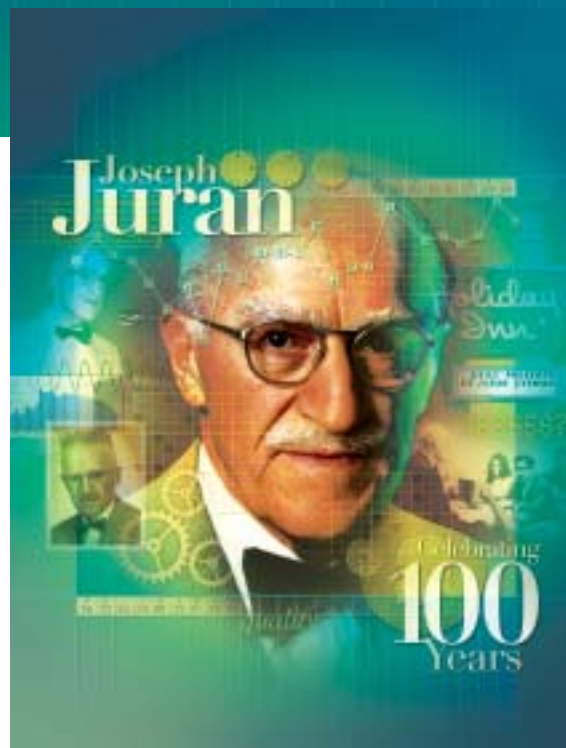


GURUS OF QUALITY

100 Years Of Juran

by **Debbie Phillips-Donaldson, editor**



He's witnessed two world wars, numerous other military conflicts, the rise (and fall) of countless new inventions, humans' first space explorations and 17 U.S. presidents. He's survived anti-Semitism, poverty, emigration, the childhood loss of his mother and the Great Depression.

Living through 100 years of such profound changes and events would be noteworthy enough. But Joseph M. Juran has been much more than just a casual observer. He has participated vigorously in and contributed extensively to the growth of industry, society and—perhaps most importantly to us—quality.

In 50 Words Or Less

- **Joseph M. Juran's life story includes overcoming many obstacles to become one of quality's most influential pioneers and leaders.**
- **As he approaches his 100th birthday, he shares—through his memoirs and in an exclusive interview—insights and highlights from his long, productive career, plus advice for quality professionals.**

Hard Work From an Early Age

Juran's could be considered a classic Horatio Alger story. Born in Romania on Dec. 24, 1904, he emigrated to Minneapolis with his family in 1912 in hope of escaping poverty and the threat of violence against Jews. Unfortunately, it took a while for the family's financial fortunes to improve, especially after the death of Juran's mother in 1920 from tuberculosis.

From almost the moment he arrived in the United States, Juran, along with his siblings, worked to augment the family's income. In his memoirs, *Architect of Quality*, Juran estimates he held 16 jobs during 12 years in Minneapolis—everything from newspaper hawker to grocery clerk to bookkeeper to janitor to warehouse "bundle boy." He worked for a printer, the state Prohibition Committee and Burlington Railroad.

Though child labor typically has a negative connotation, Juran believes it helped his siblings and him in many ways:

We grew up with no fear of long hours or hard work. We learned to seek out opportunities and to use ingenuity to gain from them. We accepted the responsibility for building our own safety nets. By enduring the heat of the fiery furnace, we acquired a work ethic that served us well for the rest of our lives.¹

Juran also found all his work experiences educational. And despite his work schedule, he never neglected his formal education, which his parents

100 Years of Juran

12.24.04

Born in Braila, Romania.

1912

Emigrated with family to Minneapolis.

Held first job (of 16 held before age 20), selling *Minneapolis Tribune* at streetcar stop.

1917

Became naturalized U.S. citizen.

1923

Published for first time, as chess columnist for *Minneapolis Star*.

1924

Graduated from University of Minnesota with bachelor's degree in electrical engineering (first in family to attend and graduate from college).

1925

Served as second lieutenant in the U.S. Army Signal Corps Reserve, Signal Intelligence Division, performing cryptanalysis; later promoted to captain.

1926

Joined Western Electric's new inspection statistical department, one of the first in industrial history.

Married Sadie Shapiro. The couple had four children and, eventually, numerous grandchildren and great-grandchildren.

strongly believed in and required all their children to pursue. Juran excelled in elementary and high school, especially in math, and was usually two years ahead of other children his age.

Eventually the family fortunes improved, and Juran was able to direct his earnings into a savings account for higher education. In 1920 he enrolled in the University of Minnesota, majoring in electrical engineering—the first of his family to attend college.

Though funding this education remained a “precarious balancing act” each year, Juran found his biggest challenge was maintaining even a C grade average. Because good grades had come so easily to

Intrigued by the early success of the telephone industry, he accepted the Western Electric offer to become an engineer at the Hawthorne manufacturing plant in Cicero, IL. His starting salary was \$27 a week.

Assigned to Quality

At the age of 20, Juran embarked upon a career that was to last more than 70 years. At first, he had no idea it would be in quality. After a week of orientation training at Western Electric, he was assigned, perhaps randomly, to the inspection branch of the Hawthorne plant.

From that rather unremarkable beginning, Juran's career would evolve to encompass:

- Serving in one of the first inspection statistical departments in industry.
- Being promoted to a managerial position, then to a division chief, at the age of 24.
- Earning a law degree (as a backup employment alternative during the Depression).
- Moving to Western Electric/AT&T's headquarters to work in corporate engineering.
- Serving in the statistics, requisitions, accounts and control sections of the Lend-Lease Administration, which procured and leased arms, equipment and supplies to World War II Allies.
- Teaching industrial engineering at New York University as professor and department chair.
- Becoming a management—then quality management—consultant, lecturer, author and leader with international influence.
- Creating a corporation (the Juran Institute, now celebrating its 25th year) and nonprofit organization (the Juran Foundation) to carry on his work.

In many ways, Juran's life and career have mirrored world events throughout the 20th century. For example, he has described the period from June 1928, when his first child was born, to June 1929, just before the Depression, as the happiest 12 months of his life.

During a recent interview, Juran explained that besides being enchanted by and in awe of the miracle



Mr. and Mrs. Juran: Juran met Sadie Shapiro in 1924; they married two years later and will celebrate their 78th anniversary in June. Here they appear in their high school graduation photos.

him during his earlier schooling, he had never learned to study, and he continued to work throughout college. He also discovered extracurricular activities such as chess—which developed into a lifelong passion—and the Reserve Officers Training Corps (ROTC), which he saw as an opportunity to serve his adopted country. (It didn't hurt that he received a warm army overcoat as a bonus for signing up.)

Despite the distractions, Juran made it to graduation, when he was recruited by six companies. He received offers from three—General Electric, Western Union and Western Electric, part of the Bell system.

1928

Promoted to first managerial job, chief of quality inspections (new Western Electric department of 40 inspectors who randomly checked work of product inspectors).

1935

Published first quality related paper, "Inspectors' Errors in Quality Control," in *Mechanical Engineering*, originally presented at American Society of Mechanical Engineers (ASME) conference.

1929

Promoted at 24 years old to chief of Western Electric's inspection results division, overseeing five departments.

1936

Earned juris doctor degree from Loyola University Chicago School of Law and passed Illinois bar.

1937

Moved to New York to become corporate industrial engineer at Western Electric/AT&T headquarters; also became active in professional organizations such as the Society for the Advancement for Management, American Management Assoc. and ASME.

1941

Discovered work of Vilfredo Pareto (on the distribution of wealth among a few families) during benchmarking visit to General Motors' headquarters.

Began eight-year stint as reviewer of technical books for the *New York Times* (later donated thousands of science and engineering books he reviewed to the Engineering Societies Library).

Began work in the statistics division of the Lend-Lease Administration; on loan to the World War II effort originally for only six weeks, starting on Christmas Day (just after Pearl Harbor).

of birth, he and his wife, Sadie, were enjoying a "time of benevolence. The world was benign," he added. They were experiencing exciting inventions, such as the telephone, and his career at Western Electric was very positive. He was moving up in the hierarchy into positions of influence. "It was a time of peace; our hopes were being fulfilled," he continued. "It was pre-Depression, pre that mess in Europe [the rise of the Nazis and World War II], and we were innocents. Every decade after that had trouble."²

Yet Juran always found ways to combat the trouble, such as using his skills and experience in statistical analysis and engineering to improve purchasing, budgeting and paperwork gridlock for Lend-Lease. He also participated in extra activities and organizations to improve management within the U.S. government in general.

After the war, he turned his passion for management into a way to help companies and students cope with the explosive growth of U.S. industry and the economy. That help quickly extended to companies in other countries—most notably Japan—also experiencing postwar challenges.

Though Juran's career change from the corporate and government worlds to teaching and freelance work benefited many organizations and quality professionals, his reasons for the switch were not all altruistic. At both Western Electric and Lend-Lease, he had impressed peers and superiors alike with his sharp mind and technical skills but had caused problems with his sharp tongue and inability to understand and accept the needs of others. Thus, he theorized, "I am just too individualistic to fit into large organizations."³

While he would later decide he was off base, his faulty original conclusion led him headlong into a focus on managing for quality, a concept he expanded beyond purely technical elements to include the all-important human ones.

The Human Dimension

Adding the human dimension to quality is one of the achievements for which Juran is most widely credited. He's not sure he deserves that credit,

though he acknowledges he helped broaden quality from a narrow statistical field to one encompassing management. During his career, he said, he ran into many human relations problems, not only his own but ones among other people. To him, those problems all had one root cause: resistance to change or, as he also has called it, cultural resistance.

At the age of 20, Juran embarked upon a career that was to last more than 70 years. At first, he had no idea it would be in quality.

After so many years of struggling to work well with others—then seeing many of the same issues among managers and employees of his clients—his discovery of the source, he said, was a "flash of illumination." It came in 1956 while reading Margaret Mead's book *Cultural Patterns and Technical Change*, which described resistance encountered by United Nations teams trying to improve conditions in developing countries. Mead attributed the resistance to a clash between two cultures.⁴

Juran immediately saw parallels in business, such as clashes between management and employees or situations in which changes he had recommended were rejected by clients for no logical reason. He wrote about his revelation in a paper, then later expanded on his thinking in his book *Managerial Breakthrough*.⁵

Today Juran sees nothing original about his thinking. "Maybe I was the first to apply it to quality."⁶

100 Years of Juran

1942

Appointed assistant administrator in charge of the reports and records division of Lend-Lease, which asked Western Electric to extend Juran's leave of absence then and each year thereafter during remainder of war.

1945-49

Began management consulting on a per project basis with Wallace Clark's consulting company, assisting clients such as Gillette, the Hamilton Watch Co. and a division of Borg-Warner.

1945-51

Left Lend-Lease and Western Electric; started part-time appointment as professor of industrial engineering and chair of the department at New York University; evolved to full-time after a year, then back to part-time adjunct professor.

1946

Became founding member of the American Society for Quality Control and the editorial board of *Industrial Quality Control*, the Society's publication.

1949-79

Started own freelance consultancy with about 40 clients, such as International Latex Co., Bausch and Lomb Optical Co. and General Foods Corp.; over four decades client list grew to include dozens of North American and international organizations, such as Armour & Co., Otis Elevator Co., Xerox Corp. and the U.S. Navy.

A New Science

Whether he deserves the credit for it, bringing the human element to quality would be a notable accomplishment all on its own. But Juran is known for so many more contributions to the quality field:

- The Pareto principle, or 80-20 rule, based on the work of Vilfredo Pareto, a 19th century engineer and economist who found the greatest distribution of wealth went to a few families, then developed a logarithmic curve for the data. Juran applied this concept to quality, stating 80% of problems come from 20% of causes, and management should concentrate on that 20% "vital few."
- The Juran trilogy, which outlined three key components of managing for quality: planning, control and improvement.

Juran has long had one overarching piece of how-to advice for quality professionals, a lesson he gleaned from his career: become bilingual.

- *Juran's Quality Handbook*, considered one of the seminal quality references. Originally published in 1951 as the *Quality Control Handbook* (priced at \$10 a copy) and now on the fifth edition (up to \$150 a copy), it had sold more than 230,000 copies through only the fourth edition.
- Hundreds of papers, articles and speeches, as well as more than 30 books, either first editions or substantial revisions of some of those first editions. His books have been translated into at least 12 languages. Many of his speeches

were to nonprofit organizations, such as ASQ sections, which allowed him to fulfill his urge to serve society.

- A significant role in Japan's emergence as a world quality leader and economic power within a few decades after World War II.

This, of course, is just a partial list. You can read more of his contributions in the comments from other quality leaders and experts starting on p. 31.

Asked during the interview what he considers his greatest contribution, Juran said, "I contributed to a new science: managing for quality." He considers this an offshoot of general management but also a science in its own right. "At the time, I didn't realize I was contributing to it, but in retrospect, I believe that's what I'll be remembered for after I'm gone."

Juran also has a favorite period of his career: his nearly 40 years in consulting. "I wasn't fit for big bureaucracies; I failed in two," he said. "But I fell into the ideal with consulting. I was well suited to freelancing."

Scratching the Itch

Another part of his career Juran has always enjoyed is writing. During our interview, he said that as a youth he created his own little world by reading books, which led him to develop an appreciation for authors and an "itch for writing."

While he was at Western Electric, policies and red tape prevented him from writing for any external publications. Once he was free of that environment—first in government, then in academia and especially as a consultant—he "burst out with a vengeance," he said. "I've been writing ever since."

Juran related an experience with writing for *Industrial Quality Control*, the first magazine of what was then ASQC. One of the first editors, Mason Westcott, was a statistician, as were many of the leaders and members of the Society.

Through his consulting, Juran conducted a study of 39 companies—not necessarily in a controlled fashion, but he "had spies in the companies who gave me information." One of his observations from this informal study was that statistics was overdone; in his view, it was an important element

1950-91

Took 178 trips abroad to lecture, consult, teach courses and attend quality conferences in 34 different countries, addressing more than 20,000 managers and specialists and logging more than 5 million air miles.

1951

Published first edition of *Quality Control Handbook*, based on knowledge gained from consulting work on managing for quality (became *Juran's Quality Handbook* by fifth edition).

1956

Sixth book, *Planning and Practices in Quality Control*, published by JUSE in Japanese, compilation of Juran's lectures from 1954.

Read Margaret Mead's book *Cultural Patterns and Technical Change*; immediately developed conclusion—which he later wrote and spoke about in many works—that her concept of cultural resistance applied as much to business situations as to those between people of different countries.

1964

Published *Managerial Breakthrough*, which helped lay the foundation for the science of managing for quality; the book also established the first two parts—quality improvement and quality control—of what would later become known as the Juran trilogy.

1966

First introduced the Western world to quality circles, which he had studied in Japan, in a presentation to the European Organization for Quality Control's annual conference; also first predicted Japan was headed for world quality leadership within 20 years.

Juran, Deming and Japan

In many ways, Joseph M. Juran's career in quality has paralleled that of W. Edwards Deming. For example:

- Both worked at Western Electric's Hawthorne plant in the 1920s, though according to Juran, Deming did not work in quality there, and the two did not meet until the 1940s.¹
- Both were instrumental in helping Japanese companies revive and drastically improve the quality of their products after World War II.
- Both are widely recognized as pioneers—even gurus—of quality, with each having core concepts and principles attributed to him.

Beyond that, they seem to have had little in common. In fact, some people in the quality community have always wondered about a rivalry between the two pioneers. For instance, the Japanese Union of Scientists and Engineers (JUSE) created a national quality prize for Japan and named it after Deming, not Juran.

Juran quickly dispels any such notions of a rivalry, as well as any rumors about collaboration between the two. "We were good friends," he stated in a recent interview. "We never collaborated because we were really in different fields. Deming was really a statistician. I started out as an engineer and became a manager. We never had occasion to collaborate."²

In his memoirs, Juran compares their work:

Deming and I agreed on most fundamentals. We were both crusaders for good quality. We agreed the main

quality problems had their origins in the system, not the worker. We deplored the efforts to solve problems by means of colorful banners and slogans. We were aware the leadership in quality must come from top management.

We also had our differences. Deming was convinced applying statistical methods was the complete remedy for quality problems. I agreed statistics was an essential element of the remedy, but I knew much more was needed.³



Gurus Galore: At the 1986 ASQ Annual Quality Congress, Juran (second from right) met with W. Edwards Deming (seated) and, from left, H. James Harrington, Mason Westcott and Kaoru Ishikawa.

Though Juran and Deming never collaborated, their work in Japan is one of the seminal contributions of each man's career. Juran has often cited the rapid improvement in postwar Japan as one of the major quality events of the 20th century, and he gives Deming and himself at least partial credit. "Both of us brought structured training courses to Japan—he in statistical quality control, I in managing for quality. JUSE

adapted these to the Japanese culture and then used them to train tens of thousands of industrial personnel."⁴

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100 Years of Juran

1967

Began offering one-week training course, "Management of Quality Control," one of the first to broaden quality training beyond statistical tools to management.

1968-79

Served as contributing editor to *Quality Progress* from its launch as ASQC's flagship publication; also published the first of many articles in *QP*, "Operator Errors—Time for a New Look," on what he called the "zero defects fad" of the 1960s.

1970

Published *Quality Planning and Analysis* with Frank Gryna, intended to help readers prepare for ASQC's certified quality engineer exam.

1975

Began writing an occasional column in *QP* called "Then and Now," addressing a variety of topics, including a *mea culpa* about the origins of the Pareto principle and how he invented the concept of the vital few and trivial many.

1978

Developed course and book on *Upper Management and Quality*.

1979

Incorporated the Juran Institute Inc., at first to invest in transferring his store of quality knowledge into a set of 16 videotapes, which became part of a "Juran on Quality Improvement" package that also included 50 workbooks, two leader's manuals and three books. The institute eventually grew to offer consulting services, workshops, papers and additional books and tapes.

in quality but shouldn't be treated as the "be-all and end-all."

From his observations, Juran wrote a paper, which he sent to Westcott—who rejected it because Juran wouldn't change the part about statistics being

overdone. As what Juran calls a consolation prize, Westcott gave him a column to write. "Management Corner" debuted in the September 1951 issue of *Industrial Quality Control*.⁷

Two months later, the magazine also published an article by Juran called "Directions for ASQC," in which he expressed his dissatisfaction with the statistical orientation of the Society's leadership.⁸

Remarkably, at the age of 99, Juran is writing another book, in collaboration with one of his grandsons. It will address leadership aspects of managing for quality, he said, with what he considers a unique slant: a strong how-to section.

taken. "The quality manager would be the secretary of this committee and would drive setting the top quality goals of the organization and serve as the scorekeeper for progress toward those goals."

While acknowledging most quality professionals are not in the position to propose such a committee within their organizations—"that looks like self-aggrandizement"—they can propose quality goals be included in the overall business plan. To accomplish this inclusion, those goals have to be stated in financial terms—back to his original lesson.

Juran cites Japan often while talking about quality in the United States. In his view, Japan is the world quality leader (and is bringing along other Asian countries, such as South Korea and now China), while America is in the lead in only a few industries. Generally, he said, we're at an impasse.

"We need to get off the dime," he said. "Breaking the impasse is not going to happen easily. We're not as bad as the Japanese were before and just after World War II, but we're just adequate."

He doesn't have much hope for Six Sigma as quality's savior, he said. Nor does he especially like it, particularly all the hype, which he blames somewhat on the media, and the colored belts, because usually they're not accompanied by any certification. "Six Sigma is just a new name for old quality," he added. "It will quickly go the way of other fads, like reengineering."

One of the problems, he said, is there's not really enough research to know whether Six Sigma works. And he believes ASQ should be making that research happen.

He has an additional message for ASQ. To protect the value of its certifications—which many people, including Juran, believe have been downgraded by Six Sigma—he suggests ASQ "look sideways" at other industries, organizations and certifications. The main example he notes is the CPA.

To become a CPA, he explained, you have to attain a certain level of college coursework and experience before you can even sit for the CPA exam. He's not sure all this happens for ASQ certifications, let alone noncertified Six Sigma belts. "I'd like to see ASQ lead the effort to make the process and training for the



Where Do We Go From Here? Juran ends a lecture at a 1985 conference in Portugal.

Finance, Six Sigma and ASQ

Juran has long had one overarching piece of how-to advice for quality professionals, a lesson he gleaned from his career: become bilingual, meaning learn to communicate with senior managers by converting quality data into the language of business and finance.

During our interview, Juran took that lesson one step farther. For quality to have a seat at the executive table, he advised, we should look to finance as an example. "Most large companies have a finance committee, made up of vice presidents from different areas, plus the CEO," he explained. "The committee sets the top financial goals for the company, and the CFO, as secretary, keeps score."

Juran sees business moving toward having a similar quality committee at the top of each company, a step he said some Japanese companies have already

1981

Received Japanese emperor's award of the Order of the Sacred Treasure, Second Class (highest award available to a non-Japanese), for the "development of quality control in Japan and the facilitation of the U.S. and Japanese friendship."

Named Honorary Member of ASQC.

1983

Created the nonprofit Juran Foundation to provide service by identifying quality problems of society and developing solutions, which it did by awarding grants to schools for scholarships, to conferences and to the Malcolm Baldrige National Quality Award.

1987

Became chairman emeritus of the Juran Institute, replacing himself as chairman and CEO to be free of daily operations.

1988-91

Served as founding member of the Malcolm Baldrige National Quality Award Board of Overseers.

1993-94

Conducted the "Last Word" tour, a final one-day course presented in about 20 U.S. and Canadian cities.

1988

Published *Juran on Planning for Quality*, which established the third management process of the Juran trilogy.

1995

Published *A History of Managing for Quality* through the Juran Foundation.

quality profession similar to that of the CPA," he said.

Thank Your Lucky Stars

So now ASQ has its vision; what about one for quality professionals? Juran points us to the conclusion of his memoirs:

To those whose careers are in the field of managing for quality, thank your lucky stars. Your field will grow extensively during your lifetime, especially in three of our giant industries—health, education and government. There will be exciting opportunities for innovation and service to society.⁹

And for anyone hoping to live as long and productive a life as Juran has, he attributes his to three things: "Luck, genes and habits—in that order."¹⁰

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Juran's Greatest Contributions

Quality Progress recently asked a variety of quality professionals to comment on Joseph M. Juran's greatest contribution to quality. Here's what they say:

Dr. Juran's longevity, persistence, leadership and profound knowledge are the epitome of quality leadership to which many aspire and for which much of the world is grateful. As we all celebrate his 100th birthday, we also celebrate a near centennial's worth of contributions that have helped our organizations improve directly and indirectly and will undoubtedly be carried forward for many, many generations.

MIKE ADAMS

DIRECTOR, GLOBAL

PERFORMANCE EXCELLENCE, MICROSOFT
 CHAIR, ASQ JURAN MEDAL COMMITTEE

I have had the good fortune of knowing Dr. Juran for about 25 years. It was an extraordinary experience to work with him at the Juran Institute for almost six years just prior to his retirement.

When I was first thrust into quality as a banker in 1979, ASQ recommended I attend Dr. Juran's American Management Assoc. course on quality management. After the course I continued to call him and send him what I was working on weekly. I had no idea who he was back then. He always returned my phone calls, faxes and mail with feedback and encouragement. As I look back, I am blown away at the attention he gave me in light of the high level of clients and executives with whom he was engaged.

I'll share a story he told me one lonely night when we were together on a consulting assignment. He told me of what he thought was one of the biggest mistakes he had ever made. The Japanese approached Dr. Juran many years ago and asked if they could name an award after him since he was so instrumental in instilling quality in the Japanese economy. The award would be for companies that practiced and achieved total quality control results. He declined, as he felt that it was

(continued on p. 34)

100 Years of Juran

1997

Transferred the Juran Foundation to the Carlson School of Management at the University of Minnesota in Minneapolis, which renamed its Quality Leadership Center the Juran Center for Leadership in Quality.

2001

Presented first ASQ Joseph M. Juran Medal to Robert W. Galvin, chair of Motorola Inc.'s executive committee.

Celebrated his 75th wedding anniversary, just after he and his wife had both turned 96.

2002

Addressed summit of quality leaders at the Juran Center for Leadership in Quality, calling for a research initiative to break what he described as an impasse for quality in the United States.

2003

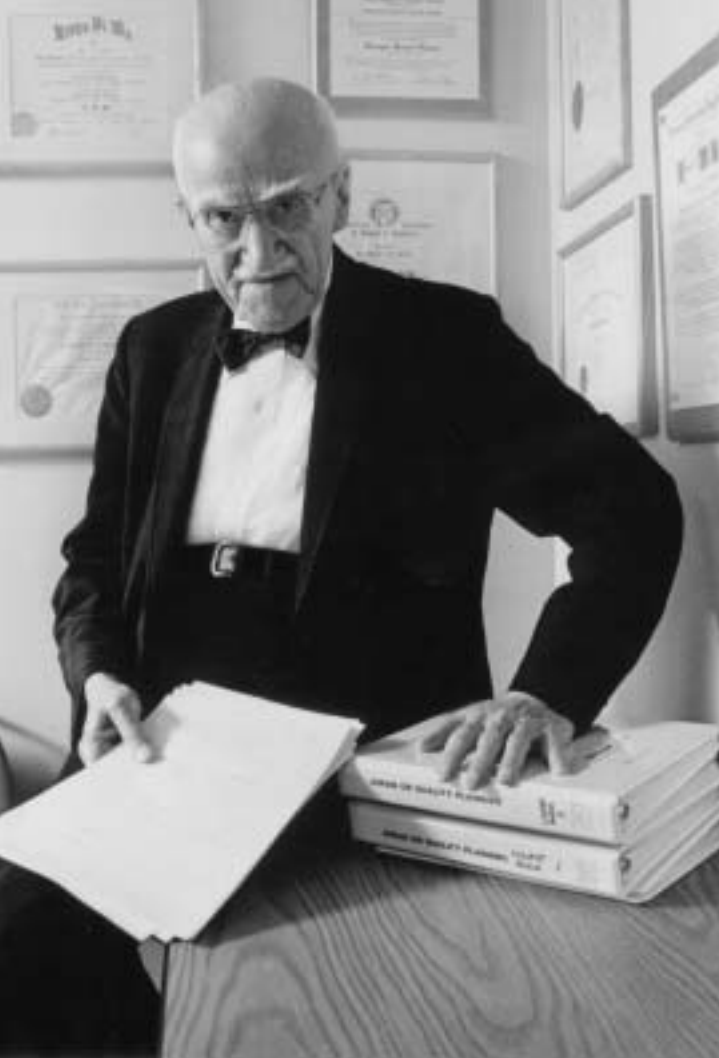
Published memoirs, *Architect of Quality*.



Asked what he considers his greatest
“I contributed to a new science:

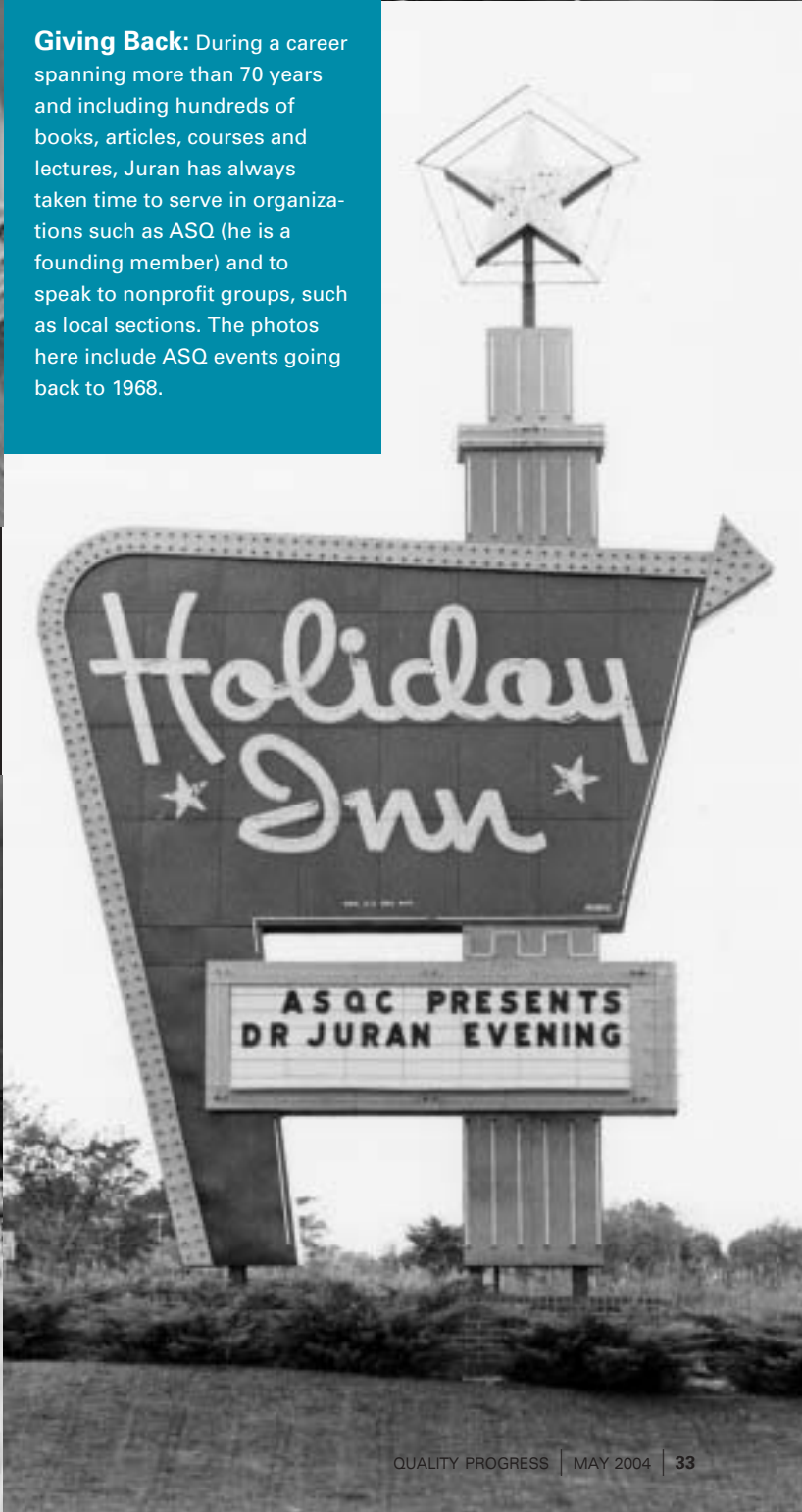


In Demand: Juran often inspired quality professionals (at an ASQ Annual Quality Congress, above) and mentored several, including Lennart Sandholm of Sweden (above right, during a 1966 Stockholm visit). Juran’s prolific writing includes many articles and columns for *QP*.



Giving Back: During a career spanning more than 70 years and including hundreds of books, articles, courses and lectures, Juran has always taken time to serve in organizations such as ASQ (he is a founding member) and to speak to nonprofit groups, such as local sections. The photos here include ASQ events going back to 1968.

contribution, Juran said, managing for quality.”



GURUS OF QUALITY

(continued from p. 31)

inappropriate to put his name on an award many had contributed to. Today we know that award as the Deming Prize.

CHUCK AUBREY
VP, PERFORMANCE EXCELLENCE
STAT-A-MATRIX/ORIEL
ASQ PAST PRESIDENT

On a personal level, there's no question meeting Dr. Juran and studying his work were turning points in my quest to understand continuous improvement. I also have to comment on his generosity: He spoke at the first meeting I ever held on the topic, when he really didn't have to. And when I served on the board of the Juran Institute, his mentoring and generosity were constant. I owe no greater debt to anyone than to him.

Within the quality field, Dr. Juran's depth of work is remarkable. He didn't just combine the science of quality with its practical aspects; he welded them together. His work is deeply scientific and deeply pragmatic, which is unique.

DONALD M. BERWICK, M.D.
PRESIDENT AND CEO
INSTITUTE FOR HEALTHCARE IMPROVEMENT



Frequent Flier: Over 40 plus years Juran lectured and taught courses in 34 countries to more than 20,000 people.

I was a new hospital CEO in Massachusetts back in 1987 when quality began to take hold in healthcare. I met Dr. Juran, and he was the inspiration for my work in transforming quality at my own hospital. Then I

went to the Juran Institute in 1991 to start up a health-care practice.

Dr. Juran inspired me in so many ways. I'd often ask him a question at the office, where my days were like so many of ours these days—whirlwinds of phone calls, trips and generally fast paced interactions. I remember he often took a while, a long while, to answer. When he did, every single answer was profound and pushed me to a new plateau in thinking. I learned pace and thoughtfulness often help so much more than cycle times. He changed me by adding new dimensions to my thinking and a new skill to my helping behaviors.

I traveled with him a bit during his "Last Word" tour. Although he had a few decades on me, his energy level was amazing. I watched him closely and learned his stamina is due to discipline and routine (in addition to great genes, I'm sure). He has a routine for all things that don't require his creativity and thereby saves his attention and creative energy for the intellectual efforts aimed at changing the world. He is up at the crack of dawn and never turns down a request for a chat in the hallway, an autograph of a book or a question from a participant. He is respectful of all, a wonderful and active listener and a true coach. Every question is worthy, and each encounter I have witnessed has led to learning.

I am now working with Don Berwick to change quality in healthcare. Dr. Juran is still in our thoughts almost daily. He is "with" us here in Boston and wherever on the globe we may be traveling to make healthcare safer and more patient centered.

MAUREEN BISOGNANO
COO/EXECUTIVE VP
INSTITUTE FOR HEALTHCARE IMPROVEMENT
FORMER ASQ TREASURER

My fondest interaction with Dr. Juran was in 1972, when he called to congratulate me on accepting the position of corporate vice president, quality assurance, with Abbott Laboratories. He was very pleased I was willing to make a major career change from aerospace (NASA) to the healthcare industry and wished me every success. Subsequently, when we would cross paths at an ASQ Annual Quality Congress or other events, he would inquire regarding my progress in the position.

JOHN CONDON
ASQ PAST PRESIDENT

The links between Europe and Dr. Juran are deeply rooted. He was a fundamental reference for the development of the quality culture in Europe. Many Europeans felt a deep cultural affinity with Dr. Juran because of his rational, rigorous way of thinking. He was a symbol for those who did not appreciate overstatements, fads, distortions or oversimplifications in quality thinking.

In 1993, as president of the European Organization for Quality (EOQ), I had the honor of expressing the gratitude of the European quality community to Dr. Juran by granting him the EOQ Gold Honorary Medal. Now I wish to join the multitude of people around the world who greet Dr. Juran as both a great “architect of quality” and an admirable man.

TITO CONTI
AUTHOR, CONSULTANT AND ASSISTANT EDITOR
OF *A HISTORY OF MANAGING FOR QUALITY*
PAST PRESIDENT
EUROPEAN ORGANIZATION FOR QUALITY

On one hand, it is difficult to describe Dr. Juran in a few words. On the other hand, it is easy. I’ll take the easy approach and give you the 20% that has great meaning and leave the 80% for later. This very concept—the Pareto principle—says it all. Dr. Juran studied the work of Vilfredo Pareto to come up with a similar concept for quality and management. Instead of calling it the “Juran principle,” he named it after Pareto. Dr. Juran is always giving away the credit. He is always concerned about doing the right things rather than taking credit for doing them. He is one of the vital few. Happy Birthday, Boss!

JOE DEFEO
PRESIDENT/CEO, JURAN INSTITUTE

Dr. Juran is one of those rare individuals whose collective work spans generations to make a sustained impact on society. His groundbreaking work in quality management and leadership was the catalyst that transformed industries.

DANIEL DUHAN
VP, NORTHROP GRUMMAN
ASQ PRESIDENT-ELECT

Quality is such an important part of my life and has been for nearly 20 years. I work, network, write and teach in quality. It started with Philip Crosby, but I soon discovered and appreciated Joseph M. Juran. He influenced so many individuals, organizations, countries and economies. His work is so overwhelming that one wonders if even he could find the strength to do it all over again. Given his passion and commitment, I firmly believe he could and would. I, like many quality professionals, owe a great deal to Juran’s vision and insight into quality.

RAYMOND E. DYER
QUALITY SYSTEMS SPECIALIST, NORTEL NETWORKS
ASQ SENIOR MEMBER AND NEWSLETTER EDITOR
OF MONTREAL SECTION 401

Joseph Juran is and will continue to be a fundamental leadership force in the constantly growing economic, social and educational service of quality to America as well as to the world community. His combination of consistently innovative and intensely practical contributions has created much of what the quality field is today and is one of the foundations for its continued development.

The breadth of his abilities—from highly sought-after guidance to leaders of business and government to hands-on help for individual quality practitioners—has provided a unique legacy spanning a remarkably large number of generations. And, throughout it all, he has always marched to the drumbeat of his own convictions and provided a model of what a quality leader and engineer should be.

ARMAND V. FEIGENBAUM
PRESIDENT AND CEO, GENERAL SYSTEMS CO. INC.
ASQ PAST PRESIDENT AND HONORARY MEMBER

Joe Juran’s contribution to society equals the most valuable contribution by anyone in the recent century. His inspiration and instruction, which in a practical way have been applied by countless institutions, improved the quality and efficiency of all institutions that serve others, be they commercial or even in the public sector. He did this in a most appealing personal way. My guess is many who took their lead from Joe did so as admiring friends. I consider myself one of

GURUS OF QUALITY

those, and then all of us translated what he taught us into employable means for the betterment of those we served. Joe has ably served more people in our society than any other man I have known.

BOB GALVIN
CHAIR, MOTOROLA EXECUTIVE COMMITTEE

Joe Juran's stellar contribution: the Juran trilogy of the three quality processes. The processes show us how to manage quality during operations. The six steps of quality planning help us develop new products or processes; the six steps of quality control explain how to track performance; the nine steps of quality improvement guide us to make breakthroughs to superior levels of performance. This framework integrates the managerial, technological and statistical concepts of quality. As new concepts evolve, they will easily splice into the trilogy. A structured approach always wins the day over trial and error.

FRANK GRZYNA
PROFESSOR EMERITUS
ASQ HONORARY MEMBER

Dr. Juran's ideas broke new ground, and he has worked tirelessly throughout his life to change the way people think about and attain quality. I could list numerous concepts and methods I learned from reading Dr. Juran's books and attending his presentations, then later applied. One, however, fundamentally changed my entire philosophy about quality management.

As a young quality engineer working on my MBA and studying for my certified quality engineer exam, I read Dr. Juran's comments about approaching the quality field in business terms, not quality jargon. On that day, I realized statistics and problem solving skills were wonderful tools, but the ability to communicate was a necessity. I still believe the most successful quality practitioners have adopted Dr. Juran's sage advice and are able to describe quality issues and solutions in terms that are understood by senior managers, accountants, marketing professionals and manufacturing personnel.

DEBBIE HOPEN
EDITOR, *JOURNAL OF QUALITY AND PARTICIPATION*
ASQ PAST PRESIDENT

Dr. Juran's creation of the universal sequence of events—planning, breakthrough (improvement) and control—as originally written in his book *Managerial Breakthrough*, became the basis for the quality movement in the United States and helped make the country competitive in quality in world markets. His work provided U.S. companies with the understanding of how these sequences are achieved in an organization and how the processes must be managed and understood at the top of the organization. With the addition of the three quality processes of planning, control and improvement (the trilogy), he offered the key to understanding how to manage for quality in today's world and the world of the future.

TOM HUIZENGA
VP, QUALITY, KELLY SERVICES INC.

He is quality's historian; read his book *A History of Managing for Quality* or his autobiography, *Architect of Quality*. He may not have invented all the tools of quality, but he gave them form and structure; see *Juran's Quality Handbook*. As an expositor of quality he has few peers; recall his videocassettes, myriad papers and many short courses. All of us who have met him have come away touched by his graciousness and impressed by his wisdom. The gentleman richly deserves the accolades of the quality fraternity.

STU HUNTER
PROFESSOR EMERITUS
ASQ HONORARY MEMBER

I've always been a fan of Dr. Juran. I have used his books for 25 years. If I must select the one thing that has been most valuable to me and has most directly affected me personally and many hundreds of people I have known, it is his *Quality Control Handbook*. I have used the handbook to train quality engineers, technicians and auditors and, more recently, as a reference for implementation of quality management systems and Six Sigma improvement. To me, it is the "bible" of quality that has remained relevant with the various editions and diverse contributions and continues to serve so many of us as a primary reference and standard that clearly addresses the subjects of quality. By propagating knowledge and improvement processes, this book has immeasurably improved the world's

societies and economies and will continue to yield dividends for generations to come.

MIKE JONES
SIX SIGMA MASTER BLACK BELT/INSTRUCTOR,
QUALITY AND PRODUCTIVITY, BANK OF AMERICA
ASQ PAST PRESIDENT

Dr. Juran has influenced me in three ways. The first was through his article published in the August 1994 issue of *Quality Progress*, "The Upcoming Century of Quality," which gave two specific lessons that have always inspired me:

1. The quality profession is a hard job because it deals with change. It requires challengers.
2. Quality aims at the common good, which satisfies those who live for more than their own benefits.

The second outstanding influence Dr. Juran has had on me is via his famous recommendation: "There's always a better way; it should be found."

Finally, in the total quality management (TQM) evolution, I believe the "T" belongs to A. V. Feigenbaum, the "Q" to W. Edwards Deming and the "M" to Dr. Juran.

I feel myself always indebted to Dr. Juran. I would like to say from my heart: Long live Juran.

HESAM AREF KASHFI
CHAIRMAN, CONTINUOUS IMPROVEMENT
ENGINEERING CONSULTANTS, IRAN
ASQ COUNTRY COUNCILOR FOR IRAN

One of Juran's greatest contributions from my perspective is focus. With the Pareto principle, he reminded us of focusing on the vital few vs. the trivial many. For many of us, this has allowed us to focus on a few important projects and make progress, rather than make little to no progress on many projects.

ELIZABETH M. KEIM
MANAGING PARTNER, INTEGRATED
QUALITY RESOURCES LLC
CHAIR, ASQ BOARD OF DIRECTORS

As I reflect on Dr. Juran's first 100 years, I am struck by the fact he has immersed himself in quality at three levels. The first is the man as a technical quality leader. It was at this level many people seeking to understand more about the technical subject of quality found

Presidential Honor:

In 1992 Juran received the National Medal of Technology from President George H.W. Bush.



Juran's Quality Handbook and first looked into his technical work. Additional work followed.

The second level is the man as a philosophical and visionary leader of quality. Juran invested in the quality profession through his visionary leadership in writings, lectures and consultations with leaders from all parts of the global economy.

At a third level is the man as a role model. Most who know Juran have heard the pride in his voice when he talks of his humble roots, hard work, determination to succeed, inquisitive mind and a focus on continual self-improvement that has been a driving influence in his personal life. What better way to demonstrate he has practiced what he has been preaching! The bottom line is a life lived in and for quality.

JOHN KNAPPENBERGER
VP, QUALITY MATERIALS, SALES AND MARKETING
DURA AUTOMOTIVE SYSTEMS INC.
ASQ PAST PRESIDENT

Since his first visit in 1954, Dr. Juran has come to Japan many times during the last half-century. We learned a lot from him. Dr. Juran summarized the following three features of quality control (QC) activities in Japan that created the revolution in quality:

1. A massive quality related education and training program.

2. An annual program of quality improvement.
3. Upper management leadership of the quality function.

In 1954, he was invited by the Japanese Union of Scientists and Engineers and started the QC courses for top and middle managers. These courses had an immeasurably large impact on Japanese QC and positioned quality as the important management tool. *Hoshin kanri* (policy management) is the companywide activity to rotate the plan-do-check-act cycle every year. An internal QC audit by top managers is included. Without the leadership of top managers of this kind, it is impossible to continue to promote total quality management of the company.

YOSHIO KONDO
PROFESSOR EMERITUS, KYOTO UNIVERSITY, JAPAN

Selecting Dr. Juran's greatest contribution is analogous to selecting the best movie ever made; there are so many to choose from.

Many times I have observed Dr. Juran discussing quality questions with young newcomers to the field. His patience and practice of inspiring them were wonderful to behold.

It has been stated his earliest professional goal was to become the world's greatest quality consultant. Anyone who doubts his success in this simply has not been paying attention. All of us in the field of quality have, in one way or another, benefited from Dr. Juran's contributions.

Those of us who have been fortunate enough to do volunteer work with Dr. Juran can attest to how generously he has given of his time and expertise in furthering the field of quality.

LLOYD S. NELSON
FORMER EDITOR, *JOURNAL OF QUALITY CONTROL*
AND *INDUSTRIAL QUALITY CONTROL*
ASQ HONORARY MEMBER

My first exposure to the teachings of Dr. Juran was his five-day course in October 1969 on quality control management. The course was co-taught by Leonard Seder and ably assisted by Mrs. Juran. That was the week I learned 94% of processing problems were management controllable. Despite some differences of opinion—I remember a somewhat heated debate about the ethics of testing defective cutlery on an unsuspecting public—I came away from this training with a toolbox (mental and physical) that I have used to this day.

I treasure the memorabilia from the course, which ranges from the 3-inch bronze medallion and hand produced certificate that verify my participation to a copy of the second edition of the famous handbook signed by the author. I also have all the original hand-crafted course material, including an original quality circle report from Matsushita Electric that contains the first Ishikawa diagram I ever saw.

I will always be grateful for the positive impact this course had on my career; I hope I have managed to pass on some of the wisdom over the years.

HENRY READER
ELGAR MANAGEMENT
ASQ MEMBER

The world owes Dr. Juran much for his unique contributions as a premier scholar and historian in the quality sciences. He has worked tirelessly and effectively to elevate quality's technical foundations and enable its beneficial applications in all sectors—in the United States and abroad. In his 100th year, he continues to lead, inspire and build, with the conviction the best days for quality lie ahead.

Those of us in the Baldrige National Quality Program will always treasure Dr. Juran. His support, guidance and friendship convinced us it was possible to create an award and continuously improve the resulting framework for cooperation and sharing to strengthen performance in businesses, healthcare, schools and nonprofit organizations.

CURT REIMANN, PAST DIRECTOR
HARRY HERTZ, DIRECTOR
BALDRIGE NATIONAL QUALITY PROGRAM

In his long life devoted to quality, Dr. Juran's influence has become immense. His clear thinking, analytical talent and eminent way of communicating (orally, as well

as in writing) help explain his great contribution to the growth and development of ways to manage for quality. For my part, his concept of breakthrough performance and the distinct sequence of events needed to achieve considerable improvements using a project-by-project approach is very important. His support of Motorola's implementation of this concept in the 1980s laid the foundation for Six Sigma.

Regarding his publications, *Juran's Quality Handbook* has become the internationally recognized reference book on quality and as such has served for five decades as a useful source of inspiration and knowledge for several thousands of quality practitioners all around the world.

LENNART SANDHOLM
PRESIDENT/CEO, SANDHOLM ASSOCIATES, SWEDEN
ASQ FELLOW

Selecting Dr. Juran's greatest contribution to the field of quality is analogous to selecting the best movie ever made; it is difficult because there are so many to choose from. To answer this question I utilized my quality engineering skills and gathered the data! The Pareto chart I developed easily identified *Juran's Quality Handbook* as his single greatest contribution. The handbook is a staple for the successful quality professional because somewhere in its gazillion pages are the tools and information needed to aid an organization. I believe it is truly the leading international reference work on quality.

JIM SPICHTER
QUALITY COACH, LUCENT TECHNOLOGIES
ASQ FELLOW

Joe Juran's contributions are numerous and extensive, especially longevitywise, as we are celebrating his 100th year. He is certainly remembered for the fitness for use aspect in defining quality—helping direct focus on the customer. Then there is the Juran trilogy with its easily understood impact on managing for quality analogous to managing for finance—helping direct focus on management. Then, too, there is his self-control—helping direct focus on people.

His conversion of the Pareto principle from the economic world to the quality world is significant because it helps focus on the important issues for greater gains

and impact. His project-by-project and breakthrough improvement emphasis is driving major quality efforts today and will continue to do so in the foreseeable future. Joe Juran has helped significantly define the quality discipline and profession.

KENNETH S. STEPHENS
ADJUNCT PROFESSOR
ASQ FELLOW

Although I worked closely with Dr. Juran in developing the criteria and procedures for the ASQ Joseph M. Juran Medal, there was an event during the initial presentation of this medal to Robert Galvin, chair of Motorola, that overwhelmed all the prior communications. Once the ceremony concluded, Dr. Juran shifted his thoughts from recognition to operation. While still on the podium, he turned to me and repeatedly poked my chest with his index finger as he spoke: "You have a fresh opportunity to do things right. In the early days ASQ did not manage the profession of the quality engineer very well. Now you have a unique opportunity to provide a learning standard for the Six Sigma Black Belt. Don't waste this opportunity!" That was the birth of the ASQ Six Sigma Black Belt certification.

GREGORY H. WATSON
PRESIDENT, BUSINESS SYSTEMS SOLUTIONS
ASQ PAST PRESIDENT

Dr. Juran consistently provided an objective, realistic, challenging, insightful and prophetic appraisal of the quality discipline. He has been a superlative role model and, in addition to offering this sage advice, has guided, prodded and encouraged quality practitioners for more than a half-century. We are deeply indebted to Dr. Juran's influence for making the quality movement the powerful factor it is today.

JACK WEST
PRESIDENT, SIX SIGMA ADVENTURES
ASQ PAST PRESIDENT

Please comment

If you would like to comment on this article, please post your remarks on the *Quality Progress* Discussion Board at www.asq.org, or e-mail them to editor@asq.org.

Juran, dean of quality professionals worldwide, told an audience which had come to Stamford, Connecticut (USA) to mark his 100th year and the Juran Institute's 25th anniversary: "The U.S. improvement of quality has been evolutionary, not revolutionary. We have exported jobs and lost entire industries. If these standards continue, there will be a severe risk that the U.S. will lose its status as an economic superpower." Pressing the issue of quality as he has for decades, Juran made his remarks at a luncheon in his honor. Family, friends and numerous business executives who have benefited from 100 Years of Juran. Abstract: An interview with Joseph M. Juran reveals an inspirational story of his struggle to overcome the challenges of emigration, childhood poverty, and the Great Depression to become one of quality's leading gurus. Armed with a new degree in electrical engineering from the University of Minnesota, Juran accepted a position with Western Electric, embarking on a quality career that would last more than 70 years and which in many ways mirrored world events of the 20th century. After World War II he used his management skills and experience to help companies and student 100 Years of Juran 1997 Transferred the Juran Foundation to the Carlson School of Management at the University of Minnesota in Minneapolis, which renamed its Quality Leadership Center the Juran Center for Leadership in Quality. 2001. 2002. 2003. Presented first ASQ Joseph M. Juran Medal to Robert W. Galvin, chair of Motorola Inc.'s executive committee. Addressed summit of quality leaders at the Juran Center for Leadership in Quality, calling for a research initiative to break what he described as an impasse for quality in the United States. Published memoirs, Architect of Quality.