

COMMUNICATION AND HUMAN RELATIONS

24 September 1953

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INDUSTRIAL COLLEGE OF THE ARMED FORCES

Washington, D. C.

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COLONEL KLEFF: Admiral Hague, General Greeley, ladies, and gentlemen: We started our discussions on management about nine days ago with Mr. Nelson's presentation on "The Changing Role of the Executive," in which he contrasted the executive's job in thinking, organizing, and doing with the need of the executive to understand the human relationships involved in the group activities under his jurisdiction.

Dr. Maier then presented his talk on "Concepts of Individuality" in which he examined the environmental, physical, mental, and particularly the emotional influences that affect human behavior.

Then Dr. Sanford lectured on the "Nature and Philosophy of Leadership," in which he pointed out the problems involved in leader selection due to group differences.

Following that, we had Mr. Heron present the subject of "Organization and People," in which he emphasized the importance of the selling job.

Today is our last lecture in this management series, and today's lecture concerns itself with "Communication and Human Relations." It is appropriate that in closing this very brief survey of management we should attempt to tie together all of this previous information by discussing the importance of two-way communication.

To lead today's discussion we are very fortunate in having an outstanding authority in this field, Dr. Alex Bavelas, Associate Professor of Psychology at the Massachusetts Institute of Technology. It is a pleasure to welcome back to the Industrial College of the Armed Forces and to present to this audience Dr. Alex Bavelas.

DR. BAVELAS: I would like to proceed as informally as possible. I hope that you will begin rather quickly to ask questions. This may appear to slow things down; it will in fact speed things up. The time we have is too short for extensive discussion, so we might, as soon as we can determine a point of interest--that means your interest, not mine--go intensively into some aspect of the question.

I am going to use the few minutes I have to lay out very briefly the framework along which I hope we can later continue the discussion.

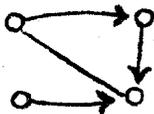
These are the areas in which I tend to ask questions. They may not be the areas in which you would like to ask me questions--but you proceed on your own framework.

We think of an individual who must communicate with others in order to perform a task of some kind. We can ask first of all how the individuals are linked, communicationwise. This leads us to ask two kinds of questions. First of all, if there exists a channel over which this man may communicate, what is the nature of this channel? What is this channel like?

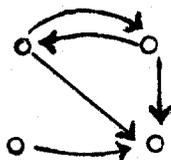
I think you can enumerate immediately any number of possible components of this channel which would be important. Is it, for instance, one way all the time, or is it one way down some of the time and one way up some of the time? We may ask whether or not this channel is entirely free from noise, from any kind of effect which would make the message ambiguous in some sense, which makes the intended message uncertain.

We may ask whether this channel operates all the time or only intermittently. Imagine, for instance, a communication between you and a subordinate or superior which you can use for only one-half hour every day. This would have an enormous effect on what went over that line. Imagine one which is intermittent, but in an unknown way; that is, whether or not a message will in fact travel over this line depends on chance--you might say that seven-tenths of the time messages go through. This is not an unusual situation in some instances. It might be a line in which only A may initiate but, after the line is open, so to speak, then B may speak entirely freely. Or it may be a line in which A may speak freely, but B may speak only in certain categories. There are many such properties of the channel that one may discuss in some detail and the effects the different properties will have are of great interest to someone who studies communications.

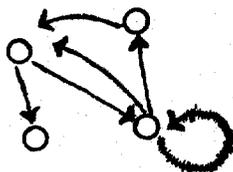
Let's go on to the second question. Now we assume these channels are all the same, assume they are two-way, that the channel is free from any noise or uncertainty--it always works as it is supposed to, and so on. There's no such channel in reality of course. But let's assume this were true, and we can ask another kind of question. That is: Where are these links placed? In other words, we may have links going this way (diagram 1).



This is one configuration. It may be a very poor one; the links might be placed a different way. Thinking of only four people, we may connect this one with that one, and that one with this one, for instance, and so on (diagram 2).



So the second area of discussion may well be: What is the pattern of the channels? We have then these two questions to ask here. There is of course a third question about a communication facility which is not usually discussed in this way. That is one which would be represented by this sort of arrow on a diagram of this kind (diagram 3).



That is always present. It is not only present in people who are in some way aberrant or unusual. We all must have it. This link must be operating at all times, of course, or we stop functioning altogether.

I have been purposely talking in the most abstract terms; terms, as a matter of fact, which would be a suitable basis for discussion whether there were human beings or nodes, in any system, electronic, or physiological, or social, for that matter.

In practical terms, you can all think of examples of how quickly a communication system can become an obstacle as well as a pathway. We must remember that in any organization a communication system is intended both to distribute and to restrict information. Its duty very often is not to distribute completely but to contribute in a selective way; not for perhaps the most obvious reason, in these days (the necessity to keep certain facts restricted or secret), but because you may easily impair the function of part of your organization if you flood it with information which is not necessary for operating.

Here we have an interesting question: Whether information which is logically necessary for performing a task is indeed sufficient by itself for the operating individual or the operating department; or whether you face a serious human-relations problem or a morale problem if you indeed restrict that group to only the information which is strictly necessary for them to operate--depending on how you define what is necessary for operations, you see.

I would like to give a very simple example of an experiment, which was not done in the spirit of experimentation, but rather in the spirit of demonstration. The experiment I am referring to was done a good many years ago at MIT by some boys in the Industrial Relations Department who felt the constantly voiced platitude that communication should go up as well as down would gain somewhat in force if it had some quantitative support from a situation in which the effects of one-way versus two-way communication could be measured on a task which had to be performed.

I will tell you very quickly what this experiment was like, and then perhaps you can agree with me that the logically necessary amount of communication facility may be quite insufficient for reasons other than its logical adequacy. The problem was the following one:

An individual, whom I will call A, was seated in an office by himself. This office had nothing in it but a table and a telephone. He was given a sheet of typing paper on which a pattern of rectangles had been drawn. This paper of A's we call the blueprint.

Another man B was seated in another room with a table and a telephone. He was given a blank sheet of typing paper and some wooden rectangles. The task assigned to this pair of men was this: A was to tell B over the telephone how to position the wooden rectangles on the blank paper so that they would form the same pattern as the blueprint. B didn't know where to put them; it was simply a case of A telling him over the phone where to put them. We assume in this case that the paper can't be sent; the information must be given over the telephone line. It is similar to many problems we find in an organization.

This experiment was done under three conditions. Our intention was to get 20 different pairs of people and let each pair try to reproduce at station (B) what was on the paper at station (A). In the first condition (A) had a normal telephone connection, with a receiver; but (B) had only the receiver, nothing else. He could hold the receiver to his ear and listen, he could not talk back at all. This is variation 1.

In the second variation, A again had the blueprint and could speak to B freely over the phone, and B was privileged now to answer; but only by saying yes or no--that is all he could say. So there's some communication back here (station B), although of a limited type. (This is not as untrue to life as it may appear. There are organizations in which only "yes" is permitted.)

In the third variation we had the same task with 20 different pairs of people, and in this case there was communication both ways in the normal way over the telephone. You may already have some notions as to which of these were able to complete the task--that is, under which condition should we get, for instance, the most accurate completion of the task.

Let me give you the results very quickly.

Variation 1.--A had a normal telephone and B had a telephone in which only the receiver was operative. No pair of the subjects tested was able to complete the assignments. For one reason or another work was discontinued before the required 12 blocks had been placed upon the paper--correctly or incorrectly.

Variation 2.--A had a normal telephone and B had a telephone on which he could respond only with the words "yes" and "no." The patterns completed were done with a speed and accuracy indistinguishable from that of the subjects in variation 3. The pace of work was even throughout each pattern done. Signs of fatigue and tension were evident and none of the pairs was able to continue beyond seven patterns, the average number done being slightly over five.

Variation 3.--Both A and B had normal telephone connections. The patterns completed were done with a speed and accuracy indistinguishable from that of the subjects in variation 2. The pace of work was characteristically slow in the beginning of each task and very rapid toward the end. Signs of fatigue and tension were largely absent, and some pairs completed as many as 12 patterns before asking to stop, the average number of patterns done being slightly over seven and one half.

The only point at which these results are genuinely surprising are two: (a) that there should be no difference in the speed and accuracy of the subjects in 2 and 3 and (b) that the subjects in 1 should have been unable to finish even one pattern.

About the first of these I will only say that there would appear to be a greater difference between no communication and some, than between some and a lot. At least this appears to be true in this situation and with such a simple task. My hunch is that if the problem were more complex, the performance of subjects in variation 2 would be significantly poorer than that of subjects in variation 3.

As to the complete failure of the subjects in variation 1, much more needs to be said. Most people hearing this result for the first time seriously or facetiously question the mentality of the subjects, and secretly feel that if they were subject A in the experiment they would be able to give instructions well enough to be followed by the other subject.

Actually, there is no reason to believe that the subjects in variation 1 were less able than the others. In fact they approached the problem very intelligently. These students were fairly bright. They happen all to have been graduate students at MIT. They were mentally competent, let us say. They realized what the difficulties might be. They spoke very slowly, they repeated each message, they tried to speak

very clearly, and so on. But the individual A, no matter how carefully he tried to proceed, always forgot something. What went wrong, then? The reason for failure in a general sense was that A was not telepathic. Success in this task depends not only on A's giving clear and logical instructions, it depends also on B's receiving exactly what A intended to send. No matter how well instructions are given, when the situation is new and no previous agreements have been made regarding procedure, there is always a possibility that error will develop.

One way in which error creeps into the operation is illustrated by the following incident which I witnessed during one of the tests:

When A walked into his assigned room he sat down and went to work without remembering that typing paper is not square. His sheet was aligned with the vertical or long axis to him; B's sheet was oriented in the other way. Everything went well until A began to give the instructions for the placing of the fifth block, upon which B discovered that the instructions would place that block partly off the paper. B tried to go back in his mind over the instructions that he had already received in an attempt to discover the error. Before he was able to think very long the instructions for the placing of the sixth block began to arrive. B at that point swept the pieces off the desk onto the floor, and indicated in very strong language that he was through.

I happened to be the observer in that room at the time and I went back and told A that B had stopped working. He said, "What's the matter with him? Everything was going along very well up here." Now, something of the sort was always forgotten in variation 1. Something was always overlooked.

If you are like anyone else who has listened to this, most of you now feel that if you were in A's position in this task, you could give instructions so that B could follow them. I think this is an illusion. No naive subject--by "naive" I mean one who knows nothing of the results--would be able to do this. It is not a question of logical thinking. It is a question of being able to read B's mind. No matter how well you give your instructions, there's always a possibility, and apparently a big enough one, to make these results come out the way they did; for B will misunderstand or misinterpret even though you think of "everything." The fact that you cannot guide B if he detours from what you intend is the difficulty here.

In a deeper sense, this particular "fault" is only one of many that are more properly ascribed to the lack of upward communication than the lack of acuity of A. For in the absence of any possibility of learning the particulars of B's situation, the number of very natural assumptions that A is bound to make unconsciously are only evident as "errors" with the many and well-known advantages of hindsight.

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This experiment illustrates very well how communication arrangements which are "logically" adequate may in practice prove to be poor or unworkable.

More interesting than speed and errors was the differences that appeared between these conditions in the individual interviews that followed immediately after the tests were completed. After the task was completed, these men who had never seen each other--they were in different offices in the institute--were "interviewed" separately. In this kind of interview there is nothing you have to ask. B has been in the room, in one case 45 minutes or so, saying nothing but "yes" or "no." If you say to him "How did it go?" he talks profusely. He has a lot to say in every case and his remarks are questions mixed with derogatory statements concerning the other person. These B individuals think the other fellow is stupid. If they are asked whether they would come back for a retest and whether they would like the same partner or someone else, they ask for someone else. This B has no confidence in the other person.

If you ask, "How well do you think the pictures you produced will stack up with the other 19 pairs?" the answer is so much the same as to sound almost prearranged. B will say, "I followed instructions correctly. I don't know whether the instructions were any good." His A will say, "I gave instructions correctly, but I don't know whether he followed them well. I don't know whether the product is any good." There's no confidence in the product. There's distrust and unhappiness about the other person.

In variation 3 neither of these things is true. These men are very confident about the quality of their product and are happy to work with the same person again.

I think we could make a case very easily among the groups with this logically adequate communication for performing these tasks. The second and third groups are equally adequate in terms of speed and accuracy, but are not usually the same in whatever you want to call it--human relations, morale, or whatever. In other words, a communication system must serve at least two things. The first one has to do with the information, that minimum of information necessary for completing the task. But apparently the communication system must carry also other kinds of information in order to maintain relationships at some level, perhaps not optimum, but some level that is tolerable.

I hope you realize that in standing up here and talking uninterruptedly without benefit of some feedback from you, we have in effect a variation 1 situation. Only by some indication that I am being understood, or being understood but not believed, perhaps, or not appreciated, could I change my course sufficiently to convince you that you ought to believe this, and that it is more interesting than you think.

In making the case for the necessity of feedback, particularly the necessity of it between a superior and subordinate, I want to stress one very practical point. A continuous stream of information concerning the opinions of a subordinate can be quite disturbing and on some occasions devastating to the superior. Such information particularly when it refers to the competence and good judgment of the superior must be carefully handled and evaluated in order to be useful. It takes practice on the part of the superior to utilize such information. Many organizations which repeatedly claim that they want complete and unimpeded information to flow upward, that they want the uninhibited expression of opinion from their employees, would if they got what they are asking for, find their situation intolerable.

I am reminded of a well-meaning but short-lived attempt to improve the information position of the college lecturer which illustrates this point. Some years ago, a group of my students and I rigged a small lecture room so that each student could indicate privately the extent to which he understood what was being said by the professor, and the extent to which they thought the material was important to know. The settings that were made continuously by each of the students were summated on a meter with a red and black needle easily visible to the lecturer but not to the students. The red needle showed the percentage of students who felt they understood what the lecturer was saying, and the black needle indicated the percentage of them who felt it was worth knowing.

Needless to say, we found no lecturers who would consent to return to that room after one experience. It was a rude shock for a professor to find that a lecture that he had carefully prepared and which he had delivered with satisfaction for years was little understood and less appreciated.

I give this experience because it is a good example of what I have seen happen in other situations. I have seen it happen at the university; I have seen it happen in industrial firms. It is all very well to talk about the necessity of getting a feedback from below, or open channels for evaluation of each other, as a man among his peers. One may ask, however, the extent to which the organization itself can in fact tolerate such a situation without a long preparation for it, a long education for it; so it is entirely possible to go into an organization where, for some peculiar reason, you have been given the privilege to tell them how to do it better (a privilege often mistakenly given to consultants, I believe) and find that the things you suggest that they should do to improve communications may all be quite sound. That is, they would all be eminently workable and beneficial in some kind of ideal organization you have in mind--but the question is: What are the effects in this organization?

There are many organizations which can be wrecked by installing what would presumably appear to be good human relations communications systems.

The path of wisdom here may be to go very, very slowly. As a matter of fact,--and this may be somewhat surprising to you--my experience is that some organizations I have seen need to have less communication facilities, rather than more. You see, when the subordinate who feels he can trust you says finally that there are too many meetings, too many pieces of paper, and too much communication, he is not talking through his hat. In many cases there is literally too much.

What I have tried to say this morning is that we have at least three areas in which we must ask questions about communication. One is: What is the pattern of the channels? The second is: What are the channels themselves like? And the third is: What is the condition of the individuals in the pattern? I have tried in addition to suggest that when we come out with what seems the ideal or the preferred communication system we must always ask, since we are dealing with an organization and not with some small part of it always, whether what looks like an ideal communication system is in fact tolerable to the organization in question.

Thank you.

(11 Mar 1954--750)S/ibc