Also by Edward T. Hall

BEYOND CULTURE (Anchor Books)
THE HIDDEN DIMENSION (Anchor Books)
THE DANCE OF LIFE: 
The Other Dimension of Time (Anchor Books)
HIDDEN DIFFERENCES:
Doing Business with the Japanese
(with Mildred Reed Hall) (Anchor Books)
HANDBOOK FOR PROXEMIC RESEARCH
THE FOURTH DIMENSION IN ARCHITECTURE: 
The Impact of Building on Man's Behavior 
(with Mildred Reed Hall)
my friends and colleagues from foreign cultures who taught me so much about my own culture.

TO

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INTRODUCTION

Over thirty years have elapsed since The Silent Language first appeared. In this interval, many things happened to validate the basic tenets of this book. However, when it was published I was so closely involved in my own work that I failed to fully appreciate the magnitude of the need for cross-cultural insights and observations.

Actually, The Silent Language is a translation not from one language to another, but from a series of complex, nonverbal, contexting communications into words. The title summarizes not only the content of the book, but one of the great paradoxes of culture. It isn't just that people "talk" to each other without the use of words, but that there is an entire universe of behavior that is unexplored, unexamined, and very much taken for granted. It functions outside conscious awareness and in juxtaposition to words. Those of us of European heritage live in a "word world" which we think is real, but just because we talk doesn't mean the rest of what we communicate with our behavior is not equally important. While there can be no
doubt that language molds thinking in particularly subtle ways, mankind must eventually come to grips with the reality of other cultural systems and the pervasive effect these other systems exert on how the world is perceived, how the self is experienced, and how life itself is organized. We must also accustom ourselves to the fact that messages on the word level can mean one thing and that sometimes something quite different is being communicated on another level. Thirty years is not enough time to make these points; certainly much more time is needed before all their implications are realized.

The link between language and gestures is much closer than between language and the other cultural systems herein described—time and space, for example. A gesture and a word may be interchangeable, but this is not true for time or space. Space, which is the subject of two books, *The Hidden Dimension* and *The Dance of Life*, not only communicates in the most basic sense, but it also organizes virtually everything in life. It is easier to see how space can organize activities and institutions than to recognize the subtle manner in which language arranges the furniture of the mind. What is most difficult to accept is the fact that our own cultural patterns are literally unique, and therefore they are not universal. It is this difficulty that human beings have in getting outside their own cultural skins that motivated me to commit my observations and conceptual models to writing.

One of the advantages of having written a book which survives the temporary whims of fashion is that one gets feedback from readers—not only words of encouragement, but validation with examples. I wish to express my deep appreciation to those who have written to me from all over the world. The book has been translated into Chinese, Dutch, Polish, French, Italian, and Serbo-Croatian.

For many years I was involved with the selection and training of Americans working in foreign countries for both government and business. I remain convinced that much of our difficulty with people in other countries stems from the fact that so little is known about cross-cultural communication. Because of this, most of the good will and great efforts of our nation have been wasted in our foreign aid programs. When Americans are sent abroad to deal with foreigners, they should first be carefully selected for their suitability. Then for their own comfort and to insure their effectiveness, they should be taught to speak and read the language of the country, and thoroughly informed about the culture. All of this takes time and costs money. However, unless we are willing to select and train personnel, we simply waste our time and money overseas.

Formal training in language, history, government, and customs is only a first step. Of equal importance is an introduction to the nonverbal language of the country. Most Americans are only dimly aware of this "silent language" even though they use it every day. They are not conscious of the elaborate patterning of behavior which prescribes the handling of time, spatial relationships, attitudes towards work, play, and learning. In addition to our verbal language, we are constantly communicating our real feelings in the language of behavior.

Difficulties in intercultural communication are seldom seen for what they are. When it becomes apparent to people of different countries that they are not understanding one another, each tends to blame "those foreigners," for their stupidity, deceit, or craziness as the following example illustrates.

Despite a host of favorable auspices, an American aid mission in Greece was having great difficulty working out an agreement. Efforts to negotiate met with resistance and suspicion on the part of the Greeks, and consequently the Americans were unable to conclude the
agreements. A later analysis of this exasperating situation revealed two unsuspected reasons for the stalemate: First, Americans pride themselves on being outspoken and forthright, while these same qualities are regarded as a liability by the Greeks. Forthrightness indicates a lack of finesse which the Greeks deplore. Second, the unspoken rule for meetings in the United States is to limit the length of the meeting according to schedule and to reach agreements on general principles first, delegating the drafting of details to subordinates. The Greeks regarded this practice as a device to pull the wool over their eyes. Greek custom calls for working out details in front of all concerned, which necessitates continuing meetings for as long as necessary and not being bound by a schedule. The result of this misunderstanding was a series of unproductive meetings with each side deploring the other's behavior. American behavior said to the Greeks: "Not only do these fellows act like peasants lacking finesse, but by devious scheduling and tricks, they try to pull the wool over our eyes."

It is essential that we understand how other people read our behavior (not our words, but our behavior). If this book does nothing more than plant this idea, it will have served its purpose. However, I have a more ambitious goal. This book was written for those who are committed to the improvement of the human situation and who want to learn more about the cultural unconscious. Those persons who are at times perplexed by life, who feel driven by forces they do not understand, who may see others doing things that genuinely mystify them at home and overseas should find some solace in these pages. I hope to show the reader that behind the apparent mystery, confusion, and disorganization of life there is order. This understanding will perhaps lead him/her to re-examine human behavior in the world around him. I hope too that it will also interest readers in the subject of culture and lead them to follow their own intuition and make their own observations.

In my research on culture, I initially received invaluable collaboration from my colleague, George L. Trager. Trager is an anthropologically trained linguist who has made important contributions to the study of language. Trager and I developed a theory of culture based on a communications model which is contained in this book and which provides its theoretical underpinning.

The pages that follow have been arranged to lead the reader gradually from the known to the unknown. It will be helpful if the reader thinks of culture as analogous to music: a) If another person hasn't heard a particular piece of music, it is impossible to describe. b) Before the days of written scores, people had to learn informally by imitation. c) People were able to exploit the potential of music only when they started writing musical scores. This is what must be done for culture, and this book represents the cultural analogue of a musical primer.

The non-American reader as well as members of many American subcultures should remember that this book was written primarily as a message to the author's own group in an effort to increase their understanding of their own unconscious culture. Because outsiders make poor spokesmen and seldom really master another culture, one would hope that similar volumes will eventually be written by the Spanish groups, the Native Americans, and the ethnic blacks. I hope the study of unconscious culture (micro-culture) will be carried on and encouraged elsewhere in the world, because the future of the human race lies in maintaining its diversity and turning that diversity to its advantage.

My first acknowledgment, as always, goes to a person whom I have learned to appreciate, love, and admire as we have collaborated over the years—my wife and part-
INTRODUCTION

...Mildred Reed Hall. Her contribution to anything I have done has always been substantial.

As an anthropologist and a scientist I owe a tremendous debt to my colleagues, but especially to the late Ralph Linton, under whom I studied at Columbia University. We spent many pleasant hours together as he tried out ideas he was developing in an amazing range of subjects. As a student I found it difficult to communicate with professors, but with Linton the gulf experienced with other professors was never present. He always seemed able to communicate clearly and enjoy a real exchange of ideas. While the content of this book is different from anything Linton would have written, I feel that he would have understood at least some of the ideas. In the world of ideas he was innovative and particularly free from the constraints that bind many intellectuals, and his contributions to anthropology were considerable.

Three other colleagues who provided encouragement and stimulation over the years are the late Erich Fromm, David Riesman, and John Useem. Although I never knew her well, Ruth Benedict also provided an intellectual role model in her excellent innovative books Patterns of Culture and The Chrysanthemum and the Sword.

Many of my observations on other cultures are the direct result of fieldwork with the Spanish-Americans in New Mexico and Latin America, the Navajo, Hopi, Trukese, Western Mediterranean Arabs, and Iranians. Needless to say, the anthropologist always owes a great debt to the people he or she works with, because it is what the anthropologist learns about their cultures that makes his or her own culture more meaningful.

Clarkson N. Potter first urged me to write this book and provided the necessary encouragement and understanding for its completion. I wish to express my appreciation for significant editorial assistance to Richard K. Winslow and Kermit Lansner.
me. Nevertheless, appointments were forgotten; long
waits in outer offices (fifteen to forty-five minutes) were
common, and the length of the interview was often cut
down to ten or fifteen minutes. I was usually kept at an
impersonal distance during the interview. In only one
case did the department head come from behind his
desk. These men had a position and they were literally
and figuratively sticking to it!

The implication of this experience (one which public-
opinion pollsters might well heed) is quite obvious. What
people do is frequently more important than what they
say. In this case the way these municipal potentates
handled time was eloquent testimony to what they in-
wardly believed, for the structure and meaning of time
systems, as well as the time intervals, are easy to identify.
In regard to being late there are: "mumble something"
periods, slight apology periods, mildly insulting periods
requiring full apology, rude periods, and downright in-
sulting periods. The psychoanalyst has long been aware
of the significance of communication on this level, and
can point to the way patients handle time as evidence of
"resistances" and "transference."

Different parts of the day, for example, are highly
significant in certain contexts. Time may indicate the
importance of the occasion as well as on what level an
interaction between persons is to take place. In the
United States if you telephone someone early in the
morning, while he is shaving or she is having breakfast,
the time of the call usually signals a matter of utmost
importance and extreme urgency. The same applies for
calls after 11:00 P.M. A call received during sleeping
hours is apt to be taken as a matter of life and death,
hence the rude joke value of these calls among the young.
Our realization that time talks is even reflected in such
common expressions as, "What time does the clock say?"

An example of how thoroughly these things are taken
for granted was reported to me by John Useem, an
American social anthropologist, in an illuminating case
from the South Pacific. The natives of one of the islands
had been having a difficult time getting their white
supervisors to hire them in a way consistent with their
traditional status system. Through ignorance the super-
visors had hired too many of one group and by so doing
had disrupted the existing balance of power among the
natives. The entire population of the island was seething
because of this error. Since the Americans continued in
their ignorance and refused to hire according to local
practice, the head men of the two factions met one night
to discuss an acceptable reallocation of jobs. When they
finally arrived at a solution, they went en masse to see
the plant manager and woke him up to tell him what had
been decided. Unfortunately it was then between two
and three o’clock in the morning. They did not know
that it is a sign of extreme urgency to wake up Americans
at this hour. As one might expect, the American plant
manager, who understood neither the local language nor
the culture nor what the hullabaloo was about, thought
he had a riot on his hands and called out the Marines. It
simply never occurred to him that the parts of the day
have a different meaning for these people than they have
for us.

On the other hand, plant managers in the United
States are fully aware of the significance of a communi-
cation made during the middle of the morning or after-
noon that takes everyone away from his work. Whenever
they want to make an important announcement they will
ask: "When shall we let them know?" In the social world
a girl feels insulted when she is asked for a date at the
last minute by someone whom she doesn’t know very
well, and the person who extends an invitation to a
dinner party with only three or four days’ notice has to
apologize. How different from the people of the Middle
East with whom it is pointless to make an appointment too far in advance, because the informal structure of their time system places everything beyond a week into a single category of “future,” in which plans tend to “slip off their minds.”

Advance notice is often referred to in America as “lead time,” an expression which is significant in a culture where schedules are important. While it is learned informally, most of us are familiar with how it works in our own culture, even though we cannot state the rules technically. The rules for lead time in other cultures, however, have rarely been analyzed. At the most they are known by experience to those who lived abroad for some time. Yet think how important it is to know how much time is required to prepare people, or for them to prepare themselves, for things to come. Sometimes lead time would seem to be very extended. At other times, in the Middle East, any period longer than a week may be too long.

How troublesome differing ways of handling time can be is well illustrated by the case of an American agriculturalist assigned to duty as an attache of our embassy in a Latin country. After what seemed to him a suitable period he let it be known that he would like to call on the minister who was his counterpart. For various reasons, the suggested time was not suitable; all sorts of cues came back to the effect that the time was not yet ripe to visit the minister. Our friend, however, persisted and forced an appointment which was reluctantly granted. Arriving a little before the hour (the American respect pattern), he waited. The hour came and passed, five minutes—ten minutes—fifteen minutes. At this point he suggested to the secretary that perhaps her boss didn’t know you were there after waiting sixty seconds would seem absurd, as would raising a storm about “cooling your heels” for five minutes. Yet this is precisely the way the minister registered the protestations of the American in his outer office! He felt, as usual, that Americans were being totally unreasonable.

Throughout this unfortunate episode the attache was acting according to the way he had been brought up. At home in the United States his responses would have been normal ones and his behavior legitimate. Yet even if he had been told before he left home that this sort of thing would happen, he would have had difficulty not insulted after he had been kept waiting forty-five minutes. If, on the other hand, he had been taught the details of the local time system just as he should have been taught the local spoken language, it would have been possible for him to adjust himself accordingly.

What bothers people in situations of this sort is that they don’t realize they are being subjected to another form of communication, one that works part of the time with language and part of the time independently of it.
The fact that the message conveyed is couched in no formal vocabulary makes things doubly difficult, because neither party can get very explicit about what is actually taking place. They can only say what they think is happening and how they feel about it. The thought of what is being communicated is what hurts.

AMERICAN TIME

People of the Western world, particularly Americans, tend to think of time as something fixed in nature, something around us and from which we cannot escape, an ever-present part of the environment, just like the air we breathe. That it might be experienced in any other way seems unnatural and strange, a feeling which is rarely modified even when we begin to discover how really differently it is handled by some other people. Within the West itself certain cultures rank time much lower in over-all importance than we do. In Latin America, for example, time is treated rather cavalierly. In Mexico one commonly hears the expression, "Our time or your time?" "Hora americana, hora mejicana?"

As a rule, Americans think of time as a road or a ribbon stretching into the future, along which one progresses. The road has segments or compartments which are to be kept discrete ("one thing at a time"). People who cannot schedule time are looked down upon as impractical. In at least some parts of Latin America, North Americans (their term for us) find themselves annoyed when they have made an appointment with somebody, only to find a lot of other things going on at the same time. An old friend of mine of Spanish cultural heritage used to run his business according to the "Latino" system. This meant that up to fifteen people were in his office at one time. Business which might have been finished in a quarter of an hour sometimes took a whole day. He realized, of course, that the Anglo-Americans were disturbed by this and used to make some allowance for them, a dispensation which meant that they spent only an hour or so in his office when they had planned on a few minutes. The American concept of the discreteness of time and the necessity for scheduling was at variance with this amiable and seemingly confusing Latin system. However, if my friend had adhered to the American system he would have destroyed a vital part of his prosperity. People who came to do business with him also came to find out things and to visit each other. The ten to fifteen Spanish-Americans and Indians who used to sit around the office (among whom I later found myself after I had learned to relax a little) played their own part in a particular type of communications network.

Not only do we Americans segment and schedule time, but we look ahead and are oriented almost entirely toward the future. We like new things and are preoccupied with change. We want to know how to overcome resistance to change. In fact, scientific theories and even some pseudo-scientific ones, which incorporate a striking theory of change, are often given special attention.

Time with us is handled much like a material, we earn it, spend it, save it, waste it. To us it is somewhat immoral to have two things going on at the same time. In Latin America it is not uncommon for one person to have a number of simultaneous jobs which he or she either carries on from one desk or moves between, a small amount of time spent on each.

While we look to the future, our view of it is limited. The future to us is the foreseeable future, not the future of the South Asian that may involve centuries. Indeed, our perspective is so short as to inhibit the operation of a good many practical projects, such as sixty- and one-hundred-year conservation works requiring public support and public funds. Anyone who has worked in industr-
try or in the government of the United States has heard the following: "Gentlemen, this is for the long term! Five or ten years."

For us a "long time" can be almost anything—ten or twenty years, two or three months, a few weeks, or even a couple of days. The South Asian, however, feels that it is perfectly realistic to think of a "long time" in terms of thousands of years or even an endless period. A colleague once described their conceptualization of time as follows: "Time is like a museum with endless corridors and alcoves. You, the viewer, are walking through the museum in the dark, holding a light to each scene as you pass it. God is the curator of the museum, and only He knows all that is in it. One lifetime represents one alcove."

The American's view of the future is linked to a view of the past, for tradition plays an equally limited part in American culture. As a whole, we push it aside or leave it to a few souls who are interested in the past for very special reasons. There are, of course, a few pockets, such as New England and the South, where tradition is emphasized. But in the realm of business, which is the dominant model of United States life, tradition is equated with experience, and experience is thought of as being very close to if not synonymous with know-how. Know-how is one of our prized possessions, so that when we look backward it is rarely to take pleasure in the past itself but usually to calculate the know-how, to assess the prognosis for success in the future.

Promptness is also valued highly in American life. If people are not prompt, it is often taken either as an insult or as an indication that they are not quite responsible. There are those, of a psychological bent, who would say that we are obsessed with time. They can point to individuals in American culture who are literally time-ridden. And even the rest of us feel very strongly about time because we have been taught to take it so seriously.

We have stressed this aspect of culture and developed it to a point unequaled anywhere in the world, except, perhaps, in Switzerland and north Germany. Many people criticize our obsessional handling of time. They attribute ulcers and hypertension to the pressure engendered by such a system. Perhaps they are right.

SOME OTHER CONCEPTS OF TIME

Even within the very borders of the United States there are people who handle time in a way which is almost incomprehensible to those who have not made a major effort to understand it. The Pueblo Indians, for example, who live in the Southwest, have a sense of time which is at complete variance with the clock-bound habits of the ordinary American citizen. For the Pueblos events begin when the time is ripe and no sooner.

I can still remember a Christmas dance I attended some twenty-five years ago at one of the pueblos near the Rio Grande. I had to travel over bumpy roads for forty-five miles to get there. At seven thousand feet the ordeal of winter cold at one o'clock in the morning is almost unbearable. Shivering in the still darkness of the pueblo, I kept searching for a clue as to when the dance would begin.

Outside everything was impenetrably quiet. Occasionally there was the muffled beat of a deep pueblo drum, the opening of a door, or the piercing of the night's darkness with a shaft of light. In the church where the dance was to take place a few white townsfolk were huddled together on a balcony, groping for some clue which would suggest how much longer they were going to suffer. "Last year I heard they started at ten o'clock. "They can't start until the priest comes. "There is no way of telling when they will start." All this punctuated by
chattering teeth and the stamping of feet to keep up circulation

Suddenly an Indian opened the door, entered, and poked up the fire in the stove. Everyone nudged his neighbor: "Maybe they are going to begin now." Another hour passed. Another Indian came in from outside, walked across the nave of the church, and disappeared through another door. "Certainly now they will begin. After all, it's almost two o'clock." Someone guessed that they were just being ornery in the hope that the white men would go away. Another had a friend in the pueblo and went to his house to ask when the dance would begin. Nobody knew. Suddenly, when the whites were almost exhausted, there burst upon the night the deep sounds of the drums, rattles, and low male voices singing. Without warning the dance had begun.

After years of performances such as this, no white man in his right mind will hazard a guess as to when one of these ceremonial dances will begin. Those of us who have learned now know that the dance doesn't start at a particular time. It is geared to no schedule. It starts when "things" are ready!

As I pointed out, the white civilized Westerner has a shallow view of the future compared to the Oriental. Yet set beside the Navajo Indians of northern Arizona, he seems a model of long-term patience. The Navajo and the European-American have been trying to adjust their concepts of time for almost a hundred years. So far they have not done too well. To the old-time Navajo time is like space—only the here and now is quite real. The future has little reality to it.

An old friend of mine reared with the Navajo expressed it this way: "You know how the Navajo love horses and how much they love to gamble and bet on horse races. Well, if you were to say to a Navajo, 'My friend, you know my quarter horse that won all the races at Flagstaff last Fourth of July?' that Navajo would eagerly say 'yes, yes' he knew the horse, and if you were to say, 'In the fall I am going to give you that horse,' the Navajo's face would fall and he would turn around and walk away. On the other hand, if you were to say to him, 'Do you see that old bag of bones I just rode up on? That old hay-bellied mare with the knock-knees and pigeon toes, with the bridle that's falling apart and the saddle that's worn out? You can have that horse, my friend, it's yours. Take it, ride it away now.' Then the Navajo would beam and shake your hand and jump on his new horse and ride away. Of the two, only the immediate gift has reality, a promise of future benefits is not even worth thinking about."

In the early days of the range control and soil conservation programs it was almost impossible to convince the Navajo that there was anything to be gained from giving up their beloved sheep for benefits which could be enjoyed ten or twenty years in the future. Once I was engaged in the supervision of the construction of small earth dams and like everyone else had little success at first in convincing Navajo workmen that they should work hard and build the dam quickly, so that there would be more dams and more water for the sheep. The argument that they could have one dam or ten, depending on how hard they worked, conveyed nothing. It wasn't until I learned to translate our behavior into their terms that they produced as we know they could.

The solution came about in this way. I had been discussing the problem with a friend, Lorenzo Hubbell, who had lived on the reservation all of his life. When there were difficulties I used to find it helpful to unburden myself to him. Somewhere in his remarks there was always a key to the underlying patterns of Navajo life. As we talked I learned that the Navajo understood and respected a bargain. I had some inkling of this when I
noticed how unsettled the Indians became when they were permitted to fall down on the job they had agreed to do. In particular they seemed to be apprehensive lest they be asked to repay an unfulfilled obligation at some future time. I decided to sit down with the Navajo crew and talk to them about the work. It was quite useless to argue about the future advantages which would accrue from working hard, linear reasoning and logic were meaningless. They did respond, however, when I indicated that the government was giving them money to get out of debt, providing jobs near their families, and giving them water for their sheep. I stressed the fact that in exchange for this, they must work eight hours every day. This was presented as a bargain. Following my clarification the work progressed satisfactorily.

One of my Indian workmen inadvertently provided another example of the cultural conflict centering around time. His name was "Little Sunday." He was small, wiry, and winning. Since it is not polite to ask the Navajo about their names or even to ask them what their name is, it was necessary to inquire of others how he came to be named "Little Sunday." The explanation was a revealing one.

In the early days of the white traders the Indians had considered difficulty getting used to the fact that we Europeans divided time into strange and unnatural periods instead of having a "natural" succession of days which began with the new moon and ended with the old. They were particularly perplexed by the notion of the week introduced by the traders and the missionaries. Imagine a Navajo Indian living some forty or fifty miles from a trading store that is a hundred miles north of the railroad deciding that he needs flour and maybe a little lard for bread. He thinks about the flour and the lard, and he thinks about his friends and the fun he will have trading, or maybe he wonders if the trader will give him credit or how much money he can get for the hide he has. After riding horseback for a day and a half to two days he reaches the store all ready to trade. The store is locked up tight. There are a couple of other Navajo Indians camped in the hogan built by the trader. They say the trader is inside but he won't trade because it's Sunday. They bang on his door and he tells them, "Go away, it's Sunday," and the Navajo says, "But I came from way up on Black Mesa, and I am hungry. I need some food." What can the trader do? Soon he opens the store and then all the Navajo pour in. One of the most frequent and insistent Sunday visitors was a man who earned for himself the sobriquet "Big Sunday." "Little Sunday," it turns out, ran a close second.

The Sioux Indians provide us with another interesting example of the differing views toward time. Not so long ago a man who was introduced as the superintendent of the Sioux came to my office. I learned that he had been born on the reservation and was a product of both Indian and white cultures, having earned his A. B. at one of the Ivy League colleges.

During a long and fascinating account of the many problems which his tribe was having in adjusting to our way of life, he suddenly remarked: "What would you think of a people who had no word for time? My people have no word for 'late' or for 'waiting,' for that matter. They don't know what it is to wait or to be late." He then continued, "I decided that until they could tell time and knew what time was they could never adjust themselves to white culture. So I set about to teach them time. There wasn't a clock that was running in any of the reservation classrooms. So I first bought some decent clocks. Then I made the school buses start on time, and if an Indian was two minutes late that was just too bad. The bus started at eight forty-two and he had to be there."
He was right, of course. The Sioux could not adjust to European ways until they had learned the meaning of time. The superintendent's methods may have sounded a bit extreme, but they were about the only ones that would work. The idea of starting the buses off and making the drivers hold to a rigid schedule was a stroke of genius, much kinder to the Indian, who could better afford to miss a bus on the reservation than lose a job in town because he was late.

There is, in fact, no other way to teach time to people who handle it as differently from us as the Sioux. The quickest way is to get very technical about it and to make it mean something. Later on these people can learn the informal variations, but until they have experienced and then mastered our type of time they will never adjust to our culture.

Thousands of miles away from the reservations of the American Indian we come to another way of handling time which is apt to be completely unsettling to the unprepared visitor. The inhabitants of the atoll of Truk in the Southwest Pacific treat time in a fashion that has complicated life for themselves as well as for others, since it poses special problems not only for their civil and military governors and the anthropologists recording their life but for their own chiefs as well.

Time does not heal on Truk! Past events stack up, placing an ever-increasing burden on the Trukese and weighing heavily on the present. They are, in fact, treated as though they had just occurred. This was borne out by something which happened shortly after the American occupation of the atoll at the end of World War II.

A villager arrived all out of breath at the military government headquarters. He said that a murder had been committed in the village and that the murderer was running around loose. Quite naturally the military government officer became alarmed. He was about to dispatch M.P.s to arrest the culprit when he remembered that someone had warned him about acting precipitously when dealing with "natives." A little inquiry turned up the fact that the victim had been "fooling around" with the murderer's wife. Still more inquiry of a routine type, designed to establish the place and date of the crime, revealed that the murder had not occurred a few hours or even days ago, as one might have thought, but seventeen years before. The murderer had been running around loose in the village all this time.

A further example of how time does not heal on Truk is that of a land dispute that started with the German occupation in the 1890s, was carried on down through the Japanese occupation, and was still current and acrimonious when the Americans arrived in 1946.

Prior to Missionary Moses' arrival on Uman in 1867 life on Truk was characterized by violent and bloody warfare. Villages, instead of being built on the shore where life was a little easier, were placed on the sides of mountains where they could be better protected. Attacks would come without notice and often without apparent provocation. Or a fight might start if a man stole a coconut from a tree that was not his or waylaid a woman and took advantage of her. Years later someone would start thinking about the wrong and decide that it still had not been righted. A village would be attacked again in the middle of the night.

When charges were brought against a chief for things he had done to his people, every little slight, every minor graft would be listed, nothing would be forgotten. Damages would be asked for everything. It seemed preposterous to us Americans, particularly when we looked at the lists of charges. "How could a chief be so corrupt?" "How could the people remember so much?"

Though the Truk islanders carry the accumulated bur-
den of time past on their shoulders, they show an almost total inability to grasp the notion that two events can take place at the same time when they are any distance apart. When the Japanese occupied Truk at the end of World War I they took Artie Moses, chief of the island of Uman, to Tokyo. Artie was made to send a wireless message back to his people as a demonstration of the wizardry of Japanese technology. His family refused to believe that he had sent it, that he had said anything at all, though they knew he was in Tokyo. Places at a distance are very real to them, but people who are away are very much away, and any interaction with them is unthinkable.

An entirely different handling of time is reported by the anthropologist Paul Bohannan for the Tiv, a primitive people who live in Nigeria. Like the Navajo, they point to the sun to indicate a general time of day, and they also observe the movement of the moon as it waxes and wanes. What is different is the way they use and experience time. For the Tiv, time is like a capsule. There is a time for visiting, for cooking, or for working, and when one is in one of these times, one does not shift to another.

The Tiv equivalent of the week lasts five to seven days. It is not tied into periodic natural events, such as the phases of the moon. The day of the week is named after the things which are being sold in the nearest "market." If we had the equivalent, Monday would be "automobiles" in Washington, D.C., "furniture" in Baltimore, and "yard goods" in New York. Each of these might be followed by the days for appliances, liquor, and diamonds in the respective cities. This would mean that as you traveled about the day of the week would keep changing, depending on where you were.

A requisite of our own temporal system is that the components must add up: Sixty seconds have to equal one minute, sixty minutes one hour. The American is perplexed by people who do not do this. The African specialist Henri Alexandre Junod, reporting on the Thonga, tells of a medicine man who had memorized a seventy-year chronology and could detail the events of each and every year in sequence. Yet this same man spoke of the period he had memorized as an "era" which he computed at "four months and eight hundred years' duration." The usual reaction to this story and others like it is that the man was primitive, like a child, and did not understand what he was saying, because how could seventy years possibly be the same as eight hundred? As students of culture we can no longer dismiss other conceptualizations of reality by saying that they are childlike. We must go much deeper. In the case of the Thonga it seems that a "chronology" is one thing and an "era" something else quite different, and there is no relation between the two in operational terms.

If these distinctions between European-American time and other conceptions of time seem to draw too heavily on primitive peoples, let me mention two other examples—from cultures which are as civilized, if not as industrialized, as our own. In comparing the United States with Iran and Afghanistan very great differences in the handling of time appear. The American attitude toward appointments is an example. Once while in Tehran I had an opportunity to observe some young Iranians making plans for a party. After plans were made to pick up everyone at appointed times and places everything began to fall apart. People would leave messages that they were unable to take so-and-so or were going somewhere else, knowing full well that the person who had been given the message couldn't possibly deliver it. One young woman was left stranded on a street corner, and no one seemed to be concerned about it. One of my informants explained that he himself had had many
similar experiences. Once he had made eleven appoint-
ments to meet a friend. Each time one of them failed to
show up. The twelfth time they swore they would both
be there, that nothing would interfere. The friend failed
to arrive. After waiting for forty-five minutes my infor-
mant phoned his friend and found him still at home. The
following conversation is an approximation of what took
place:
"Is that you, Abdul?" "Yes." "Why aren't you here? I
thought we were to meet for sure." "Oh, but it was
raining," said Abdul with a sort of whining intonation
that is very common in Parsi.
If present appointments are treated rather cavalierly,
the past in Iran takes on a very great importance. People
look back on what they feel are the wonders of the past
and the great ages of Persian culture. Yet the future seems
to have little reality or certainty to it. Businessmen have
been known to invest hundreds of thousands of dollars in
factories of various sorts without making the slightest
plan as to how to use them. A complete woolen mill was
bought and shipped to Tehran before the buyer had
raised enough money to erect it, to buy supplies, or even
to train personnel. When American teams of technicians
came to help Iran's economy they constantly had to cope
with what seemed to them an almost total lack of plan-
ing.

Moving east from Iran to Afghanistan, one gets farther
afield from American time concepts. A few years ago in
Kabul a man appeared, looking for his brother. He asked
all the merchants of the market place if they had seen his
brother and told them where he was staying in case his
brother arrived and wanted to find him. The next year he
was back and repeated the performance. By this time one
of the members of the American embassy had heard
about his inquiries and asked if he had found his brother.

The man answered that he and his brother had agreed to
meet in Kabul, but neither of them had said what year

Strange as some of these stories about the ways in
which people handle time may seem, they become un-
derstandable when they are correctly analyzed. To do
this adequately requires an adequate theory of culture.
Before we return to the subject of time again—in a much
later chapter of this book—I hope that I will have
provided just such a theory. It will not only shed light
on the way time is meshed with many other aspects of
society but will provide a key to unlock some of the
secrets of the eloquent language of culture which speaks
in so many different ways.
WHAT IS CULTURE?

Culture is a word that has so many meanings already that one more can do it no harm. Before this book is finished I will redefine it again—in such a way, I hope, as to clarify what has become a very muddied concept. For anthropologists culture has long stood for the way of life of a people, for the sum of their learned behavior patterns, attitudes, and material things. Though they subscribe to this general view, most anthropologists tend to disagree however, on what the precise substance of culture is. In practice their work often leads some of them to a fascination with a single category of events among the many which make up human life, and they tend to think of this as the essence of all culture. Others, looking for a point of stability in the flux of society, often become preoccupied with identifying a common particle or element which can be found in every aspect of culture. In sum, though the concept of culture was first defined in print in 1871 by E. B. Tylor, after all these years it still lacks the rigorous specificity which characterizes many less revolutionary and useful ideas.

Even more unfortunate is the slowness with which the concept of culture has percolated through the public consciousness. Compared to such notions as the unconscious or repression, to use two examples from psychology, the idea of culture is a strange one even to the informed citizen. The reasons for this are well worth noting, for they suggest some of the difficulties which are inherent in the culture concept itself.

From the beginning, culture has been the special province of the anthropologist, who usually gained a firsthand experience of its pervasive power in the field during the internship which follows the prescribed period of classroom training. As fledgling anthropologists moved deeper and deeper into the life of the people they were studying they inevitably acquired the conviction that culture was real and not just something dreamed up by the theoretician. Moreover, as they slowly mastered the complexities of a given culture they were apt to feel that these complexities could be understood in no other way than by prolonged experience, and that it was almost impossible to communicate this understanding to anyone who had not lived through the same experience.

This frame of mind alone would have been enough to isolate the growing skills of the anthropologists from the everyday society about them which might well have used their special insights and knowledge. But there were other reasons too. What technical training the anthropologists had was rather lengthy and detailed. It concerned subjects which seemed to have little relevance to the problems of the layman engrossed in his/her own society. Moreover, until the last war few Americans had even heard of the places the anthropologists frequented or the people they studied, who were generally small isolated populations with little place in the power politics of the modern world. There seemed to be no "practical" value attached to either what the anthropologist did or what
they made of their discoveries. Except for a certain curiosity or nostalgia which might be satisfied, what point was there in studying the American Indian, who was usually viewed as the romantic red man, a remnant of the days long gone, or as an embarrassing reminder that there had been a time when Americans were ruthless with those who stood in the way of progress? Despite an occasional flurry of popular interest, anthropology (and the culture concept which is at its heart) was long associated in people's minds with subject matter and individuals who are far removed from the realities of the everyday world of business and politics. Though it still persists in some quarters, this viewpoint was at its strongest up until the time of the early 1930s.

The depression changed many things. It led to the peaceful introduction of many ideas which had been considered revolutionary. One was the application of social science theory and techniques to the mundane problems of the nation's domestic economy. Anthropologists, for example, were suddenly called from their academic refuge and put to work trying to relieve some of the more pressing burdens of the nation's minority groups.

Among this long-suffering population were the Indians, living miserably depressed lives on reservations as wards of the government. Most of these Indians had neither the dignity of their old ways nor the advantages of the now dominant society that surrounded them. Up to this point it had been the government's policy to treat all the different tribes alike, as if they were ignorant and somewhat stubborn—children—a mistake which is yet to be really rectified. A body of custom had grown up in the government's Indian Service as to how to "handle" Indians and Indian problems. Like the State Department's Foreign Service, the Indian Service transferred its employees from post to post so often that they could put in a lifetime of service without learning anything about the people they were administering. The bureaucracy that grew up was more oriented toward the problems of the employees than those of the Indians. Under such conditions it was almost impossible to introduce the disturbing anthropological idea that the Indians were deeply and significantly different from European-Americans, for that would have threatened to upset the bureaucratic applecart. Though the treatment of the Indians by the government still leaves much to be desired, it has been vastly improved during the years in which trained anthropologists have worked on the reservations.

In World War II many anthropologists such as myself were not only put to work on various projects having to do with the natives of the Southwest Pacific but were even asked to deal with the Japanese. Under the pressure of war some of the advice we gave was heeded—though, like many wartime innovations, much that was done was forgotten in the peace that followed.

However, the field work which anthropologists did as pure research, plus the applied projects on which we worked, was not entirely wasted. If this rich experience taught us one thing it was that culture is more than mere custom that can be shed or changed like a suit of clothes. The people we were advising kept bumping their heads against an invisible barrier, but they did not know what it was. We knew that what they were up against was a completely different way of organizing life, of thinking, and of conceiving the underlying assumptions about the family and the state, the economic system, and even of mankind. The big problem was how to communicate this brute fact. When we tried to point it out our explanations didn't make sense. Most of our attempts were anecdotal and very little was specific.

Apart from having problems with laymen who often did not really care about a definition of culture, we had...
certain methodological difficulties in the field itself. The most pressing one was consistency of basic information. Field workers would record their interpretations of what informants told them, but if someone else visited the same group and interviewed a different set of informants or even the same informants (a practice frowned upon by anthropologists) the second man would usually come back with a different set of interpretations. There was no way to gather data that could be legitimately checked, no way to reproduce field procedures, no way to equate an event in culture A with culture B except to try to describe each and they say that they were different. It was difficult, if not impossible, to say in precise terms what it was that made one culture really different from another, except to point out that there were people who raised sheep and others who gathered food; that there were those who hunted and those who cultivated plants; that people worshiped different gods and organized their societies in varying ways. The anthropologist knew that there were even more profound differences, but his readers and often the very officials he was advising preferred to ignore them. Without being quite aware of it these well-meaning gentlemen assumed a naively evolutionary view which classified most foreigners as "underdeveloped Americans." 

Even now, when the populations of the so-called "underdeveloped" areas balk at the introduction of new techniques of health and agriculture by the Americans, they are thought to be backward and stubborn, or thought to be led by greedy leaders who have no concern for their people's welfare. Leaders were usually blamed and sometimes even accused of coercing their people to resist innovation because it would break their strangle hold on the economy.

Unfortunately some of these things are true, and they offer a convenient excuse for this country's failures abroad on the technical assistance, military aid, and diplomatic fronts. Most of our difficulties stem from our own ignorance. Honest and sincere people in the field continue to fail to grasp the true significance of the fact that culture controls behavior in deep and persisting ways, many of which are outside of awareness and therefore beyond conscious control of the individual. When anthropologists stress this point they are usually ignored, for they are challenging the deepest popular American beliefs about ourselves as well as foreigners. They lead people to see things they might not want to see.

Moreover, as I have pointed out, the solemn strictures of the anthropologist to the layman who might make use of these insights lack the necessary concreteness. There is no way to teach culture in the same way that language is taught. Until recently no one had defined any basic units of culture. There was no generally agreed upon underlying theory of culture — no way of being specific — no way for B to get to the field and check A's results. Even today a volume examining the various concepts and theories of culture, written by the nation's two most distinguished anthropologists, A. L. Kroeber and Clyde Kluckhohn, calls for such qualities as "empathy" in the investigator. The authors also state that no constant elemental units of culture have as yet been satisfactorily established.

This state of affairs had been a source of irritation for a number of years, and it drove me to work toward an integrated theory of culture which would overcome the shortcomings I have just sketched. In 1951, when I came to Washington to train Point Four technicians, I had a very practical reason for pressing this work toward a tangible conclusion. Prior to this time I had been teaching at a university and a small college. College students are content to take subjects for their general interest. Point Four technicians and Foreign Service officers, on
the other hand, are expected to go overseas and get results, and they have to be well prepared. In general I found that they are not too interested in the anthropologist's preoccupation with "what culture is" and tend to become impatient unless they have been abroad previously and have had some actual experience. Foreign Service officers in particular used to take great delight in saying that what the anthropologists told them about working with the Navajo didn't do them much good, for we didn't have an embassy on the Navajo reservation. Unfortunately the theory we were able to bring to bear at the time I began working in Washington simply had no perceived relevance to the operator in the field. Their defenses were too well entrenched and we could show them no compelling reasons to change. Additional harassment came from the government administrators who failed to grasp the fact that there was something really different about overseas operation; that what was needed was something bold and new, not just more of the same old history, economics, and politics.

Those Foreign Service officers and other trainees who did take seriously what they heard and managed to make something out of it came up against another problem. They would say, "Yes, I can see that you have something there. Now I'm going to Damascus. Where can I read something that will help me to do business with the Arabs?" We were stumped! If they were going to Japan we could tell them to read Ruth Benedict's excellent book, *The Chrysanthemum and the Sword,* with the caution that it was for background only and they shouldn't expect to find conditions exactly like those that Benedict described. Of course the remarkable thing about Benedict's book was that, while she had never been to Japan and could only work with Japanese who were in the United States (the book was written during the war), it showed extraordinary insight into the psychological processes of the Japanese. It is one of the best pieces of evidence that the anthropologist has something crucial and practical to say if it can only be systematized.

Just about this time George L. Trager and I began our collaboration to develop a method for the analysis of culture. Our ultimate objectives included five basic steps.

1. To identify the building blocks of culture—what we later came to call the isolates of culture, akin to the notes in a musical score.

2. To tie these isolates into a biological base so that they could be compared among cultures. We also stipulated that this comparison be done in such a way that the conditions be repeatable at will. Without this, anthropology can lay no claim to being a science.

3. To build up a body of data and a methodology that would enable us to conduct research and teach each cultural situation in much the same way that language is taught without having to depend upon such qualities as "empathy" in the researcher.

4. To build a unified theory of culture that would lead us to further research.

5. Finally, to find a way to make our discipline tangibly useful to the non-specialist.

Trager and I felt that much of the preoccupation of anthropologists with statistics was having a stultifying effect on our discipline and that the methodologies and theories borrowed from sociology, psychology, and other biological and physical sciences had been ineptly used. In many instances social scientists, under pressure from physical scientists, have been virtually panicked into adopting prematurely the rigors of formal mathematics and the "scientific method." Our view was that it was necessary for anthropology to develop its own methodology adapted to its own subject matter.

This book outlines both a theory of culture and a
theory of how culture came into being. It treats culture in its entirety as a form of communication.

It sketches in the biological roots from which most if not all of culture grew and outlines the ten basic foci of activity that combine to produce culture. Chapters Three and Four describe how humans experience things on three different levels, how they communicate to their children in three ways while in the process of rearing them, how they alternate between three different types of awareness or consciousness and imbue each experience with three different types of emotional overtones. I have called this crucial trio the formal, informal, and technical. An understanding of what these terms mean is basic to an understanding of the rest of the book. Since humans progress from formal belief to informal adaptation and finally to technical analysis, a theory of change is also implied in this tripartite division which is at the heart of my theory.

The next chapters (Five through Eight) specify and deal with the communication spectrum. Little is said about mass-communication media such as the press, radio, and television, which are the instruments used to extend people's senses. Rather these chapters are focused on one main aspect of communication, the ways in which people read meaning into what others do. Language is the most technical of the message systems. It is used as a model for the analysis of the others. In addition to language there are other ways in which people communicate that either reinforce or deny what they have said with words. People learn to read different segments of a communication spectrum covering events of a fraction of a second up to events of many years. This book deals with only a small part of this spectrum. Other chapters describe the content of messages of the man-to-man variety and how they are put together.

The final chapters are a more detailed analysis of time and space. Time, that silent language which was sketched so broadly in the first chapter, is analyzed in more detail as an example of one of the types of primary message systems. Chapter Eleven deals with space (territoriality) as communication.

If this book has a message it is that we must learn to understand the "out-of-awareness" aspects of communication. We must never assume that we are fully aware of what we communicate to someone else. There exists in the world today tremendous distortions in meaning as men try to communicate with one another. The job of achieving understanding and insight into mental processes of others is much more difficult and the situation more serious than most of us care to admit.

Up to this point I have talked primarily of problems that have grown out of attempts to teach others to apply anthropological knowledge to foreign relations. I have also emphasized the need for more systematic understanding of local culture on the part of our citizens who are working abroad. The average reader who hasn't lived abroad, who finds the work of the diplomat and the Point Four technician exceedingly remote, may be inclined to ask, "What's this got to do with me?" This point touches on the ultimate purpose of this book, which is to reveal the broad extent to which culture controls our lives. Culture is not an exotic notion studied by a select group of anthropologists in the South Seas. It is a mold in which we are all cast, and it controls our daily lives in many unsuspected ways. In my discussion of culture I will be describing that part of human behavior which we take for granted—the part we don't think about, since we assume it is universal or regard it as idiosyncratic.

Culture hides much more than it reveals, and strangely enough what it hides it hides most effectively from its own participants. Years of study have convinced me that the real job is not to understand foreign culture but to understand our own. I am also convinced that all that
one ever gets from studying foreign culture is a token understanding. The ultimate reason for such study is to learn more about how one's own system works. The best reason for exposing oneself to foreign ways is to generate a sense of vitality and awareness—an interest in life which can come only when one lives through the shock of contrast and difference.

Simply learning one's own culture is an achievement of gargantuan proportions for anyone. By the age of twenty-five or thirty most of us have finished school, been married, learned to live with another human being, mastered a job, seen the miracle of human birth, and started a new human being on his way to growing up. Suddenly most of what we have to learn is finished Life begins to settle down.

Yet our tremendous brain has endowed us with a drive and capacity for learning which appear to be as strong as the drive for food or sex. This means that when a middle-aged man or woman stops learning he or she is often left with a great drive and highly developed capacities. If this individual goes to live in another culture, the learning process is often reactivated. For most Americans tied down at home this is not possible. To forestall atrophy of their intellectual powers people can begin learning about those areas of their own culture which have been out of awareness. They can explore the new frontier.

The problem which is raised in talking about American culture without reference to other cultures is that an audience tends to take the remarks personally. I once addressed a group of school principals on the subject of culture. We were discussing the need for Americans to progress in their jobs, to get ahead, and to receive some recognition so that they would know in a tangible way that they were actually getting someplace. One of the audience said to me, "Now you are talking about something interesting, you're talking about me." When the man in the audience learned something about himself, the study of culture got lost in the shuffle. He did not seem to realize that a significant proportion of the material which was highly personal to him was also relevant cultural data.

A knowledge of his own culture would have helped this same man in a situation which he subsequently described for the audience. In the middle of a busy day, it seems, his son had kept him waiting for an hour. As a result he was aware that his blood pressure had risen rather dangerously. If both the father and the son had had a cultural perspective on this common and infuriating occurrence the awkward quarrel which followed might have been avoided. Both father and son would have benefited if the father had understood the cultural basis of his tension and explained, "Now, look here. If you want to keep me waiting, O.K., but you should know it is a real slap in the face to anyone to be kept waiting so long. If that's what you want to communicate, go ahead, but be sure you know that you are communicating an insult and don't act like a startled fawn if people react accordingly."

The best reason for the layperson to spend time studying culture is that he/she can learn something useful and enlightening about himself/herself. This can be an interesting process, at times harrowing but ultimately rewarding. One of the most effective ways to learn about oneself is by taking seriously the cultures of others. It forces you to pay attention to those details of life which differentiate them from you.

For those who are familiar with the subject the remarks I have just made should be a clear indication that what follows is not simply a rehash of what previous writers on the subject of culture have said. The approach is new. It involves new ways of looking at things. Indians and natives of the South Pacific, the hallmarks of most anthro-
polological texts, are used. However, they are introduced solely to clarify points about our own way of life, to make what we take for granted stand out in perspective. Some of what appears between these covers has been presented before in short articles in technical journals by either Trager or myself. Most of it is presented to the public for the first time. The complete theory of culture as communication is new and has not been presented in one place before. If the reader is looking for a book on strange customs, they will be sorely disappointed. This book stresses more than anything else, not what people talk about, but what people do and the hidden rules that govern people.

Some of what follows will make readers self-conscious. They will discover that they are conveying to others things they never dreamed they were revealing. In some instances they will learn things they have been hiding from themselves. The language of culture speaks as clearly as the language of dreams Freud analyzed, but, unlike dreams, it cannot be kept to oneself. When I talk about culture I am not just talking about something in the abstract that is imposed on mankind and is separate from individuals, but about humans themselves, about you and me in a highly personal way.

Sir Arthur Conan Doyle's success with his creation, Sherlock Holmes, is largely attributable to the fact that Holmes knew how to make the most of nonverbal communication and extracted the maximum from what he observed. The following excerpt from "A Case of Identity" aptly illustrates this point.

He had risen from his chair and was standing between the parted blinds, gazing down into the dull neutral-tinted London street. Looking over his shoulder, I saw that on the pavement opposite there stood a large woman with a heavy fur boa around her neck, and a large curling red feather in a broad-brimmed hat which was tilted in a coquettish Duchess of Devonshire fashion over her ear. From under this great panoply she peeped up in a nervous, hesitating fashion at our windows, while her body oscillated backward and forward, and her fingers fidgeted with her glove buttons. Suddenly, with a plunge, as of the swimmer who leaves the bank, she hurried across the road and we heard the sharp clang of the bell.

"I have seen those symptoms before," said Holmes, throw-
ing his cigarette into the fire. "Oscillation upon the pavement always means an affaire de coeur. She would like advice, but is not sure that the matter is not too delicate for communication. And yet even here we may discriminate. When a woman has been seriously wronged by a man she no longer oscillates, and the usual symptom is a broken bell wire. Here we may take it that there is a love matter, but that the maiden is not so much angry as perplexed, or grieved. But here she comes in person to resolve our doubts."

Sir Arthur made explicit a highly complex process which many of us go through without knowing that we are involved. Those of us who keep our eyes open can read volumes into what we see going on around us. During the first half of this century, the citizens of a typical American farming community, for example, did not have to be told why old Mr. Jones was going to town. They knew that every other Thursday he made a trip to the druggist to get his wife a bottle of tonic and that after that he went around to the feed store, visited with Charley, dropped in to call on the sheriff, and then went home in time for the noonday meal. Jones, in turn, could also tell whenever anything was bothering one of his friends, and the chances are that he would be able to figure out precisely what it was. He felt comfortable in his way of life because most of the time he "knew what the score was." He didn't have to say much to get his point across, a nod of the head or a grunt as he left the store was sufficient. People took him as he was. On the other hand, strangers disturbed him, not because their mannerisms were different, but because he knew so little about them. When Jones met a stranger, communication, which was normally as natural as breathing, suddenly became difficult and overly complex.

Most of us move around so much these days that we seldom achieve that comfortable stage that Jones has reached with his cronies—though there are always enough familiar landmarks around so that we are never at a total loss for orientation. Yet in many cases people who move from one part of the country to another require several years before they are really worked into the new area and feel completely at ease. Not only do Americans engage in a constant internal migration, but a million and a half of us are living overseas in foreign surroundings and the number is increasing each year. Jones's anxieties when he meets an unfamiliar person or environment are trivial compared to what our overseas travelers go through when they land on foreign soil. At first, things in the cities look pretty much alike. There are taxis, hotels with hot and cold running water, theaters, neon lights, even tall buildings with elevators and a few people who speak English. But pretty soon the American discovers that underneath the familiar exterior there are vast differences. When someone says "yes" it often doesn't mean yes at all, and when people smile it doesn't always mean that they are pleased. When American visitors make a helpful gesture they may be rebuffed, when they try to be friendly nothing happens. People tell them they will do things and don't. The longer they stay, the more enigmatic the new country looks, until finally they begin to learn to observe new cues that reinforce or negate the words people are saying with their mouths. They discover that even Sherlock Holmes would be helpless in a country so different as Japan and that only his Japanese counterpart could play such a role.

At this point Americans abroad may either burst with exasperation and try to withdraw as much as they can from the foreign life about them or begin to wonder, rather shrewdly, about what they must do to escape a frustrating comedy of errors. If they are charitable they may even begin to reflect on how they can help a new arrival avoid the wearing experience of doing all the
understanding the difference between acquisition and learning. Most of culture is acquired and therefore cannot be taught. Since language is first acquired at an early age and later taught, it was the dramatic progress in teaching, analyzing, and working with language made possible by modern linguistic science prompted us to take a very careful look at how this success had been achieved. Our observations led to the establishment of criteria for other systems of culture. In order to qualify as a cultural system, each system had to be:

A. Rooted in a biological activity widely shared with other advanced living forms. It was essential that there be no breaks with the past.

B. Capable of analysis in its own terms without reference to the other systems and so organized that it contained isolated components that could be built up into more complex units, and paradoxically—

C. So constituted that it reflected all the rest of culture and was reflected in the rest of culture.

These criteria are operational. That is, they are based on direct observation of the actual functioning of a cultural system, in this case language. The criteria, from an anthropological point of view, are firm. There are ten separate kinds of human activity which I have labeled Primary Message Systems (PMS). Only the first PMS involves language. All the other PMS are non-linguistic forms of the communication process. Since each is enmeshed in the others, one can start the study of culture with any one of the ten and eventually come out with a complete picture. The Primary Message Systems are:

1. Interaction
2. Association
3. Subsistence
4. Bisexuality
5. Territoriality
6. Temporality

THE VOCABULARY OF CULTURE
This can be the beginning of a cultural wisdom, for it leads to systematic thinking about the learning process which nearly everyone goes through as they become familiar with a new culture.

In pursuing this problem of how one culture differs from another and how one can communicate this difference in general terms I first decided that there was no single touchstone which could be used to explain any given culture. In this I found myself in disagreement with many anthropologists who look upon culture as a single category. I was led to my conclusion by the realization that there is no break between the present, in which humans act as culture-producing animals, and the past, when there were no "people" and no cultures. There is an unbroken continuity between the far past and the present, for culture is bio-basic—rooted in biological activities. Infra-culture is the term which can be given to behavior that preceded culture but later became elaborated by humans into culture as we know it today. Territoriality is an example of an infra-cultural activity. It has to do with the way in which territory is claimed and defended by everything from fish to lions to modern humans.

By going back to infra-culture it is possible to demonstrate that the complex bases—mainly biological—upon which human behavior have been built were laid down at different times in the history of evolution. Trager and I also reasoned that the number of infra-cultural bases were probably very few and that they probably led to very different type of activities, things that on the surface bore little or no apparent relationship to each other.

Since culture is learned, it also seemed clear that one should be able to teach it. Yet in the past there had been singularly little success in this regard with the important exception of language, one of the dominant threads in all cultures. The answer to this question is rooted in understanding the difference between acquisition and learning. Most of culture is acquired and therefore cannot be taught. Since language is first acquired at an early age and later taught, it was the dramatic progress in teaching, analyzing, and working with language made possible by modern linguistic science prompted us to take a very careful look at how this success had been achieved. Our observations led to the establishment of criteria for other systems of culture. In order to qualify as a cultural system, each system had to be:

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B. Capable of analysis in its own terms without reference to the other systems and so organized that it contained isolated components that could be built up into more complex units, and paradoxically—

C. So constituted that it reflected all the rest of culture and was reflected in the rest of culture.

These criteria are operational. That is, they are based on direct observation of the actual functioning of a cultural system, in this case language. The criteria, from an anthropological point of view, are firm. There are ten separate kinds of human activity which I have labeled Primary Message Systems (PMS). Only the first PMS involves language. All the other PMS are non-linguistic forms of the communication process. Since each is enmeshed in the others, one can start the study of culture with any one of the ten and eventually come out with a complete picture. The Primary Message Systems are:

1. Interaction
2. Association
3. Subsistence
4. Bisexuality
5. Territoriality
6. Temporality
7. Learning  
8. Play  
9. Defense  
10. Exploitation (use of materials)

In discussing the PMS one by one I will stress three things: How biology prevades each PMS, how each can be examined by itself, and how each gears into the overall network of culture.

1. Interaction has its basis in the underlying irritability of all living substance. To interact with the environment is to be alive, and to fail to do so is to be dead. Beginning with the basic irritability of the simplest life forms, interaction patterns become more complex as they ascend the philogenetic scale.

One of the most highly elaborated forms of interaction is speech, which is reinforced by tone of voice and gesture. Writing is a special form of interaction which uses a particular set of symbols and specially developed forms. In addition to the well-known linguistic interaction there are specialized versions for each PMS. People interact with others as a function of living in groups (association). Time and space are dimensions in which interaction takes place. Teaching, learning, play, and defense also represent specialized forms of interaction.

Ultimately everything people do involves interaction with something else. Interaction lies at the hub of the universe of culture and everything grows from it.

1. Association. It is easy to forget that the bodies of complex organisms are in reality societies of cells, most of which have highly specialized functions, and that the first associations along this line were between cells that banded together in colonies. Association, therefore, begins when two cells have joined.

Years ago psychologists attracted considerable attention with their descriptions of the "pecking order" of chickens. It will be remembered that in each flock there is always one chicken that pecks all the others but does not get pecked by any others, and at the bottom there is one that gets pecked by all the rest. Between the extremes the flock is arranged in an orderly progression ranging from the one that is second from the bottom and has only one chicken it can peck, up to the #2 bird, who is pecked only by the leader. As it happens, all living things arrange their lives in some sort of recognizable pattern of association. Chickens have a peck order, horses a "kick-bite" order. In some cases a rigidly ordered hierarchy is replaced by another form of association. Konrad Lorenz describes two different patterns of association in his descriptions of dogs. These patterns are based on the ancestral behavior of wolves and jackals. The wolves have a very highly developed loyalty to the pack as well as to the leader, which is established early and persists through life. Jackals, on the other hand, seem to form much more loosely knit associations that are situational in character. They do not have the loyalty of the wolf either to the leader or to the pack. They are much more fickle, quicker to make friends, and less loyal over the long haul.

Other forms of association can be seen in flocks of sheep, herds of deer or cattle, schools of fish, paired relationships of some birds and mammals like the lion and the goose, and the family of the gorilla. Associational patterns persist over long periods of time, and if they change at all it is because of very strong pressure from the environment. The famous anthropologist, Ralph Linton, pointed out that lions in Kenya used to hunt singly or in pairs. When game became scarce they took up hunting in packs. The interesting thing is that each lion had a function associated with his role in the group. The procedure was for the lions to form a large circle, leaving one of their number in the center. By roaring and closing in they would drive the game toward the middle, where it could be killed by the single lion. Changes in associa-
tion of this sort anticipate the kind of adaptive behavior humans exhibit.

Human elaborations on the simpler mammalian base are so complex and varied that only their grosser outlines have been analyzed and described. What I am dealing with here are the various ways in which societies and their components are organized or structured.

The interrelation of the PMS of association and language is exemplified in the varieties of dialects of social classes. Other examples: the tone of voice of a person when he or she is acting as a leader, the very special elaboration of status and deference forms developed by the Japanese to fit their highly structured hierarchies, in our own society the deferential ways of talking to individuals who are ranked higher in work or status situations (nurses to doctors, privates to captains, captains to generals, etc.).

3. Subsistence. Like the other PMS, subsistence is basic and dates back to the very beginning of life. One of the first things anyone has to know about any living thing is its nutritional requirements, what does it eat and how does it go about getting food in its natural state? Humans have elaborated this matter of feeding themselves, working, and making a living in the same way they have elaborated the other PMS. Included in the PMS of subsistence is everything from individual food habits to the economy of a country. Not only are people classified and dealt with in terms of diet, but each society has its own characteristic economy.

In regard to the relationship of subsistence to the other PMS, one has only to mention such things as the special language behavior at meals. There are strict taboos covering discussion at the table of topics such as sex or the bodily functions. Then there are the special vocabulary and usage that have grown up around each occupation and profession, each a highly specialized form of subsis-

tence. Work is of course always ranked, fitting very closely into the existing patterns of association. What is ranked high in one culture, however, may be ranked very low in the next. This is one of the many points which constantly confront Americans abroad, whether they are in a government technical assistance program, an industrial operation, or traveling as tourists.

Americans attach no stigma to work with the hands, but in many other cultures manual labor is considered to be undignified, a sign of low status. This difference alone creates innumerable difficulties and delays. Sometimes the role of the American is misinterpreted when they "pitch in" or demonstrate how something is to be done. On other occasions the local nationals simply refuse to have anything to do with an occupation that is ranked so low that it has to be done with the hands. For years throughout Latin America nursing was retarded because it ranked so near the bottom of the scale that only uneducated girls would become nurses. The handling of bedpans as well as many other duties normally linked with nursing were considered menial and dirty. Similarly, attempts to teach industrial safety in Latin America foundered on cultural reefs when it was discovered that safety engineers had to wear coveralls and "demonstrate" safety measures on machines in the plant.

4. Bisexuality. Sexual reproduction and differentiation of both form and function along sex lines (bisexuality) is also deeply rooted in the past. Its primary function can best be explained in terms of a need to supply a variety of combinations of genetic background as a means of meeting changes in the environment. Without sex, progeny follow only one line and maintain one set of characteristics. In humans the combinations of genes are practically unlimited.

People who have had anything to do with animals know how basic sexual differences are within a species
One of the first things that must be known about an animal is whether it is the male or female of the species. The fact that behavior in animals is predominately sex-linked has led to certain misconceptions concerning the role of sex in humans. It is a great mistake to assume that the behavior which is observed in people is linked to physiology. Studies of culture have shown us that this is usually not the case. Behavior that is exhibited by males in one culture may be classed as feminine in another. All cultures differentiate between men and women, and usually when a given behavior pattern becomes associated with one sex it will be dropped by the other.

In much of Latin America it was long thought that a man could not possibly suppress the strong urges that took possession of him every time he was alone with a woman. In the eyes of Latinos, women were considered unable to resist a man. The result was that the patterns of association contained safeguards and protective measures. Americans who were going to Latin America had to be cautioned that if they let themselves get into a situation with a member of the opposite sex where something could have happened, it would be no use to tell people that it had not. The Latin response would be, "After all, you're a man, aren't you? She's a woman, isn't she?" The point the Americans couldn't get through their heads was that these people really considered that men and women were constituted differently from the way the American views them. In Latin America both sexes expect their will power to be provided by other people rather than by personal inhibition.

In Iran one encounters another variation of the PMS of bisexuality. Men are expected to show their emotions—take Premier (1951–1953) Mossadegh's tantrums. If they don't, Iranians suspect they are lacking a vital human trait and are not dependable. Iranian men read poetry, they are sensitive and have well-developed intuition and in many cases are not expected to be too logical. They are often seen embracing and holding hands. Women, on the other hand, are considered to be coldly practical. They exhibit many of the characteristics associated with men in the United States. A very perceptive Foreign Service officer who had spent a number of years in Iran once observed, "If you will think of the emotional and intellectual sex roles as reversed from ours, you will do much better out here."

Remarks like this come as a shock to many people, because almost everyone has difficulty believing that behavior they have always associated with "human nature" is not human nature at all but learned behavior of a particularly complex variety. Possibly one of the many reasons why the culture concept has been resisted is that it throws doubts on many established beliefs. Fundamental beliefs like our concepts of masculinity and femininity are shown to vary widely from one culture to the next. It is easier to avoid the idea of the culture concept than to face up to it.

Speech and sex are linked in obvious ways. Let the reader, if he or she doubts this, start talking like a member of the opposite sex for a while and see how long people let him or her get away with it. Sex and territory are also intermingled. For many birds there are breeding grounds, nesting territories, and, for many species, areas defended by males against other males. For humans there are places where the behavior of the sexes toward each other is prescribed, like the parlor or the bedroom. In many cases, area can see an intermingling of sex and territory in pool halls or in the old-time saloon from which "ladies" were excluded.

Time also enters the picture, dating back to the era when there were mating seasons for many species. Humans, having freed themselves from the limitations formerly imposed by biology, have burdened themselves...
with many more, including those having to do with the
determination of the age at which heterosexual relations
are supposed to begin. Malinowski, when he described
the Trobriand Islanders, told how the sex life of the
Trobriander is usually in full progress at the ages of six to
eight for girls and ten to twelve for boys.

5. **Territoriality.** Territoriality is the technical term used
by the ethologist to describe the taking possession, use,
and defense of a territory on the part of living organisms.
Birds have recognizable territories in which they feed and
**nest;** carnivorous animals have areas in which they **hunt;**
bees have places in which they search for honey, and
people use space for all the activities in which they
engage. The balance of life in the use of space is one of
the most delicate of nature. Territoriality reaches into
every nook and cranny of life. When they are in the
ring, even the fighting bulls of Spain are likely to establish
safe territories from which it is difficult to get them to
move.

The history of mankind's past is largely an account of
our efforts to wrest space from others and to defend
space from outsiders. A quick review of the map of
Europe over the past half century reflects this fact. A
multitude of familiar examples can be found to illustrate
the idea of human territoriality. Beggars have beats, as
do the policemen who try to get them to leave, and
prostitutes work their own side of the street. Salesmen
and distributors have their own territories which they will
defend like any other living organism. The symbolism
of the phrase "to move in on someone" is completely accu-
rate and appropriate. To have a territory is to have one of
the essential components of life; to lack one is one of the
most precarious of all conditions.

Space (or territoriality) meshes very subtly with the
rest of culture in many different ways. Status, for exam-
ple, is indicated by the distance one sits from the head

of the table on formal **occasions;** shifts take place in the
voice as one increases the distance (whispering to shout-
ing); there are areas for work, play, education, and
defense; and there are instruments such as rulers, chains,
and range finders for measuring space and boundaries for
everything from a house to a state.

6. **Temporality.** Temporality, as I have pointed out in the
past chapter, is tied into life in so many ways that it is
difficult to ignore it. Life is full of cycles and rhythms,
some of them related directly to nature—the respiration
rate, heartbeat, menstrual cycle, and so on. Such prac-
tices as age-grading (dividing society according to rather
rigid age groups) combine both time and association.
Mealtimes, of course, vary from culture to culture, as do
tempos of speech. It should be mentioned that there are
students of culture who look at everything as a historical
process, and there can be no doubt that if you know the
temporal relationships between events you know a tre-
mendous amount.

7. **Learning and Acquisition.** Learning and acquisition are
different processes. Recent insights based on observation
of children acquiring language on their own reveal that this
type of modification of behavior also occurs for all of the
rest of basic culture. The process assumed primary im-
portance as an adaptive mechanism when common ances-
tors of birds and mammals became warm-blooded at some
time either late in the Permian or early Triassic periods,
over 100,000,000 years ago.

Before this time all life's tempo was tied to the temper-
ature of the external environment. As the temperature
dropped, movement slowed down. This did not represent
a disadvantage to any given species when all were cold-
blooded, because everything slowed down together.
With the internalization of temperature controls, the
warm-blooded animals were freed from the restrictions
imposed upon them by the fluctuations in external tem-
perature This endowed them with a tremendously enhanced survival value, enhanced sensory perceptions, and at the same time placed a premium on adaptations—such as migrations, nests, lairs, etc.—that enabled the organism to cope with temperature extremes.

One result of warm-bloodedness is that it imposes on the organism a minimal size below which it cannot fall since it would perish of heat loss. When body size falls below a certain minimum the increased surface in relation to volume is such that the animal cannot eat fast enough to keep its metabolic fires going. It has been established that a fat hummingbird can fly 7.7 hours before its reserve of fat (1 gram) is consumed. Thin ones would fare less well, while some shrews apparently will die of starvation in a few hours.

With the increase in size associated with warm-bloodedness, a ceiling is set on numbers. Birds, mammals, and insects have all demonstrated high aptitude for adaptation to environmental changes. The insect kingdom compensated for the short life span of its members by breeding in enormous numbers. Warm-blooded animals obviously needed some other adaptive technique because of their great size, long life, and relatively small numbers of offspring. They grew to depend more and more on acquisition and later learning as an adaptive device. However, true learning really came into its own as an adaptive mechanism when it could be extended in time and space by means of language. A fawn can learn about people with guns by the reaction of its mother when a person with a gun appears, but there is no possible way, lacking language, for that fawn to be forewarned in the absence of an actual demonstration. Animals have no way of symbolically storing their learning against future needs.

Psychologists of late have been preoccupied with learning theory, and one anthropologist, John Gillin, has worked learning theory into his text on anthropology.

What complicates matters, however, is that people reared in different cultures learn to learn differently and go about the process of acquiring culture in their own way. Some do so by memory and rote without reference to "logic" as we think of it, while some learn by demonstration but without the teacher requiring the student to do anything himself while "learning." Some cultures, like the American, stress doing as a principle of learning, while others have very little of the pragmatic. The Japanese even guide the hand of the pupil, while our teachers usually aren't permitted to touch the other person. Education and educational systems are about as laden with emotion and as characteristic of a given culture as its language. It should not come as a surprise that we encounter real opposition to our educational system when we make attempts to transfer it overseas.

Learning to learn differently is something that has to be faced every day by people who go overseas and try to train local personnel. It seems inconceivable to the average person brought up in one culture that something as basic as this could be done any differently from the way they themselves were taught. The fact is, however, that once people have learned to learn in a given way it is extremely hard for them to learn in any other way. This is because, in the process of learning they have acquired a long set of tacit conditions and assumptions in which learning is imbedded.

The rest of culture reflects the way one learns, since culture is "learned and shared behavior." Learning, then, is one of the basic activities of life, and educators might have a better grasp of their art if they would take a leaf out of the book of the early pioneers in descriptive linguistics and learn about their subject by studying the acquired context in which other people learn. Men like Sapir revolutionized linguistic theory and ultimately language-teaching methods as the direct consequence of
their having to deal with problems that arose from studying the "primitive" languages. The so-called "army method" of World War II was deeply influenced by anthropologically trained linguistic scientists. So was the current State Department language program.

The educator has much to learn about his own systems of learning by immersing himself in those that are so different that they raise questions that have never been raised before. Americans in particular have too long assumed that the U.S. educational system represents the ultimate in evolution and that other systems are less advanced than our own. Even the highly elaborated and beautifully adapted educational techniques of Japan, in which the acquired base is entirely different from our own, have been looked down upon. Just why we feel so complacent and smug can be explained only by the blindness that culture imposes on its members. Certainly there is very little reason for complacency when one looks, not at others, but at ourselves. The fact that so many of our children dislike school or finish their schooling uneducated suggests that we still have much to learn about learning as a process. It also suggests that a deep chasm exists that separates the acquired side of American culture from the learned side.

As one watches one's own children grow up and learn, one reflects upon the vital role of learning as an agent of culture, to say nothing of its strategic place in the mechanism of survival. Any child, from the time it is born, without culture, until the time it is four or five, absorbs what goes on around it at a rate which is never equaled again in its lifetime. At six to ten children are still going strong, provided that the educational system hasn't produced blocks to learning.

Yet the schools are not the only agents responsible for education. Parents and older people in general play a part. Having learned to learn in a particular fashion, adults can communicate their prejudices or convictions in a variety of subtle and often not so subtle ways. Here is an example of this which has been experienced in one way or another by almost everyone who shares in our culture.

This story begins when a great-grandmother visits her three-year-old great-granddaughter. The child, like most three-year-olds, is toddling around and absorbing everything that's going on. Apart from eating and sleeping, one of her main concerns is to gain control of the communications taking place around her in order to be able to interact with others on their own terms. She is in the process of acquiring the base on which learned culture will later be built. Great-grandmother watches this. Something in what she sees makes her anxious. She sits still for a moment and suddenly blurts out without warning and in a disapproving tone of voice, "Look at the little copycat. Louise, stop that! Don't be such a copycat." By withholding approval the great-grandmother is demonstrating one of the principal ways in which learning is directed away from conscious imitation, which she obviously disapproves. Children, of course, are exceedingly sensitive to this process.

In order to serve humankind, learning, like sex, cannot run wild but has to be channeled and at times directed. There is much to learn of the details of how this process works in different cultures, and it is just barely possible that by studying others we Americans, who pride ourselves on our efficiency, might actually learn things that would help us to break out educational log jam. Our current approach to the teaching of reading is just one of the many obvious defects in American pedagogy. It is a symptom that something is wrong with our way of teaching. Instead of being rewarding for the child, learning has often become painful and difficult.

On Truk, the atoll in the Southwest Pacific, children
are permitted to reach the age of nine or ten before anyone begins to get technical with them about what they are supposed to know. As the Trukese phrase it, "He doesn't know yet, he is only a child." Americans tend to correct children rather impatiently. With us, learning is supposed to be endowed with a certain amount of pressure so that the fast learner is valued over the one who learns slowly. Some cultures seem to place less emphasis on speed and perhaps a little more on learning correctly. On the other hand, the current educational mode in the United States is to tell the child to guess if he doesn't know the meaning of a word. Not the best training for future scientists.

Americans like to think that children must "understand" what they have learned. What happens, of course, is that a good deal of material that would be simple enough to acquire without frills is made more difficult by the complex, and often erroneous, explanations that go with it. Somehow the fetish of explanation and logic as a process does not seem to weigh down the Arab or the Japanese, yet both have made singular contributions to the world of science.

How people learn to learn differently will continue to be an area of investigation for some time to come. As it now stands, however, these differences represent one of the barriers that have to be overcome each time two people raised in different cultures interact over any but the shortest period of time. The American will say, "Why can't the South Americans learn to be on time?" or "Why can't the Thai learn to boil the water for the ice cubes?" The answer, of course, is because no one taught them in a way which was consistent with how they learned everything else in life.

8. Play. In the course of evolution, play has been a relatively recent and not too well understood addition to living processes. It is well developed in mammals but not so easily recognizable in birds, and its role as an adaptive mechanism is yet to be pinned down. However, one can say that it is interwoven into all of the other PMS. People laugh and tell jokes, and if you can learn the humor of a people and really control it you know that you are also in control of nearly everything else. Many peoples around the world have what are known as "joking relationships," and even in our own culture there is a category of relationship known as the "playmate." There are places and times for play—such as recreation rooms in houses and recreation areas in parks—as well as a vast amusement industry which keeps flourishing. Play and learning are intimately intertwined, and it is not too difficult to demonstrate a relationship between intelligence and play. Some games like chess and Chinese checkers are almost entirely a function of a specific type of intellectual development.

Play and the PMS of defense are also closely related; humor is often used to protect or hide vulnerabilities. Another example of the close relationship between play and defense is the practice exercises and maneuvers of the military which are spoken of as "war games."

One of the cardinal features of much western European play is that often it involves competition. As a consequence, games among the Pueblo of New Mexico, even races, seem very strange to us because they may involve an old man and a little boy in the same race with young men. The function of the race is not to beat someone else but only to "do one's very best." In fact, play with us is seldom an autonomous activity. In the Old West, to take an extreme example, there are often a certain amount of violence associated with jokes which had an earthy flavor and often hurt or embarrassed the butt of the joke. In general, American humor is a binary type of humor, which is either turned on or off. In the Far East,
however, one encounters a continuum, a wide spectrum of subtle degrees of enjoyment.

9. **Defense.** For humans and animals alike, defense is a specialized activity of tremendous importance. The ethologist studying lower life forms has traditionally examined and described the defensive mechanisms of the organisms studied. The ethologist may be familiar with these even before uncovering such basic processes as the details of an animal's diet. The opossum plays dead, the lizard changes the color of its coat to match the surrounding background, the turtle draws into its shell, the skunk deploys its odors and the squid its cloud of ink, birds travel in flocks to confuse hawks. These are only a few of the defensive devices that can be named by any schoolchild.

Human beings have elaborated their defensive techniques with astounding ingenuity not only in warfare, but also in religion, medicine, and law enforcement. They must defend themselves not only against potentially hostile forces in nature but against those within human society. They also must cope with the destructive forces within their own persons. Religion is concerned with warding off both the dangers in nature and within the individual. Law-enforcement agencies have been developed to deal with offenders against society, and armies are used against other societies. Medicine, too, defends the welfare of the groups as well as the individual against disease.

Since the functions of religion have been more completely documented and are more widely understood in the cross-cultural sense than those of medicine, law enforcement, or warfare, it will be treated only briefly. There is, however, one main point which should be kept in mind about the way different cultures tend to treat religion. With the possible exception of the people of the U.S.S.R., Americans have tended to compartmentalize religion and to reduce its social function more than any other people. The Navajo regard many activities, such as medicine, entertainment, sports, and science, as religious activities. In the Middle East, Islam plays a more pervasive role than Christianity does today in Europe. People in the Western world have difficulty grasping the extent to which religion infiltrates all aspects of life in the Arab world. The content of religion, its organization, and the manner in which it is integrated with the rest of life varies greatly from culture to culture.

Medicine varies too as one moves about the globe. Though Western medicine has achieved remarkable successes, we should not close our minds to the possibilities that other systems of healing can prevent untold suffering. Scholars have accumulated extensive material on the curing practices of other societies. The voodoo of Haiti, medicine men of the Navajo, and the herb doctor of the Chinese are well known to almost everyone. Like religion, medical practices are rigidly adhered to and given up only after everything else has failed. Basic attitudes toward sickness also differ. As Margaret Mead once pointed out, Americans have the underlying feeling that if they are sick, they are being bad. The Navajo, in turn, rarely blame themselves, they feel that if they are sick, they may have inadvertently stepped on a place that was taboo or that a bad person has bewitched them.

Like medicine, which is a defense against the ravages of disease, warfare which humans use against enemies, is also held in the tight vise of culture. In many ways it is as ritualistic as religion in its formal patterns. A striking example of this occurred during World War II. Since the Japanese cultural system ignored the contingency that Japanese troops might be taken alive, it provided no instruction for its soldiers as to how they should behave as prisoners. The result was that most POWs had no sense of military security, freely responded to interroga-
otion, and cooperated with their captors to a degree which Europeans consider traitorous. In Korea, the American military assumed that U.S. prisoners would act properly even without specific training on how to behave under the stress of capture. Reports from the Korean War on the behavior of American men who were taken prisoner indicate that Americans are quite vulnerable psychologically. The simple rule of “tell 'em your name, rank, and serial number, nothing else,” didn’t work. Many Americans talked too much. Needless numbers died, many defected or were killed, and none escaped. The main reason was that they were operating according to one culture pattern and were unprepared to cope with either the North Korean or Chinese Communist pattern. Most had been led to believe that they would be treated very badly by the Communists and were thrown off base when they occasionally got “soft” treatment. Small kindnesses by Communists became magnified because of the physical hardship of prison life. Some Americans assumed that because they were prisoners the war was over for them and that they were no longer under military control. The cultural glue which held their life together crumbled under the pressure which the Communists applied so artfully. On their part, the Communists were miscued by the American pattern of egalitarianism, the lack of clear-cut class boundaries, and the fact that American leadership has to emerge informally for each new situation. When the Communists saw American prisoners going to one man with their problems or to get advice, they would suspect a conspiracy. The Communists would then remove this potential leader of the group and send him away. As a result, group support, sanctions, and controls failed to develop. The Turks fighting in Korea fared much better. They simply told the Communists who their leader was and made it clear that, in the event of his removal, the next in line would be leader, and so on down to the lowliest private. This meant that there was always a replacement for any leader the Communists removed. The Turk organization remained intact.

10. Exploitation. In order to exploit the environment all organisms adapt their bodies to meet specialized environmental conditions. A few examples: the long neck of the giraffe (adapted to high foliage of trees), the teeth of the saber-toothed tiger, toes of the tree sloth, hoof of the horse, and for humans, the opposable thumb. Occasionally organisms have developed specialized extensions of their bodies to take the place of what the body itself might do and thereby free the body for other things. Among these ingenious natural developments are the web of the spider, cocoons, nests of birds and fish. When humans appeared with their specialized bodies, such extention activities came into their own as a means of exploiting the environment.

Today our species has developed extensions for practically everything we used to do with our bodies. The evolution of weapons begins with the teeth and the fist and ends with the atom bomb. Clothes and houses are extensions of our biological temperature-control mechanisms. Furniture takes the place of squatting and sitting on the ground. Power tools, glasses, TV telephones, and books which carry the voice across both time and space are examples of material extensions. Money is a way of extending and storing labor. Our transportation networks now do what we used to do with our feet and backs. In fact, all man-made material things can be treated as extensions of what was once done with the body or some specialized part of the body.

Materials and the rest of culture are intimately entwined. People sometimes mistake material elaboration or its absence for the whole of culture, but, in fact, each Primary Message System (PMS) has a material aspect which is closely associated with it. Men and women dress
differently, tools go with work, time and space are measured with instruments, there are toys for play, books for learning, and even material signs of status. The relationship between materials and language is particularly close. Not only does each material thing have a name, but language and materials are often handled in much the same way. It is impossible to think of culture without language or materials. Think how difficult it would be to teach someone how to make a stone ax without being able to talk at all. At least you would need to be able to communicate something that stands for "No, not this way, that way."

One reason for stressing the relationship between language and materials is that there has been considerable discussion among anthropologists as to when language first came into being. It is generally accepted that it started a long time ago, but it is difficult to say just how long ago. My own estimate would be that, because of the intimate relationship between language and material culture, verbal communication arose at the same time as tool-making, sometime between 500,000 and 2,000,000 years ago. Philip Lieberman's definitive work on the biology and evolution of language places this date at 250,000 years ago when *Homosapiens* emerged and true culture began. The time between 2,000,000 years and 250,000 years ago can be considered as the proto-cultural period—a transition period between pre-culture and culture.

The close relationship between language and materials finds parallels in the linkage between other Primary Message Systems. For example, association and defense are functions of each other (people form "protective associations," etc.), as are work and play, bisexuality and learning, and space and time. Of this group only the relation between bisexuality and learning may seem obscure, and then only to a member of our own culture.

Those who belong to other societies may make this connection immediately. In our own culture the dividing line between the sexes has become fuzzy, but it is still true, even in the United States, that the variant of the culture which we acquire while growing up is largely a function of one's sex. If this were not true, there would be little cultural difference between the sexes.

By the way of summary, it is important to remember that culture is not one thing but a complex series of activities interrelated in many ways, activities with origins deeply buried in a past when there were no cultures and no humans. The development of language and technology, an interrelated pair, made possible the storing of knowledge. It gave us a lever to pry out the secrets of nature. It was the necessary condition for that burst of creativeness which we think of as culture in the highest sense. Well-developed language and technology are somehow closely associated with our present form, although just how this came about is not clearly understood. None of this would have been possible if it had not been for the highly evolved infra-cultural systems elaborated by lower organisms. By the time humans came along much of the evolution basic to culture had taken place in the very systems that are thought of as most characteristically human.

Each PMS is obviously so rich and complex that it can be made the subject of a lifetime's work. It is embarrassing to deal with such broad and inclusive fields in such a summary manner, but to skip over them would be to deprive the reader of a sense of how densely intricate the origins of culture are. The last generalization that should be made about culture is that it not only has great breadth and depth in the historical sense but that it also has other dimensions of equal importance. Culture is saturated with both emotion and intelligence. Many things that humans do in the acquired realm are not even experienced, for
they are accomplished out-of-awareness. But a great part of human activity is either the direct result of conscious thought or suffused with emotion and feeling. The way behavior—and culture—can be divided by the degree of awareness or feeling which attaches to it is the subject of the chapters which follow.

One of the most dramatic and revolutionary of Freud's achievements was his elaborate analysis of the role of the unconscious. Those who are familiar with his writings will recall how much time he spent trying to convince people that such events as a slip of the lip or pen, as well as dreams, were all evidence of hidden forces in humans over which they exercise no conscious control. This revelation of an unconscious world led to further psychological explorations which introduced a new dimension into human behavior. No longer were we considered to be entirely rational, ruled by logic. No longer could we be conceived of as an elegantly tooled machine run from the higher centers of the brain. We became much less predictable but much more interesting when viewed as a battleground of conflicting drives and emotions, many of them hidden. After Freud it became common to think of ourselves as beings who existed on a number of different levels at once.

Freud also relied heavily on the communicative significance of our acts rather than our words. Freud distrusted
the spoken word, and a good deal of his thinking was based on the assumption that words hid much more than they revealed. He depended more on communication in the larger context, on the symbols of dreams and the meaning of insignificant events which would ordinarily go unnoticed and were therefore not subject to the censors that we all have within us. Despite his massive discoveries, what Freud really lacked was a theory of communication. Today, years after the major part of his theory was laid down, psychoanalysis still lacks a systematic way of describing the events of communication which occur between doctor and patient.

Revolutionary as Freud's conception of the unconscious was, his view that it is inaccessible to direct examination was a stumbling block to further systematic analysis. Among those who did not agree with the Freudian scheme was the late Washington psychiatrist, Harry Stack Sullivan. Sullivan regarded the unconscious as the dissociated facets of the personality that are out of the person's awareness. His formulations were of great value to the social scientist because they cleared the way for further research. Sullivan taught that each of us has an ideal self, which we approve, and other selves which we may not find so attractive. Some of these are so repugnant to us that only the very strong can tolerate them. Therefore, the workaday, actual, operating self is seen as a composite of behavior patterns which Sullivan called dynamisms. The dynamisms are ways of integrating with other human beings. A person is aware of some of them, while others are dissociated and therefore hidden to the individual but revealed to the world. This notion that there are significant portions of the personality that exist out of one's own awareness but which are there for everyone else to see may seem frightening. The point, however, is a crucial one and will grow in importance as people begin to grasp its implications. What Sullivan

said, in effect, was that the unconscious is not hidden to anyone except the individual who hides those parts which persons significant in his or her early life have disapproved. While they are dissociated or hidden from himself, they are there for trained observers to see and they can therefore be analyzed.

Sullivan's contribution was a great one. It helped to dispel a good deal of psychoanalytic mumbo jumbo, opening up wide horizons for research into the interpersonal process.

Both Freud and Sullivan drew heavily on the works of anthropologists—Freud indirectly, using anthropology to support his views, Sullivan in a more immediate way. Sullivan worked actively with the greatest descriptive linguist of our time, Edward Sapir, the man who laid the foundations for modern descriptive linguistics. While the psychologists were looking to anthropology to learn more about humans as social beings, the anthropologists were using the theories of psychoanalysis in their attempts to formulate more satisfying theories of culture. One of the most significant of these borrowed theories was that culture existed on two levels: overt culture, which is visible and easily described, and covert culture, which is not visible and presents difficulties even to the trained observer. The iceberg analogy was commonly used when teaching this theory to students and laymen alike. When it soon turned out that this theory was inadequate to describe the cultural picture, anthropologists like Kluckhohn started speaking of explicit and implicit culture. Explicit culture, such things as law, is what people talk about and can be specific about. Implicit culture, such as feelings about success, was what they took for granted or what existed on the fringes of awareness.

Much has been written about the implicit assumptions of various cultures, including our own. This approach is a good one and has been responsible for a number of
valuable insights. However, the level of abstraction in the implicit-explicit culture concept is so high that it is impossible to build on it easily. The discovery that one of the implicit assumptions of American life is that hard work will be rewarded may explain a good deal about behavior in this country, but it is difficult to combine with other similar insights to form a broader generalization of American life. Like many other abstractions about culture, this one leaves us with the feeling, "Where do we go from here?" Despite its level of abstraction, the view that culture comprises some aspects that can be talked about and some that cannot remains valuable. It also provides another example of how we have come to see behavior on two levels.

Freud distinguished between conscious and unconscious; Sullivan between the in-awareness and out-of-awareness. Anthropologists like the late Ralph Linton spoke of overt and covert culture; others used terms like implicit and explicit, which were applied to the assumptions underlying behavior as well as the patterns controlling it. This bipolar way of analyzing events soon spread to other fields, such as political science and scientific management. Both disciplines adopted the terms formal and informal when describing behavior patterns, management procedures, and organizational structure. The use of these polarized categories made it possible to make distinctions which were important and which had not been made before. Moreover, they were consistent with the American tendency to see things as opposites—in black and white. The ease with which Americans tend to polarize their thoughts about events may make it difficult for them to embrace an approach which employs three categories rather than two. Yet that is what I would like to propose here: a theory which suggests that culture has three levels. I have termed these the formal, informal, and technical, familiar terms but with new and expanded meanings.

Trager and I arrived at this tripartite theory as a result of some rather detailed and lengthy observations as to the way in which Americans use, talk about and handle time. Our observations revealed that instead of two kinds of time there were actually three kinds of time: formal time, which everyone knows about and takes for granted and which is well worked into daily life, informal time, which has to do with situational or imprecise references like "awhile," "later," "in a minute," and so on, and technical time, an entirely different system used by scientists and technicians, in which even the terminology may be unfamiliar to the nonspecialist. Having observed how these time systems are used and learned, and knowing something of their history, we were able to demonstrate that in other areas of life we are also bound by the formal, informal and technical paradigm. In other words, we discovered that people have not two but three modes of behavior. Our generalizations about time had much broader applications than we originally supposed.

The sport of skiing offers an excellent example of the formal, informal, and technical modes. Some years ago in the town of Grand Lake, Colorado, on the snowy western slope of the Rockies, there was a tradition that everyone had to use skis to get around in the wintertime. New schoolteachers transferred into the area had to learn to ski, and even the school principal and the school band were on skis. Small children acquired the basic of skiing soon after they could walk. When one watched these people move about it was as though the skis were an actual extension of the foot, a highly adapted organ for locomotion. Each person had developed his or her own highly individualistic style, just as everyone has his or her own way of walking. When skiing competitions took place some of the villagers were better than others, while
many did not compete at all. The main thing was that everyone skied. No one questioned the fact that this was desirable. Skiing was taken for granted as a part of the daily life of the town, it was, to use the term which will reappear in these pages again and again, a formal tradition.

At the same time, there were a few hardy souls in Denver and other nearby towns who used to take to skis for pleasure, as a part-time activity. There was no pressure on these persons to ski. They simply liked to get out in the open. Some of them had real talent; others weren't so skilled. This group skied because it enjoyed the fun and the exercise and the beautiful scenery of the mountains and the camaraderie of the sport. They were not highly conscious of how they skied, what technique they used, or how the skill could be taught. They would say, "Watch me," or "Do it like this," and that was about as far as they could go. I never will forget the time when one of my friends who had been watching this weekly trek to the mountains finally decided to come along. He was an excellent athlete who had once been a Golden Gloves champion, so he had no lack of natural coordination and control. However, when he first put on skis the result was comic and disastrous at once. As soon as he tried to take a step, down he went. Encumbered by his skis, he could barely get up. The newcomer was beset by all sorts of problems which demanded skilled and technical analysis if they were to be solved quickly. Unfortunately the best that these Sunday skiers could manage was something like this: "You bend your knees and take off. Eventually you'll get the hang of it." Their conception of skiing was informal, a view which is no better expressed than in the phrase, "You'll get the hang of it."

At the same time that the townspeople on the western slope were acquiring skiing and the informal skiers from Denver were making their weekly pilgrimage to the mountains, thousands of feet of film were being taken in the Alps of wonderfully skilled skiers rushing down slopes, turning, climbing, and coming to a stop. These films were analyzed, and the whole process was broken down into its components or isolates, as they can be called. In addition to the components, broader patterns were also analyzed. After a while it was decided that skiing was not an art which had to be restricted to the gifted. Anyone with patience and a modicum of control could be taught to ski, since the components had been so well identified that they could be talked about and described technically. Moreover, the uniformity of skill that could be achieved by these new technically trained skiers was so amazing that it made possible the later tremendous popularity of the sport. Few people like to fail in what they do, and with the new methods of teaching, a few hours instruction could give enough skill and confidence so that a newcomer could still have fun.

In the light of our previous hypothesis that all cultural behavior is biologically based, it might be assumed that the formal, informal, and technical aspects of life are also rooted in man's physiological organism. Unfortunately, however, the subtle chain of connections between the physiology of the nervous system and human behavior still remains a comparative mystery. At present the most we can say is that one would expect to find that these three types of behavior spring from three different parts of the nervous system. This assumption can be inferred from a characteristic of behavior which everyone has experienced: It is extremely difficult to practice more than one element of the formal, informal, technical triad at the same time without paralyzing results. People who type as an informal activity know that if they start thinking in detail technically about what they are doing with their fingers and where the letters are located they will have trouble. Beginners who are studying shorthand are told that they "have to get it in their fingers" or they...
will not pick up any speed. A friend of mine, a neuropsychiatrist, once pointed out that it was enough to draw attention to one level of activity while a person was operating on another to stop all coherent thought. He used the example of a mother who is mad at her son and is berating him. The boy looks up and says, "Gee, Mommy, your mouth moves funny when you're mad." The mother is apt to become speechless. MacLean's work on our triune brain has since supported this hypothesis.

One more generalization that should be kept in mind about formal, informal, and technical integrations is that while one will dominate, all three are present in any given situation. To refer back to the skiers for a moment, it is easy to see that even those who approach skiing as a formal activity will have to get mildly technical about it, otherwise they would have difficulty talking about the details of skiing. Everyone has his or her own style (the informal), but the informal has the formal as a base. If one were to compare the three groups of skiers, one would find that the formal mountain skiers and the informal skiers from the plains had much more in common with each other than either of them had with the European technical skiers. The technical, of course, very quickly develops its own new formal systems. Science, for example, which we think of as being the very essence of the technical, actually has built up within it a large number of formal systems that nobody questions. These have to do with the methodology of science, the insistence on the objectivity of the members of the scientific community, their honesty in regard to their own work and the work of others. As a matter of fact, a good deal of what goes under the heading of formal behavior in the same way one goes about outlining the reasons for technical behavior. This is a signal to the child that there is an alternative, that one form is as good as another! A great mistake. The details of formal learning are binary, of a yes-no, right-wrong character. You either break a taboo or you don’t.
you steal your neighbor's coconut or you don't, you say "boyse" for boys or you don't. Hundreds of little details add up until they amount to a formal system which nobody questions.

INFORMAL LEARNING

Informal learning is of an entirely different character from either the technical or the formal. The principal agent is a model used for imitation. Whole clusters of related activities are learned at a time, in many cases without the knowledge that they are being learned at all or that there are patterns or rules governing them. A child may be puzzled about something and ask her or his mother for the rules. "You'll find out about that later, dear," or "Look around you and see what people are doing, use your eyes!" Whenever statements like the one that follows are made, one can be sure that the activity is an informal one: "Mother—how does a woman get a man to marry her?" "Well, it's a little hard to describe, but when you get bigger you'll find out. There's plenty of time for learning." The child is treated to this kind of remark so often that he/she automatically translates it as, "Don't ask questions, look around and see what people do." In the United States the most important area in which this type of learning operates is sex. For the most part, sex is learned informally—a fact which might account for the morbid fascination it exercises on people. When someone like the late Alfred Kinsey tried to systematize the available knowledge about sexual behavior he was commonly greeted with the question, "How do you know? Were you there?"

Hollywood is famous for hiring various experts to teach people technically what most people learn informally. A case in point is the story about the children of one movie couple who noticed a new child in the neighborhood climbing a tree. The children immediately wanted to be given the name of his instructor in tree climbing.

Entire systems of behavior made up of hundreds of thousands of details are passed from generation to generation, and nobody can give the rules for what is happening. Only when these rules are broken do we realize they exist. For example, the writer used to ask his audience of people going abroad to give the rule for "first naming" in the United States. They could give a few, in vague terms, but pretty soon they would be floundering. In the end they would remark, "You know, when you look at it that way it's pretty hard to pin these things down."

Unconsciously a great many people recognize the validity of using models as the major instrument of informal learning. As a whole, women in the United States are more aware of this than men, though they too are apt to overlook imitation for what it is—a way of acquiring appropriate behavior—a way of becoming a member of society. Everyone has seen small boys mimic their father's walk or imitate a TV hero or, at the worst, mimic some unsavory character who hangs out at the corner drugstore. In many cases the mother does not approve of Junior's selection of models, though she may not even be aware of her reasons. By disapproving strongly, she may make a hash of the informal learning propensities of her children by interfering with their early attempts at imitation.

TECHNICAL LEARNING

Technical learning, in its pure form, is close to being a one-way street. It is usually transmitted in explicit terms from the teacher to the student, either orally or in writing. Often it is preceded by a logical analysis and proceeds in coherent outline form. Some of the best examples of technical teaching can be found in the armed
services, where techniques have been worked out for handling large masses of recruits. This success is further confirmation of the point that technical learning is an inevitable concomitant of teaching large numbers of people. Unlike informal learning, it depends less on the aptitude of the student and the selection of adequate *models*, but more on the intelligence with which the material is analyzed and presented.

During World War II, when great numbers of trained technicians were in demand, it was assumed that those who had mechanical aptitude would make good airplane mechanics. A careful analysis of this assumption proved otherwise. It turned out that a good shoe clerk in civilian life would become a better mechanic for military purposes than someone who had fixed cars most of his life and learned on a *Model-T* Ford. The critical trait was not mechanical aptitude but the ability of the trainee to follow instructions. The Army then worked out its instruction manuals so meticulously that the best recruit turned out to be a mildly obsessional person who could read and follow directions. The last thing they wanted was someone with his own ideas on how to fix equipment.

To recapitulate briefly: The formal is a two-way process. The learner tries, makes a mistake, is corrected ("No, not the right side of the horse, the left side! Remember, never approach a horse from the right!"). Formal learning tends to be suffused with emotion. Informal learning is largely a matter of the learner picking others as models. Sometimes this is done deliberately, but most commonly it occurs out-of-awareness. In most cases the model does not take part in this process except as an object of imitation. Technical learning moves in the other direction. The knowledge rests with the teacher's skill which is a function of his or her knowledge and analytic ability. If the analysis is sufficiently clear and thorough, the teacher doesn't even have to be there. She or he can write it down or put it on a record. In real life one finds a little of all three in almost any learning situation. One type, however, will always dominate.

**FORMAL AWARENESS**

Compared to many other societies, our does not invest *tradition* with an enormous weight. Even our most powerful traditions do not generate the binding force which is common in some other cultures. For example, the Zuni of New Mexico have a predominantly formal culture that exerts a heavy pressure on its members. People simply cannot disregard social pressures and remain in the pueblo. If they want to leave and live with strangers the rest of their lives, they can fly in the face of tradition, otherwise they have to conform. We Americans have emphasized the informal at the expense of the formal. There are, however, pockets, like old New England and certain parts of the South, where tradition plays a vital role in life. This style of life in which formal awareness predominates has been elegantly sketched in novels like J P Marquand's *The Late George Apley*. Formal awareness is an approach to life that asks with surprise: "Is there any other way?" Formally aware people are more likely to be influenced by the past than they are by the present or future. Formal awareness is awareness of what Apley would call "what's right, what ought to be there."

**INFORMAL AWARENESS**

The term informal awareness is paradoxical because it describes a situation in which much of what goes on exists almost entirely out-of-awareness. Nothing, however, is hidden in any sense of the word. In fact, it is doubtful if there is any part of culture which is really hidden once we know how to go about looking for the eloquent signs.
In informal activity the absence of awareness permits a high degree of patterning. A moment's reflection will show that in walking or in driving a car awareness of the process is apt to be an impediment to smooth performance, similarly, too much awareness of the process of writing or speaking can get in the way of what one is trying to say. The informal is therefore made up of activities or mannerisms which we once learned but which are so much a part of our everyday life that they are done automatically. They are, in fact, often blocked when cerebration takes place.

All this has been known in one way or another for a long time, but no one has understood the degree to which informal activities permeate life nor how the out-of-awareness character of informal acts often leads to untold difficulty in a cross-cultural situation. The tone of voice of the upper-class English which sounds so affected to many Americans is an example of just this kind of activity which, unless properly understood, can be a stumbling block between individuals from different cultures.

What I have described is not to be confused with neuroses in which certain aspects of the personality are also out-of-awareness. The psychological literature is filled with references to dissociated behavior, unconscious behavior, and so on, but these are deviations from the norm and should not be confused with the informal.

TECHNICAL AWARENESS

While all technical behavior has in it some of the formal as well as the informal, it is characterized by the fact that it is fully conscious behavior. Its very explicitness and the fact that it can be written down and recorded and even taught at a distance differentiates it from the other two types of integration. The very essence of the technical is that it is on the highest level of consciousness. Science is largely technical.

FORMAL AFFECT

Affect is a technical term used by psychologists to describe feelings as distinct from thought. The nontechnical reader may prefer to substitute "emotion" or "feeling" whenever the term "affect" is used. Whenever violations of formal norms occur, they are accompanied by a tide of emotion. One can get an idea of how people feel about formal systems by thinking of a person who has been supported all his or her life by a very strong prop. Remove the prop and you shake the foundations of life. Deep emotions are associated with the formal in almost every instance.

Part of the success of the late Clarence Darrow was attributable to his being a past master at invoking formal systems to sway juries. Darrow was and remains a controversial figure. Many people used to look upon him as a scoundrel who succeeded in having thieves and murderers acquitted when they should have been sent to jail. Today he is still a figure of great popular interest, but those who write about him tend to see him in a new way. They emphasize his humanity rather than his superb command of the law. For the law is technical and dry and supposedly blind to human emotions—a cardinal sin in this age. Darrow dressed in an old sloppy suit. He appealed to the common man—people could identify with him. He was their type, the country bumpkin who outsmarts the city slicker. Now it is obvious that in addition to knowing his law well he also knew his culture. He realized that most people do not understand the law but will stand up for their own formal systems and even weep over them when they see them outraged. This was Darrow's strength, and the only time he really failed to capitalize on it was when
he was called to Honolulu for the Massie case in 1932. There he faced a jury made up of members who had different formal systems. The Chinese jurors weren't a bit moved by his strategies rooted in haole culture.

In time, as formal systems become firmer they become so identified with the process of nature itself that alternative ways of behavior are thought of as unnatural—if not impossible. Yet this rigidity has its advantages. People who live and die in formal cultures tend to take a more relaxed view of life than the rest of us because the boundaries of behavior are so clearly marked, even to the permissible deviations. There is never any doubt in anybody's mind that, as long as one adheres to the norms, one knows what to expect from others. Those who are familiar with the difference between Catholicism in Latin America, where the population is so predominantly Catholic that religion is not an issue, and in the United States, where we are more technical about religion, have an excellent example of how people live under the same institution of religion yet react differently, depending upon whether it is administered formally, informally or technically.

INFORMAL AFFECT

There is little or no affect attached to informal behavior as long as things are going along nicely according to the unwritten or unstated rules Anxiety, however, follows quickly when this tacit etiquette is breached. Extreme discomfort is apt to occur when someone stands too close or uses a first name prematurely. What happens next depends upon the alternatives provided by the culture for handling anxiety. Ours includes withdrawal and anger. In Japan men giggle or laugh nervously. The alternative responses are comparatively restricted and automatic. The leeway for emotional response in the informal is much less than one might expect. The point is that the emotions associated with deviation from informal norms are themselves acquired informally and are limited by the fact that people do not realize that their response is learned or that there is any other way to respond. A comparable situation exists in language: In English, one of the most common ways of indicating that one is asking a question is by ending with a rising inflection. That there might be other inflections which achieve the same purpose simply does not occur to one. In this sort of thing it seems "natural" that the repertoire would be somewhat limited.

TECHNICAL AFFECT

The technical is characterized by a suppression of feelings, since they tend to interfere with effective functioning. One of the great differences between the real professional and the amateur boxer is that the amateur is likely to become really angry, whereas the professional prides himself in keeping his wits about him and his temper in control. The scientist's approach to his or her work is so well known that we need say little about it. In general the technical person becomes emotionally involved only when the technical rules of the game are not followed. Once a technical foundation is laid down, it seems to be important to adhere to it. Because it is so explicit, the technical in our society has become associated with authority and law and other structures which embody uncompromising attitudes. A mother who is provoked by a child may find herself using the child's full name as she calls her or him to account. The child immediately knows that she/he has stepped out of line and Mother means business because she is getting technical. The formal and the technical are often confused. For one thing, the formal is supported by technical
props. It is the technical that people often resort to when all else fails.

The whole matter of deviation from norms bristles with complexity. For example, children never know where the line is until they step across it. The manner in which they are reprimanded provides the glue that holds together these systems in later life. Children never know until they find out by trial and error whether they have violated a formal, informal, or technical norm. There are gross differences in regard to norms from one culture to another. Within the confines of a diverse culture such as our own, what is a formal matter at one time may become informal later, what is viewed technically by one group may be informal within the next. To return to children, it seems to be important that they know that there are norms and lines beyond which they cannot go despite the leeway allowed them. They also need to know that there are some norms that are comparatively unchangeable and which can be depended upon throughout life. From a theoretical point of view the relation of the formal, informal, and technical to norms becomes of great importance.

FORMAL ATTITUDES TOWARD CHANGE

Formal systems are characterized by a great tenacity, a trait which satisfies a deep need in all societies and individuals. Without this tenacious consistency in life, life itself would not be possible. Originally, with the early vertebrates, instinct or innate behavior patterns provided for this consistency. With the advent of acquisition as an additional adaptive mechanism the role of the instinct began to fade until in humans it plays a negligible role in life. It is formal culture that does a job closely analogous to instinct. Everybody can depend upon it almost as though it were instinctual. It is the base from which the rest of culture springs and around which it is built.

Except under special circumstances, the formal changes slowly, almost imperceptibly. It is also highly resistant to forced change from the outside—a point now well known to many of our technicians working in foreign countries. Since the formal is seldom recognized as such, the American abroad often has the impression that other people's formal systems are unnecessary, immoral, crazy, backward, or a remnant of some outworn value that America gave up some time ago. Afif Tannous, a Lebanese-American sociologist, tells of a case of the Arab villagers who refused to let outsiders clean up a water hole contaminated with typhoid and install a pump. The reader may wonder what there was about having a nice clean water supply that violated the formal norms of Arab villagers. Strange as it seems to us, Arab villagers like the water they drink. It has a nice strong taste which it gets from the camels. Water with them is thought to be almost sacred. If the men of a given village are strong or brave or fertile or smart it is because of the water they drink. In some parts of the Arab world it is considered sissy to drink clean water. The villagers saw no relation between disease and the water that made their men strong. Babies died because God willed it, and who were they to go tampering with the will of God? This story underlines the necessity of understanding and accepting the formal systems of other peoples first in order to work effectively within them.

Alexander Leighton's book, The Governing of Men, also provides a penetrating example of how a misunderstanding about formal systems of leadership stalled a government program with the Japanese internees during the war. Once this was corrected, these same systems were used quite successfully. The American mistake was to select construction foremen according to their qualifications...
tions—a natural error, considering the great emphasis we put on technical competence. The Japanese, who had suffered insult, the loss of their possessions, and forcible imprisonment without losing their patience, finally went on strike when this happened. They were outraged that the Americans had completely disregarded the social hierarchy which figures so importantly in Japanese society. The solution to this problem lay in allowing the internees to choose their own leaders from among those who had the proper status. It mattered little that these honored old men spoke no English and knew less about engineering. They promptly picked young engineers as their advisers.

I am indebted to John Evans—son of Mabel Dodge Lujan and onetime superintendent of the Northern Pueblo Agency—who spent many years as a young man in Taos, for an exquisite example of a formal pattern. The Taos are an independent people who carefully guard their culture from the white man. They even make a secret of how to say "Thank you" in Taos. This makes it difficult for the governmental representatives whose job it is to work with them. According to Evans, there had been some difficulty finding an agricultural extension agent who could work with the Taos. Finally a young man was chosen who liked the Taos and who was careful to approach them slowly. Everything went along very well, and it seemed that he was, indeed, the right man for such a ticklish job. When spring arrived, however, Evans was visited in Albuquerque by the agriculturist, wearing a long face. Evans asked, "What's the matter? You look depressed." His visitor replied, "As a matter of fact, I am. I don't know what's wrong. The Indians don't like me any more. They won't do any of the things I tell them." Evans promised to find out what he could. The next time there was a council meeting at Taos he took one of the older Indians aside and asked him what was wrong between the tribe and the young man. His friend looked him in the eye and said, "John, he just doesn't know certain things! You know. John—think..."

Suddenly Evans understood. In the spring the Taos believe that Mother Earth is pregnant. To protect the surface of the earth they do not drive their wagons to town, they take the shoes off their horses, they refuse to wear hard-soled shoes themselves. Our agriculturist had been trying to institute a program of early-spring plowing!

Often, however, the conflict between different formal systems in different cultures has a tragic outcome. During the Spanish conquest of the New World one of the reasons the Spaniards were able to take so much territory was that their formal systems were so radically different from the Indian system. The Spaniards fought to kill, the Aztecs fought to take prisoners. Like the Plains Indians to the north, the Aztecs were at a loss in dealing with an enemy who killed in battle. Because this was a formal system the Aztecs were not able to change it in time to save themselves or their society. Similarly, some American prisoners of war during World War II were not able to adapt to the deference patterns of their Japanese captors and thus save themselves needless torture. The Japanese formal view of life is that there must be order in the relations between men and that this order is expressed by people taking and demonstrating their positions in a hierarchy. People of higher status are addressed by certain polite forms; respect is shown by bowing quite low with the upper part of the body held rigid. The Americans who were captured by the Japanese felt it was a violation of their dignity to have to bow. The Japanese thought this showed extreme disrespect and threatened the very foundations of life.

The formal provides a broad pattern within whose outlines the individual actors can fill in the details for
THE SILENT LANGUAGE

They themselves. If they stay within the boundaries, life goes along smoothly. If not, they find themselves in trouble. For instance, if two men have a business appointment in the middle or late morning and one of them is five minutes late, there is no serious difficulty. A simple apology usually suffices. Though the formal system in our culture says that one must be punctual, it also provides for a certain amount of leeway. The norm can be violated in two principal ways: first, by going way beyond the permissible limit, so that it is obvious that you are deliberately flying in the face of custom; second, by ignoring the permissible informal leeway, becoming overly technical, and demanding an apology if someone is only twenty seconds late.

INFORMAL ATTITUDES TOWARD CHANGE

Mishandling the informal can often lead to serious difficulties which are apt to become aggravated since the participants in an informal situation are not fully conscious of what is going on. They only know that under a certain set of unstated rules they can act in a certain way and depend upon other people to react appropriately. This informal expectancy is often frustrated when there is a conflict between two patterns within the context of our own culture or in the more familiar case of a cross-cultural situation.

An example of a rather wearing cross-cultural conflict occurred in the West a number of years ago. Since no one was directly aware of what was going on, the result was a ludicrously tragic situation which persisted for some twenty years. The two cultures involved were the Spanish and the American, at the heart of the prolonged crisis was the differing view which each group takes of law, government, and family. The Latin-American Spanish have developed the institution of the family to a size, stability, and influence that are incredible to us. Their governments on the other hand do not occupy such an important position in the scheme of things as ours does. If something should happen or if something is wanted in a Latin-American country, families are apt to be better at handling the affair than the government. This informal tradition is associated with a different concept of law from our own. Law in Latin America is enforced technically (by the book), but it is mediated by family relationships. With our law courts, and particularly enforcement officers, are not supposed to be harsh and should be guided by the formal systems of the culture. That is, the law is never expected to be stricter than the rest of the culture. If it works undue hardships on people, then it has to be changed. When the American comes across a law which he/she considers to be unjust or which doesn't make sense, he or she is much more likely to violate it than if she or he considers it realistic and sensible.

The point at which the Spanish and American patterns collided in the western town was over the enforcement of the speed limit. For many years the town—predominantly Spanish in population and government—had a motorcycle policeman named Sancho, of Spanish cultural descent. His job was to enforce the speed limit of 15 mph which extended to the outskirts and included a stretch of two national highways. So assiduous was Sancho in his work that he was famous to all the townspeople as well as to the americanos who lived in the surrounding communities. Acting on the letter of the law, he would arrest people going 16 mph—an offense which was punishable by a fine of $12.75, a considerable sum of money during the depression years of the thirties. The Spanish-Americans brought before the court usually had a cousin or an uncle sitting on the bench and were quickly acquitted. The americanos, who were rarely that lucky, became increasingly furious at the situation.
Finally they began plotting against Sancho. Once he was led out of town at 60 mph and then ran off the road. His legs were so badly broken that he could no longer ride a motorcycle. When he emerged from the hospital he bought a fast roadster and went back to work. But from then on for the next ten or fifteen years life for Sancho became a series of "accidents." He no longer trusted anyone and arrested speeders with a drawn pistol. Even this did not prevent him from being severely beaten up from time to time by the anglos who resented being arrested for going 16 mph and who had to pay their fines. What the Americans did not understand—and for this they may easily be forgiven—is that the two cultures treat the same point of behavior quite differently and structure the informal into different parts of their respective systems. Technically, to the Spanish, the law was the law and 16 mph was an infraction of the law. Only after they were arrested did they invoke the informal by turning to that system of relatives which is equipped to deal with a weak government. Americans, on the other hand, allow themselves a certain amount of informal leeway in their interpretation of what constitutes a violation, but they tend to get tough (and technical) once the machinery of the law is set in motion. The idea of holding people precisely to 15 mph violates both our attitude toward laws (they should make sense) and our sense of informal leeway. Sancho's trouble was that he never had a model to show him how to deal with anglos.

On the whole, Americans have developed no system for making the law easy to live with, as have the Latin Americans. Our own formal system says that it is reprehensible to use influence and doubly so for public officials to show favoritism. We allow very little leeway here, on the grounds that unless a person is either foolish or guilty he or she would not have ran afoul of the law in the first place. Laws may be broken in the United States, but there is a great reluctance to tamper with the legal machinery once it has got under way. As products of American culture we tend to have a difficult time overseas when the laws lack informal leeway in their enforcement. We see no alternative ways of making them livable. We find it hard to discover those points where there is leeway and, when we do, we are hesitant in using what we find out because it violates our own formal systems. What Americans really like and usually hold out for is for others to change their systems so that it "makes sense" like ours does.

There is, of course, a little of the informal in everything. What is confusing to people who travel or work overseas is that there is no way of knowing just where the leeway has been built into a situation. To make this doubly difficult, the local nationals can't describe the rules either. Furthermore, a formal system with very little give in it one time may show a great deal of flexibility a few years later. Arab attitudes toward women, for example, are changing very rapidly. What was constant for centuries no longer holds.

**TECHNICAL ATTITUDES TOWARD CHANGE**

When American technicians are prepared to work abroad, they must be warned to avoid introducing changes that violate formal norms. The technician may ask: "In what area, then, can I try to help these people help themselves and still not ran afoul of the formal and the informal? Where can I have some real control over what goes on?" The answer, of course, is in the technical. Here one can introduce changes with the greatest ease without violating the norms of the other two systems. Just as the United States suffers no disruption in the course of constant progress in such things as the design of automobile engines, fuels, oil and metals, antibiotics
and medicine, so comparable changes can be made in countries that have not progressed as far as we have technologically. Whatever changes are introduced have to be made in those parts of the lives of the local people that are treated technically or else they must be offered as entirely new systems complete in themselves. In many parts of Latin America, for example, air travel was introduced before the stage of the cart and the automobile had even been reached. It was easier to build airports than a road network. The same leapfrogging technology is being applied in Africa.

Usually, however, technical changes are small changes which have to do with the details of an operation. You can change the bore and stroke of a motor without changing the over-all design. You can alter the pitch of a propeller to conform to special conditions, change the construction material for a house without violating the formal norms that dictate the over-all design, put a steel point on a wooden plow without violating formal norms, make insecticides in powder or liquid form to conform to local custom. By changing the emphasis from one of "making the soil more productive" to "feeding" the soil with fertilizer, modern agriculture can be made more acceptable to the Indonesians, who, because of their formal religious beliefs, try to avoid controlling nature.

One of the most remarkable changes that have come to light in recent years is the one described by Margaret Mead in her report about the unique people of Manus in the South Pacific. The Manus Islanders treat their culture technically. They apparently have done so for such a long time that there is little evidence that they could accept any other attitude without seriously disrupting their lives. They experiment with their culture consciously, taking it apart and putting it together again to see how it works in different ways. With these propensities it was inevitable that close contact with Americans during the war would make available new systems of behavior and new ways of organizing society. This is what happened. The Manus apparently did the incredible thing of sitting down and saying to themselves, "Now let's organize a new society that's more in keeping with the outside world." They didn't wait for change to overtake them gradually, or drift off in small numbers and lose themselves among the whites. They sat down and designed a society from the ground up. What is not clear, of course, in view of the technical attitude toward life, is where the formal core is and what form it takes on Manus. One view that can be taken of what happened on Manus is that the things that were changed represented a relatively superficial fringe around a more stable and persisting core, just as the Pueblo potter may make variations in the designs she uses on the pot but is not likely to change the method of building up the walls, polishing, or firing.

Maria, a famous New Mexico potter, provides us with an excellent example of how small changes occur and how far-reaching their effects can be. She practices an art borrowed indirectly from Mexico and carried on by Pueblo women for some thirteen to fifteen hundred years. The Pueblo women have always been notoriously conservative in their pottery making. Since slightly before the time of World War I their pottery began to deteriorate noticeably, a sign that Pueblo life was losing some of its integrative powers. As the Indians moved farther and farther down the socio-economic scale in comparison to the whites, they began to lose self-respect. No one knows what would have happened if it had not been for three key figures: Maria and her husband Julian, both skilled craftsmen, and Kenneth Chapman, an anthropologist who saw what was happening and dedicated himself to reviving Pueblo crafts. Julian helped Maria with the pottery by occasionally painting the designs for her. This
The silent language was one of those small technical changes that leads to bigger things. Maria was the best potter in San Ildefonso. The care and attention to detail in her work were obvious even to those who were not experts. By Pueblo standards she was an individualist. Unlike many of the others, her work did not deteriorate and therefore became even more popular. Chapman selected her work for promotion in the white world.

Once by accident two of Maria's pots turned black instead of red. A plain black pot that is not well made is hideous. A plain black pot that is beautifully made actually enables one to appreciate both the simplicity of the black as well as the expertness of the technique. Despite this, the San Ildefonso people had no place in their world for a plain black pot. The whites, on the other hand, had no tradition in regard to pottery, no preconception that it should be white or black or red. They thought it should be well made, smooth, and symmetrical. Once when Julian and Maria ran out of the red pottery they sold through a Santa Fe storekeeper, they gave him the two black "spoiled" pots. Before the man could get them back to his store he had sold them.

It was very easy for the Indians to make more black pots, since they were quite familiar with the mistake which caused them. Once Maria discovered that her pottery was even more popular than it had been formerly, she taught her sisters how to control this accident to satisfy the whites' taste. Eventually the rest of the women of the Pueblo were following her example. Maria's fame brought more tourists and more customers, so that everybody profited. Today San Ildefonso is associated with black pottery instead of red. The transformation of an informal, occasional black pot into a technical change in pottery making had other striking results. First it improved the over-all quality of the pottery of the Pueblo.

This example highlights a number of things about technical changes:

- They are always specific. In this case one makes a choice as to the type of firing, one step in about a hundred steps needed to make a pot. Technical changes are readily observed, talked about, and transmitted to others. They open the way for additional changes and often improvement in the quality of a product. They often fly in the face of older formal norms and are far-reaching in their effects. Put together, they form the basis for a new formal system once they become consolidated and widely accepted.

Our own calendric system is an example of a once technical innovation, the result of many, many small technical changes built into a pattern that became widely accepted, so widely accepted that such periods as the hour and the week are thought of as "natural" divisions of time. In fact, it is so much a formal system that when the calendar was brought up to date in England in 1752 by gearing it to the Gregorian version, there were riots in the streets and people shouted, "Give us back our fourteen days."

To this point we have been looking at the formal-informal-technical triad as a fixed and static system. In actuality these states are constantly fluid, shifting one into the other—formal activity tends to become informal, informal tends toward the technical, and very often the technical will take on the trappings of a new formal system. In this next section I suggest something of the inherent processes by which these changes occur.
THE PROCESS OF CHANGE

Theodosius Dobzhansky, the great human geneticist, once observed that life was the result of neither design nor chance but the dynamic interaction of living substance with itself. He meant that life, in a changing environment, places such strains on the organism to adapt that, if this does not take place constantly, the organism as a species dies out. This process of adaptation leads to the production of the many complex forms that inhabit this earth. Different cultures are analogous to different species in the sense that some of them survive while others perish. Some are more adaptive than others. The study of change, therefore, is the study of survival. It is of more than academic interest, then, to see how the formal, informal, and technical exist in a relationship of continuous change. The theory of the nature of these relationships is a theory of change.

Because of the technical nature and complexity of the most available data I am including only one description of a changing culture pattern. (Three others will be found in Appendix III.) Its timeliness will be immediately recognizable, and it has in it many basic elements illustrating the principles by which culture change operates. It should be apparent to the reader that much of the material included under other headings also illustrates how change takes place.

An often noted characteristic of culture change is that an idea or a practice will hold on very persistently, apparently resisting all efforts to move it, and then suddenly, without notice, it will collapse. The following case history, well known to most Americans, is a poignant illustration of this phenomenon.

Taken at any given point, culture seems to be made up of formal behavior patterns that constitute a core around which there are certain informal adaptations. The core is also supported by a series of technical props. A classic case was provided one time during a discussion I had with a class of young college women. They were earnestly concerned with their future role in life. A topic very much on their minds, of course, was the matter of their relations with men. In a discussion of this subject one of the women summarized the issue very succinctly and at the same time illustrated the principle outlined above.

The problem she posed went as follows: Her family, principally her mother, had endowed her with a series of formal beliefs which stressed the importance of premartial chastity. The young woman did not want to violate these beliefs, yet here she was, riding around in cars at night alone with boys, petting, and going to unchaperoned house parties. In effect, the traditional supports (or restraints) on which sexual virtue had long been based had been cut away. Moreover, there was continual pressure on her to chuck the idea of premarital chastity. How, she asked, could she maintain her position in the absence of supports? How could she preserve the core of a formal system when all of the important technical props had been removed?

In retrospect we can laugh at the thousand and one little props which once made it easy for a woman to keep her virtue. But how useful they were. I remember hearing an elderly New England lady who criticized her daughter-in-law about the way in which she handled her body, especially her legs. Her admonition went somewhat like this: "My dear, in this family a woman never crosses her legs. She sits forward on her chair with her head erect, her hands folded in her lap, and her knees together. On informal occasions, in the home and in the presence of her father or her brothers, she may cross her ankles." Today this sort of talk seems quaintly comical.

There used to be a separate vocabulary for men and
women There were words that women were never supposed to hear. There were different postures and dress for the two sexes, and there were areas that were taboo to women—areas where they might not receive respectful treatment. Clothes hid everything but the face. Close chaperonage and limited times and places where young women could be seen with a man were enforced. All this occurred within the memory of a great many people living today.

In Latin America, however, the technical props which support formal virtue are still firm and elaborate. Americans have come to hold the view that the controls exist in the person and not in the situation. The Latin countries to the south make a different assumption. A man is thought of as being incapable of resisting his libidinal impulses in the face of a woman if the situation is such that he can succeed. Women are conceived of as frail creatures who could not possibly stand up to any man. Thus the situation has to be controlled with the full force of custom.

Obviously any change in the sexual manners of South America will have to hinge on a new conception of the nature of man and woman. This may already be coming about as more and more Latin women are being brought into contact with men in other than purely formal social relationships. A stenographer working in an office is viewed very differently from the old-style well-chaperoned girl.

The differing rate at which formal and technical systems change, however, can lead to a good deal of personal anxiety. In sex the technical props have gone first in the United States, but the fact that the formal belief still stands is manifest in the question posed by the student and many others like her. How long it can stand is questionable. A few years ago G. P Murdock, a famous anthropologist, was reported as saying that premarital chastity would not last another generation. People were appalled. He was attacked in the press, bombarded with angry letters, and condemned. The reaction was typical of what happens when someone predicts the collapse of any formal system.

Often technical systems turn into formal ones so quickly that people react to them as though they were still technical. Much of the workshiping at the shrine of scientific methodology in the social sciences these days smacks more of a formal system than a technical one. In these times it seems to be remarkably easy for scientists to turn into priests. Though unlike the ordained priest who knows he is a priest and receives the backing of a formal organization, the ritualistic scientist is engaged in a disconcerting masquerade.

A good example of this transition is what has happened to the psychoanalytic disciples of Freud in this country. Their operations have all the trappings of a religion, including the laborious re-examination of matters of dogma and a sort of excommunication for heretics. Many of them function very well within the system and manage to adapt because they know it's a formal system they are in—not a technical one. It is time, however, that we began to realize that much of what passes for science today may have been scientific yesterday but can no longer qualify because it does not make any additional meaningful statements about anything. It blindly adheres to procedures as a church adheres to its ritual.

Sometime in the future it will be possible to say more about the two types of technical statements which presume to be scientific. Type A seems to be designed to support a going concern and provides a prop for the formal core (laws, statements about conduct and ritual, regulations, and the like), while type B often does just the opposite, tearing down existing props and building new ones in their place. Men like Darwin, Newton, and
Einstein toppled old structures, clearing the way for new systems of thought. Type B tends toward the classic goal of true science, which is to explain more and more events with fewer and fewer theories. This contrast between the two aspects of the technical can best be summarized with the statement that all scientific statements are technical, but not all technical statements are scientific.

In summary, change is a complex circular process. It proceeds from formal to informal to technical to new formal, with the emphasis shifting rather rapidly at certain junctures. The rapid shifts are explained by the fact that people cannot tolerate existing in two systems at the same time; they have to approach life at any given moment from one of these three levels of integration but not more than one.

It is doubtful that anyone ever really changes culture in the sense that this term is ordinarily used. What happens is that small informal adaptations are continually being made in the day-to-day process of living. Some of them work better than others. These adaptations eventually become technicalized as improvements, and the improvements accumulate imperceptibly until they are suddenly acclaimed as "break-throughs." Steady, small improvements in airplane design have snowballed into machines undreamed of twenty years ago.

If a person really wants to help introduce culture change he or she should find out what is happening on the informal level and pinpoint which informal adaptations seem to be the most successful in daily operations. Bring these to the level of awareness. Even this process can only accelerate change, not actually control it in the manner desired by people of action. This is because the out-of-awareness nature of the informal is where all changes start. To paraphrase Dobzhansky, life is due to the dynamic interaction of living substance with itself and is not the result of either chance or design.
In recent years the physicist, the mathematician, and the engineer have accustomed themselves to looking at a wide range of events as aspects of communication. A book title such as *Electrons, Waves and Messages* does not seem incongruous. Another book title, *The Mathematical Theory of Communication*, seems so appropriate that it is readily accepted, at least by the scientifically inclined layperson. However, the behavioral scientists have only recently begun to examine their respective fields as communication.

The reader may wonder about the nature of the relationship between communication as I use the term and the communication theory (information theory) of the electronics laboratory. In one way it might be said that the communication theory is shorthand for talking about communication events that have already been subjected to considerable analysis, such as the phonetics of a language, orthographies, telephone and television signals, and the like. This process inevitably seems to proceed in one direction—toward symbolization. It must be remembered that when people talk they are using arbitrary vocal symbols to describe something that has happened or might have happened and that there is no necessary connection between these symbolizations and what occurred. Talking is a highly selective process because of the way in which culture works. No culture has devised a means for talking without highlighting some things at the expense of some other things. It follows that writing is a symbolization of a symbolization. Communication theory takes this process one step farther. The principal difference, as I see it, between the electronic engineer’s approach and the approach of the cultural-communication specialist is that one works with highly compressed symbolic data while the other tries to discover what happens when people talk, before the data is stripped of all its overtones.

When considering all life as communication we see a spectrum covering a wide range of communication events. It is possible to observe complete messages of differing duration, some of them very short (less than a minute) and others covering years and years. In general the study of culture deals with events of fairly short duration. The psychology of the individual in cultural and social settings presents communication events of longer over-all duration. The study of government and political science may involve "messages" that take years to unfold. The following examples show how the duration of these messages can vary over a wide spectrum.

When a husband comes home from the office, takes off his hat, hangs up his coat, and says "Hi" to his wife, the way in which he says "Hi," reinforced by the manner in which he sheds his overcoat, summarizes his feelings about the way things went at the office. If his wife wants the details she may have to listen for a while, yet she grasps in an instant the significant message for her,
namely, what kind of evening they are going to spend and how she is going to have to cope with it.

Or take the example of a salesman who has been trying to sell something to an important client for a number of months. The client finally agrees to take up the business with his board of directors and promises to let the salesman know the verdict in a week. The first half second of the interview that follows usually tells the salesman what he wants to know—whether he has been successful or not.

A political figure makes a speech which is supposed to be reassuring. It has the opposite effect. When the words are read they are reassuring. Yet the total message as delivered is not. Why? For the same reason that the wife and the salesman know what to expect. Sentences can be meaningless by themselves. Other signs may be much more eloquent. The significant components of a communication on the level of culture are characterized by their brevity as compared with other types of communication. By simply raising the pitch of the voice at the end of an utterance instead of letting it fade away, it is possible (in English) to change a statement of fact to a question. The fact that communication can be effected in so brief a time on the cultural level is often responsible for the confusion which so often occurs in cross-cultural exchanges.

As one leaves the cultural part of the spectrum and proceeds to the personality portion, the wave length increases. The analytic building blocks, instead of being sounds and the like, are whole interactions between people—mother and child, for instance. Thus first impressions may be wrong because neither person has had a chance to reveal himself fully in a brief period. As a whole, the personality comes through rather slowly and is only fully known after years.

The portion of the communications spectrum which embraces political events is composed of units of much longer duration. Meanings must be found in the context of hundreds of years of history. In a total pattern, a government's white paper is not just another document; it may be the equivalent of a period or a semicolon or even a question mark at the end of a message that has been building up for years. The message is composed of numerous situations and acts—something which is understood by any political scientist or statesman. Diplomacy and political strategy can be seen as a kind of debate where the words cover years.

Beyond this, scholars like Toynbee have been trying to work out the grammar of a message which may last for several hundred years, thereby transcending the lifetime of an individual human being. They analyze the syntax of whole societies and civilizations.

The trouble that social scientists have when they talk to someone who has been working on a different part of the communications spectrum is that what one sees clearly may be a diffuse blur or a microscopic dot to the other. Yet each researcher is trying his or her best to establish a pattern for extracting the meaning from what he/she studies. In the end all these patterns are relevant to one another. The language of politics and the language of culture are a long way apart, yet each subsumes the other.

Like a telephone system, any communication system has three aspects: its over-all structure, comparable to the telephone network, its components, comparable to switchboards, wires, and telephones/ and the message itself, which is carried by the network. Similarly, messages can be broken down into three components: sets (like words), isolates (like sounds), and patterns (like grammar or syntax). A breakdown of messages into these components, sets, isolates, and patterns is basic to understanding culture as communication. A good deal of what
follows is an explication of these terms and what lies behind them.

To recapitulate, people are constantly striving to discover the meaning of relationships between individuals and groups of individuals. The professional scholar soon learns to disregard the immediate explicit meaning of the obvious and to look for a pattern. Scholars also have to learn to scale perceptions up or down, depending upon what type of communication they are trying to unravel. This leads to an understandable occupational blindness which makes it almost impossible to pay close attention to communications of other types, on other wave lengths, as it were. An ability to decipher communications in a restricted area of specialization is what makes people experts. One person may be an expert in long-range events, another in short-term interactions. Further, if we return to language as it is spoken (not written) as a specialized communication system, we can learn something of how other less elaborated systems work. Most of what is known about communications has been learned from the study of language. Because the work with language has been so fruitful, there are certain analogies drawn from it which can be useful in the description of other communication systems.

In the study of languages, one can safely assume nothing. No two languages are alike; each has to be approached afresh. Some are so dissimilar, English and Navajo, for example, that they force the speaker into two different images of reality. Yet, whether a language is near or far, closely related or unrelated, there are certain steps which have to be taken in the analysis of the language in order that learning may proceed.

At first the new language is nothing but a blur of sound. Soon, however, some things seem to stand out, recognizable events recur. There are, for instance, perceived breaks or pauses, spaces which set off one event from another. It is usually assumed that these breaks separate words. Actually, they may be words, or they may be sentences, or they may be something else. The point is that there is something which is perceived, and this is what the learner grasps. For the time being we will call the things which we perceive "words." This is only a convenience, however, because the word as we know it is very limited in meaning.

In learning the new language, we discover, after having reproduced a number of words in our mouths, that the "words" are made up of sounds of various sorts, many of which are quite different from the sounds of English. Then we find that there is a way of stringing the words together that constitutes a complete utterance which we think of as a sentence.

To repeat, in discovering how a new language works and in learning that language, one starts with something akin to the word, made up of sounds, and put together in a particular way and according to certain set rules, which we call syntax. These are the basic steps and they identify the basic components of a language.

Because the terminology of the linguist is specialized and overly complex, Trager and I introduced a new set of terms which apply to all types of communication, including language. The cover terms are used to designate the three principal elements of a message. These are: sets, isolates, and patterns. The sets (words) are what you perceive first, the isolates (sounds) are the components that make up the sets, while the patterns (syntax) are the way in which sets are strung together in order to give them meaning.

The idea of looking at culture as communication has been profitable in that it has raised problems which had not been thought of before and provided solutions which might not otherwise have been possible. The fruitfulness of the approach can be traced to the clear distinction...
which was made between the formal, informal, and the technical, as well as the realization that culture can be analyzed into sets, isolates, and patterns. It is interesting to note that the early studies of the material culture of the American Indian were originally approached in this way but became entangled in a methodological bog because the study of linguistics had not progressed sufficiently at that time to enable the worker to draw any useful analogies from the way in which language worked. The data suggested, however, that there were things like the isolate which were called traits and catch-all combinations comparable to the word which were called trait-complexes.

In many instances the earlier attempts at handling material culture foundered because the living informant, if available at all, was not used properly to provide a true basis for the field worker's analysis. Somehow field work tended then, as it does today, to become contaminated by the culture of the scientist.

Like the philosophers and alchemists of the past who looked for the right things in the wrong way, many anthropologists have been searching for the essential building blocks of culture. Using the phoneme (the building block of language) as a model, they tried to discover its cultural equivalent, assuming in the process that culture was an entity, like language. Many of these efforts were based on incomplete understanding of the phoneme. In reality the phoneme is a cluster of sounds recognizable to the speakers of the language. The "a" as the New Englander pronounces it in the word "father," as well as its other regional variations, constitutes one phoneme. The "p" at the beginning of "pip" or "pop" is actually different from the "p" at the end, yet they are both known as allophones (recognizable variants) of the phoneme "p."

The phoneme, like all other isolates, is an abstraction that dissolves into a set as soon as it is pinned down. Since this was not understood by anthropologists, the phoneme did not provide a proper model for the rest of culture. The phoneme also represents just one structure point in a highly specialized communication system. It never pays to draw an analogy on the basis of structure points alone without reference to how the whole system behaves. When choosing building blocks such as phonemes as models, social scientists must be consistent. That is the concept of phoneme is imbedded in the context of a linguistic system and its function in that system must be understood. It seems that linguistic analysis requires some adaptation before it constitutes a suitable model for the other systems of culture. The subsequent chapters will be devoted to an expansion of what is meant by the terms isolate, set, and pattern, which are used to replace the terms phoneme, morpheme, and syntax as used in linguistics.
As a general rule, a set is a group of two or more constituent components that is perceived as being set apart from other events. Material objects such as chairs, tables, desks, and myriad other assemblages of things can be considered sets. So can words, periods of time, special measurements like the mile, and governing bodies, to mention only a few of the less tangible appurtenances of life which fit our definition. Because there are different types of sets, however—formal sets, informal sets, and technical sets—some sets are perceived more easily than others. Formal sets, for example, are those things which people take for granted and which seem natural. Words, buildings, governments, families, the day, the months, and the year. Yet all these dissolve as satisfactory sets once one begins to look at them technically. We cannot think of words without languages, buildings without a civilization, time without periods.

Regardless of the level, sets are seldom perceived in isolation. Normally they appear in context and as one of many in a series of similar or related events. In the cross-cultural situation the first thing that a person will learn about another society is the existence of certain formal sets. These are either pointed out right away or they are so obvious that they cannot be missed. Yet in many cases newcomers never get beyond this first step. For example, they may learn a great many words (or sets) of a foreign language but still use the linguistic isolates of their mother tongue—which gives them an accent. Moreover, they may, without knowing it, fit the foreign words into the constructions, or patterns, of their native tongue—which can render their thoughts unintelligible. To take another example, we in America perceive all makes of cars as automobiles, whereas in certain parts of the Arab world only one make, the Cadillac, is considered an automobile. In such cases the foreigner (i.e., an Arab) feels he or she has mastered a set quite different from the ones he or she is familiar with and has the illusion of having understood another culture. In reality only the first hesitant step has been taken. To master a foreign culture it is necessary to master its patterns and isolates as well as its sets.

Sets are limited only by the number of possible combinations of their isolates and patterns. To try to deal with a foreign culture by learning more and more sets is a hopeless task. To collect sets in your mind is easy, but to decipher a pattern is difficult. Talking about sets without bringing in patterns is like talking about bricks without saying anything about houses. Thus, though this chapter is primarily devoted to sets, it is necessary to introduce the concept of pattern frequently.

If people can recognize a pattern, it doesn't much matter what specific events they perceive. These can, in fact, be quite different and still be part of the same pattern, just as houses are still houses even though made of different materials. Throughout the Middle East, for example, bargaining is an underlying pattern which is
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significantly different from the activity which goes under that name in our culture. Yet what is perceived on the surface (i.e., Arab methods of bargaining) looks familiar and is assumed to be the same. Nothing could be farther from the truth. Our first mistake is in the assessment of the value of bargaining in the Middle East and the role it plays in everyday life. Americans tend to look down on people who haggle. They restrict their serious trading to houses and automobiles. To the Arab, on the other hand, bargaining is not only a means of passing a day but actually a technique of interpersonal relations. However, it is not just the value placed on bargaining that is different in the Middle East but the pattern as well.

What we perceive on a first visit to an Arab country is a series of interactions that we recognize as something akin to bargaining. That is, we perceive the sets: the actions, the motions, the rises in the tone of voice, increases in loudness, the withdrawal, the handling of the merchandise. With all this going on before our eyes we do not ordinarily reflect on how our own pattern differs from this ostensibly familiar one. The American asks, "What percentage of the asking price shall I give as my first offer?" What he/she doesn't know is that there are several asking prices. Like the Eskimo who has many different words for snow, the Arab has many different asking prices, each with a different meaning. The American pattern is that the two parties have hidden prices above and below which they will not go, and an asking price which is perceived and thought of as having some sort of fixed relationship to the hidden prices. A more detailed analysis of how this all works will be discussed in Chapter Eight.

To return to sets, the principal point to remember is that they are the first thing to be observed, their number is unlimited, and the interpretation of their significance depends upon a knowledge of the patterns in which they are used.

There are additional generalizations which one can make about sets, however. These can be of use to the field worker, for they point the way to deeper patterns. A large part of the vocabulary of a culture is devoted to sets. By looking at the vocabulary you can get a rough idea of the content of a culture and the things that are valued. The fact that we have only one word for snow while the Eskimos have several is a case in point. A highly developed technical vocabulary reflects a technical culture. Americans think nothing of having their advertising filled with words once known only to scientists and engineers, such as chlorophyll, thermonuclear, chloromycetin, cardiovascular, and the like.

The same set may be valued differently. The Latin American is likely to ask, if he comes from a place like Venezuela, why we emphasize something so dirty and unpleasant as plumbing. The Venezuelan may even want to know why we put the toilet in the bathroom. In Japan, to take another example, emotion or feeling is ranked very high. They call it kimochi or dojo. Logic, as we think of it, is ranked low. Our ranking of these two sets is, of course, almost the reverse of the Japanese.

Comparable sets are also composed of different components in different cultures. We think of a set of china as being primarily the dishes, cups, and saucers made from the same material and bearing the same pattern or in the same style. In Japan this does not hold. One of the many sets which I saw in the modern department stores in the Ginza was a "coffee set" in a box. It included five cups, five saucers, five spoons (all china), one aluminum percolator (kitchen variety), one cut-glass cream pitcher, and one plain sugar bowl with a plastic top. In the United States, no stretch of the imagination could put these diverse items in the same set.
Another important point is that the same sets are classified differently as one moves about the globe. This provides us with some additional stumbling blocks and gives us the illusion that we are really learning something different. In English, nouns are not classified as to sex. In Arabic, they are. You have to know the sex of the noun if you are to use it properly. We, on the other hand, classify everything into animate and inanimate, which would mean that Trobriand Islanders who do not make these distinctions would have to remember every time they referred to something whether we thought it was alive or not. They would also experience some difficulty with our animal and vegetable classifications, because they conceive of vegetables as being like animals and able to migrate from one garden to the next. (A good gardener to them is like a shepherd who is able to keep his or her own vegetables home and possibly even to entice a few, but not too many, of a neighbor's vegetables to enter his garden)

English also has mass and non-mass nouns. Mass nouns comprise such things as sand, snow, flour, and grass. They are indicated by the phrase, "Give me some——." Non-mass nouns include such objects as man, dog, thimble, and leaf. The phrase, "Give me a——" is the linguistic clue to their existence. The foreigner always has to learn, pretty much by rote, which nouns are mass and which are not. Grass is, leaf isn't; there is no known consistent logic as to why a noun exists in one category and not another. In fact, it is true of sets generally that there is a good deal of plain old repetitious learning involved in their use. Vocabulary, wherever and however you find it, always has to be memorized.

We also distinguish between the various states of things—that is, whether they are active or passive. How the person speaking relates to natural events also varies. We say, "I'll see you in an hour." The Arab says, "What do you mean, 'in an hour'? Is the hour like a room, that you can go in and out of it?" To him his own system makes sense: "I'll see you before one hour," or "I'll see you after one week." We go out in the rain. The Arab goes under the rain.

Not only are sets classified, but they are broken down into further categories. An analysis of the number of sets in a given category can sometimes tell you the relative importance of an item in the over-all culture. The first person to speak scientifically about this trait was Franz Boas in his discussion of such things as the Eskimo's use of several different "nouns" for the many states of snow. In our culture one can get some idea of the importance of women by examining the tremendous proliferation of synonyms for females, particularly the young ones—cupcake, doll, flame, skirt, tomato, queen, broad, bag, dish, twist, to mention only a few. Each indicates a different variety or a subtle distinction in the ranking scale.

An additional attribute of sets, indicated by the above, is that they are almost always ranked within their category. The ranking, of course, varies as one moves about. White men at one time were ranked above Blacks in the United States. In Liberia it's the other way around. In fine watchmaking, gold is ranked above steel when elegance or social display is the goal. If one is a sportsman, steel may take precedence. To the American public as a whole, Cadillac ranks above Buick, which ranks above Chevrolet.

As a matter of fact, the ranking of sets is so subtle that one has to be more specific. It is not enough to say that sets are ranked. The categories of rankings, which reveal a pattern themselves, are of equal importance. In essence there are three different ways in which the set is ranked: (a) formally as a traditional item in a system of valued sets (lead, copper, gold, platinum), (b) informally, according to the taste of the observer or the demands of a
situation (rare, medium, well-done steaks; red, green, blue, yellow); (c) technically, as points in a pattern: "Potatoes are selling for $5.00 a lot; yesterday they went for $4.95." The pattern in this case is the so-called law of supply and demand. On the Trobriand Islands a comparably comestible item like the yam was valued according to a completely different pattern. It was ranked according to its size, shape, when it was harvested, and who was to receive it. Supply and demand had nothing to do with the case.

Americans treat colors informally as a whole—that is, situationally. We may use a spot of yellow or of red, or yellow and red to accent a gray wall. We would be unlikely to put the yellow and the red next to each other. The colors in themselves have little or no value. If they do the criterion is taste. To the Navajo the situation is quite different; colors are ranked just as we rank gold and silver—only more intensely. Not realizing this caused considerable embarrassment to a number of Indian Service employees years ago. In their attempt to bring "democracy" to the Indians these well-meaning souls tried to introduce a system of voting among the Navajo. Unfortunately a great many Navajo were illiterate, so someone conceived of the bright idea of assigning the various candidates for the tribal council different colors so that the Navajo could go into the booth and check the color he or she wanted. Since blue is a good color and red bad, the result was to load the dice for some candidates and against the others. Nowadays photographs are used on the ballots.

Though Westerners tend to be impressed by big numbers and have an aversion to thirteen, one number is as good as the next now that superstition has dwindled away. Numbers only become meaningful in a technical context. The Japanese, however, have numbers that mean good luck, wealth, bankruptcy, and death. This fact complicates the Japanese telephone system. Following the war, good numbers brought a high price, unlucky ones were palmed off on foreigners.

It is quite clear then that one of the readily perceivable differences between cultures is the category to which a set is assigned and, once it is assigned, how it is treated: formally, informally, or technically.

In summary, we might point out that the only meaning which can be assigned to sets as sets is what we can call demonstrational meaning: This is a "dog"; that is a "man"; there goes an "airplane." By themselves, sets are neutral. In patterns, on the other hand, sets take on all sorts of more complex types of meaning. The most thorough analysis of sets in patterns has been carried on in the study of semantics, which is concerned with the meaning of words in various contexts. Though semantic studies have made remarkable progress they still have far to go. Their principal defect, as they are now conducted, is that the patterns are taken for granted.
THE ILLUSIVE ISOLATE

If the set is that aspect of existence which is most readily perceivable and the pattern is the organizational plan which gives it meaning, the isolate is an illusive abstraction, almost a phantom. It is the element which goes to make up a set, yet, paradoxically, the moment one begins to examine the set closely for its isolates the distinction between sets and isolates dissolves. To be sure, the isolates will reveal themselves, but as soon as they are clearly perceived, they are seen to be sets on their own level. This transition from set to isolate to set is of great importance. It has caused innumerable problems for the scientist, because when the transition occurs the whole perceptual structure changes. Even the old sets become something different. For example, a set which we call a "word" is perceived. Yet, when it is broken down into its component sounds which are the isolates, we find that the word as it was thought of originally has been lost forever. Every layperson has noticed this phenomenon when he begins to play with the sounds of a word, disregarding the word itself. When the linguists operating in a much more sophisticated fashion begin to record and classify sounds in their search for isolates, they realize that in addition to the usual vowels and consonants there are clusters of informal constants such as stress, pitch, and intonation. As a consequence, they are apt to find that the word does not break down and build up the way they thought it did. A series of new sets is perceived to take its place.

An analogue of the uncertainty principle of physics would seem to apply to this dilemma. The uncertainty principle holds that the observer and his/her instrument are inextricably bound up with the phenomena under observation and that the act of observation alters the conditions under observation. The more precisely our linguistic components are examined, the more abstract and imprecise the old observations become. In other words, when working with cultural data, one can only be precise on one analytic level at a time and then only for a moment. I call this "cultural indeterminacy."

When one considers the remarkable order repeatedly demonstrated by nature it is not surprising to discover that as soon as one starts looking for isolates in a given category of sets, like the sounds in words, certain recurrent uniformities appear. This fortunately puts definite limits to what otherwise might be an infinite job. One begins with the knowledge that what is being sought will ultimately turn out to be a discreet category of sets. In considering language, for example, one starts with the assumption that from a limited number of sounds all the words in English can be produced. We have also learned that there is a "sound system" for any language and that the speakers are bound by the system of their own language. This is why the first language one learns exerts an influence over all subsequent ones and gives them an accent. The binding effect of language is not in the sets but in the isolates and patterns. Almost anyone can
reproduce the sounds of a foreign language in isolation, but many find that it is difficult to join them into a word. When they try it they alter the sound, so strong is the tie of old habits.

When the scientists, whatever their specialty, start their search for isolates, they know they will eventually find a system which will have an order and a pattern, and that this job will not last forever. There will come a time when they have mastered the system and can describe it. They can then teach people and by so doing create new systems, such as writing systems and alphabets and codifications of legal systems, to mention only a few of our intellectual constructs.

The goal of the investigator who deals with human phenomena is to discover the patterns of isolates that exist hidden in the minds, the sensory apparatus, and the muscles of people. These systems cannot ordinarily be discovered by using machines and precise measuring instruments. They have too much leeway in them and depend upon the capacity of humans to recognize and respond to patterns. If scientists are going to use machines, they must use them with tolerances that are appropriate to the data they are analyzing and the analytic level of analysis. If they are too precise, they turn up parts of systems which they are unable to handle. What is important are the distinctions the native speakers of the language make when they talk and those that they hear when they listen. These are the same. They make up a hidden system, the one shared with thousands, if not millions, of other people. The researcher is not concerned with individual variations, situational differences, dialects, nor speech defects but with the system that makes it possible for people to understand others even when they are missing important parts of their vocal apparatus, such as their teeth. What is wanted are the structure points around which behavior clusters and which are recognized as being related or thought to be the same. For we are looking for those things which enable all normal participants of a given culture (not 90 percent or 80 percent, but all) to distinguish between event A and event B. These events can be the conversation distance between two people, the waiting time on a street corner or antechamber, or, for that matter, anything in a culture that has meaning to the members of that culture.

Actually, to ask what it is that enables a person to tell the difference between A and B involves a different procedure from asking what goes to make up A and B. The difference in procedure is due to the fact that the subject cannot give a precise account of how he/she goes about making distinctions. But he/she can tell whether A and B are the same or different. The scientist's job is to analyze the difference and thereby uncover the hidden system of his subjects.

The procedure most commonly used is to work with the contrasting pairs of sets, taking up the differences pair by pair until all the distinctions have been identified. For example, pit is different from pat, tit different from tat. Since initial \( p \) sound and final \( t \) are held constant in pit and pat, the only variable is the short \( i \) and \( a \). The same holds for tit and tat, bit and bat, and so on. With this information it is possible to construct a hypothesis that short \( i \) and \( a \) sounds are isolates and that speakers of the language will distinguish between them. Further, if one is substituted for the other in a word, the word will change. From this point on the scientist is faced with a good deal of routine drudgery. She/he continues his analysis, holding everything constant except the variable he/she is trying to pin down. A representative sample of the "words" of the language is worked through until it appears that all the significant distinctions made by native speakers have been identified. In spoken English there are 45 variables which combine to form all the sets and
their combinations/ 9 vowels, 3 semi-vowels, 21 consonants, 4 stresses, 4 pitches, and 4 junctures. There are only 26 variables—the 26 letters of the alphabet—used in the writing system, plus commas, periods, and question marks.

To summarize our discussion of isolates: It is quite clear that since they are, by definition, abstractions, isolates are difficult to describe. The concept of the isolate or the building block, however, seems to be an integral part of human communication on every level. Moreover, isolates are something mankind is constantly trying to discover and analyze, whether it is done consciously or not. The term isolate is also one which is used for convenience to denote the type of constituent event which goes to make up other events and is as much a designation of an analytic level as anything else. Despite their tendency to merge with one another, isolates and sets are firmly different in a good many respects. Isolates are limited in number, whereas sets are limited only by the possible patterned combinations of isolates. They are bound in a system and become sets only when they are taken out of that system. Sets, on the other hand, can be handled and perceived out of their systems but derive their meaning from the context in which they occur. Unlike the set which is clearly perceived, the isolate is an abstraction for events that cluster about a norm recognized by the members of a given culture. The actual difference between two isolates that are close to each other in the world of measurements may be less than the range of variation within the norm of each; it is the pattern in which they occur that enables man to distinguish between them. Speakers of the Mexican variety of Spanish, for example, can't distinguish between i as it occurs in "dish" and e as it occurs in "feet." For them, these are variants on the same sound. When they talk they don't know which they are reproducing.

The procedure for testing whether any given element in a grouping is an isolate is to hold everything constant and vary the element at will. If this changes the meaning of the grouping then the element is an isolate. The way one ends an utterance, for example, can make it either a statement or a question depending upon whether the voice falls or rises. Rising inflection at the end of the sentence is one isolate, falling inflection is another. This applies to English and some related languages but is not universal. A variant of this text is to note the one thing that keeps changing when everything else under observation seems to be constant. If this variation entails a change of meaning then the variable is apt to be an isolate.

Up to now the isolate has been described primarily as a constituent of the set. It is also one of the key elements in a pattern. Moreover, it can now be demonstrated that the basic work done on isolates which once seemed so trivial has been of crucial value in analyzing patterns. The isolate provides the transition from the set to the pattern and is the principal means of differentiating between patterns. This isolate, so hard to get at and to define, is now discovered to be the key to a great deal of the analysis of communication because it functions on three levels in three different ways: on the set level as a component part (c-a-k-e = cake), on the isolate level as a set (each sound is built up of parts) which the phonetician analyzes, on the pattern level as a differentiator of patterns. Thus the inability of a speaker to distinguish between initial v and w often patterns him/her as Scandinavian. Similarly, the transposition of the oy and er sounds in "oysters" and "birds" so that they come out as "ersters" and "boids" used to be a stereotype in most Americans' minds with native speakers of Brooklynese.
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