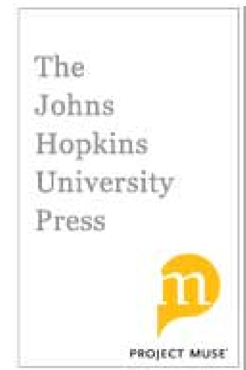
On Doing the Right Thing: ASHE Presidential Address

Ellen Earle Chaffee



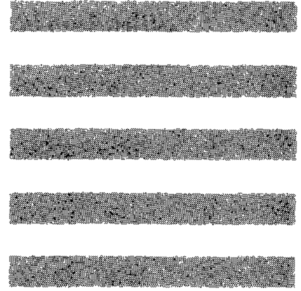
The Review of Higher Education, Volume 14, Number 1, Fall 1990, pp. 101-115
(Article)

Published by Johns Hopkins University Press
DOI: https://doi.org/10.1353/rhe.1990.0006

For additional information about this article
https://muse.jhu.edu/article/645080/summary

Access provided at 31 Jan 2020 23:30 GMT from Association for the Study of Higher Education

The Review of Higher Education
Fall 1990, Volume 14 No. 1
Pages 101–115
Copyright © 1990 Association for the
Study of Higher Education
All Rights Reserved
(ISSN 0162-5748)



ONGOING DIALOGUE

On Doing the Right Thing: ASHE Presidential Address

Ellen Earle Chaffee

I want to speak to you today heart to heart, as fellow citizens of higher education, sharing a highly personal set of observations from eight years of practice, eight years of research, and four years of attempting both. That includes a year of reflecting on the ideas of W. Edwards Deming (e.g., 1986), whose work inspired these thoughts and could easily warrant several speeches of a different order. It is empirical in that sense alone. I leave its validity, reliability, and utility to you.

Over the years, I have become fascinated with the fact that people—all of us—very often do not do the right thing. We act contrary to our values, or to the obvious prescriptions in a Management 101 textbook, or to what we know about effective teaching, writing good research reports, or presenting a paper at a professional meeting. For example, I have personal knowledge

Ellen Earle Chaffee is vice chancellor for academic affairs, North Dakota State Board of Higher Education. *This speech was her presidential address, delivered at the annual meeting of the Association for the Study of Higher Education, 3 November 1989, at Atlanta.*

of leaders breaking the following elementary rules of good practice:

- Give credit where credit is due.
- When a foundation that has given you a million dollars asks you a question, don't tell it to get lost.
- Tell your Board of Regents the truth.
- When in financial exigency, do not remodel the president's house.
- Don't tell potential students you have an Olympic-sized pool when you don't even have plans to build one.
- Be nice to job applicants.
- Don't become a president if you don't like people.
- Thank people for a job well done.
- Don't pay a nonworking person hush money and call it salary.

You have seen these things, too. People who break these rules are not doing the right thing. In fact, they violate basic principles of morality, justice, and decency. We see it; sometimes we complain. Once in awhile, we prosecute. The behavior continues, if not the person in office. Does higher education stand for morality, justice, and decency? Perhaps not.

What makes this kind of behavior astonishing to me is that we all want approval from others. We all want to make a meaningful contribution. So I ask myself: Why do we often do the wrong thing?

Well, of course, we never have enough time. Some utterly contrary law of nature seems to dictate that the expedient thing is almost never right. Doing the right thing can get you crucified in some contexts. Often we can do only one of several things that appear right at the time. Or we cannot find even one right course of action to straighten out a mess that someone else has made. Moreover, nobody's perfect. Nobody will ever be perfect. But we could do the right thing much more often than we do.

My message has three parts. First, I will offer some symptoms as evidence that the higher education enterprise—our oasis of truth, beauty, and justice—is polluted because not enough people can do enough right things enough of the time. Then I will suggest some problems that seem to underlie the symptoms—problems that are by no means limited to higher education. Finally, I will describe some alternatives that I believe will foster right action more effectively and more often. I will deal primarily with cultures and organizations, but I will close with our re-

sponsibilities as individuals.

Symptoms of Pollution

- Our entering students are among the lowest-scoring students in developed countries on a lengthening list of international achievement tests.
- The cost of postsecondary education has been rising faster than inflation, and our revenues have not. The solution has been to raid faculty, staff, and student wallets.
- Among employers, the credibility of education at all levels is in jeopardy. The MIT Commission on Industrial Productivity (1989) calls education one of the major *drawbacks* in efforts to create a more productive America.
- After twenty-five years of "equal opportunity," minority enrollments and completions have seriously eroded.
- Among the top ten priorities of student government leaders from the Big Ten universities are three that deal with combating discrimination (Wilson 1989). Three! In desperation, campuses prohibit racist and sexist commentary. I can only hope that they are working as hard on educational remedies as they are on staying out of court.
- There are about as many female college presidents in this country as whooping cranes in the world. The rate of increase in the latter is probably higher.
- Hazing incidents, harassment, and substance abuse continue not only to humiliate and debilitate our students but, on tragic occasion, to murder them.
- The scarcity of potential faculty in the pipeline is attributable to many sad factors, including lack of evidence that this nation values teaching and learning.
- The proportion of top college administrators who believe that the emphasis on intercollegiate sports interferes with the educational missions of colleges is a whopping 85 percent (*Chronicle of Higher Education,* 1989). The NCAA is fiddling around with the matter; most college presidents dare not even do that. Incredibly, the news of this nearly unanimous agreement on an impediment to our missions warranted

only a sideline note in the *Chronicle of Higher Education*.

I conclude from these observations that, at the least, higher education tolerates wrongdoing. Higher education institutions are not even exemplary retreats, much less leading forces for social good. Actions speak louder than words; inaction speaks volumes; students learn more out of class than in. What are we *really* teaching?

Problems Underlying the Symptoms

These symptoms simply are not tolerable. Never mind the innumerable commendable features of our enterprise. So what if the United States has the best higher education system in the world? Sure, new knowledge and knowledgeable citizens comprise our most central purposes, but knowledge without character is one of Mahatma Ghandi's seven sins. As novelist Walker Percy put it, "Despite great scientific and technological achievements, Americans have not the faintest idea of who we are or what we are doing" (in Wishard 1988, 8).

The problems that underlie these symptoms are complex. Let me suggest a few. *The first problem that inhibits right action is rampant competition*. Here is some garden-variety evidence:

- Probably the only researchers who have published more coauthored papers than solo papers are scientists . . . and our colleague Bob Blackburn.
- I know of no administrator who is delighted by a high-quality new program at another institution, especially not when that program duplicates one of his or her institution's and when that institution draws students or state dollars from the administrator's pool.
- I know of many teachers who grade on a curve, but few who often assign collaborative projects.

We tend to make an a priori assumption that life itself is a competition. Competition is not intrinsically wrong, but we are uncritical of when and how we presume it. Having adopted a competitive mode, we often tend to try to whip the other guy, rather than aiming to be the best we can be regardless of where the other guy is. Assessment began in many places as a means of comparing institutions against one another, and this was not purely and entirely an approach that others imposed upon us. Those of us who were sure we had plenty to brag about did not mind the comparison. Only with great difficulty and much

backsliding has the orientation shifted instead to improvement over time within each institution.

We tell our children it's okay to lose as long as they did their best, but we aren't really happy for them. And when the college down the road starts a great new program, we are not usually delighted by the challenge to improve our own or happy for the students who will benefit from it. Instead, we seek to deny its greatness.

Three-fourths of the nation's college students admit to some kind of academic fraud (Gehring, Nuss, and Pavela 1986). We have policies, punishments, processes, and pamphlets galore on this, but three-fourths of them still do it. Competition is so important in this culture that winning can be more important than anything. *Anything!* More than effort, more than ethics, more than improvement, more than learning.

Does our leadership set a good example for students? Massachusetts had to develop regulations to prevent cheating in the use of trust funds. The scientific community is in agonizing debate about how to stop it. For different reasons, so is the athletic community.

In our competitive zeal, we tend not only to want to whip the other guy, but we also choose the wrong other guy. Higher education faces severe financial difficulties in a number of states. I hope that if yours is one, it is not reacting like North Dakota. Some of our leaders and many of our faculty have decided that the enemy is the other colleges and universities: Close the small schools! Take money away from other campuses and give it to us! Fire anyone but me and the people I depend on!

They are not the enemy. The enemy, if there is one, is the state's nineteenth-century economy. If we really cooperated instead of competing, higher education could go a long way toward solving that problem. Instead, we waste ourselves. We waste our future.

In the classroom, as normally conducted in the United States, cooperative effort is called cheating. I don't know about you; but it was well after I completed my dissertation that I stopped feeling nervous about sharing a hot idea with colleagues before I had it ready to publish and longer still before I stopped feeling guilty about needing a couple of good critiques to improve my drafts. We do not teach people to make conscious choices about competition and cooperation nor how to blend the two productively. We have entered an age when "getting yours" almost inevitably comes at the expense of someone else, yet the teaching of sharing seems to end in kindergarten.

Table 1 illustrates another systemic problem. These data are real. They show the number of defects produced by five individuals in a production line on each of four working days. The larger the number, the worse the production. The goal is no more than five defects per day per person—twenty or fewer per person in four days, twenty-five or fewer per day for all workers. If these data were representative of a longer period of time, this crew's supervisor might logically decide to fire all but Larry, put all workers in a training school, establish a major incentive program, or cut pay for workers who have the highest defect rates.

The data on this chart come from the following process. A large bowl contains 1,600 white beads and 400 colored beads. Colored beads are defects. Employees are equipped with a paddle containing 50 bead-sized indentations. They scoop the paddle into the bowl, and it comes out containing 50 beads. The beads are hot, so the employees cannot touch them or the container. Clearly, the supervisor who understands the determinism of this process, the utter inability of the worker to affect the outcome, will be more sympathetic to workers. He or she might begin conversations with design engineers about changing the process. Ultimately, the best and perhaps only way to obtain lower defect rates is likely to be lowering the proportion of colored beads that get into the bowl. The processes in higher education organizations are far less obvious, and their determinism is far less easy to assess.

The second systemic problem is that blaming people is more common than fixing processes. Research in business has shown that at least 85 percent of employee problems are traceable to organizational processes that interfere with their productivity. My experience suggests that at least 95 percent of faculty, staff, and students want to contribute effectively to their organization or learn the material in the class. Yet our first reaction to nonperformance is often annoyance with the individual, and our first reaction is often as far as we go.

If that seems overly harsh to you, consider how many colleges and universities in this country are working assiduously to reduce the number of entering high school graduates who need remedial instruction before they can handle college-level classes—not to provide remedial instruction but to prevent the need for it. Not to fix the student, but to fix the system.

A manufacturer would see the problem as inferior raw materials coming into the plant. Commendably, a large sector of the higher education system does not blame the underprepared student by denying admission. But by failing to work vigorously with

TABLE 1

PRODUCTION OF DEFECTIVE PARTS

Name	*1*	*2*	*3*	*4*	*Total*	*Goal*
Gloria	6	12	7	9	34	≤20
Carol	7	7	8	6	28	≤20
Larry	4	6	3	8	21	≤20
Allen	9	8	7	5	29	≤20
Lee	6	9	7	7	29	≤20
TOTAL	32	42	32	35	141	≤100
Goal:	25	25	25	25		≤100

precollegiate youth and education systems, we perpetuate the problem. We get a new crop of students with deficiencies every year. We place a burden on these students that can be measured in time out of their finite lives and dollars out of their pockets—a burden they could have been spared.

Is that not our problem? Shouldn't the secondary schools be fixing it? Who prepares teachers and administrators for the secondary schools? But the problem is not just whether we adequately prepare these individuals. They, too, suffer from cultural and structural problems in the public school system. What are we teaching them about how to solve such problems? What are we showing them in our own systems?

Our skill in dealing with personnel issues in higher education is not high; and that, in a so-called "labor intensive" enterprise (I prefer the term "intensely human"), is scandal enough. Far worse, however, than our personnel functions is our inability to analyze and change our systems so that they will better support effective performance. If it takes two months to process a travel reimbursement, some of us fume while others justify and excuse. If lecturing is an inferior instructional method for some subjects or students but there is no encouragement for innovative methods, then we keep right on lecturing. The route to greater status for many fields and higher salaries for their practitioners has become longer education. This comes often with pro forma attention to the content of the additional years and no attention to the

efficiency and effectiveness of the earlier twelve to sixteen years of education. Instead of fixing processes, we make innocent people pay for our systemic problems.

On to a third inhibitor of doing the right thing. Just as institutional rhetoric on the value of teaching is usually much stronger than either efforts to help faculty become better teachers or the weight of teaching in faculty performance appraisal, *rewards often do not correspond to intentions*. This problem exacerbates both of the preceding two.

We increase competition, for example, by using enrollment-driven budget formulas in the public sector, even in states with declining resources. Such formulas encourage interinstitutional competition, not cooperation. Moreover, they reward growth. Where state dollars are scarce, growth steadily erodes institutional capacity to ensure quality as the number of additional students outstrips the state's ability to maintain prior per-student funding levels. Loss of quality reduces, first, public confidence in the value of higher education and, second, public willingness to support it, creating even lower ratios of funds per student and a steadily increasing loss of quality. The scramble to reverse the spiral often addresses everything except the enrollment-driven budget formula.

Blaming individuals for faulty processes also produces problems in the reward structure. Organizations intend to reward meritorious service; but wherever performance is due to process or luck, it is process and luck that get rewarded. If your department is so heavily tenured that it will absorb no more, your merits as an assistant professor are irrelevant. If your year to publish five books and twenty articles and win the outstanding teacher award is a year of no money for raises, the most you can hope for is a pat on the back.

What makes all of these and similar problems especially disturbing is that they do not yield to traditional kinds of individual or even group efforts to solve them. Higher education has more than its share of intelligent, moral, committed, hard-working personnel. It is accurate, if not especially useful, to say: "It is not your fault, it is not my fault, nor is it some other guy's fault if higher education falls short too often of its ideals." It is time to stop blaming people, stop blaming other groups.

But paradoxically, while people are the problem, only people—and I mean you and I, can solve these problems. The critical challenge of the 1990s is to change our ways so that we *are* what we stand for and we *do* what we *are*. Higher education, more than any other social institution, is obliged not just to teach what

moral leadership means, but to show what moral leadership is.

Higher education is not, cannot be, *must* not be an oasis; its mission demands action as a leading force in society. Moral leadership is not adding new programs to get students to do public service, however beneficial they may be. Moral leadership most certainly is not letting Congress force us to add such programs. That's too easy, too reactive, too ineffectual, too superficial.

Alternatives for Action

I believe that we could meet the challenge of moral leadership, at least in part, by acting on three key principles, each as important as the others:

First, *every person in an organization must work primarily to discover and serve the real needs of others.* The reward for this is joy. Faculty take it as their mission to understand what students really need to know and how they really learn, and teach accordingly. That does not mean staying until midnight to drum the stuff into their heads; it means constantly seeking the kind of understanding that allows you to identify the right material, the better method. It does not mean teaching what tickles the faculty fancy, nor what tickles the students' fancy; it means tackling together the very difficult question of what students really need to know.

Administrators who are motivated by a service ethic see their role as identifying and fixing inadequate processes inside the organization and matching its services to the needs of students and the external society. Strategic management is not about organizational survival; it is about satisfying and delighting constituencies. Administrators would agree with Max DePree, president of the Herman Miller, Inc., furniture company, that quality and integrity mean showing "a fine sense of obligation" to others and that "being faithful [to what we believe] is more important than being successful" (1989, 74, 61). If you worry that altruism requires sacrificing successfulness, check the three-generation-long record of Herman Miller furniture.

Those who would serve through research make an explicit connection between their studies and social needs, however long-term the potential payoff may be. And when the payoff is immediate, they cannot rest until they are sure that those who can use the results understand how to do so.

The second key principle is that *the individual takes center stage, with dignity and respect.* The reward for this is integrity. Custodians are not lazy, social scientists are not fuzzy-headed, the poor

are not supplicants, students are not unwise, administrators are not nasty, and the faculty are not recalcitrant. Rather, as one might try to describe a unique friend, "Keith is Keith." And, as they say at commencement, Keith is entitled to all the rights and privileges pertaining thereto.

Kenneth Boulding (1956), a brilliant multi-disciplinarian, once defined nine stages of system complexity, ranging from the simple, machine-like system, through the more complex biological system, to the highly complex cultural system. Boulding described only eight stages, leaving a ninth level open because he was confident that something higher, something more complex, would come along. This idea of restoring the individual represents the ninth stage to me. Let me reconstruct the journey that brought me to this conclusion.

I recently read six chapters on minorities and assessment that will be in a volume in Jossey-Bass's series, New Directions in Institutional Research, edited by Michael Nettles. Reading these chapters took me beyond just understanding what cautions were advisable in assessing minorities and why. The last chapter I read was one by Jean Endo on Asians. I hate to admit this ignorance, but when I saw the title I thought, "Aha, good news at last." Step by step, Jean led me through a painful process by which I learned this: Asians are not Asians. Asians are Cambodian, Hawaiian, Chinese, Thai, Japanese, and at least a dozen other nationalities. Not only that, Asians are first-generation, second-, third- and even fifth-generation Americans and college-goers, male and female. They are from high, medium, and low socioeconomic status families. All these and many other factors show up in their test performance. Construct a decision tree from the data to represent not only the multiple variables but also their often small predictive power, and you will quickly come to the same conclusion I did: Asians are not Asians in any sense that has meaning for action. Make a policy on Asians or an assumption about the Asian in your classroom, and odds are it will be wrong.

So why bother? An accurate, useful, humane view is readily available as an alternative assumption: every person is unique and intrinsically worthy—someone I can learn from. That, to me, is the most complex and wondrous phenomenon on earth. Understanding its implications and acting accordingly easily measures up to the challenges of Boulding's ninth stage of complexity.

The third key principle for change is that *management and administration must shed the need to control people in favor of a need to*

liberate people. The reward for this is energy, nature's definition of power—energy from all participants in service of the common good. We know about person power, position power, charismatic power, and expert power, but all of these relate to one focal individual controlling others or deciding things. More important, according to DePree of Herman Miller, is that an individual leader abandon herself or himself to the strengths of others (1989, 7). In saying this, DePree brings us back to the idea of treasuring individuals. He points out that people have many and diverse talents that are lost forever in control-style organizations. He says, "A belief that every person brings an offering to a group requires us to include as many people as possible" (1989, 57). "I" must become subordinate to "you" and to "us."

An underlying theme of these three principles is the need for serious critical thinking about and changes in our values and behavior, especially but not exclusively in management and governance at all levels. We are still reactive, not proactive, still wiggling around on the surface, not diving deep into our souls.

By no coincidence, I have learned of an approach to management that is being widely adopted by an increasing, though still small, number of American businesses. It has long been successful elsewhere. I believe that it embodies these three principles and can substantially reduce, if not eliminate, the problems I listed earlier.

The approach was the subject of the most astonishing lecture I have ever witnessed at a professional conference, Professor Larry Sherr of the University of Kansas speaking to last spring's Association for Institutional Research (AIR) meeting on "Is There a Better Way to Manage Higher Education?" (Sherr 1990). If the revolution occurs in higher education as it is beginning to in business, he will be one of its founding fathers.

The management approach goes by many names, including the Deming management method, total quality commitment, quality improvement, and strategic quality management. What I find most compelling is its capacity to help an organization and every individual within it to do the right thing most of the time. It puts our highest, most productive values to work every day. It unleashes the power of each person to make unique yet collaborative contributions to an organization. Its emphasis on improving quality makes it especially relevant to higher education in the 1990s and beyond. What it can do—what it *has done*—is increase quality, increase productivity, and decrease cost. Paralleling my three principles, it works by (1) focusing attention on serving "customer" needs, (2) valuing the individual as a matter of orga-

nizational policy and practice, and by empowering everyone in the organization with the authority to take corrective action.

The list of suggested readings explain this new method. I think it supports my claim that we do not have to settle for the structural and cultural problems we face. We can create new systems that will encourage us to do the right thing much more consistently. But, quoting DePree again, "In the end, it is important to remember that we cannot become what we need to be by remaining what we are" (1989, 87).

We have much to be proud of in higher education. If I did not believe that, I would not stay in it. My point is not that higher education is bad. My point is this: higher education is not nearly good enough. We must not settle for that. We cannot wait for the normal processes of change to make higher education better. You and I must change not only our own behavior but the moral expression of our enterprise. Now.

Leadership for Change

I found a compelling summary of needed changes in organizations and individuals in a speech by William Van Dusen Wishard. Take account of this: the setting is not a convention in psychology, anthropology, social work, personnel administration, or philosophy. The speaker is an official of the U.S. Department of Commerce; the audience is the Harvard Club.

Regarding organizations, Wishard observed, "We must integrate every type of person, every mode of culture, every human potential into some larger universal purpose and pattern. This vision of wholeness, this sense of common being and destiny, is our most urgent need, and it is the key to the future" (1988, 11).

He points out that religion guided the individual search for meaning and purpose for hundreds or thousands of years, followed by about four hundred years of guidance by rationalistic science. He chronicles the decreasing adequacy of the scientific approach in dealing with modern dilemmas—dilemmas that arise from such sea changes as worldwide instantaneous communication and the ever-narrowing distinction between life and nonlife. He concludes: "We must now give primacy to the integrative elements in life—sense, wholeness, intuition, generosity, trust, communication, love, and the impulse to higher reaches of being. We must reinterpret the 'why' of those ethical norms that the experience of six thousand years of civilized life has taught us are essential. . . . Basically, we must find a new balance, a dynamic equilibrium, between our inner life and our outer life" (1988, 10).

How do we find such balance? For several years, higher education and the nation in general have been crying for leadership and vision. While I admit the need and the value, I am deeply troubled by the implicit message that leadership is someone else's duty. When did we begin to feel so powerless, so irresponsible? Dennis Lowden, a graduate student Professor Sherr cited in his AIR address, wrote an answer, and the *University Daily Kansan* published it about a year ago:

> There's a man who spends several hours a day around Wescoe Hall, noisily rearranging leaves and refuse on the stairs and walkways. He does it with a gas-powered machine strapped to his back that seems to operate on the principle of a vacuum cleaner in reverse. It's often hard to concentrate when he's nearby. . . .[But] it's not the noise I object to. I object to this man's job.
>
> I'm sure he's well-paid. At least I hope he is. For all he has to put up with, he should make $25 an hour. It's the person who assigned him that job who should be fired.
>
> The man blowing leaves around Wescoe Hall is a teacher. He's teaching us what we want to know. We want to know that problems are not to be solved, but to be relocated. Is there a pile of trash on the steps? Don't pick it up, blow it away. Let somebody else deal with it. Of course, nobody will, so tomorrow the same trash has to be dealt with all over again. Naturally, it looks different, and it's in a different place, so we think it's a different problem. . .
>
> [People] believe they can create problems but not be required to solve them. Sadly, history has proven them correct. But history is not all that you can learn at a university. Perhaps you can learn that big problems often start off as ones that appear trivial. Perhaps you can learn that leaves go somewhere; they don't just go away. (in Sherr 1990, 14)

This is the Association for the Study of Higher Education. Our members have found a great deal of trash in our shared profession, and knowing where to find it is the first step. Now I invite you to join with me to find and to change everything that keeps us from doing the right thing. I don't know how we're going to do it; administrators always leave implementation to other people.

But I know that we must do it—in our scholarship, our practice, our teaching, our public service—in our behavior and in our souls. We must serve others, treasure them, and liberate them. We have seen the leaders. They are us.

BIBLIOGRAPHY

Boulding, Kenneth. "General Systems Theory: The Skeleton of Science." *Management Science* 2 (1956): 197-208.

Deming, W. Edwards. *Out of the Crisis*. Cambridge: MIT Center for Advanced Engineering Study, 1986.

DePree, Max. *Leadership Is an Art*. New York: Doubleday, 1989.

Gehring, Donald, Elizabeth M. Nuss, and Gary Pavela. *Issues and Perspectives on Academic Integrity*. Washington, D.C.: National Association of Student Personnel Administrators, Inc., 1986.

MIT Commission on Industrial Productivity. *Made in America: Regaining the Productive Edge*. Cambridge: MIT Press, 1989.

Nettles, Michael, ed. *The Effects of Assessment Upon Minority Participation and Achievement in Higher Education*. New Directions in Institutional Research, No. 65. San Francisco: Jossey-Bass, 1990.

Sherr, Lawrence A. "Is There a Better Way to Manage Higher Education?" In T. Karolewski (ed.), *Higher Education and The Future: Initiatives for Institutional Research*. Tallahassee, Fla.: The Association for Institutional Research, 1990.

"Sidelines." *Chronicle of Higher Education* 35 (11 October 1989): A41.

Wilson, Robin. "Student Leaders from Big 10 Campuses Organize to Revitalize Activism." *Chronicle of Higher Education* 35 (20 September 1989): A40-A41.

Wishard, William Van Dusen. "Business—The Bridge to the Future." Speech to the Harvard Club, New York City, 17 November 1988. Typescript. Photocopy in my possession.

SUGGESTIONS FOR FURTHER READING

Management Principles

Block, Peter. *The Empowered Manager: Positive Political Skills at Work*. San Francisco: Jossey-Bass, 1987.

Chaffee, Ellen E. "Managing for the 1990s." In *Tasks for the New Decade*. New Directions in Higher Education. San Francisco: Jossey-Bass, forthcoming.

Deming, W. Edwards. *Out of the Crisis*. Cambridge: MIT Center for Advanced Engineering Study, 1986.

DePree, Max. *Leadership Is an Art*. New York: Doubleday, 1989.

Garvin, David A. *Managing Quality: The Strategic and Competitive Edge*. New York: Free Press, 1988.

Gitlow, Howard S. and Shelly J. Gitlow. *The Deming Guide to Quality and Competitive Position*. Englewood Cliffs: Prentice Hall, 1987.

Imai, Masaaki. *KAIZEN: The Key to Japan's Competitive Success*. New York: Random House, 1986.

Ishikawa, Kaoru. *What is Total Quality Control? The Japanese Way*. Translated by David J. Lu. Englewood Cliffs, N.J.: Prentice Hall, 1985.

Juran, J.M. *Juran on Planning for Quality*. New York: Free Press, 1988.

__________. *Juran on Leadership for Quality: An Executive Handbook*. New York: Free Press, 1989.

Scherkenbach, William. *The Deming Route to Quality and Productivity: Road Maps and Road Blocks*. Rockville, Md.: Mercury Press/Fairchild Publications, 1988.

Townsend, Patrick L. *Commit to Quality*. New York: John Wiley & Sons, 1990.

Walton, Mary. *The Deming Management Method*. New York: Putnam, 1986.

Statistical Reasoning

Ishikawa, Kaoru. *Guide to Quality Control*. Asian Productivity Organization. (Available from UNIPUB, One Water Street, White Plains, NY 10601, 800-247-8519.)

Kume, Hitoshi. *Statistical Methods for Quality Improvement*. AOTS, 1985. (Available from UNIPUB, above.)

Statistical Quality Control Handbook, Prepared for Western Electric Personnel. 11th printing, May 1985. Inquire at AT&T Technologies, Commercial Sales Clerk, Select Code 700-444, P.O. Box 19901, Indianapolis, IN 46219, 800-432-6600.

Wheeler, Donald J., and David S. Chambers. *Understanding Statistical Process Control*. Knoxville: Statistical Process Controls, 1986. (Available from Statistical Process Control, 615-584-5005.)

Unless otherwise indicated, these and other books are available through:

American Society for Quality Control
310 West Wisconsin
Milwaukee, WI 53203