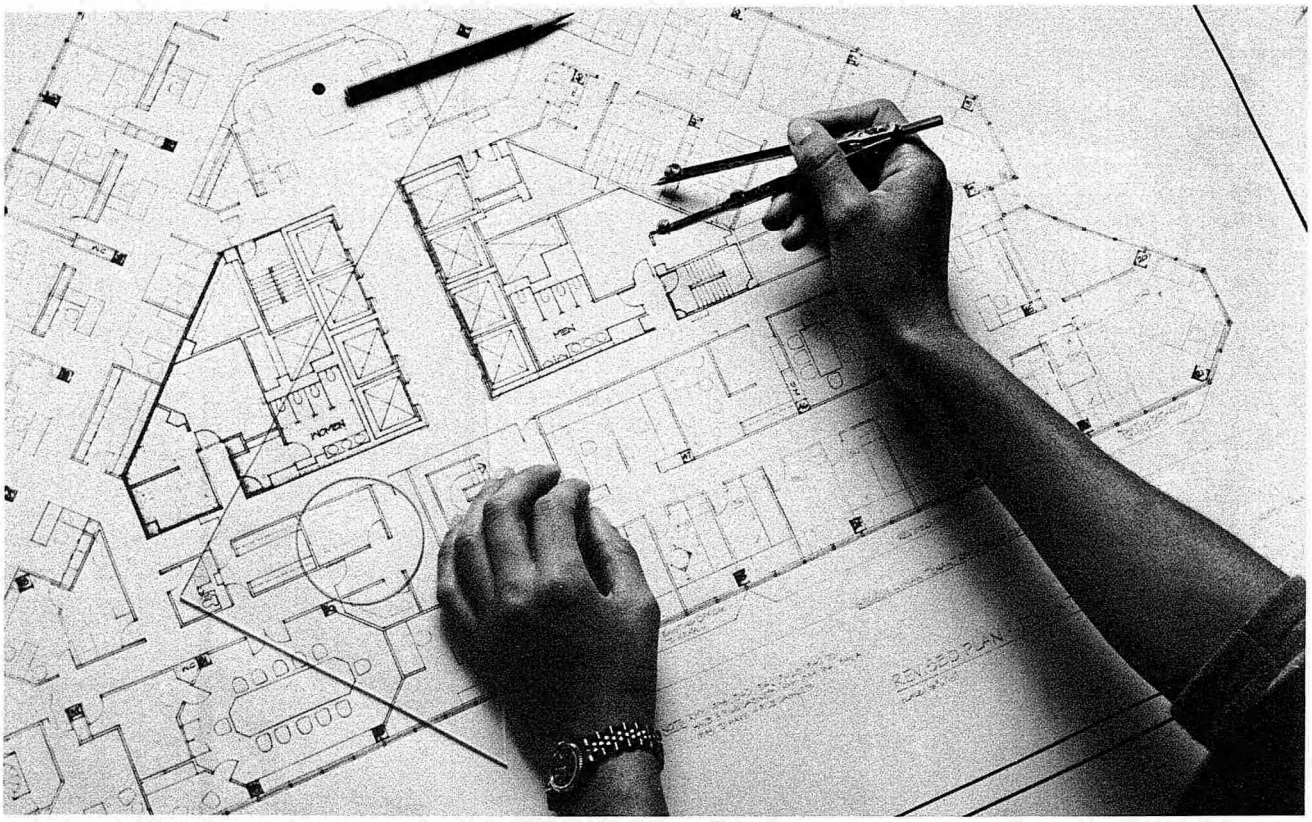

Repairing a Dual-Ladder CD Program

Scientists and engineers are among the most skeptical professionals when confronted with the typical dual-ladder career development program. Here's how to make an old technique appear attractive to this hard-to-convince group.

By LISA A. MAINIERO and PAUL J. UPHAM

Scientists and engineers responsible for keeping corporations competitive in an increasingly high-tech business world have not necessarily reaped the career benefits their organizational importance would seem to bring. Ironically, this apparent imbalance exists even in research and development firms.

One such company, Global-Tech, a multinational bio-technology corporation engaged in the medical, agricultural, and consumer products areas, depends on its strong R & D divisions to develop and test new products and processes before they are brought to the marketplace. Each R & D division is staffed with highly trained scientists and engineers central to this effort. To help these technical professionals in their careers, Global-Tech created a dual-ladder CD system.

Global-Tech faced the need for such a program after employee attitude surveys showed that technical professionals were disappointed by the lack of career guidance and development in R & D, and felt this was a serious concern for the division. Marginally acceptable turnover rates and a lowered sense of morale also supported this conclusion. Management decided that hiring consultants to address the problem was its best course of action.

Key career concerns

Technical professionals characteristical-

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ly identify three issues central to their careers.

■ *Technical obsolescence.* Within five years of graduation, engineers and scientists ordinarily lose some of their on-the-job effectiveness due to changes in knowledge and technology. Senior employees, particularly vulnerable to obsolescence, may find their relative effectiveness over the years diminished unless they remain active and aware of new developments and changes in their fields.

■ *Technical typecasting.* Engineers and scientists are often trained narrowly as experts in specialty areas. Although some technical professionals may choose to remain as narrowly focused experts, others prefer to explore new and unfamiliar areas. (Frequently the skills that are learned during engineering or scientific training are more universal than many managers tend to think.)

■ *Lack of management training.* While many engineers and scientists flourish as managers, they indicate that the transition from technical professional to manager can be difficult at best. Engineers and scientists are trained to think in objective terms—quantifying and analyzing concrete problems based on concrete data. On the other hand, management decisions often are ambiguous and subjective, and involve an assessment of interpersonal issues—an aspect of decision making that makes many engineers and scientists uncomfortable.

Dual ladder systems were chosen to provide an alternate career path for scientists and engineers. Technical ladders are designed to allow scientists and engineers to continue pursuing technical excellence in lieu of the management track. Previously, the only way to advance in many R & D divisions was to move into management and up the hierarchy. In many cases, outstanding technical professionals were promoted into management, where they discovered that such a career was not well suited to their needs. In addition, many companies found that they were losing excellent technical talent by promoting them into administration.

But dual ladders are not a panacea. Most technical ladders were originally designed to provide engineers and scientists with increased autonomy, project decision-making authority, scientific achievement bonuses, and other perquisites such as sabbatical leaves and flextime. Over time, many of these rewards and perquisites were cut back, leaving little for the technical professional. Furthermore, status, role expectations, job responsibilities, and task assignments tend to be better defined on the managerial ladder than the technical ladder. What's more, decision-making authority is often left in the hands of management rather than the upper levels of the technical ladder.

Global-Tech wanted to offer a structured program in which engineers and scientists would be given a chance to determine which path they wanted to choose on the dual ladder, and to assess the three major concerns outlined earlier. If successfully piloted in one of the major R & D divisions, the program would be "exported" to other interested R & D divisions in Global-Tech for consideration.

Stages of program development

The career development program was tailored to encompass both the concerns of the targeted group of technical professionals and Global-Tech's corporate culture. Crucial to the success of the program was the principle that a lengthy period of development time was necessary to tailor the program to serve the needs of the technical professionals. Task forces, interviews with representative samples, and other methods were used to accomplish this objective, a process that took one year. The six stages of program development are:

■ *Preparatory discussions.* To begin the tailoring process, the consultant and a member of the pilot R & D division's management held discussions focused on the internal cultural norms of Global-Tech and the particular concerns of the targeted group. It was decided that, given Global-Tech's culture, the program would gain the most support if it were developed as a series of small steps designed to achieve the larger goal. The first step considered was the development of a career planning workshop that addressed the concerns of technical professionals. Later steps included a developmental appraisal system, the identification of appropriate training mechanisms, and issues of mobility and career pathing for technical professionals.

■ *Task force assessment.* Next, a task force was created to provide additional information and help develop the program. Since middle management support was a necessity, the task force was selected from high-potential middle management and group-leader candidates. In this way, information regarding the program could be disseminated easily throughout middle-management levels, helping to ensure their early support for the program.

The task force was given a two-fold mission: to serve as a sounding board for the design of the career-planning workshop, and to help tailor it to the needs of technical professionals. In addition, the task force members were empowered to recommend whatever structural changes were necessary to facilitate career development for technical professionals in the division. Initiatives such as developmental appraisal programs, creating opportunities for movement and career pathing, training needs, and other mechanisms for change were also included as task force responsibilities. The recommendations of the task force then were referred to upper-management levels.

The task force made several decisions. The program would begin with a series of career planning workshops for technical professionals, but a developmental appraisal follow-up component would also be included. Both components of the program would be offered on a voluntary basis and would focus on the *individual responsibility* of participants in managing their careers and the realistic assessment of options. Managers would require training on how to conduct a developmental appraisal, and a training program would be offered for managers to address this need. Further information about the specific needs of technical professionals in the division was also called for.

■ *Diagnostic interviews.* To gather additional information on the specific needs of the engineers and scientists, the consultant gave a series of diagnostic interviews. A hierarchically stratified sample of junior and senior engineers and scientists then was created, and each interview participant was asked to discuss his or her career history, the future career paths that he or she would like to follow, and the concerns for career planning as a technical professional in the division.

Several concerns surfaced as a result of these interviews. One concern was that the technical ladder was not seen as a viable career path for technical professionals, and that the management path was indeed "the only way to go" in the division because Global-Tech traditionally rewarded management more than it did its scientists and engineers. Furthermore, many technical professionals felt the technical path wasn't viable because of the stringent professional criteria for candidacy on the technical ladder.

The need for information about alternate career paths that would allow engineers and scientists to move into non-traditional areas of the company also emerged as a concern. Many of the inter-

Figure 1-Typical Workshop Design

Day 1

Introduction

Career Stage Models for Technical Careers
Issues That Confront Technical Professionals

—Obsolescence
—Typecasting
—Management transition
—The dual ladder

Self-Assessment for Technical Professionals

1. General Life History Exercise
2. Skill Assessment for Technical Professionals
3. Personality Profiles for Technical Professionals: The Meyers Briggs Type Indicator by Isabel Briggs (4)
4. Motivating Factors for Technical Professionals: Career Anchors by C. Brooklyn Derr (5)
5. Technical Transitions Exercise

Wrap Up and Discussion

Day 2

Career Panel Discussion

— Alternate paths for engineers, scientists
— Cultural assessment and discussion

Reality Checking and Action Planning

1. Identification of Multiple Options: The Career Leverage Inventory by Career Systems, Inc.
2. Personal and Organizational Reality Checking for Technical Professionals: Concerns in Technical Careers
3. Developing Career Contacts
4. Accepting Responsibility in Career Planning
5. Developing a Career Action Plan: What Technical Professionals Need to Know

Wrap Up and Discussion

view participants indicated they had little knowledge of possible paths and options other than the typical management path. Marketing careers, financial careers, and other areas had some appeal for technical professionals, and many of the interviewees felt strongly that they had been already "typecast" in their current fields.

Third, they were concerned by mobility in the division due to the retrenchment of certain programs. The emphasis on lean staffing created management reluctance to allow their employees to move to other departments and areas. In addition, many technical professionals felt that it was difficult to initiate movement to another department or area on their own without management support, further evidence of a lack of mobility in division.

■ *Development of the programs.* On the basis of the interviews, it was decided that the career planning workshop would have three components: self-assessment for technical professionals, job/career path information, and reality checking and action planning. Self-assessment was designed to address the concerns of obsolescence, technical typecasting, management transition, and the dual ladder through a series of exercises. Task force members evaluated several materials, leaflets, and self-assessment exercises, and recommended that a specific self- assessment vehicle be developed to address decisions to remain as a technical professionals vs. moving into management. This exercise, titled "Technical Transitions," was developed by the consultant for use in the workshop.[1]

The second component, *job/career path information*, was facilitated in a variety of ways. First, information was assembled from the various divisions and plants of Global-Tech to discern what paths—other than management—were available to technical professionals. Second, candidates from the division were brought in to discuss their particular career histories within the company. The employees recommended were those who had at one point served as individual contributors in the R & D division but had moved on to other areas of the company. Panel members were encouraged to discuss not only their career paths, but their perceptions of the culture of Global-Tech and the current norms and expectations for technical professionals. Finally, information on current job openings in the division was also provided to the participants in the workshop.

The third component, reality checking and action planning, was designed to help participants identify career objectives consistent with their self-assessment. Multiple career options were suggested by using the Career Leverage Inventory that outlines lateral, upward, realignment, enrichment, and exploratory options. Personal and organizational realities of Global-Tech were addressed during this part of the workshop. In addition, the importance of networking and the need for external assessments of performance were emphasized. Finally, participants were instructed on how to complete a "Career Action Plan." (Figure 1 illustrates the specifics of the workshop design for the readers' perusal.)

In addition to aiding the design of the workshop, the task force also developed a series of recommendations for structural change. The task force agreed to act as an advisory council for participants in the workshop who wanted to discuss alternate options to technical professional careers, as well as movement within the division. The task force also developed a mobility policy that recommended movement for technical professionals to different departments and areas on a two-to-five-year basis, subject to certain conditions. Then, the task force developed several forms to aid the developmental appraisal process.

■ *Pilot implementation.* After a year in development, the career planning workshop was piloted on a short-term basis, Task force members sent representatives to the pilot workshop to aid the evaluation process and determine necessary changes before its final implementation. Changes in self-assessment exercises were made, and greater emphasis was put on analyzing the culture of Global-Tech as it applied to technical pro-

fessionals. Interdivisional job-opportunity information was also aggressively pursued in order to address the needs of the workshop participants.

Once piloted, the career-planning workshop was implemented fully. Approximately one third of the technical professional population volunteered for the initial set of workshops, and others signed up for later workshops. The evaluation forms showed that not only did the workshop clearly address the needs of those who attended, but 92 percent of the participants said they would recommend the workshop to other technical professionals. Since fewer than 20 percent often volunteer for such workshops, and only half of those who participate find that the workshop meets their needs, these statistics are a testament to the success of the tailoring process for the program.

Shortly after the career planning workshops were initiated, managers participated in a career guidance training session designed to help them learn how to conduct developmental appraisals with technical professionals. The division director introduced the training session by emphasizing the need for developing technical professionals and the fact that this would be tied into the performance evaluations of the management group. The training for the management group included videotapes on how to conduct a developmental appraisal, as well as communication, conflict-resolution, and skill-building exercises. Opportunities were provided for questions regarding specific problems and a discussion of potential career paths for technical professionals.

■ *Follow-on mechanisms.* Other follow-on mechanisms have been generated as a result of the program. The task force identified the need for a scientific excellence committee to discuss the role of science and the meaning of scientific endeavor in the division. The need to change the poor image of the dual-ladder system was also brought to the attention of a centralized personnel committee that is examining ways to promote the technical ladder and ensure adequate representation. Scientific achievement awards have been established to provide recognition of individual contribution. A renewed emphasis on training has also been made in both the division and corporate headquarters. Furthermore, mechanisms to address communication problems are now being examined.

Strategies for success

Several guidelines for the development

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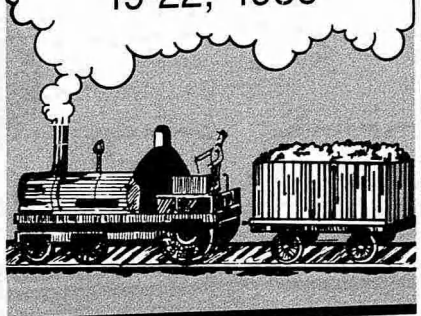

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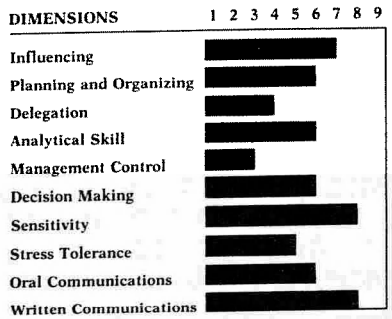

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of other programs can be developed as a result of the above experience. They are:

■ *Take the time to tailor the program to the needs of technical professionals.* Technical professionals have very special needs that must be addressed to ensure program success. More than any other group, scientists and engineers are likely to be suspicious of "self-assessment exercises" and their ilk. It is critical that the exercises directly address the needs of the participants. It takes time to identify needs and concerns, which then must be addressed up front in the workshop.

■ *Use the task force to aid the tailoring process.* Most task forces are created because people think they provide information that helps design and implement training programs. But rarely are task forces used in this way. More often than not, they are created to gather some additional information, and then left to evaluate the success of the program. The task force at GlobalTech had a very active rather than passive role in the development of the program. The concerns they raised were reflected in the design of the program. Furthermore, their mission concerned more than just the design of the workshop; they also identified structural mechanisms that were needed to make technical professionals realize that change was being made for them as a group.

■ *Encourage a focus on the dual ladder.* As discussed earlier, dual ladders can be problematic. In setting up a program for technical professionals, the weaknesses of the dual ladder must be recognized in order make the technical ladder a more viable career path for professionals who would prefer a scientific career. Frequently, one side of the dual ladder is perceived as a dumping ground for non-management candidates. If attention is not paid to the dual ladder, then the program will only have a minimum impact. Concrete structural changes may be required to make both paths appear equally viable and attractive.

■ *Identify alternate paths for movement pf technical professionals.* Avoid typecasting professionals. There are many cases of R & D technical professionals who have moved into marketing, manufacturing, sales, and financial areas in most corporations. Scientists and engineers need to hear about those alternate options. The self-assessment exercises and reality-management were concerned with career development of these technical individuals, and were used to ascertain that a useful program was being developed to address their concerns.

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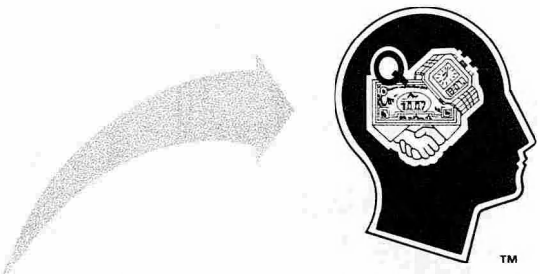

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