of the business segment as they can; expand the job as they expand their ability (no rigid job specs, please).

-If helpful, organize self-contained work units, or mini-groups, of mutually supporting workers, so that a final product or service emerges from the group. (Some jobs cannot be improved except by inclusion in a larger grouping of jobs.)

-Give employees lots of feedback as to how they are doing.

-Give them access to staff support for information and expertise so that they can perform more effectively within their own segment (e.g., the industrial engineer, cost accountant, methods and practices people, computer experts).

-Give them access to the boss for knowledge and support also.

There is very little more to be said about what's at the heart of the matter, the human psychology of the situation. But now that we've said it, how do we do it, how do we put our words into action?

Translating the Model into Jobs

Now we must call upon managers, industrial engineers, equipment designers, anyone who has a finger in the job pie, and ask for their diagnostic help and understanding as we translate the model into good jobs. There are four aspects to be considered, regardless of whether we are reexamining an existing job or laying out a new work flow prior to slicing it into jobs.

THE MODULE OF WORK

The first consideration is the module of work someone is to perform. The questions we must answer are these:

-Where does the work begin and end as a whole? What is the product or service? Can one person perform the whole task? Can employees acquire and maintain the necessary knowledge and skill for the task? Will they be able to meet reasonable, objective performance standards, for we are going to have them? Will they be able to meet the equally important, nonobjective standards, such as maintaining good product appearance or maintaining a gracious manner and desirable appearance in dealing with customers?

Although the work may flow through half a dozen steps or stages, the employee must have as functionally complete a module as possible. If six steps are involved, half a dozen people could be lined up, each to perform one-sixth of the work before passing it on to the next person. All this would be done in the name of efficiency, so that training time will be minimized, and workers can develop great skill, the ability to knock the work out very fast. More likely, what they will develop is great boredom and great indifference.

Evidence is now reasonably strong that such a six-step arrangement will create at least these problems: Work may have to be logged in and out in an effort to keep track of its progress, thus creating more jobs. A coordinator may have to be appointed. Since no one person is responsible for the work or service from beginning to end, except the boss, the number of errors will surely rise, leading to the need for quality control jobs. Approximately the first 20 percent of the time spent at each stage after the first will be on checking out the situation as received. This front-end load of work can be eliminated each time we figure out a way of letting the same person who performed the first step perform the next step, and the next after that, right up to some limit of practicality. And if one person can perform all six steps, then we free a coordinator and have reduced or eliminated the need for logging work and for extra quality control. Functional completeness is a marvelous goal in design jobs; in this case the work becomes the job. We may have to settle for far
less, but we must minimize the number of jobs in the lineup, and we must make each slice as meaningful as possible.

**CONSISTENCY IN THE WORK SITUATION**

Now that the work flow and the least number of jobs or slices across that work flow have been determined, more questions must be asked. How can we make this a consistent situation for the worker?

Can the worker forecast the load, the work volume that will hit? How about deadlines—can they be set meaningfully, not arbitrarily? Can we set the work input so that a worker gets it consistently from a certain group of customers or clients? Can the worker have an area, a piece of “turf”? Must this worker provide a special technology consistently? Can it be made interesting and challenging?

If a worker has a functionally complete module of work, and if it comes from a certain place and goes out to a certain place consistently, we are well on our way toward building a very good job.

**CONTROL**

The third important ingredient is power to act, or control. If the worker is going to be held responsible for the product or service, and that is one of our goals, can he or she take action if something starts to go wrong?

What can we let workers do, on their own, on this job? Can they schedule the work, in and out, to meet the deadlines, for example? Can they make estimates and requests for parts, supplies, inventory, or must this be done by the boss? What if workers feel that too much stock is lying around, in the way? If time requirements, deadlines, costs, budgets, qualities, and quantities are being met, can employees work on their own? Can employees call for help, scrounge, get it any way they can, if deadline problems or other problems loom ahead? Can workers go directly to workers at previous stages if problems are emerging, or must they go to the boss, who will go to another boss, to resolve the problem? If someone above actually needs to know what progress is being made, can a Xerox copy of the information be sent to that person while the work goes right ahead, without waiting for consent? Can workers be given small budgets for their jobs, or the right to ask for services directly within certain boundaries, so that work can go right ahead or start faster after a problem occurs?

**FEEDBACK**

The fourth and final ingredient is useful feedback from the work, an ingredient that is only too frequently missing.

Where, or what, is the feedback? Do employees know themselves when things are going wrong, or have we mistakenly set it up so that employees find out from the supervisor rather than from a dial, a red light, a printout, an irate customer/client? Is the feedback as fast and direct as we can possibly make it? Is it individualized, the employee’s own feedback, or is it merely the average for a group—a form of feedback that is second best. (As an example, offer to keep score for four golfers. At the end of the round, tell them you have only their average score to offer.) Is the feedback work-related, or is it secondary (failure to be cooperative, to give to the United Fund, to park properly in the employee lot, etc.)? Is it consistent? Are other employees measured in the same way? Is it reliable information?

The concept of feedback is borrowed from electrical engineering, where means are set up so that a mechanism senses when it is beginning to malfunction and can take steps internally to reduce the error back toward some zero point. If my analogy is way off, I hope electrical engineers will forgive me. The point is that the work situation should be self-adjusting rather than boss-adjusting. We've had the latter quite long enough. When employees are asked, “How do you know whether or not you are doing a good job?” they very frequently answer: “I don’t
know, actually, how well I'm doing,” or “No news is good news,” or “Did I get the work out on time?” The third of these replies is the only desirable one, and it doesn't go far enough. How about the quality, for example?

Employees have every right to have a copy of the checklist used by the boss when he or she evaluates performance, to know how they are being judged. As Osborn, exponent of Management by Objectives, has wisely pointed out, it isn't cheating to know how the boss is judging you. An ideal feedback arrangement goes well beyond that. Ideally, the employee should be able to tell the boss how well he or she, the employee, is doing, for the employee has exactly the same information as the boss, and the employee has it earlier.

So much for the model, the ingredients that make for a good job: a functionally complete module, work in a consistent situation, with reasonable and necessary power to act and keep things under control, plus plenty of feedback. Some writers add “variety” to the requirements. As I see it, jobs designed with these four ingredients will tend to be quite varied, the very opposite of monotonous. I would not add items to a job merely for purposes of variety; the items should belong to the job naturally.

We need not concern ourselves here with the question, Will this job engage a person's attention forever? It probably won't. Later chapters of this book go into this issue: the problem of self-renewal.

This prescription for a good job, calling for four ingredients, assumes that two other important requirements will be met—but they are not part of the job. First, we assume that the training department will be able to cooperate, to supply the necessary knowledge and skill—but no more than that—so that the employee can get started. No useless knowledge, no “cold storage” training should occur in this ideal training effort. Just get the beginners started, and supply only what the work situation itself cannot supply in an efficient and timely way. If the training jobs are built properly, their feedback will answer the ques-

tion: “Did my trainees succeed when they went onto the job?” We can think of training as the front end of the job.

And there is a back end, too: Does the whole work environment support the workers in their effort to be useful? Do practices and procedures sustain them? Are the measurement plan and the standards just right? How about light, heat, ventilation, the cafeteria, and the other factors in the surrounding environment, do they sustain or annoy? Pay plans, holidays, benefits, and similar items, do they also sustain the employees in their feeling that this is not only a reasonably good job, but it's a good organization to work for?

Lethal Information Loops: A Violation of the Model

Managers cannot escape having a model for laying out work and job assignments. They have to believe something about how to get work done. It is easy to accept the model offered here while retaining parts of an older model, and the two may be in open conflict. The following example is intended to help managers make a decision as to which way to go.

Now that computer printouts are so readily available, and in an effort to stay on top of their jobs, the top bosses may easily make the mistake of asking to see the results of a work unit's operations before the members of the unit themselves see it. This may happen accidentally, simply because the boss is located at headquarters, near the computer, and the work unit is out in the field, where reports arrive a day or two later. This situation is lethal in the sense that the field people learn to worry about the report in the interim between its coming off the computer and their seeing it. If it's bad, they may get a stormy call from the big boss while lacking the information the boss has.

These anxieties can lead not only to poor performance but to self-defeating efforts. In a situation I observed, the general manager chided a division manager reporting to