The purpose of this study was to learn something about information-transmission procedures in offices. It was hypothesized that certain kinds of information and communication activities have particular properties, and that some of these activities are best pursued in face-to-face communication situations. Natural conversations involving an executive secretary were taped for a total of six hours on two different days. The conversations were analyzed interpretively to find out what was talked about. One new conception of verbal communication derived from this project was that office conversation provides for the existence of a "diffuse information system," that is, a flow of trivial commentary which is, in fact, the bearer of information about the office. The communications included: (1) locating people and things, (2) conversations mixing personal and office-related topics, (3) state of affairs information, and (4) facilitating activities and encouraging people. The data indicate that the sociability of office work is useful to the transmission of certain kinds of information and to the execution of some activities. Also, face-to-face conversation seems to be more useful than written or computerized communications for providing and interpreting certain types of information.
Introduction.

This paper presents the findings of a pilot project done for the Office Research Group. The purpose of the project was to learn something about current information transmission procedures in offices. A larger purpose of the group is to translate some of these procedures into computer programs for doing office work. Rather than look at office tasks and document-based information as some members of the group had already done, I decided to look at an information medium office workers may take for granted, the natural conversations that are a background feature of the office environment.

Any widespread technological change, such as the development of computerized office information systems represents, brings with it the likelihood of some change in the social environment in which it is implemented. Such large-scale changes work when they don't disrupt or destroy features of social life that are important to the people affected by them. Experiences of Peace Corps workers and other “development” implementers in traditional societies have shown that it is necessary to pay attention to the wider social and cultural context of practical economic activity in introducing new systems, to see what the old methods meant to people and did for them. In some cases these meanings and functions were more important to the people affected than sheer economic gain. Reports of disruptions created by the installation of some of the recent “word-processing” systems in our own country lead to the same conclusion. A superficial explanation of this felicitous failure of word-processing might be that while the fundamental activity of an office is “rational” (this is a feature of Weber's definition of bureaucracy, Gerth & Mills, 1946,77), the office environment as a whole cannot be thoroughly rationalized.

In addition to being a task environment, an office is also a social environment. Office work is different from production in that its output is information. Information depends for its effectiveness on communication. The suggestion behind this paper is that there are several dimensions to
communication. It may be that personal contact is the best medium for one of these dimensions, but if that is the case, then it would be important to make sure the new opportunities for face-to-face contact are implemented so as to preserve the social structure.

**Different Media for Different Purposes**

In order to learn something about an office information or communication system in an office, it is necessary to look at two basic methods for transmitting information: writing and talking. These have further subdivisions, corresponding to the purpose, formality, complexity, semantic novelty, etc., of the communicative act in question. On an elementary level we can see these differences in the degree of formality or prescribed content (structure) provided by such different communicating media as forms, letters and memos for writing, and conferences, meetings and casual encounters for talking. At least one empirical study has examined differences in the use of particular verbal media (formal meeting, casual encounter, telephone according to dimensions like the purpose, urgency, complexity and directionality of the communication (Lonehborough Consultants, 1975).

One could view these medium differences from two perspectives:

1) they are unnecessary conventional artifacts and all communications tasks are potentially reducible to a single medium if that medium is designed to perform the "necessary" communicative tasks an office has; 2) the differences in media reflect real differences in scope, function, flexibility and structure of information; and these different needs should be acknowledged in designs for future information systems. Implicit in the second view is the suggestion that not all communication tasks would appropriately be taken over by the electronic medium because of particular properties of certain kinds of information and communication activities. Data collected for a pilot project on spokon communication in an office show what some of these particular properties may be, which I will discuss below.

The data consist of transcripts of natural conversations collected by tape recording in an office setting. Only one location was tape recorded, for a total of six hours on two different days. The location chosen was a focus of transient activity for an L-shaped section of hallway with individual offices on it. It was the main work-base of an executive secretary who assisted a division manager and a small technical staff. The "analysis" of the data was an essentially interpretative procedure involving a search for what was talked about. Some structural observations were made but are not discussed in this paper. The search for topics yielded, among other things, the material discussed in the paper, which seemed to demand immediate attention because of its rather obvious usefulness in combination with the transparency of its operation. That is, anyone can see the use of the information once its existence is pointed out, but if you were to ask people what they talked about that day, they would never mention the small topics that in fact they engage in so frequently. This method employed then, is to describe everyday activity, trying not to take the same things for granted that the actors do. The organization of the paper betrays this approach of working backward from events rather than forward from a theory. It is more of an exploration than an exposition.

Working backward from the material gave rise to a finding that is different from the traditional study of "human relations" in the work setting. Generally speaking, the study of industrial relations has yielded the useful and humane information that making people happy at work increases productivity. The tentative findings of this study are that one of the ways people find of making themselves happy at work, talking to each other, is itself a form of production. This case has been made in the past for "intellectual" workplaces, but not generally for business offices. The other main point the description yields is that the social nature of conversation, its face-to-face property, provides a unique medium that is integral to the "content," and generates it.

**Social Relations and Information Channels.**

Before making tape recordings of office conversations I hypothesized that verbal communications: 1) would facilitate ongoing exchanges that were complex either technically or interpersonally; 2) would foster a sense of interpersonal commitment and community; 3) and would be flexible as to purpose, i.e., that face-to-face contacts enable participants to shift from a utilitarian to a personal mode and to "sell out" the appropriateness of topics as they go along. This would mean that individuals could have a greater choice of interactive mode--as between task-oriented and interpersonal--in verbal communication, especially face-to-face, than they would in other media which tend to commit the user to a particular kind of motive.
Written media in the office setting generally are not conversational in this sense; as efficiency, coherence and the salience of specific directives are supposed to be desiderata, to the extent that "bureaucratsese" doesn't interfere. The pilot project data did provide support to at least one of the claims, but they also revealed a use for verbal communication that wasn't anticipated.

Another way of looking at the information system of an office is to see it as a social system which serves the organization and the people in it simultaneously in overlapping but different ways. That is, the same activity could be performing functions on two different levels, one utilitarian and one interpersonal. For instance, an early study (Davis, 1953) showed that certain staff people were key transmitters of grapevine information because their jobs required them to walk around and make contact with people in other departments. This activity legitimized a function which lacked formal recognition but which in fact can be useful to the work of an organization. Presumably the grapevine information, although office-related, was exchanged as a form of interpersonal activity. It was not something required for the work, though work contacts facilitated it; and in a general way it may ultimately have served the work. (Interestingly enough, the same study showed that the personnel in question did not transmit office related information during their extracurricular contacts with coworkers, but this doesn't seem universally typical.) Again, people can make use of task activities to create and maintain relationships that are personally rewarding and provide a secondary motivation for working. Finally, it may be that what appears to be a primarily interpersonal event within the office may serve as the context for transmission of a good deal of work-related information. Part of the discussion in this paper will be about a particular property of the verbal medium. A future installment will discuss the structures of particular kinds of talking activities in the office. Some of these structures might be implemented in on-line systems for office communications, and in fact may already be parts of programs.

More formally, functional analysis (Bales, 1951, for example) has been used fairly persuasively to show that maintaining morale is a critical "function" in task groups. In other words, these social communications people in offices make may not be just accidentally useful, they may be necessary to their performing at all. The notion of group or system functions applies to the problems of work settings in a related but slightly different way than the formal-informal distinction in communication channels mentioned above. This is not the place to discuss in detail the theoretical assumptions behind such findings. Briefly, the idea is that tasks that are practically "necessary" impose on people "strains," which then have to be "released" through moral-maintaining functions embodied in particular kinds of activities, beliefs, and roles. Without accepting this as a definitive statement about human groups, we can accept intuitively at least an extrapolation of this to the effect that jobs that lack an intrinsic interest (money aside) may require another level of involvement to keep people performing them. The same notion might apply to the mere fact of being people gathered in one place regularly: in order to like being together, they need to have some "content" to their relationships above and beyond, that provided by the bare facts of copresence and coworking. Finally, even tasks that do have what we recognize as "intrinsic" interest are frequently accompanied by a good deal of interaction: the work done in research labs and university departments, for example. In short, it seems reasonable to say that when we talk about "work" we are also talking about social relations, and we are probably talking about some kind of interdependence. This interdependence appeared to show up on a micro level in the panel project data. What this means for the implementation of new office information systems is that it may not be possible to separate tasks from relationships across the board; because relationships may have outcomes that are analogous to those of tasks (i.e., "productive" outcomes) but which rely on a process that would be at least excessively costly for an artificial medium to duplicate.

Diffuse Information.

One new conception of verbal communication that came out of the pilot project was that it provides for the existence of what I will call a diffuse information system. This system complements the system of specific information that gets formally recorded. The distinction between diffuse and specific information systems is one that might be useful in differentiating the appropriate domains of verbal and electronic communications media, although there are other considerations that have already been mentioned and that will be elaborated later on.
I will try to describe the operation of the diffuse information system and other incidental patterns that come up in a preliminary analysis of naturally occurring office conversations, using particular passages to illustrate. The conversations were collected in a technical/business office setting at the desk of the principal secretary there. This woman turned out to be a felicitous subject for study both because of her extensive tenure (she knows a lot about the place) and because she works directly for some half-dozen people and comes into daily contact with a good many more. Her office is in a hallway corner, being separated from the hall by a planter; and mailboxes, files and several kinds of printing devices including a computer terminal are located there. A number of telephone lines ring at her extension when not picked up by the principal users.

One of the first observations to strike a person who begins to pay close attention to office talk is the volume of "trivial" commentary that serves as a background activity to the purposeful work instructions and task specific information sought and given. A secretary like the one I studied is a major focus of this flow of trivia, which is in fact the carrier of diffuse information about the office.

In labeling the "purpose" of many of the comments and conversations recorded, I made frequent use of categories like: "housekeeping," "environment," "situation," with subcategories such as "personal," "items," "equipment." The secretary is like an office weather or traffic bureau which is continually monitoring where people are, where items are, what the inventory of items is, how other people are doing work-wise and personally, etc. And from the day-to-day monitoring she possesses an informal history of items, events and people which she can call up when appropriate. Much of this information is, as originally described, too "trivial" to be recorded on paper, filed, etc. It is also too voluminous. It would make little sense to keep either a paper or an electronic file on it for this reason, and for the reason that its utility is an unknown quantity at the time of its collection. It is stored in the brain, not purposefully but casually, simply because it is perceived and has some (perhaps non-specific) cognitive relationship to all the other bits of information that are floating around the place. It may or may not ever be "used" in a practical way but it is such transmitted either as a reading of "what's going on right now around here" or of "things I recall that relate to the present topic."

For instance, it is not a specific description of a secretary's job that she knows where people are at any given time, nor does she generally keep a written log of all such information. Yet G was continually being asked where people were. And she would provide an answer either from specific information left with her by the person asked about, from observation in passing, or from conjecture based on what she knew of the person's habits or other partial information. In three-and-a-half hours, G carried the following "person location" information or advice:

1. explained to me "everybody's out," re: taping. Told me where three or four principal people were.
2. commented she is "out of touch" due to having been away and so can't be sure of people's plans, i.e., can't confidently predict where they will be when. Her explanation is that she has only written notes as an information base, which she informally evaluates as inadequate (more later on this).
3. a) advised another secretary to get help from a certain individual on a mechanical task, b) gave directions to his office; and c) suggested an alternate place to look in case he wasn't there.
4. remembered the history and found the address of an outside person a principal wanted to send mail to.
5. asked on the phone who will replace an individual in the purchasing department for future reference in ordering items.
6. informed another secretary of the name and role of an individual in purchasing.
7. answered the phone and informed the caller that his party was in, announced the call and conjectured to the callee about the nature of the call or caller ("sounds like he is ").
8. asked a principal where he would be for the afternoon.
9. in the process of dealing with a complaint about telephone extensions, sought to establish where a group of individuals would be permanently based.
10. was asked whether a certain individual was in his office, conjectured an answer based on known habits and encouraged the asker to knock on his party's door.
11. was asked the whereabouts of the other secretary, conjectured answer.
12. answered a phone call for a principal, informed the caller he was in a meeting, gave advice on how to reach the callee after five, gave alternate telephone numbers.
13. answered the phone, informed the caller that the callee was out, took a message.
14. was asked if a certain individual was in, conjectured the answer.
15. answered the phone, informed the caller of someone's whereabouts, advised him how to reach his party.
16. answered the phone, informed the caller that the person called was in a meeting, discussed a matter, referred the caller to the next day.
17. looked up a particular person's office number for someone else, advised how to reach, giving detailed directions.
18. answered the phone, informed that callee was out of town, and when expected back, took a message, found out where the caller could be reached, advised him when he could reach the callee.
19. was informed of someone's expected immediate whereabouts "if anybody needs to get hold of me."

More than anyone else in the office, G is keeping track of where people are when. Consequently, people come to her for information on others' whereabouts, and she volunteers information of the same kind. A number of the instances above (1, 2, 3, 5, 6, 12, 15, 17, 18) show G trying to help someone perform a task (including that of making future contact) by informing or asking about an individual's permanent or temporary whereabouts. People also tell her where they'll be, knowing she will be asked by anyone who looks for them or calls in. G also predicts environmental conditions based on her knowledge of people's whereabouts. For instance, in #1, she tells me she expects a quiet day because several people are out of town.

Collecting Diffuse Information.

Since the whole where-people-are picture is informal and consists of small dispersed inputs, and is moreover in many cases variable from moment-to-moment, an informal communicating and storing medium may be appropriate. One way of understanding people's orientation to their everyday world is to observe their reaction to unexpected variations (Garfinkel, 1967). G's having been on vacation provides such an occasion, one quite to the point. She finds she does not have her usual grasp of the state-of-affairs, and the reason she gives is that her usual information-gathering habits weren't operative on the information she is trying to transmit. She expresses her folk sense of the appropriate medium (short-term memory aided by notes and verbal transmission) for the kind of information she deals in when she says she's not really sure about what the out-of-town people are doing or when they'll be back, because she has to go on any written messages.

She seems to feel that the screen provided by written messages is too coarse for an accurate picture; she would be more sure of the picture if she had been present herself to hear people state their plans. Here's how she puts it (please note how much conjecturing she does):

G: Alright, let me tell you-- Monday, Monday, now, you see, I've got to look at this because I wrote a lot of stuff down, looks like my boss, it says he may attend something down in LA on Monday. Well-- I told D to ask if he wanted me to make plane reservations for him, to go down Monday, because so far I haven't heard. So it's possible that B.A. may not be back Monday, but D will be... Like, I would say that this Tuesday, both will be back.

E: I won't be able to be here on Tuesday.

G: See, OK, my boss's boss comes back starting next week, so that there's no reason why he has to stay down for that. There's a meeting Monday that it says he may attend here.

E: May attend here?

G: No, down in El Segundo. Y'know, it's funny, I sort of... lost my way of telling, y'know, who's going to be here in the two weeks I've been gone because I haven't heard what their plans have been, y'know. I don't know whether what's on the calendar is all that's happening or whether there's more that just wasn't written down.

E: ...
G: Usually as soon as I hear something I write it on my calendar because with my memory there's no way I'm gonna remember, so I put it down. But I'm sure that J [replacement] wrote down whatever they told her, but because she was sort of temporary they may not've told her everything you know.

G has said that she uses writing as a memory aid but apparently 1) wants to have access to the primary data—people discussing their plans—before she feels sure of the information; 2) seems to think of herself as a more likely recipient for the full information due to her particular status there as compared to J's temporary status. She seems to be implying two stages, of screening or interpretation having been performed on the data before it reached her: 1) the principals in question selected what information to give J; 2) J wrote down the information as she understood it. On the other hand, G herself, had she been there 1) might have been told more; 2) might have picked up relevant information without having been directly told; 3) might also have elicited information where she saw gaps. (I am trying to reconstruct here the presuppositions that her statements might entail.)

Direct access to the full details of the raw data both explicitly transmitted to her and collected in passing is perhaps an essential property of G's utility as an information medium of the kind I am trying to describe. She collects details partly purposely and partly at random, i.e., without having a clear-cut plan for using them; and then she pulls them out as occasions call them to mind. Another use she makes of this random information is to construct possibilities from it. In many of the person-locating passages cited above, G conjectures about someone's location from clues picked up semi-consciously or in passing. For instance the following passage:

M: Is he in? [standing in front of someone's door]

G: Uh—[think he was sitting in the bean bag chair over in the corner—] I think by himself (inaudible) unless somebody went in that I didn't notice.

M: [knocks] Doesn't answer.

G: Why'nchu just open the door?

In several cases (including the foregoing one) G gives advice from conjectures or suggests alternate plans of action for locating people based on her knowledge of their habits.

G: See if FR's down in his office. Maybe he c'n help you. [re: some work to be done]

F: This way?

G: Yeah, one, two, I think the third door down.

F: I figure, you know, if I can't find 'em, it's all right, too.

G: Oh, if they're not up here, they might be down (inaudible).

F: Yeah, they c'd be downstairs.

G: Yeah.

Another instance in the same vein shows G commenting on her own conjecturing process:

R: Is FR in there?

G: Uh, with his door shut, he might be. I'm never quite sure.

R: [door squeaks] Yup!

G: He's there?

Here "door shut" seems to be a possible clue, or else it masks the evidence—FR's actual visibility. Note that G finishes up the interaction by repeating back in question form the information R gathers that FR is in the fact there. G thus has several ways of arriving at an answer that will help someone locate someone else: 1) direct firm information from the individual; or from observation: 2) secondhand firm information which may or may not be complete; 3) elicitation of first-hand or second-hand information;
4) knowledge of the habits of individuals from past observation; 5) and appraisal of cues presumably also from past information. G also has incidental partial information, such as having seen someone walk down the hall in a given direction.

Cumulative Information.

In addition to locating people, G performs similar information processing operations on items. By similar I mean she collects all available information. In the recorded conversations she both elicited and provided detailed information on items and their histories, providing information being evidence of having collected information earlier. The information on items, like that on people's whereabouts is not necessarily or not yet "formal" information, i.e., it is probably not documented or required for a form. However, it could at some point be seen as relevant for documenting. This kind of information, like offhand comments about procedures, may become relevant after a number of instances has accumulated, or after a number of people voice the same observation. This kind of information in general, and perhaps especially person information, has a high mortality rate: it very quickly changes or becomes irrelevant. Some of it, however, may correspond to formal organization chart information. Or again, it might become part of an individual's attendance or work pattern history if diagnostic attention is ever called to it. At some point a "trend" may be perceived or a threshold reached which makes cohesive bits of information that were formerly trivial or isolated.

Items and Procedures.

During the three-and-a-half hour taping sessions, the following remarks about equipment and procedures were recorded:

1. a) Someone asks about a change in G's equipment. She explains in reasonably full detail (for a layperson) the wiring changes that were made in her office equipment, step-by-step.

b) The same person then asks her about the tape recorder, and she explains why it's there. (Note: several entries deal with the tape recorder, which is "artificially" introduced into the setting, perhaps padding the number of entries. But the reactions and explanations are probably consistent with those any strange object or piece of equipment would provoke. The power failure was another fortuitous stimulus.)

2. Some comments are made about the shortage of mail boxes, new ones are suggested, and G states there is no more room for them. This provokes a joke that a new hire should be cancelled because there's no room for his mail box. G explains plans for an "archive box" in that location.

3. G talks with another secretary about daily copiers: history of, mishaps with— in the middle of a more personal conversation. The link between the personal conversation and color copiers was "what F was carrying/about to do."

4. In the process of doing and correcting some typing work, G and a principal discuss the relative merits of snapping vs. scraping with a razor for typing corrections.

5. G and a mail person discuss something she put in the "out" box. She asks about the status of mail sent ("Did you send the stuff down?") asks for a mail task to be done, explains why she is making the request.

6. G explains why she is carrying so much copy paper: there were only three packages over her normal load left in the supply room, so she's bringing all of the rest to the copier room. She also explains her route from the stock room to the copier room, which is not the ordinary route: a non-routine activity going on in the building.

7. G asks a principal where to file certain information, indirectly suggesting a new file category be made. Both review the existing headings and he makes up a new one. They joke about the catch-all nature of the newly created category and compare it to "all of them" (the files) and "everything [D] ever did."

8. After a power failure has occurred, and current comes back on, G is heard on the phone commenting on the probable state of someone's equipment. Wishes them luck.

9. G calls purchasing to inquire about file folders for A, another secretary. She then gives A a full history of the stocking of that kind of folder, projects the likelihood of getting some, and plans to get some for A and herself if they are located. Jokes about the availability of needed resources.

10. G calls someone to find out if the "system" is still down from the power failure. Comments on the type of event it is, doesn't know what to expect, conjectures state of affairs.
11. G calls accounting to check on the possible duplication of her vacation pay, goes through an elaborate description of recent pay schedule to ascertain if everything is proceeding normally.

12. Two men discuss a joke about the power failure. Procedural and inventory advice could be deduced from the discussion: a) the place is supposed to have a power generator; b) the way things are now you need a box of matches for emergency lighting—comment on lighting situation in graphics lab: totally dark in a power failure ("They did one thing in that graphics lab they shouldn't have done..."); c) no emergency lighting downstairs; d) someone was working "inside" electronic equipment when the power came back on; e) someone lost two days' work when the power went off.

13. Someone comes to register a complaint with G about the inefficiency of the telephone set-up they have, resulting in plans for G to requisition a separate line that doesn't automatically transfer after three rings and an instrument that has a loud bell.

14. G comments that her terminal is not on yet. I ask questions, and G gives a history of her experience with on-line equipment: her training, type of equipment she has worked on, problems and frustrations with adjustment to.

15. Someone asks about the tape recorder; general discussion of being tape recorded.

16. G asks someone whether he retrieved a lost food container. They talk about the problem of food being missing regularly from the refrigerator. G provides analogous incident from the past. Other person gives full details of the theft (whenever it is takes some of the food then doesn't even reap the rest, so that all of it is lost).

17. G tells a caller about the telephone equipment problems mentioned in #13.

18. Someone asks if the central computer survived the power failure. G responds with an account of what her terminal has been doing, says computer not responding.

19. Someone asks about the tape recorder.

20. Someone tells G about work lost because of the power failure. G tries to find out the reason for the power failure fairly persistently as the person continues to elaborate on the nature of the work lost.

Interactive Context.

Gathering and dissemination random bits of information like those listed above may occur in many contexts. One of our questions in doing the study had to do with the extent or structure of the relationship between personal and office-related conversations. The exchange cited below (item #3 above) between G and another secretary was sandwiched into a conversation which began with G's vacation as its topic, proceeded through vacations in general, plans for Christmas, visiting families, then shifted to the exchange to be quoted about color copiers, which gave way to the other woman's physical condition and the reason for it, her new boyfriend, what he was cooking for dinner that night, the novelty of the dish, and concluded with G's wishes that the other have a good time.

G: Are you trying to copy some stuff?
F: Yup.
G: Oh, on labels?
F: No, I've got--cards--that I've been using.
G: Oh, cards. Yeah.
F: (inaudible) I gave me labels, just--and she wanted me to talk to G, and see if I could run 'em in the--color-copy 'em.
G: Why, are they colored?
F: Yeah, they were.
G: (partly simultaneously) Somebody--color--Oh yeah, those, right.
F: Which it burned up the machine or something the last time.
G: It did, the last time, I remember. Something like--
F: I didn't know anything about it, but that's what she said.
G: Yeah, I remember when they tried to run them again, and for some reason it jammed, or did something.
F: (inaudible)
G: See if FR's down in his office. Maybe he can help you. [This is the same event as #3 in the set of person-locating events.]
F: This way?
G: Yeah, one, too, I think the third door down.
F: I figured, y'know, if I can't find 'im, it's alright.
G: Oh, if they're not up here, they might be down (inaudible).
F: Yeah, they c'd be downstairs.
G: Yeah.
F: F knew I was coming. FR (inaudible). Oh well...

G: Did you ask him about the color copier?

F: No, not at the time.

G: Cause somebody said they—oh, maybe that was last week she came over, or neither color copier was up.

F: (slight laugh)

G: But, y'know, I don't know why—it doesn't mean they're broken, it might...

F: (slight overlap) Yeah.

G: They have 'em down—

F: Or—do 'em something to 'em.

G: [(simultaneously) For other reasons, y'know, so—

F: I'm tired.

G: Only the beginning of the week, F.

F: I know, I haven't recouped. Last night I was out late, too; so—

G: I'm recouped. I went to bed early Sunday night when I got home.

F: (inaudible) a friend who is keeping me much too busy.

[etc.—they go on to develop another conversation]

The point of citing this passage at length is to show that detailed item histories may occur in the context of the general conditions and activities of people and things in the environment, a very open framework. The history may be generated by what seems to be a common tendency to start with a comment on a present state of affairs, refer back to the past for an explanation of that, and to project future possibilities. This pattern will be discussed in another paper under the heading of conversational types and structures.

As part of a "personal" conversation between G and F, the following potentially useful office information could be gleaned: 1) F is going to try to copy something, 2) onto cards. Apparently labels are another possible medium. 3) She is going to color copy. 4) This is because the items to be copied are colored. 5) Y made them (the things to be copied). 6) The color copier "burned up" the "last time", i.e., suffered some serious malfunction in the past connected with the same project. 7) G has the same information. 8) F's information is second-hand. 9) The machine jammed on a second attempt. 10) FR may be able to help F (presupposition: he knows something about the color copier). 11) His office is three doors down from G's. 12) If he's not in it, he may be downstairs (presupposition: in the same building). 13) Neither color copier was usable ("up") the previous week. 14) Not being "up" doesn't necessarily mean the machines are broken. Apparently they are worked on for other reasons. 15) Information relating to G's and F's lives is also available. For instance, it might not be irrelevant that F is tired, that G was on vacation the previous week, etc. These facts could form the context for other F and G events in the office.

Casual interpersonal contacts, then, may provide occasions for many "state-of-affairs" topics, some of which transmit background information about the life of the office which can be or become relevant to tasks. The indiscriminacy of the information is a feature which provides access to facts of indeterminate future relevance. For instance, the history of color copier malfunctions came up as G's general interest in F's doings. This general interest elicited a fairly fine degree of detail as to F's immediate task intentions, even though G herself had no direct relationship to the task or the equipment. She wasn't monitoring F for immediately practical reasons, just "finding out." In the process of finding out about F, however, G provides the listener with some potentially interesting information about the office equipment, and we can infer that F's knowledge about color copiers and their likelihood of performing may have been refined in the exchange.

Decoding Indirect Speech Acts.

In another situation, a complaint about telephone lines (cited above), G also elicits as complete a picture of the situation as possible in order to pass on the information as a recommendation or request for a new line to be installed.

P: Hi.

G: Did ya get a couple calls down there?

P: Yeah. All those phones are copies of real people's extensions. So that doesn't work very well.

G: Oh, cause it rings in somebody's office first.

P: Yeah, there's 0001 down there, which is Y, and 0002, which is X—and you c'n sorta see the method in the madness, but um—there's also 0007, which is broken.

G: Oh, that's VV's, though.

P: Is it?

G: 0007's VV's, yeah. Well, how 'bout if we uh—where's—this is down in front of that—of—double room, right?
"All of it doesn't seem to work very well," which G appropriately interpreted: "Well, should we get a different--I would think we should have a separate lab phone...I'll mention it to V and see if--." G incidentally repeats the gist of the conversation to someone who later tried to call P (not in the list of item-procedure comments). The "phone problem" becomes part of her current repertoire of state of affairs information to be transmitted when appropriate, in this case to explain to a caller why he has a hard time reaching P. This one event illustrates several aspects of G's role in the information scheme at once: 1) she receives generally; 2) she interprets the nature of the information—i.e., here she perceives a request in a long string of facts about the telephone system; 3) she elicits further information which will be important to the decision on the request; 4) she identifies her own role in the set-up—to tell someone who can get things changed; 5) and she stores the information to be used if a secondary occasion comes up for which it is appropriate—someone else's attempt to call P.

Facilitating Activities and Social Buffering.

One consequence of G's having and transmitting diffuse information about the conditions and locations of people and things is that she enables others to be more efficient. She accomplishes this in several ways: 1) she may direct someone precisely to a person or thing, saving them the effort of a random search or the postponement of the task or contact; 2) she may recommend a course of action based on whatever partial information she has, possibly increasing a person's likelihood of success. She often suggests alternate courses in case of first course failure, and she encourages people to persevere in their efforts where she may be better able to predict success or appropriateness than they are: "Why didn't you open the door?" 3) She saves people wasted effort by tactfully discouraging them, viz.: she will inform a caller when someone is out of town, saving them repeated calls or doubts as to a callee's having received a message. Likewise, she knows when equipment is not functioning, saving others detailed inquiry. In the data we also saw her trying to find out why equipment didn't work. In these cases too, she may suggest an alternate course, or defer the person to a time when success is more likely.
These are all ways in which G saves people time and effort. A different order of savings G provides is that of face. She buffers responsibility. For instance, having made a lengthy complaint to her, P need not pursue the problem of telephone installations any further, as she becomes responsible for transmitting information about his problem to the appropriate person. But note the informal nature of the chain of communication set in motion here. G is not, formally speaking, the person to contact about telephone problems. But she is someone who is there to hear about them, who can be approached at almost any time, and who knows what to do in order to get action. G, in receiving the complaint, cannot grant or refuse a phone. In transmitting the complaint with a recommendation, she is not making a request in her own behalf. P meanwhile can vent his full annoyance with the situation on someone who isn't directly responsible for it; who will get something done about it, and who will listen patiently to the full account of the problem as a personal frustration as well as technical impropriety. Similarly, with the monitoring of calls and with changes of plan, G can transmit a message that inconveniences someone else without being the agent of the inconvenience. For instance, having made a plane reservation for a visitor at the wrong airport due to a misconception of distances on his part, G phones back to change it through the same agent.

Ambiguity of Interactions.

On another level, and to some extent related to the first level, the interactions that are carrying this diffuse information seem at times to serve dual purposes. The most notable case in the data cited is that of the vacation/color copiers/new friend sequence, part of which was quoted. In indicating a second level of discussion about verbal communication I am referring back to the concepts mentioned in the introductory section and to the propositions that people in the course of doing their work and talking about it are very much personally present. In addition to information about the locations and conditions of things and people directly relevant to the work environment, the diffuse information system observed carried a large amount of information about the office personnel as individual people. I learned a great deal in a short time about the personal histories, marital status, hobbies, vacations, tastes, and diet of a number of people (not
all these about each one, of course). Consistent with what I perceive as a difficulty in extricating altogether the personal from the utilitarian in office communication, it is not easy to draw the line that differentiates personal conversations from work ones, though there are clearly differences of topic and of mood along this kind of axis. We can look at these as complementary, mutually necessary kinds of interactions. I would also like to point out the ambiguity between them.

By "personal" in the present context (personal vs. work-related), one understands a reference to conversations that are strictly about personal life events or conditions of individuals. But in fact, a "personal" conversation is less easily defined than might appear, at least to my satisfaction. A set of work instructions can be highly "personal," if it is couched in familiar language or produces extensive interpersonal feedback, whose work "utility" is hard to isolate from its interpersonal dimension. The following exchange might serve as an example of an interaction that in content is entirely about work but that conveys a certain amount of ownelickeit at the same time. The passage quoted is only a small section of the entire exchange.

[Q walks up to G's desk]

Q: I have some figures to label.
G: Mm. Okay.
Q: Maybe I should've. Maybe I should just tell you--
G: What 't' put in? And just do it now?
Q: Yeah.
G: OK.
Q: (inaudible-to self)

G: Let's see, what did I use before— I think I used a [type of font].
Q: Right above here I wanted say "[name] inventory.
G: Above that left-hand column?
Q: Above that—centered above that column.
G: [Name] inventory.
Q: Right.
G: Uh, shall I center each word, or just have— like can I have them all start at the left margin?
Q: You could have them all start at the left margin.
G: OK. [types]

Q: This one I want to say, um, you can write it inside this box, if you want to, um—
G: Un— [A-B-File—three words].
Q: Three words.
G: [inexplicable sound].
Q: And—down at this box here, say "Pointer page."
G: Kay. [This interaction continues for some time and results in Q's request that G copy the finished document.]

There are several features that personalize this utilitarian transaction. First of all, it is highly cooperative in its structure. Q could have handed G a set of written instructions but chose to "just tell" her. G helps Q by finishing her sentences for her (one cited, others in uncited text), by repeating back all his instructions and by letting him know when she is ready for new ones. She also asks about alternative ways of formatting the material. Q is indirect about his requests: "Maybe I should just tell you, "Here I want say, "This one I want say, "OK, what I want do is get six copies of this thing." He also provides at least the grammatical illusion of options (one feature of R. Lakoff's rules of politeness, Lakoff, 1973) in such forms as "Maybe I should", (which G completes for him) "You could have them all start at the left margin", "You can write it inside this box, if you want to", Elsewhere he uses hedges as a possible softening device for a long string of instructions: "I guess put P1 in here."

Make it sort of a capital P with sorta the 'I' a subscript, sorta like.
Q at times thinks aloud about what he is doing and gets feedback from G. Elsewhere G volunteers advice on how to make corrections and discusses the merits of his method. She makes a suggestion about headings and jokes about the contents of the document: "If they can understand it in the first place," Q is indirect again in pointing out a typing error: "There was one--there was one little typo I found, but I didn't want make another copy just for that, so I can just correct this," and in his way of setting a deadline for the copying: "I'll stick those up from you this afternoon so we can get—I want get D to look at it." Note that in referring to activities G is supposed to carry out. Q mentions "speaker-based" conditions, what he wants and what he intends to do after she performs the thereby implicitly requested tasks of correcting, completing, and copying. In all, both G and Q show a good deal of social sensitivity in negotiating a clearly hierarchical, thoroughly work-based situation. These maneuvers we might
designate as social—the stylistic dimension of O’s requests—probably facilitate the work. Features of their interaction which clearly seem to serve the work—O’s repeating all O’s dictation back to him and his reconfirming it—in addition to ensuring a highly interactive structure to the situation. I don’t mean to overinterpret the social aspect of this activity, but I hope I have illustrated the ambiguity between work and personal activity as it appears in what is primarily a work event.

Conclusion.

In the foregoing I have tried to illustrate aspects of the verbal medium in office work that I think should be taken into account in re-structuring office systems. Briefly, my points are that office work is a form of social life and that its very sociability is useful to the transmission of certain kinds of information and to the carrying out of some of its important activities. Moreover, the information features that talking and face-to-face contact provide are in some ways not reproducible artificially, especially as regards collecting, cross-referencing storage, and interpreting of ambiguous, incidental, short-term and multi-purpose bits of environmental information. This is a first step in a longer term research on conversation as an information medium. In the future I intend to investigate the structure of conversations that carry or elicit complex information, from the same corpus of pilot project data. In addition I now have more data from a larger office. From this data I am hoping to find out something about how people supplement paper and computer-based information with spoken exchanges. This latter corpus on a first pass contains more of the kinds of information strategies and structure that could inform the design of an artificial system.

Footnotes

1. There is a literature both on the relationship of technology to social change and on cultural problems in fostering “development.” Nielsen’s (1968) monograph on industrial weaving innovations in the 19th century is a prototype which spells out the ramifications and stages of change involved in the introduction of a radically new kind of equipment. Nei (1970) provides a collection of papers documenting the differences in the priorities of “planners” and the people whose lives are being affected by the plans. One of the papers contrasts the sequence of facilities installed by a squatter community for its own use with those projected by architects for housing developments. The priorities are mirror images to the extent that they coincide at all.

2. Roberts and O’Kelly (1976) provide empirical support for the thesis that interpersonal contacts are useful to organizational work. The results of a large multifaceted survey they conducted in three Navy work groups show that participation in communication networks is associated with higher performance than is isolation, (p.16). Also “participants” (high communicators) were found to use more media (face-to-face conversation, telephone conversation, and writing) and to receive more redundant information, by self-report. Presumably this means they received the same information from more than one source. “Isolates,” on the other hand reported a greater tendency deliberately to withhold information. What is most interesting, for the present purpose is that a comparison of communicators to isolates on performance-related dimensions showed the communicators to be more satisfied with their jobs, more committed to the organization and to be better performers. The study doesn’t explain the correlations, however.

Ouchi and Jaeger (1976) project a direction for business organizations between what they characterize as Japanese-style and current American-style organization. These differ on dimensions relating to how firm a source of affiliation and how holistically concerned with the employee’s welfare as an individual a company is. They point out that workplaces, however alienating they may be, are for many Americans the strongest form of affiliational support. In a case study of an intermediate-style organization in the U.S., they report as follows, basing their conclusions on first-hand observation and psychological test instruments: “We described a company whose employees, from parking lot attendant to president, all feel the same loyalty and attachment to their company as do the top executives of 41 electronics firms. Although they may have much to worry about, these employees are significantly happier, more often positive about work and life, and less often negative about work and life than is the population of the U.S. as a whole.” (p.25).

3. Searle, following Austin, delineated the logical structure of certain verbal performances which by social convention constitute acts or changes of state. The most radical examples might be marriage vows and death sentences, where “I now pronounce you,” and “I sentence you,” are the acts in question. Less biographical speech acts are in more frequent use: promises, requests, assertions, greetings, congratulations, etc. The logical structure of speech acts consists of “felicity conditions” of various descriptions. These are the presuppositions entailed in the act nature of these utterances. Felicity conditions of requests include such features [Searle calls them rules] as:
a. speaker (S) believes hearer (H) is able to perform the act (A) requested.
b. it is not obvious to S and H that H will do A in the normal course of events.
c. S wants H to do A.
d. the utterance counts for S and H as an attempt to get H to do A.

Gordon and Lakoff elaborate this scheme to include more features. In Indirect Speech Acts, Searle discusses (following Gordon & Lakoff) the way a statement mentioning one of the felicity conditions can constitute a speech act.

References

Bales, Robert F.

Davis, Keith

Garfinkel, Harold

Gerth, Hans R. and C. Wright Mills

Lakoff, Robin
1973 The logic of politeness: or, minding your p's and q's. Papers of the 9th Meeting of the Chicago Linguistic Society.

Mangin, William

Ouchi, William G. and Alfred M. Jaeger

Roberts, Karlene H. and Charles A. O'Reilly
1976 Communication roles in organizations: Some potential antecedents and consequences. Institute of Industrial Relations, University of California, Berkeley.

Searle, John

Smelser, Neil J.

Stewart, T.F.H. et al.