QUALITY IS FREE

The Art of Making Quality Certain

How to <u>manage</u> quality — so that it becomes a source of profit for your business

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"The Art of Getting Your Own Sweet Way"

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Philip B. Crosby

To
Harold S. Geneen

Bringing Quality Management to the head table was not exactly the same as introducing black baseball players to the major leagues; but there were enough similarities to make me feel toward Harold Geneen what Jackie Robinson felt toward Branch Rickey.

In both cases the motives were the same: to increase the probability of having a winning team.

To quote HSG: "Quality is not only right, it is free. And it is not only free, it is the most profitable product line we have."

Preface

I have learned to carry my typewriter with me as I travel. Renting is iffy, and unreliable at best. Checking the machine with the airlines is not wise. Portable typewriters are just not packaged for "luggage" treatment. Machines that can survive this system cannot be lifted.

Naturally, your traveling companions ask if you are a writer. Now if you really are a writer, all you have to do is say yes and an interesting conversation is established during the trip. However, I have never considered myself a writer. I consider myself a professional manager who communicates through many means; one of these is writing.

That may seem like a small difference in terms, but it is really more than that. Trying to explain your ideas so others can understand them is what this sort of thing is all about. Trying to offer concepts in attractive packages so the communicatee has to at least consider them has been the struggle of my life. Some of these concepts have been accepted, but usually only several years after I began developing them. That is only fair since it takes a lot of years to conceive them.

I wasn't born a manager; my family always envisioned me as a medical person. My father was a chiropodist, my uncle, a physician, and the whole outfit was involved one

way or another in the medical field. I grew up assuming I would enter it too.

It is not my intention to relate the story of my life; you would doze off before reaching the end of the page. No life story, but there is a point to all this. I started at the bottom of the business and have had each and every job on the way up. Inspector, tester, assistant foreman, junior engineer, reliability engineer, group engineer, section chief, manager, director, corporate vice president—all of them. This has produced a "dirt under the fingernails" education I would not have received if fate had dealt me relatives who believed in the God of engineering or accounting.

Because of these experiences, I tend to see things in terms of those who must finally wind up doing the job. I see concepts and their implementation as people-oriented. Once in a while I get a glimpse of the future, enough to know what will be accepted and what will be ignored. In preparing this book I have tried to emphasize the practical actions of communicating programs and concepts in a way that will bring results.

This book took an awfully long time to write. Much of the material I put together over several years has been discarded. The Grid is a new development as is Make Certain. Both programs are unique, cheap, and remarkably effective. If you can't communicate with management using the Grid, and with people using Make Certain, well, then you are in trouble too deep to be helped by this little book. Not company trouble, comprehension trouble.

My staff has been very patient with me during the preparation of this material. Virginia Brauneck, my secretary, has struggled through translating my clumsy typing into English. Alternately scowling and breaking into giggles, she put a great deal of herself into this work. I appreciate it.

My leaders encouraged me through their comments and interest. Not all corporations would understand when one of their senior executives sits alone in a hotel room at night making clickity-click noises. My corporation recognizes

communication as the engine that makes our society operate or strangle.

More people have helped me through these twenty-five years than I can name here. Three of these individuals have passed on. They were special to me and I would like to publicly remember Tom Willey, Jim Halpin, and Murray Hack.

And, of course, the Crosby family: Shirley, Phylis, Philip, and Kathy. They always understand; they love me anyway.

I hope you will read the first three chapters in order. It will all make more sense to you that way. After that you can hop around any way you please. After all, it's your book.

Philip B. Crosby
JOHN'S ISLAND, FLORIDA

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PART ONE

The Understanding

Quality is free. It's not a gift, but it is free. What costs money are the unquality things—all the actions that involve not doing jobs right the first time.

Quality is not only free, it is an honest-to-everything profit maker. Every penny you don't spend on doing things wrong, over, or instead becomes half a penny right on the bottom line. In these days of "who knows what is going to happen to our business tomorrow" there aren't many ways left to make a profit improvement. If you concentrate on making quality certain, you can probably increase your profit by an amount equal to 5 to 10 percent of your sales. That is a lot of money for free.

This book is about the art of making quality certain. Managers of any operation or function can take practical, nontechnical steps to improve their quality. They can prevent those computer programming errors; those burred screws; those cold steaks; those lost parcels; those miscalculated bills. All the ways, means, and concepts of making quality certain are laid out in this book.

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Making Quality Certain

What does "making quality certain" mean? "Getting people to do better all the worthwhile things they ought to be doing anyway" is not a bad definition. "People" includes top management as well as the lower levels of the organization. After all, part of the top job is making certain that all management functions have the opportunity to perform their responsibilities. The problem is, of course, that everyone who arrives at a top management job gets there by moving up through one division, like finance or engineering, that has a limited, specific function, and may or may not have any ideas about overall quality. Top managers may or may not realize what has to be done to achieve quality. Or worse, they may feel, mistakenly, that they do understand what has to be done. Those types can cause the most harm.

It is up to the professional quality manager to assume the responsibility for instructing top management about this portion of their job. It is not necessary to be extremely clever or brave to accomplish this; it is only necessary to be able to explain it all in terms that cannot be misunderstood. Professionals in any role who obscure explanations by using mysterious terminology do themselves, and their roles, a disservice. They get some satisfaction from seeing obvious confusion on the face of their superiors, but that confusion just makes everybody's job harder.

I started in the quality business as a junior technician testing fire control systems for B-47s. Completely untrained and uninformed, I learned the simple tasks of adjustment and measurement without ever really wondering why it was all being done at all.

In fact, during my first four or five years in jobs like that, it never occurred to me to wonder. But then I had the opportunity to be exposed to reliability concepts and practices. Most of them were rather mushy and mathematical, but they revealed an element I hadn't thought about before: prevention.

That thought brought out a possibility I had never dreamed existed: "Why spend all this time finding and fixing and fighting when you could prevent the incident in the first place?"

The entire world, it seemed, was convinced that prevention—at least on a grand scale—was highly desirable but completely unattainable and impractical. It was always referred to as a sort of dream along the line of King Solomon's lost diamond mines. I had a great many long and earnest talks with sincere people who were clear that there was no way to attain true quality through prevention: "The engineers won't cooperate." "The salesmen are untrainable as well as a little shifty." "Top management cannot be reached with such concepts." "The quality professionals themselves do not believe it."

I knew immediately that I had found the opportunity I was looking for. Here was a problem that everyone wanted to solve but felt was not their responsibility. All I had to do was find a way to get them committed to improvement without having to reveal that they had been wrong all along.

For the next several years, as I learned more about managing quality, I realized that the conventional approach was not effective. Quality managers proudly stood up and announced that they personally were responsible for quality in a particular operation. Just as regularly, and not so proudly, they were sent down in flames when they were unable to resolve all the "quality problems" of the company.

As a project quality manager, I was berated each week by the program director in his staff meeting for not meeting desired goals while the real culprits from engineering, manufacturing, and sales hid their yawns and wished the whole thing would go away so they could return to their important work.

It was all too clear that some beliefs are so basically ingrained that they cannot be changed just by suggesting they are wrong. (I should note that my knowledge of this fact is part of the reason I have been very supportive of the activities of minorities and women in trying to throw off the roles assigned and attributed to them.) However, my active revolution as quality manager didn't really begin until the day one of the company lawyers told me, in all sincerity, that he couldn't really understand "what a bright guy like you is doing in a little cul-de-sac like quality." If I had ever thought of leaving the quality business, that killed it. Some changes had to be made.

So I began to concentrate on the real problems. First, it was necessary to get top management, and therefore lower management, to consider quality a leading part of the operation, a part equal in importance to every other part. Second, I had to find a way to explain what quality was all about so that anyone could understand it and enthusiastically support it. And third, I had to get myself in a position where I had a platform to take on the world in behalf of quality.

I think all these goals have been attained. As a member of senior management of one of the largest industrial companies in the world, I make as much money, and have just as many rights, as other senior managers. We have installed effective and routine ways of understanding quality, and communicating from the top of the organization to the bottom, as well as the other way around. I have not been accused, in the past five years anyway, of having some "quality problem" that I should do something about.

You can do it too. All you have to do is take the time to understand the concepts, teach them to others, and keep the

pressure on for prevention. It helps if you train yourself to be articulate, and it helps if you can keep from becoming emotionally involved in the problems of others. But the whole of it is attainable and highly practical.

This book is structured to lead you directly through all the actions required for a proper quality management program. Case histories, all based on my personal experience, explain practically everything so you can see how others reacted in real situations. One of the most interesting of those case histories involved installing a quality management program in the ITT Corporation. I include it here without listing any names of those involved because there were just too many. ITT, at this writing, employs 350,000 people and has yearly sales of over $15 billion. There are 2500 or so executives and over 200 senior executives. You will have to take my word for it that everyone participated. If I listed all their names, it would look like the San Francisco telephone book.

I will tell the story primarily to give background evidence supporting the basic premise of this book. Quality is an achievable, measurable, profitable entity that can be installed once you have commitment and understanding, and are prepared for hard work. The case history is a record of strategy and effort, not a personal job résumé.

In 1965, the top management of ITT decided that they wanted to do something about quality on a corporate basis. It was apparent that quality was a missing ingredient in the corporate sense of things that were important. It wasn't that quality was deliberately considered unimportant; no one was against it. But as an ingredient of industry, like labor, manufacturing, engineering and so forth, it didn't exist. To me, however, quality is the all-important catalyst that makes the difference between success and failure, and my first goal was to create a corporate-wide concern for quality. This meant that absolutely correct requirements would be established and would be absolutely conformed to, and that everyone would want to do things right the first time. This concern had to become a part of daily life.

Four objectives were established for the ITT quality program. These objectives have served well through the years, and I commend them to other objective makers:

1. Establish a competent quality management program in every operation, both manufacturing and service.

2. Eliminate surprise nonconformance problems.

3. Reduce the cost of quality.

4. Make ITT the standard for quality — worldwide.

These objectives could not be accomplished by assembling a huge staff at headquarters for the purpose of strangling every potential problem in its crib. There was only me and the secretary I shared with two other guys. It was sort of like assembling a raft from the material you obtained while being swept down the rapids.

So I embarked on a deliberate strategy of establishing a cultural revolution — a cultural revolution that would last forever and become part of the corporate woodwork. Firefighting would have to be replaced with defect prevention; quality would have to be recognized as a genuine "first among equals;" the habit of doing things right the first time had to become routine; and, most important of all, the whole thing had to happen within the units (ITT's word for subsidiary or other companies) because they wanted it to happen.

To me, a complete corporate quality program has always been a "table" containing all the "integrity" systems. Quality control, reliability, quality engineering, supplier quality, inspection, product qualification, training, testing, consumer affairs, quality improvement, and metrology; and all the other systems and concepts of quality rest on this table. Management selects what it needs from each and applies these tools to their total problem. It isn't necessary or wise for each and every operation to have exactly the same quality program. At ITT, for example, the personality and needs

of one unit may bear little actual work relationship to those of another, yet they all need programs both appropriate to them and effective in terms of the total corporation.

To establish such a program requires much more knowledge and participation than just a listing of the tools available in our workchest. It requires that this *integrity systems* table be supported by four pillars, or legs, and that they all be constructed to complement each other. Although these were actually built as part of the same operation, we will discuss them one at a time. The four legs are:

- Management participation and attitude

- Professional quality management

- Original programs

- Recognition

Management participation. "Participation," rather than "support," is the right word for this leg. Management has to get right in there and be active when it comes to quality. Those of us who work for others are liable to monitor and measure them constantly. We examine them continually to determine which attitudes and beliefs are the stronger. We want to know what pleases them, or, perhaps more accurately, what displeases them. And we get very good at finding and calibrating this information. Therefore causing management at all levels to have the right attitude about quality, and the right understanding, is not just vital —it is everything.

The first struggle, and it is never over, is to overcome the "conventional wisdom" regarding quality. In some mysterious way each new manager becomes imbued with this conventional wisdom. It says that quality means goodness; that it is unmeasurable; that error is inevitable; and that people just don't give a damn about doing good work. No matter what company they work for, or where they went to school, or where they were raised—they all believe some-

thing erroneous like this. But in real life, quality is something quite different. Quality is conformance to requirements; it is precisely measurable; error is not required to fulfill the laws of nature; and people work just as hard now as they ever did. These concepts are covered in detail in the following chapters. What should be obvious from the outset is that people perform to the standards of their leaders. If management thinks people don't care, then people won't care.

At ITT, most of our actions during the formative years were directed toward dispelling the erroneous beliefs and replacing them with those capable of supporting the integrity systems table. We conducted seminars throughout the ITT world on a regular basis. Those managing directors and general managers who had participated in programs and who had learned to understand quality properly testified to the others. They became involved in this evangelic crusade and the word spread: "The programs actually do work and you can trust the quality guy." In 1967, one other quality executive joined the staff and in 1968, quality was set up as a corporate department of its own. At that time, three senior quality managers were brought in from the units to become part of the operation.

Working on a group-by-group, unit-by-unit basis, we worked our way through the corporation. Orienting, helping, talking, guiding, badgering, and whatever, we kept the pressure on. New managers joining the corporation were made to feel that participation in the quality program was routine and expected. Therefore, they just sailed right along. Today you would have difficulty finding anyone at the executive level anywhere who hasn't been exposed to the true belief.

Professional quality management. In the early days, it was not possible to find many of the quality people in ITT units, since they were buried inside the technical and manufacturing operations, if they indeed existed at all. When found, most of them were not permitted to travel. And so we