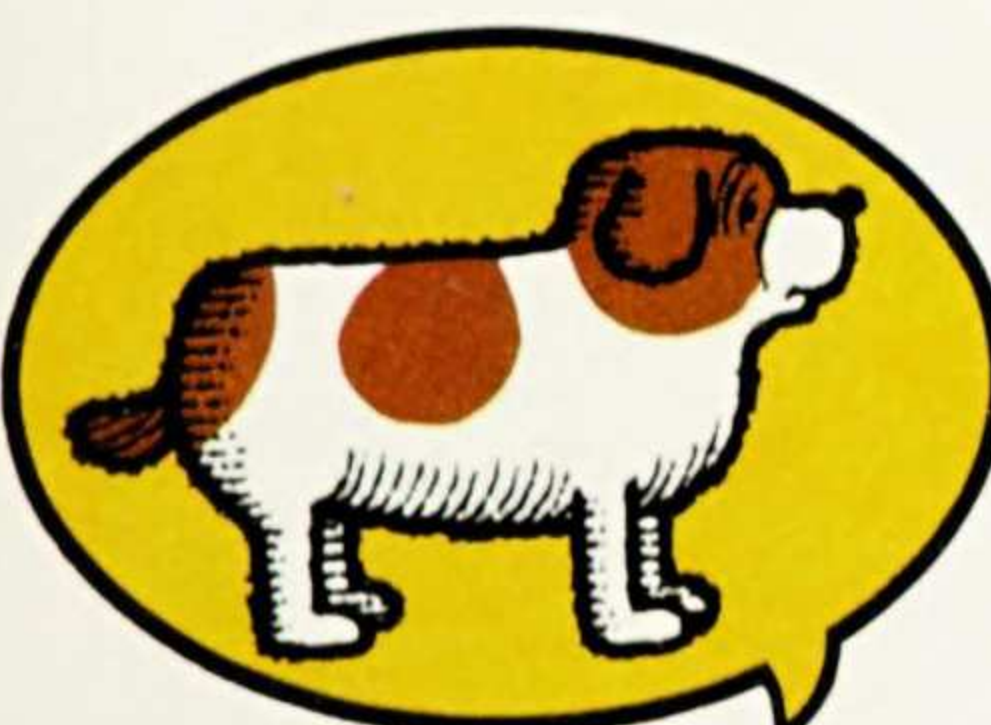
"What kind of a dog?"



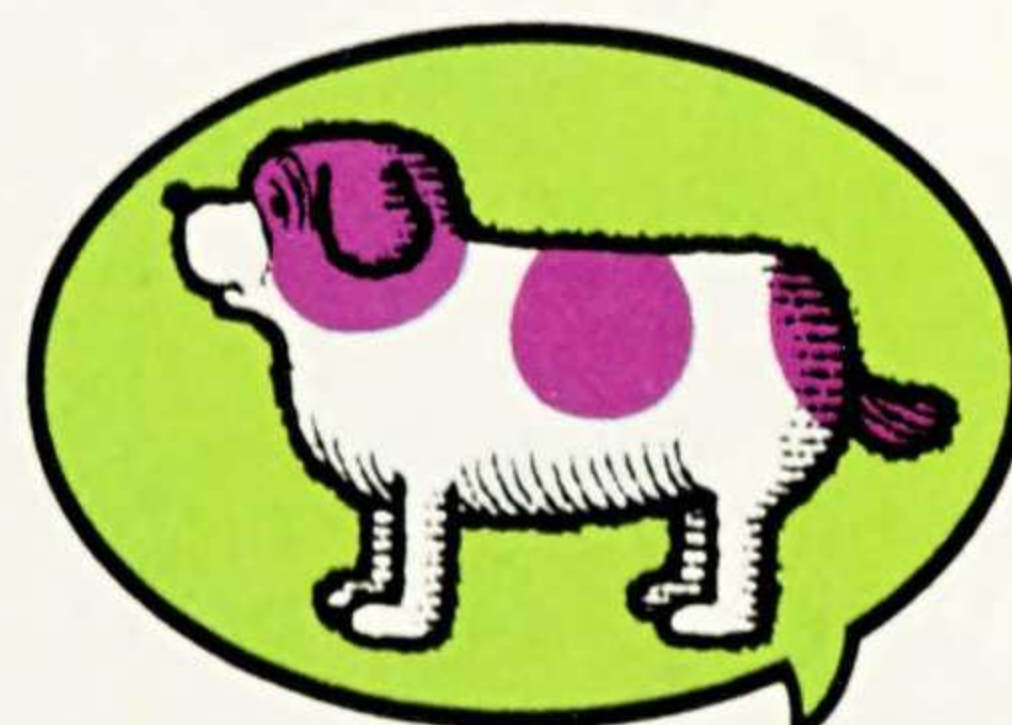
"It is a St. Bernard."



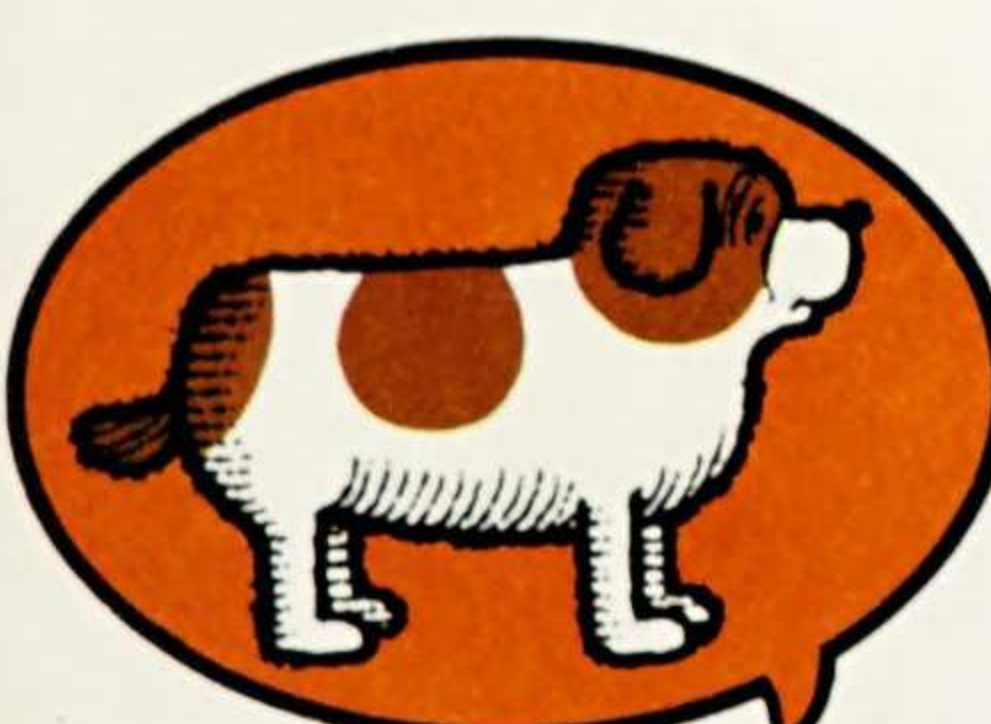
"Grown up or a puppy?"



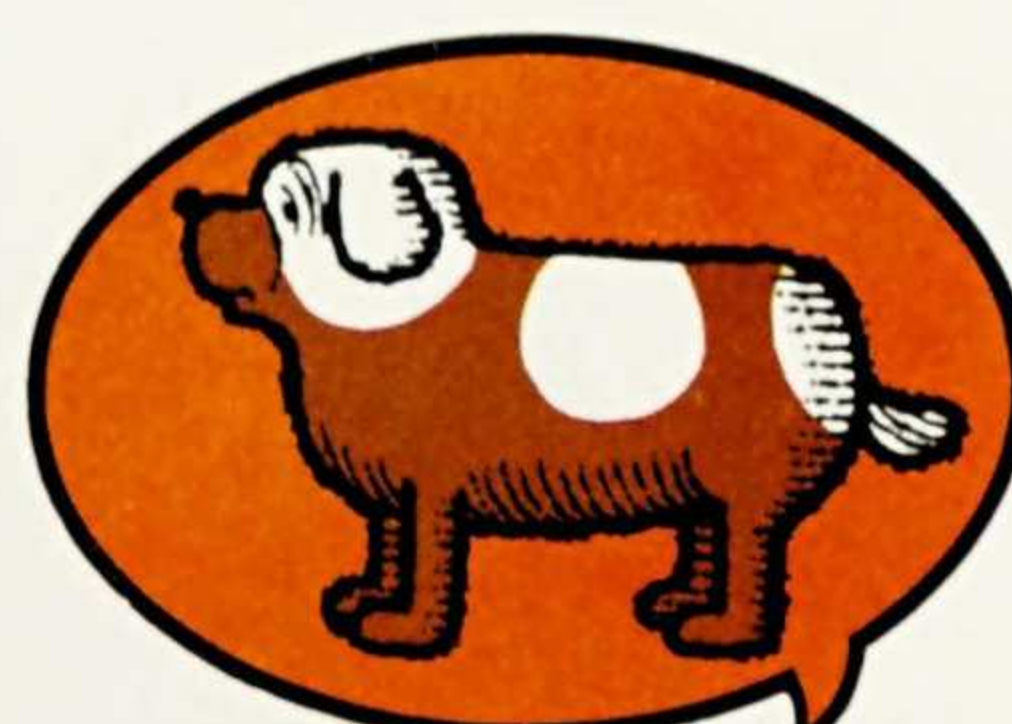
"It is full grown."



"What color is it?"



"It is brown and white."



"Why didn't you say you had a full-grown, brown and white St. Bernard as a pet in the first place?"



"Why doesn't anybody understand me?"

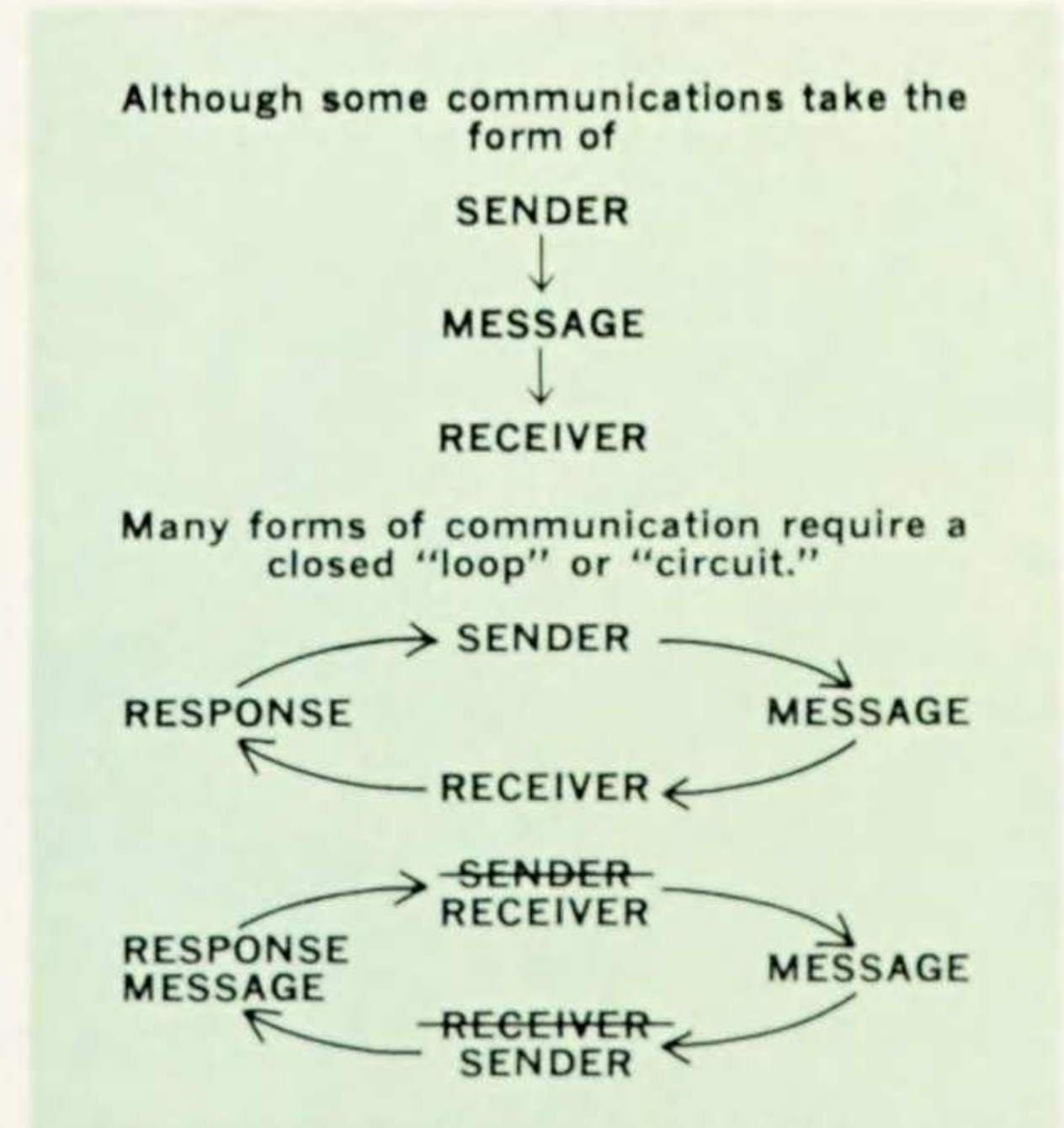
When we communicate with each other, it is useful to keep in mind that our common words may not evoke the same image in someone else's mind as they do in ours . . . Knowing this, we can help improve our communications by being as specific as possible in the way we use words . . . And, if you are on the receiving end, it often helps to ask questions.

Assuming that "everyone knows what you are talking about" . . .

and assuming you know what others are talking about without asking questions to make "sure" . . .

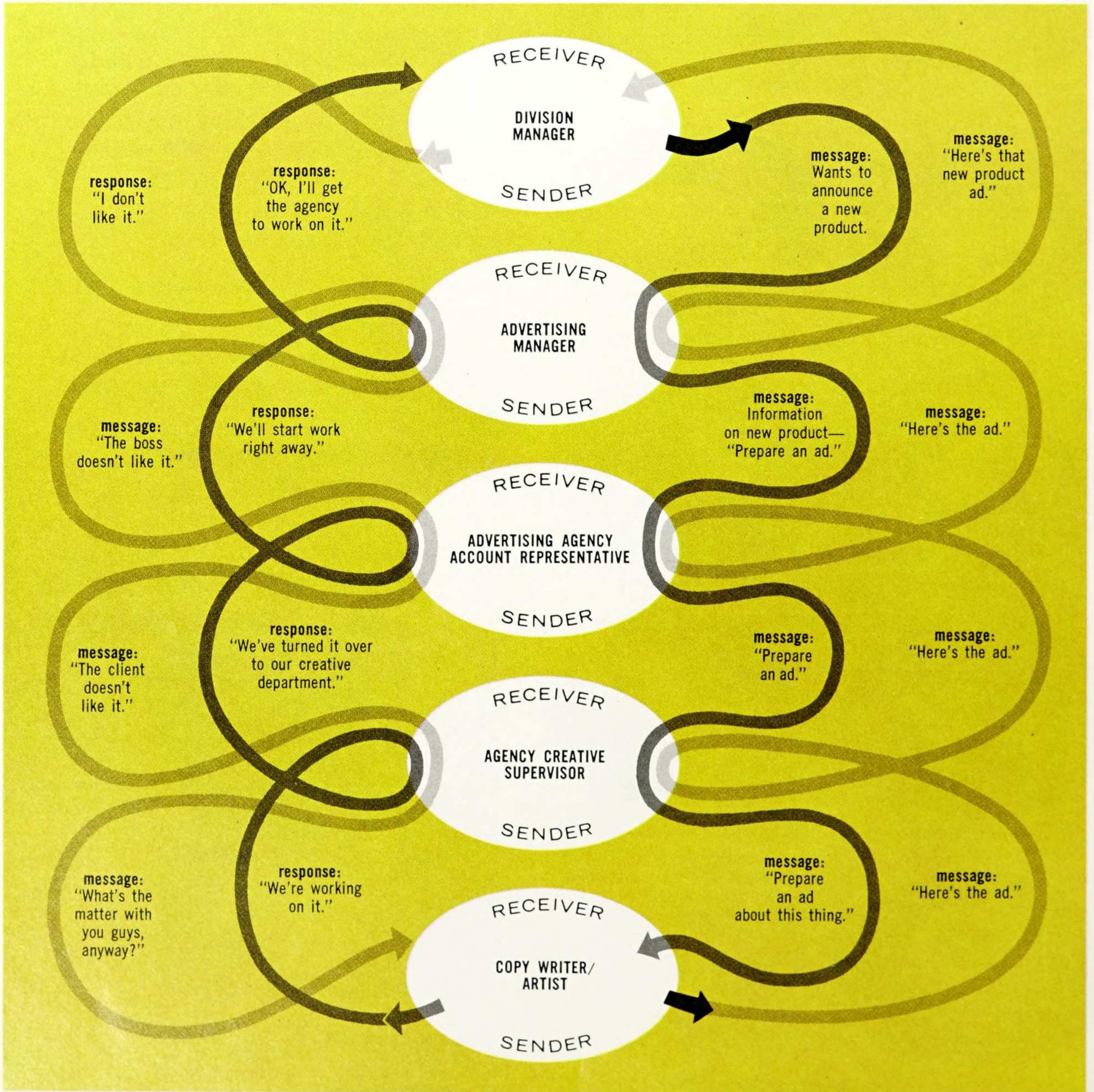
. . . are two common causes of communications failure.

Human communications frequently* seem to have a "loop" or "closed circuit" pattern.



*Frequently, but not always. When you read a book, or other pattern of symbols, your response may be purely internal, and does not go back to the person who originated the message.

In our daily lives, particularly in business, education and government operations, many interlocking communications loops may have to be used in order to perform even quite simple communications. In the oversimplified case diagrammed below, we see some of the interlocking loops that might be required in order to get a piece of advertising for a new product started, prepared, submitted, and returned for correction. Notice through how many minds the information has to pass—and remember, each mind will see the problem somewhat differently and the message may change slightly as it passes along.



W

hat we have tried to do so far is to discuss some of the things that go into the process by which we communicate with each other.

We have talked about Input (“What’s Gotten Into You?”) and Processing (“What’s Going On in There?”) and Output (“Words, Words, Words”) for all the world as if we were some kind of computer, or something. Well, that’s sort of the way it is; something comes in, something is done to it, and something comes out.

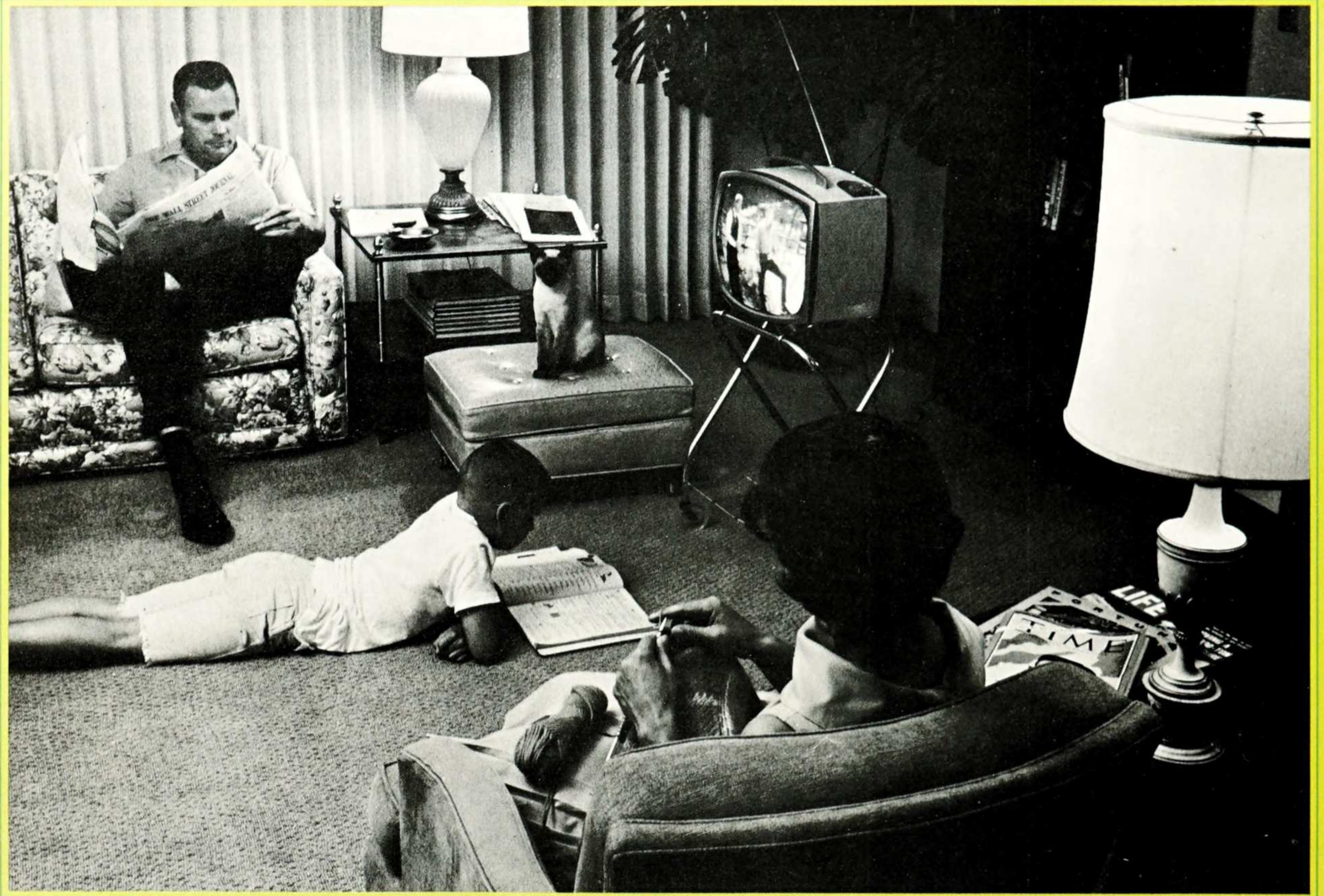
Now we want to talk about some of the everyday troubles we have when we try to understand each other. These troubles seem to be very much the same whether we are talking to members of our family, or at a luncheon of the Greater Metropolitan Daffodil Club, or making a presentation to a board meeting. Business communication differs from other communication only in the environment in which it takes place.

We shouldn’t have too many problems if we can keep a few things in mind:

1. At best, our perception and knowledge of what we can talk about is limited and fragmentary . . .
2. Whenever we talk about something, we are talking about something that happened inside of us, not something outside of us . . .
3. What happened inside of us did not necessarily happen the same way inside someone else . . .
4. Common words do not in themselves have meanings; only the people who use them have meanings . . .

With these precepts firmly in mind, we can trudge forward with confidence toward the molehills of fact and the mountains of inference we make out of them; the “ism of is,” and other strange places . . .

To most of us, this is a pretty familiar scene. So familiar that we may tend to feel that we see more in it than is there for us to see. Try answering the questions below and see how you come out.



Which of the following statements are true, false, or cannot be answered at all?

- | | (T) | (F) | (?) |
|--|-----|-----|-----|
| 1. The Jones family owns a TV set | () | () | () |
| 2. Johnny is doing his homework while he watches TV | () | () | () |
| 3. Johnny's father is a stockholder | () | () | () |
| 4. The screen is showing a scene from a Western . | () | () | () |
| 5. Mrs. Jones is knitting a sweater | () | () | () |
| 6. Mr. Jones is a cigar smoker | () | () | () |
| 7. There are three people in the room | () | () | () |
| 8. The Jones family subscribes to TIME, LIFE and FORTUNE | () | () | () |
| 9. The Jones family consists of Mr. Jones, Mrs. Jones and Johnny | () | () | () |
| 10. They have a cat for a pet | () | () | () |
| 11. They are watching an evening television show . | () | () | () |

(Answers on page 38)

AS A MATTER OF FACT

IF YOU PLAYED the little game on the opposite page, chances are that you felt that at least some of the statements about the people in the picture were "true." You may have considered them statements of "fact".

And you may have been a little disconcerted to discover that some of the things you called "facts" are what we are going to call "inferences."

Let us see if we can explain what we mean by "fact" and "inference" because everything we have said so far in this issue has been built around what we believe to be the difference between the two. (For instance, the first pages of the book tried to show that "facts" are something that happens inside of us and that everything we say about what happened inside of us is *not* the fact, but is only what we say about it. We can say that something looks like something, but we cannot say what it "is," apart from what it looks—sounds, tastes, feels, etc.—like.)

So, we'll say that a "fact" (for you) is something you personally experienced. And we will go further and say that everything else is an "inference" (for you).

These are harsh definitions. Indeed, if we had to live in a world where there were only "facts" (as we have defined them), it would be a pretty small world, limited to those few things we could personally touch, hear, taste, smell or see. We do not feel that we live in such a world and "common sense" tells us that there are many things we can accept as "facts" that we have not personally experienced.

And we are going to agree with you. We are simply going to say that as long as you are conscious of the difference between "facts" and "inferences" you are less likely to run into trouble when you talk and listen to other people than if you don't distinguish between them.

We can further say that for most common, everyday living a "fact" is something that is socially agreed upon.

It can be considered a "fact" if most people believe it to be "true" or if those people who are expert in it agree upon it. We can act *as if* such things were "facts," but we must remember that facts defined in this way are subject to change.

(For example, for a good many centuries most people believed that the world was flat, even though no one actually had reported having seen anyone "fall over the edge." And for several centuries top scientists believed that it was light, shining *out* of your eyes, that made the world visible. Mere consensus does not establish unchanging "facts" because the consensus is based upon what is *said* about an experience).

We may also find it useful to keep in mind that "facts" change with time. Or rather, that facts relate to time. The statements that New York City has a

population of 10,000; of 200,000 and of 7,891,000 people were statements of fact *at the time* somebody counted them.

So, perhaps a good way to think about facts is that they are something that happened to you; that they are always historical whenever you try to talk about them. And a good way to think about "inferences" is that they indicate higher or lower probabilities. These probabilities may be high because people have reported them widely and repeatedly. (That the sun will come up tomorrow morning enjoys a very high probability, because in the experience we have had of it, it has always done so. But, as any commuter knows, the fact that the 8:15 train has been on time every morning for the past four days does not mean that it will for sure be on time tomorrow morning. Both statements are inferences; but one has



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a much higher probability than the other and we can act on that one as if it were a fact).

We can—and do—disagree on “facts” to the extent that our individual experience of the world is different. But what we mostly get into trouble about are disagreements about inferences, which we have stated as if they were facts.

Suppose we both looked through a microscope. We might reasonably agree that that wiggly little thing down there is a wiggly little thing down there. But if I say that it is a paramecium, and if you say that it is an amoeba (both statements necessarily inferences) we may be in for an argument.

And we can make this area of disagreement even wider—and thus our chances of understanding each other smaller—if we continue then to make new inferences concerning the first inference. We can, and sometimes do, build a whole crazy superstructure of inference built on inference—as in the chart on this page concerning the “man with a briefcase.”

You can build similar charts around almost any common event in your daily life and quickly discover why you sometimes have difficulty understanding other people—and why, sometimes, they misunderstand you.

NONE OF THE STATEMENTS ON PAGE 36 CAN BE SAID TO BE TRUE FROM WHAT YOU ACTUALLY SAW IN THE PICTURE

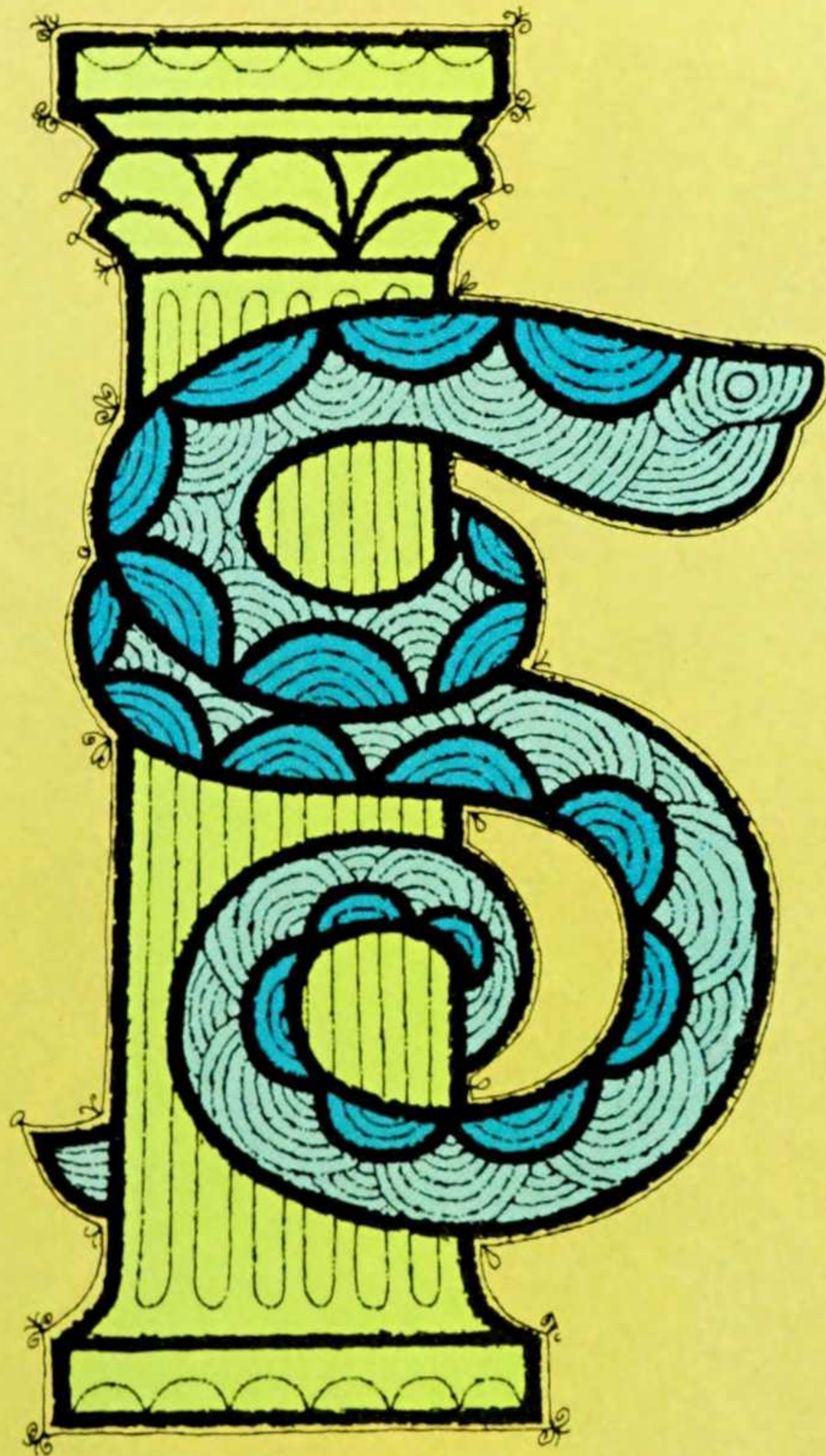
1. You do not know that the set is owned by them; it could be borrowed, or a demonstration set.
2. You do not know whether Johnny is doing homework or not; all you can see is that he has a book in front of him.
3. You do not know that Johnny’s father is a stockholder; you only know he is looking at the stock market report. Matter of fact, you don’t know he is Johnny’s father, either. He may be an uncle or friend just visiting in the house.
4. You do not know that it is a Western. It could be a commercial or a foreign-made movie, or almost anything.
5. You do not know that it is Mrs. Jones, and you cannot tell what she is knitting.
6. You do not know that Mr. Jones (if, indeed, that is Mr. Jones) actually smokes cigars. You only can see that there is a cigar on the ashtray. Perhaps someone else left it there.
7. You do not know how many people might be in the room; you can only see that there are three people in the part of the room shown in the picture.
8. You do not know what magazines they subscribe to. The ones on the table may have been purchased at a newsstand or loaned by a friend.
9. You do not know if this is the Jones family; nor can you tell if there are other members of the family who are not present.
10. Could be a neighbor’s cat, making itself “at home.”
11. You cannot tell if it is evening or not; only that the lights are on. Perhaps it is midday and the shades have been drawn.

DOWN THE YELLOW BRICK ROAD or FROM FACT TO FALLACY

WHAT HAPPENED	MR. “A” SAYS:		MR. “B” SAYS:	COMMENT
THE EVENT	“I see a		“I see a	No argument
THE LABEL (1st Inference)	“It is a man with a briefcase.”	MAN AND BRIEFCASE	“It is a man with a briefcase.”	Inference because it could be a woman dressed like a man.
2nd Inference	“He is taking some work home with him.”	MAN AND BRIEFCASE	“Spies sometimes use briefcases.”	Going off in different directions.
3rd Inference	“He must be a very dedicated man to take work home with him.”	MAN AND BRIEFCASE	“I wouldn’t be surprised if that man doesn’t turn out to be a spy.”	Where’s everybody going?
4th Inference	“A man that dedicated is bound to be a success in life and an asset to our community.”	MAN AND BRIEFCASE	“This country is infested with spies and unless we do something about it we’re in trouble.”	Brother!
ETC.	ETC.		ETC.	ENDSVILLE

THE TROUBLE WITH IS, IS IS

*If we were to track down
and corner in its lair
what we believe to
be one of the
chief causes
of problems
in everyday
communications,
we would
describe
it as the
misuse of
the word...*



BEHIND the unqualified use of the word "is" lurk a number of assumptions, each of which can lead to trouble. (We use the word "unqualified" because there certainly appear to be places in our common speech where trying to avoid using the word "is" is—see?—not worth the effort it takes).

So what's so bad about "is"?

For one thing, what we consider "bad" are the many ways in which it can be misused in everyday speech:

"It *is* good . . ."

"He *is* lazy . . ."

"That *is* a rock . . ."

all have one thing in common. The "is" implies that we are describing something "out there" that has a certain quality—"goodness," "laziness," or "rocklike"—which exists independently of our personal experience of it. And the next implication is that you must agree because "obviously" that *is* what it *is*. But what we really are describing is an internal experience (see pages 5 through 14) which may have validity only for us.

One way out of this dilemma may be to say:

"I *think* it is good . . ."

"I *believe* he is lazy . . ."

"It *looks to me* like a rock . . ."

or, if we don't actually say it out loud, we can at least think this way to ourselves, as a reminder that what we describe is not "out there" but an experience inside ourselves.

Another thing we imply when we use the word "is" seems to be that we have examined the subject (whatever it may be) thoroughly, and have determined how best it can be described. But, in reality, we can only have examined a limited number of possibilities (an expert may be defined as a person "who knows how much he does not know"). Of these possibilities, we have chosen one (or several) for a personal reason that may have validity only for us.

In our everyday speech, in memos

and letters and conferences and conversation, we hear or read pronouncements like, "He is an organization man," or, "He is unimaginative," rendered with the air of finality that would be more proper coming from the Princeton Institute of Advanced Learning.

If you take a look at the chart on this page which partially lists some of the things that might be said about an individual (just as many things could be said about the company you work for, or an organization you belong to, or your neighborhood) you will see that they represent a wide spectrum of different experiences that different people have had at different times with this one individual. To choose *one* and to speak of it as if it characterized the real, living person, is to imply "all." When you imply "all" you seem to have

WHAT "IS" THIS MAN?



closed the subject; you have, in effect, said, "He's _____, and that's all there is to it."

Now, no one believes you should try to say all about a subject every time you say something about it; that would be nonsensical, even if it were possible. But you can describe your reaction to a person or situation in such a way as to make it clear that you are making an inference (see pages 36 through 38) based on your own limited personal experience.

You can say, "I've only seen him a few times but he seemed to be a nice guy," (instead of, "He is a good guy,") or you could say, "I've seen him several times at club meetings and he strikes me as a loudmouth," (instead of, "He is a loudmouth.")

When we make clear the limitations

of our experience and that we are talking about that experience rather than the person, event or thing, we leave open the way to further discussion (rather than disagreement and argument.) No one can seriously question that that was what you felt; but everyone can—and most people do—argue with the categorical statement, "That is _____."

There is still another way in which we sometimes use "is" that can lead to trouble. We may use it in the sense of "identities"—as in the phrase "2+2=4." We substitute "is" for the "=" sign and say "2+2 is 4." They are not the same thing at all. "2+2 is 2+2." But it does not appear to be "4." "4" is something else altogether. The arithmetical expression simply says that we can use the symbol "4" instead of "2+2" in cer-

tain types of agreed upon operations. It is permissive but it is not descriptive.

When we use "is" as if it was an "=" sign in common speech, as in "truth is beauty" or "knowledge is power" we begin to wander rather far afield from the world we actually experience.

This all may sound so obvious as to be almost childlike. Yet the "fact" remains that many of us, every day, use "is" as if it were some kind of a weapon. In doing so, we replace the richness and diversity of human experience with a dull and lifeless monochrome. We kill the animal and dry its skin and nail it to the temple wall, and in the end reduce the world we describe to a two-dimensional diagram—sans color, sans depth, sans motion—sans everything.

Stamp Out Is!

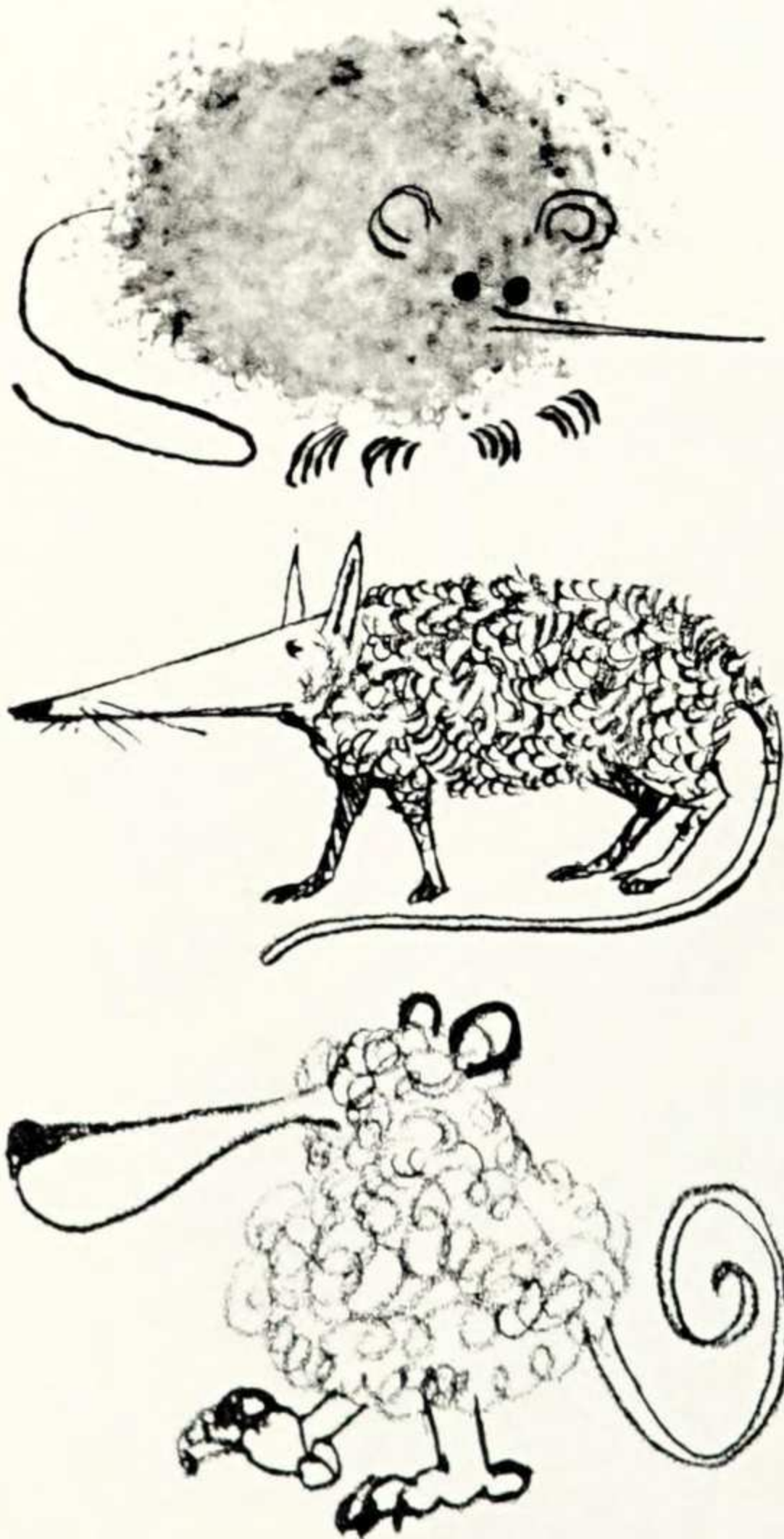
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IT'S A MAD, MAD MAZE

Just for fun, read the following description, which is taken from the Encyclopaedia Britannica, and then see which of the illustrations it describes.

It is small, with a long nose, ears and tail, the latter being naked and prehensile. The opposable first hind toe is clawless and the tip is expanded into a flat pad. The other digits all bear claws. The best known species is about the size of a cat, gray in color, the fur being woolly.



(We gave three artists the description above—nothing more—and this is what they drew.)

THE DESCRIPTION at left is of an opossum. If you didn't guess that, we don't blame you, because first of all, none of the drawings looks very much like what we know to be an opossum, does it? And yet, you may notice that each drawing is still a legitimate interpretation of the description. Who can deny that in each picture the tail is naked, the nose is long, etc.?

And second, we didn't include any statements that would conform to what is probably your common conception of an opossum, such as "it hangs upside down when it sleeps and carries its young in a pouch."

But perhaps the point to be made here is that this has been a demonstration of something that occurs very frequently in our everyday dealing with others. We could call it "by-passing," for it happens when someone says (or writes) something, and someone else hears (or reads) something quite different. It is the missing of meaning between persons.

"Time flies."

"You can't. They fly too fast."

This, too, is a very simple and harmless instance of by-passing. Why does it occur?

Well, to begin with, a very cogent argument could be developed that there are more than 3½ billion different languages in the world. Each of us talks, listens, and thinks in his own special language (and sometimes he uses several) which contains slight variations of agreed-upon meanings that are uniquely individual, and which may change each second. Our personal language is shaped by our culture,

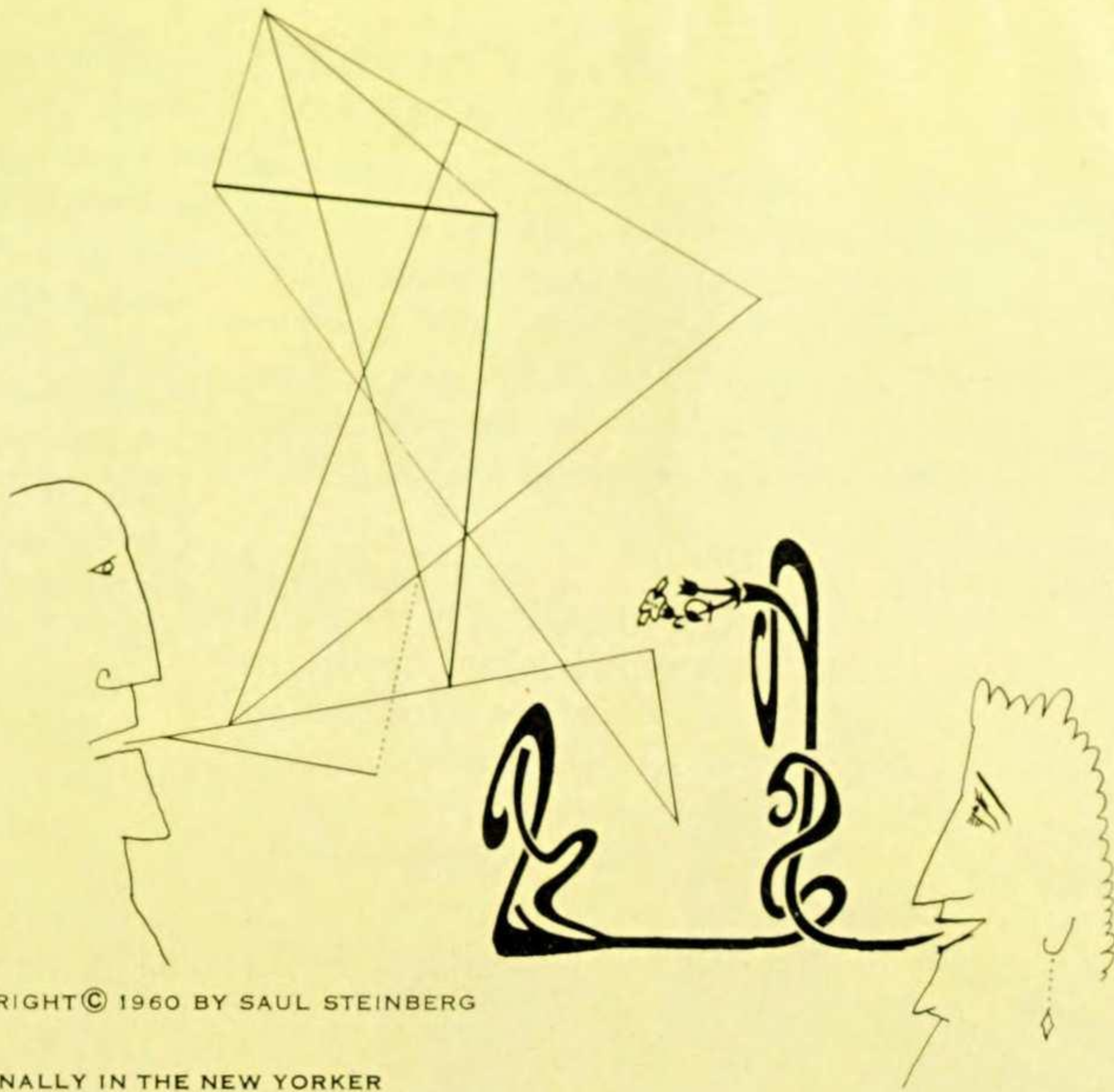
country, province, section, neighborhood, profession, personality, attitudes and mood of the moment. And the chances that even a few of us will share all of these "ingredients" in the same way at the same time is pretty remote.

Lawyers and dentists might disagree, for instance, over the word "closure," children could misinterpret the warning of a parent about crossing the street as merely a distasteful restriction, the company vice-president might view a polite comment from the company president as a "subtle suggestion," and so on. It all depends, we might say, on which window we're looking through.

What sometimes renders the windows a bit opaque is the misleading emphasis that can be placed on the words. An assertive intonation or a subtle inflection may "change" the feeling of the words. The plain question, "What are you doing?" may become a sarcastic "What *are* you doing?" or a shocked "What *are* you doing?" or perhaps a belittling "What *are you* doing?" depending upon the way it is spoken.

Perhaps the little "conversation maze" on page 43 shows how easily our different "language worlds" can cause dead-ends of misunderstanding.

In looking for a clue to solve this often troublesome problem, we might return to what we said on page 29 about listening to people, not just words, to find meaning. If, instead of asking, "What does *that* mean?" we ask, "What does *he* mean?" and if we are careful to ask this of ourselves before we talk, perhaps we can avoid some of the everyday missed meanings in our communication with others.



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ORIGINALLY IN THE NEW YORKER

"George, have you seen the Simmons report? I can't find it."

"It should be in the file, Ted. I used it a few days ago."

"Are you sure you put it back? It isn't there."

"I remember returning it to the file. Mind telling me why you want it?"

"I wanted to take it with us when we call on the Ajax Company today."

"Are you going along? I thought you were tied up on that other account."

"Nope. I finished that. So I thought we could go together."

"Good! Two of us will make a better impression than just one."

"Don't you think I put things back when I'm through with them?"

"I thought I was going alone on that one."

"I felt two of us might make more of an impression."

"Don't you think I can handle it?"

"That's not the reason, George. We want that account, don't we?"

"Sure. Maybe you think you can get it better than I can."

"I didn't say that."

"I'll look, just in case."

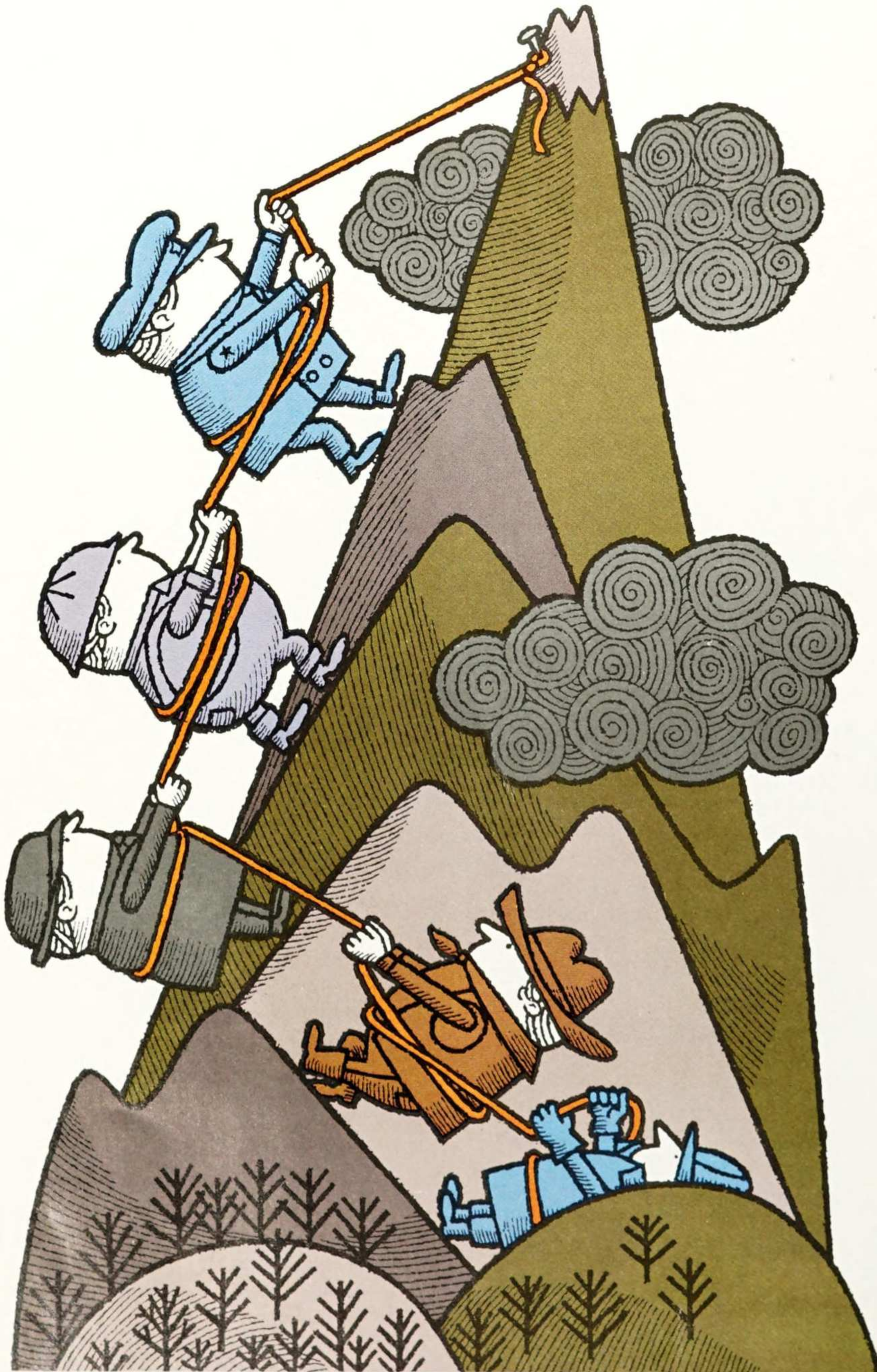
"Of course I do. Just thought it might be buried under some papers."

"My desk isn't that sloppy, is it?"

"That isn't what I meant, George. Just forget it."

Why is Ted always picking on me?

THE BIG ROCK CANDY MOUNTAIN



Now we enter a very difficult part of our exploration. Tread carefully here, and avoid the enticements along the way. There are three large traps that lie along the path, and they are easy to fall into. We call them the traps of non-differentiation, and we come upon them every day . . .

“See one and you’ve seen ’em all”

HOW WOULD YOU DESCRIBE what you see in the picture at the left?

Perhaps we can guess that your description included some mention of the figures climbing that very precipitous mountain. You may have said something like “Men climbing a mountain,” or “Mountain climbers,” or “Some people scaling a peak.”

Yet it is obvious from their dress that these “mountain climbers” also appear to be a construction worker, a cowboy, a policeman, etc. Each is different from the others in some way.

This might lead us to an observation, for if you first noticed them as “men,” or “mountain climbers” or “people” you were tying them together with words in very much the same way as they are tied together with ropes in the picture. You expressed what you first saw—a similarity among them.

What this demonstrates, perhaps, is that in emphasizing the degree to which they are alike you’ve made no mention of the differences among them.

In our everyday talking, listening, thinking, reading, etc., we tend to do very much the same sort of “tying together” of things, people, attitudes, and the like. Perhaps you’ve noticed from time to time how very easy it is to “categorize” the elements of our world, while it often takes a conscious effort to recognize the differences, the nuances that make each thing unique in its own way.

The point to be made here, perhaps, is that to the extent we see only similarities and ignore differences, we limit our observation of the world about us. We raise a flag over our brigade and issue each member the same size clothing.

Now look at the illustration directly below. What do you see? Perhaps the first thing you notice is how different each view of the ball is from the others. Sometimes the difference between them is slight, but taken together the illustration shows quite a wide range of possible aspects of one single ball.

We can see that in the world we experience about us there is some correspondence to that illustration. Sometimes the differences between two things are slight—often they are significant. And surely in the whole range of things in a “category,” there is bound to be an opportunity for great disparity.

You might argue here that our ability to learn is largely dependent upon the extent to which we are able to see similarities—to associate and relate various facts, theories and subjects. We agree there wouldn't be much point in teaching a child the rather abstract concept of $1+1=2$ if he couldn't use this knowledge to keep track of his marbles at recess and much later, to evaluate the financial solvency of his company!

And perhaps, then, we come to a conclusion. We might say that it is often beneficial to discriminate among the things we experience, so that we notice the differences among things that are apparently similar, and the similarities among things that appear different.

It would seem that this approach might be more rewarding as we deal with our world—it might be good to add, when next we are tempted to say, “See one and you've seen them all,” the question, “or have you?”

“There are two sides to every question”

WE PROBABLY CAN AGREE that in the world we experience every day there are very few events that we can classify as being either one thing or another—ours is not a black or white world, for the most part. We realize that people do not have to be either fat or thin, tall or short, rich or poor, etc. They may be a little of both.

Yet we find it difficult to describe the multitude of “in-betweens,” the not quite blacks and not quite whites, because our language is structured in such a way that there is a sad shortage of “in-between” words.

Try, for example, to fill in the blank spaces below with words that indicate the degrees of possibility between “either-or:”

good _____ evil
pleasant _____ unpleasant
sweet _____ sour

Difficult, isn't it? In fact, it's nearly impossible without using some rather imprecise adjectives such as “very,” “more,” “fairly,” etc. But this is all our language allows in many cases—there are few precise “medium ground” words.

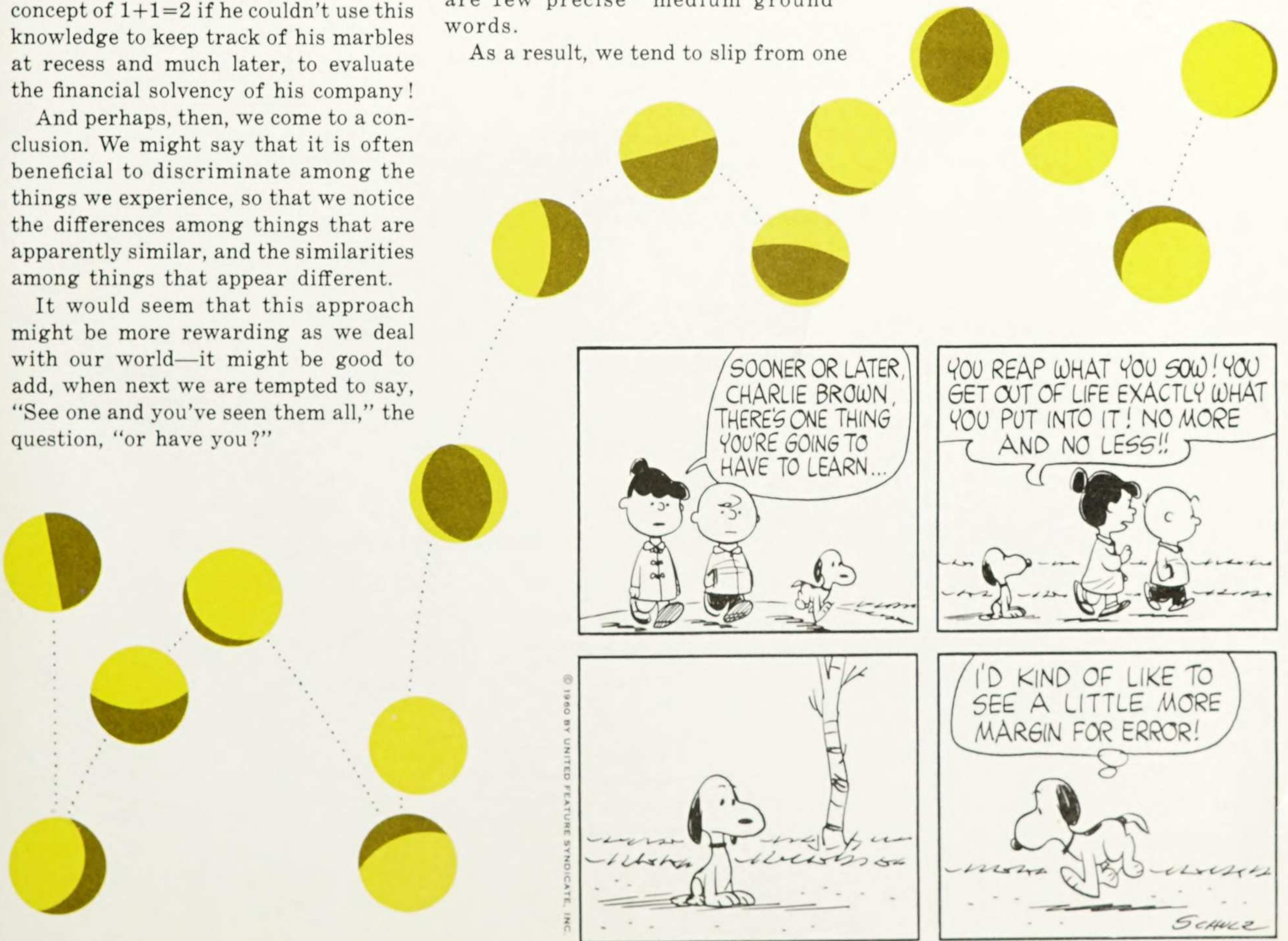
As a result, we tend to slip from one

extreme directly to the other when defining something—largely because it's easier than searching for an intermediate word. For example, if a man can't be described as honest, we are likely to call him dishonest. If he is not a success, he's a failure, etc.

This isn't to say that there is no such thing as an “either-or” proposition. We can understand how at any given time a person has to be either dead or alive (he can't be both), standing or sitting, that the sun will rise at 6:05 tomorrow or it will not, and so on. Practically all things that can be accurately termed as “either-or,” however, are happenings that must be related to a certain point in time.

It is when we apply “either-or” alternatives to events that have many degrees of possibility, and when we treat them as “either-or” in our attitudes and daily conversation, that trouble may begin.

The old expression, “There are two sides to every question,” generally thought to demonstrate a broadminded view of things, is quite restricting when we stop to realize that there are



really *many* sides to every question. But we are inhibited by our language, as we have seen, and since our attitudes may be viewed as largely the product of language, we can perhaps begin to solve this problem at the level of language.

Next time we are tempted to imply "either-or" in describing something, then, we might try instead to place the statement we want to make against a scale of "how much," "how important," etc. Instead of saying "Johnny is a bad boy," for instance, we might substitute something like "Johnny deliberately broke two dishes today. He said he was sorry."

Perhaps happiness is, after all, a little more margin for error.

"That was the man that is"

ONE WAY we might look at our experiences of the day-to-day world around us is as if they were a continuous movie film on which are captured the constantly moving, changing events we observe.

We can close our eyes while watching some event and the movie stops—our mind pictures the frozen image of the last "frame" we saw in much the same way as a football play or an actor's expression on television is "stopped" to dramatize an event.

When this happens, however, and the image is frozen in our mind's eye or on the television screen we do not for an instant suppose that the action was never completed in reality. We know from experience that a football player doesn't "freeze" in mid-air and an actor's expression isn't immobilized on his face. We can vividly imagine the action continuing even if we don't see it.

And yet sometimes, in our dealings with the people and things around us, we tend to close our eyes and "freeze" them as if they had not changed since we last experienced them.

Attending a 20-year class reunion is a good example of this. How shocked we are to see how much *others* have changed because we remember them as we last saw them!

When we pause to think about it, many of our attitudes and actions are influenced by the "frozen" images we have of people and things.

Have you ever returned to that "quiet, scenic place" you had visited 10 years ago and been appalled to find a crowded resort with gaudy signs?

Suppose someone calls to obtain a reference for a secretary who used to work for you. You had to "let her go" because she didn't seem interested in her work

and became confused under pressure. So you tell the man, "Sorry, she was a poor secretary."

But that was six years ago, when she was only 19. And you're still thinking of her as if she hasn't changed in all that time!

When we overlook the "when" in our statements, we are referring to a single frame in a film that continues to run and is always changing. But if we stop to think "when" we last experienced that person, that thing, that event, then perhaps we will qualify our statement with "I don't know, really—that was a long time ago."

Perhaps we can see an example of a "frozen attitude" in the illustration below. The interviewer has judged the applicant as if he has not changed since a certain previous event in his life. Do you think the interviewer's judgment has very much to do with the applicant's present abilities?

And how often do we find ourselves disagreeing violently with someone, largely because we are discussing something we saw at one time and the other person saw at another time?

Isn't it time you started asking yourself "when"? Don't you wish everybody did?

Other Training: Basic Machine Shop, U.S. Army
Scholastic Honors: Valedictorian of high school senior class, 1955; National Honor Society
Extra-Curricular Activities: Baseball, yearbook in high school.

GENERAL INFORMATION:

Why Do You desire To Affiliate With This Organization? I would like to gain further experience in my trade, work where my skills are used.

Position Desired Machinist Presently Employed yes

Machines Operated Skillfully? Drill press, lathe, welding torch Typing Speed —

Have You Ever Been Arrested, Other Than Minor Traffic Violations? (If yes, explain) Yes.
Arrested for shoplifting in 1957, again in 1958, served two weeks in jail second time. Arrested on suspicion of robbery in 1958, released.

INTERVIEWER'S COMMENTS: Although this man makes a good personal impression, I feel his prison record and arrest on suspicion indicate untrustworthiness around expensive tools. It might harm the company to have a man with his jail record on our payroll.

DATE: November 22, 1965

THIS IS THE BEGINNING - NOT THE END

■ Here at the end of the road, some readers may feel that discussing electro-magnetic waves, visible spectra, electro-chemical coding, symbology and loop circuitry has little, if anything, to do with the conversation, dictation, giving or receiving orders, writing notes and letters, studying reports and participating in conferences that make up their working days.

We'll go along with that. There's no need to understand the combustion engine in order to drive a car, providing the car is working properly. And that's the point. If human communications in everyday home and business life ran perfectly smoothly, there would be no need to understand the mechanism. But—most of us would agree—our daily communications frequently are faulty.

When communications do go awry, it is often useful to review the process to see what went wrong. And this we cannot do unless we know what we mean by process.

Then, too, it may be that there are some who feel that "communications" is something that technicians do (like the man who fixes the telephone). Thus, they feel, communications is someone else's job; not theirs.

We cannot pretend, in this brief format, to have said very much about communications; but we have tried to say several things we feel may be important:

(1) The ability to communicate is not something we are born with; we have to learn it—often the hard way.

(2) Whenever we talk or write about anything, what we are talking or writing about is something that happened *inside* us—not outside us.

(3) If we have difficulty understanding—or being understood—it is likely we have ignored some part of the communications process. It is up to us, individually, to find that part and correct it. This is not an easy thing to do.

Meanwhile, there is a useful little catechism you can apply every time you hear or read something. Its constant use can save a lot of frustration and ease a lot of tension. It goes like this:

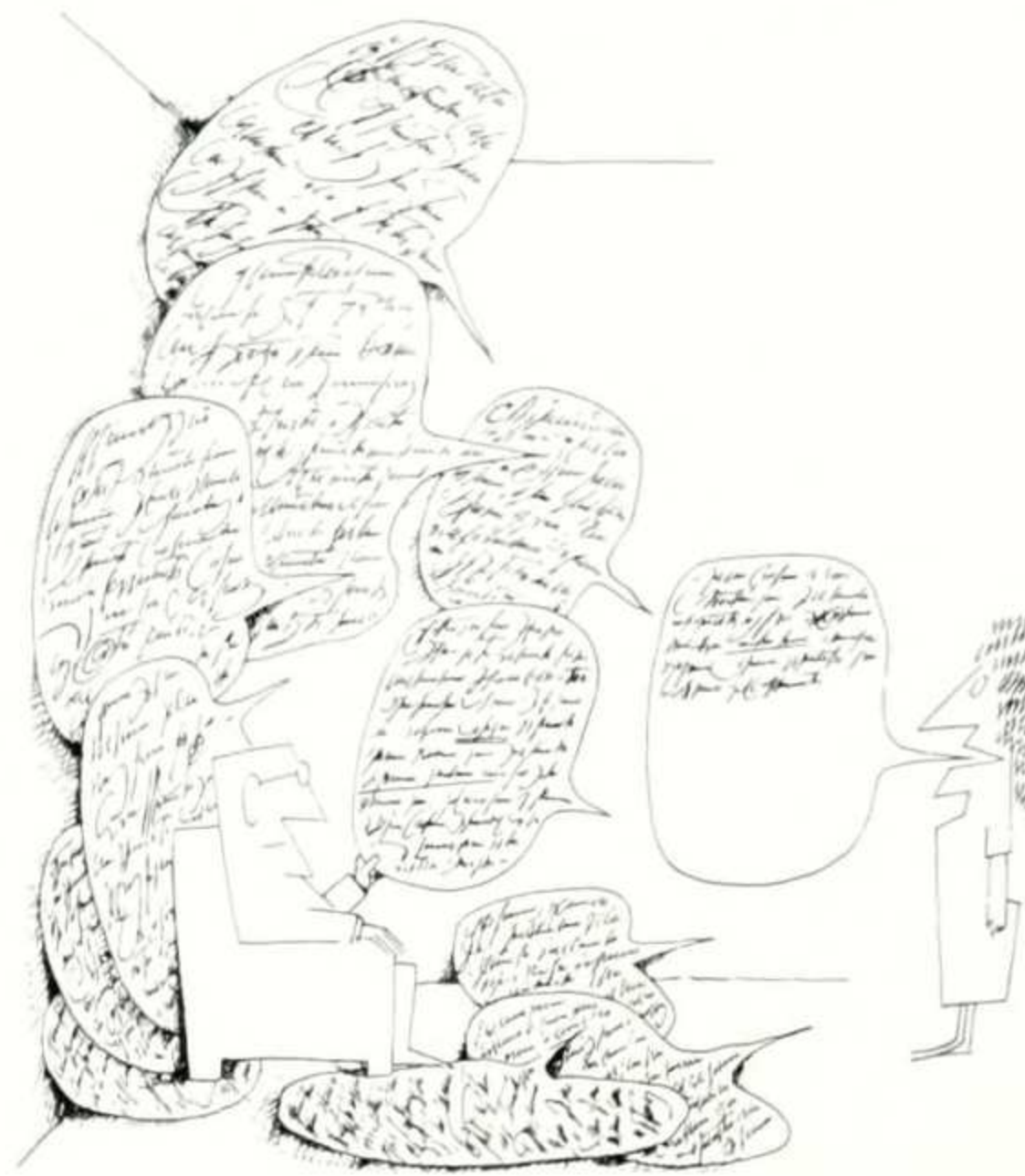
(1) *WHO* said so? (Don't accept "they" or "a company official" or "someone close to the ———.")

(2) *WHAT* did he say? (What someone says he "thinks" someone else said is probably wrong; forget it.)

(3) What did he *MEAN*? (If you are talking to someone directly, asking some questions may help. If he's not around, then possibly what *he* meant cannot be established; but in asking the question, you at least make it clear to yourself that he may not mean what you think he does.)

(4) *HOW* does he know? (Is he an expert? Was he there? What are his sources of information?)

For us, the intensive use of this little set of questions comes as close to a "magic formula" as our latter-day materialism allows. Perhaps it will work as well for you. ■



A PARTIAL BIBLIOGRAPHY

Here is a bibliography of some of the sources we used in preparing this book. We should make clear, right at the outset, that our research was not "planned;" it was more like poking around a beach at low tide, hoping to find something to cart home. Unquestionably, during the 15 years or more we have poked around this particular beach, we overlooked a lot of things that are as good as what we found.

At any rate, almost any place you dip into the study of how people communicate, you will be led further and further on.

Here are some starters.

There is a six-volume work edited by Gyorgy Kepes, professor of Visual Design at Massachusetts Institute of Technology, that we found particularly stimulating. The set is called the "Vision + Value Series"¹ and the first three volumes are entitled "Education of Vision," "Structure in Art and in Science" and "The Nature and Art of Motion."

Along the same lines—that is, an attempt to relate our separate experiences in science, art, religion, philosophy into a total experience—is Oliver L. Reiser's "The Integration of Human Knowledge."² This is a rather difficult book and requires careful reading, but it's worth it. One effect it has is to make the reader begin to feel the world of his daily life is a flowing, organic whole, rather than a succession of disjointed, fragmented, and sometimes contradictory images. For what we have discussed in this issue, Chapter IV, "Epistemological Foundations of Science," is particularly pertinent.

In this same area, Nobel Prize winner (physics) P. W. Bridgman's "The Way Things Are"³ is also valuable.

For those who want to get right down there inside the brain and grapple with molecules, there is Marjorie Swanson's "Scientific Epistemologic Backgrounds of General Semantics: Lectures on Electro-Colloidal Structures."⁴ Formidable as the title may

seem, the book itself is written in a clear, confident and, at times, delightful way.

More general books, dealing with the whole spectrum of inter-human communication, exist in great profusion. The ones we found most helpful in preparing this are, S. I. Hayakawa's "Language in Thought and Action,"⁵ which is a good introductory book to the whole subject; J. S. Bois' "Explorations in Awareness,"⁶ and "The Art of Awareness,"⁷ which are written in a friendly, conversational style; Wendell Johnson's "People in Quandaries,"⁸ and Harry L. Weinberg's "Levels of Knowing and Existence."⁹ Each of these has extensive bibliographies that can show you the way to close in on particular aspects that interest you.

A good over-all summation of communication principles as they apply to everyday life communication problems is William V. Haney's "Communications and Organizational Behavior."¹⁰ We also recommend two works by Edwin T. Hall in the area on non-verbal communication. They are "The Silent Language"¹¹ and "The Language of Space."¹²

For the absolute beginner (aren't we all?), we can recommend Catherine Minter's "Words and What They Do To You."¹³ This is a guidebook for teachers who are exploring the subject of communication with their junior high school and high school students, and it comes in handy if you get bogged down some place between electro-colloidal reactions and assymmetric circuitry.

The basic source for the concept of communications we have discussed here is Alfred Korzybski's "Science and Sanity: An Introduction to Non-Aristotelian Systems and General Semantics," Lakeville, Connecticut; Institute of General Semantics, 4th Ed., 1962, xc + 803 pp.

Other books, which we have discovered valuable include: Kenneth E. Boulding's, "The Image: Knowledge in Life and Society," Ann Arbor Paperback, the University of Michigan Press, 1961, 175 pp.; Benjamin Lee Whorf's "Language, Thought &

Reality," Cambridge, Mass., The Massachusetts Institute of Technology press, 1964, x + 278 pp.; and three very readable books by Irving J. Lee, "How to Talk With People," New York, Harper & Row, 1952, xiv + 176 pp., "Language Habits in Human Affairs," New York, Harper & Row, 1941 xxvii + 278 pp.; and "The Language of Wisdom and Folly," (edited by Lee), San Francisco, International Society for General Semantics, 1967, 357 pp.

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