Harvard Business School **9-379-020**
Rev. December 19, 1986

Assistant Professor Graham and Ms. Macomber (A)

Professor Charles Graham glanced at the clock on his left. The hands on the wall were not encouraging. One hour and ten minutes into the class—only ten minutes to go—and the discussion had gone nowhere. Charles reluctantly concluded he would have to exercise the basic dictatorial prerogative of any instructor: he would have to tell the class how wrong they were.

Charles was starring out his second year of teaching and, as he told his New Dominion faculty colleagues, he had developed a sincere commitment to the case discussion teaching methods and philosophy. Charles was in his second week of teaching Quantitative Analysis and Operations Management (QAOM). He wanted to give that class every chance, but he had not foreseen that 80 intelligent persons might, individually and jointly, entirely miss the main point of the case. Charles disapproved of the practice of giving a pat "answer" to a case at the end of class; on the other hand, he could not conscientiously allow 80 apprentice managers to leave class thinking that the last hour passed for an adequate case analysis. Charles drew a slow breath; one more comment, he thought, and then they are in for it.

The hand Charles recognized was in the back row: it belonged to one of the women students, Janet Macomber. Janet was one of the younger students in the section, a graduate of the California Institute of Technology with an excellent academic record but with limited work experience. She looked nervous and started speaking softly and hesitantly. "Louder, please!" came from somewhere on the other side of the room.

Janet stopped, and started again in a stronger voice. "I'm sorry, but according to my analysis, the class's recommendations simply do not answer the company's problem—which is how to move work-in-process through the plant the best way possible."

"And just what is your analysis, Ms. Macomber?" Professor Graham asked.

"Well"—there was a note of apology in her voice—"when I was doing the case last night, I multiplied **Exhibit 1** times **Exhibit 2**."

Charles did not want to appear amazed that someone had apparently cracked the case after all. He only wanted the class—each and every one of the other 79—to realize the import of Janet Macomber's words. He interrupted: "Let me understand, Ms. Macomber. You actually took **Exhibit 1**"—he held up the case opened to the exhibits—"and multiplied every number in **Exhibit 1** times a number in **Exhibit 2**?"

"Times the corresponding number. Yes, sir."

This case was written by a member of the 1977 Developing Discussion Leadership Skills Seminar under the supervision of C. Roland Christensen. While the case is based on data supplied by participants involved, all names and some peripheral facts have been disguised.

"And how long did that take you?" (Snickers came from the side of the room.)

Janet Macomber appeared to be taken aback at such a personal question. "Not too long," she answered, adding, as if to justify her computational binge, "I used a calculator."

"And what exactly did you have, after you multiplied every number in **Exhibit 1** times a corresponding number in **Exhibit 2**?"

"I had a matrix of the dollar-volume flow between departments." Janet stopped. She was obviously uncomfortable and ready to relinquish the floor. But Charles was determined to expose her reasoning, bit by bit.

"And what did you find . . . from this matrix?"

"I found that the flows were not all the same [pause]. Some departments had a much greater flow of work-in-process between them than others."

"And what did you conclude based on this observation? "

"I concluded that . . . if I were laying out the plant . . . I would put the departments with the most flow between them next to each other, lining them up, and I would put the other departments on the sides, or in other buildings, if I had to."

"Well, well." Charles looked around. The clock on the wall showed that the class was already two minutes overtime. There would be no chance to take further comments from the class, and anyway it might be more salutary for each individual to mull singly over Janet Macomber's analysis. So as not to end the class abruptly, Charles made a few extempore remarks about how this case was related to previous cases and to the course plan. He carefully refrained from passing judgment on Janet's analysis or on the preceding case discussion. Let 'em figure it out themselves, he thought, now they have something to think about. All in all, Charles was quite pleased with the way the class had turned out.

As he was leaving the room, Charles noted a group clustered around Janet Macomber's top row seat. There really is such a thing as section dynamics, he reflected. "When one of the class reasons through a case, everyone learns. This case method really works. What a break I had to start out my career teaching with cases; it sure is a lot more fun than lecturing."