

Center for Quality and Productivity Improvement
UNIVERSITY OF WISCONSIN
610 Walnut Street
Madison, Wisconsin 53705
(608) 263-2520
(608) 263-1425 FAX

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**William G. Hunter:
An Innovator and Catalyst for Quality
Improvement**

George E.P. Box

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George E.P. Box
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*University of Wisconsin
Madison, Wisconsin*

ABSTRACT

This is the text of a talk given at the Speakers' Dinner at the *6th Annual William G. Hunter Conference on Quality* in Madison, Wisconsin, on June 2, 1993. In it, George Box recalls Bill Hunter's pivotal role in the birth of the quality movement in the city of Madison. Without Hunter's catalytic contributions, Madison would not have its current leadership position in the improvement of quality in government, industry and education.

KEYWORDS: *Madison; W.G. Hunter; Quality improvement.*

William G. Hunter: An Innovator and Catalyst for Quality Improvement

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How appropriate it is that this conference is named for William Gordon Hunter. By honoring Bill in this way, the Madison Area Quality Improvement Network (MAQIN) provides us with a continual reminder of the tremendous contribution that he made – a contribution that was multidimensional – a contribution that ensures that when the new quality movement in the United States is talked about almost anywhere in the world, the phenomenon of Madison is pointed to as a model.

Bill Hunter, Brian Joiner and I were to some extent rebels in the statistics department at the University. We were concerned about the importance of *applied* statistics especially in engineering and in industry and none of us were particularly thrilled with proving mathematical theorems. We were most interested in the joint applied programs with other departments, particularly engineering, and in teaching students how to use statistics to solve problems and how to consult.

But Bill was not satisfied even by these wide interests. He wanted to make a difference in the lives of less fortunate people, and he and his family spent extended periods of time helping third world countries. When Bill came back from Africa, he told Peter Scholtes that there were only three things he was certain of. The first was there are too many people in the world. The second was that you can get good beer anywhere, and the third was he wanted to do something for Madison.

Bill Hunter was a friend of W. Edwards Deming. With the help of University Industry Research (U.I.R.), Bill persuaded Deming to come to Madison and teach a two day course on May 12 – 13, 1983. It was called "The Improvement of Quality, Productivity and Competitive Position". Among the many people who attended it was David Miller from

the mayor's office, and David managed to get some money put in the budget for quality improvement along the lines proposed by Deming. Later Bill and Peter decided that this indeed was a chance to do something for Madison and with Joe Sensenbrenner's enthusiastic support, they began with a famous project in the city garage with the results and repercussions that you all know. For this and other efforts at the garage a lot of the credit has to be given to Terry Holmes who was President of the union and Joe Turner who was a supervisor. Bill, Peter, Terry and Joe became close friends and provide us with a permanent lesson in what can be done by working together. "Less cussing and more discussing" I think they called it. Although I think more Deming and less condemning would have done equally well. When Brian Joiner formed his company Peter Scholtes was of course one of his key associates. And it was from the mayor's office also that Mike Williamson later came to help start the project for the improvement of the University itself. This was enthusiastically supported by our former chancellor Donna Shalala and our chancellor-elect David Ward.

Going back to these earlier times, Bill had also been talking to Sue Rohan, who with great courage and farsightedness, succeeded in getting a bill passed by the state legislature providing a quarter of a million dollars to encourage the quality movement in the state of Wisconsin. This included a scheme to "teach the teachers" and Bill, myself and some students planned to give our services free. But money was needed to bring the teachers to Madison on weekends. Unfortunately, the money was cut and this project never came to fruition. However, Sue Rohan was not discouraged and went ahead. She helped found this highly successful and influential organization MAQIN. She was indeed its first

President and now is the Continuous Quality Improvement Consultant for the whole University system.

And then Bill taught a course on quality at the University in the evenings which was open to whoever wanted to come. The names of some of the alumni of that course have a familiar ring. There was a whole contingent from Meriter Hospital including Mary Zimmerman and Gloria Jones-Bey. It included Carol Wallen, Kathy Rohling, Søren Bisgaard and Conrad Fung. Also there was a whole collection of University students many of whom afterwards wrote Ph.D.'s in quality improvement and are now doing important work for quality in industry. Among these students were Tim Kramer, now at Hewlett Packard, Dan Meyer at Lubrizol, José Ramírez at Digital, Christer Hellstrand at SKF, Kevin Little and Linda Finn both at Joiner Associates. Also a number of people came from local industry and not so local industry. In particular, some people from Procter and Gamble drove a very long way each Tuesday evening to be present. Later a number of journeys occurred in the opposite direction when Terry Holmes and Joe Turner acted as consultants for Procter and Gamble.

Bill's course Statistics 992 was a sell out and there was a waiting list. In a flyer on January 14, 1985, Bill asked those waiting for the few places left to write him a short essay telling him why they wanted to take the course, giving a description of a problem they wanted to study and saying how much time they could devote to it. In his first handout he said, "I ask you to join me in making this course as worthwhile and fun as it can be for you. I need to know what you want. I want to hear from you. Comments, questions and suggestions are welcome always."

And, of course, Bill started the Center for Quality & Productivity Improvement at the University in 1985 and was its first director. The Center has taught hundreds of engineers and scientists from industries in every part of the United States and from all five continents. Visitors come to us from every part of the world for prolonged periods of study, most of them for an academic year. We presently have professors from Norway, Israel, Australia and even New York helping at the Center at no charge to the state. The research in quality emanating from the Center has resulted in 100 technical reports and a similar number of journal publications. Its work is well known throughout the world. Bill set his stamp on this work. He considered that quality was a very diverse subject that included management, psychology, statistics, engineering and even anthropology. And that consequently, many

different *kinds* of research were needed. He made the point that however technical or non-technical they were, reports must be *clearly written and understandable*. An early report of Bill's with Jan O'Neil and Carol Wallen "Doing More With Less in the Public Sector: A Progress Report From Madison, Wisconsin" is a fine example of the way to do this and sets the tone for clear writing. He also instituted at the Center a Tuesday morning meeting which is still run in exact accordance with the agenda that he laid down. In particular, it includes a report from staff and students on what they have been doing during the past week and a weekly check on a "to do" list of what they had undertaken to do the previous week.

Bill kept a little book of all the many and various people and projects he was involved with in "making things better". He knew and kept contact with all kinds of people who were, as he said, *doing* quality and statistics. It might be something simple that just required the drawing of the right graph or it might be some major project in improving water quality treatment plant. It might be at the Wisconsin Department of Revenue or at the University Department of Chemical Engineering.

Bill was a person that believed in learning by doing and he had already got quite a reputation for that in the courses he taught at the University – he wasn't content to teach experimental design by just standing up and lecturing people. He had everybody in the class run an experimental design on their own time of their own invention. We heard about the results of experimental designs on flying an airplane, making bread, making beer, and even making love. As I recall, there were some very interesting main effects and even some unexpected interactions.

Some of you have heard a tape which he liked to play at the end of the short courses in experimental design that we teach for industry at the University. In case the diction of Gertrude Laurence who is singing this Cole Porter song in the 1950's* should be a little unclear, I'll read out to you what the words are:

Before you leave these portals to meet less
fortunate mortals

There's just one parting message I would
give to you.

* "Experiment" from "Nymph Errant" by Cole Porter. © Copyright 1933 Harms Inc. Reproduced by kind permission of Chappell & Company Limited for the territory of World (ex. USA, Canada and Scandinavia). © Copyright 1933 Warner Bros. Inc. Copyright Renewed. All Rights Reserved. Used by permission.

You all have learned reliance on the sacred
teachings of science

So I hope through life you never will
decline, in spite of philistine defiance

To do what all good scientists do:

Experiment!

Make it your motto day and night.
Experiment,
And it will lead you to the light.

The apple on the top of the tree
Is never too high to achieve,
So take an example from Eve . . .
Experiment!

Be curious,
Though interfering friends may frown.
Get furious,
At each attempt to hold you down.

If this advice you only employ,
The future can offer you infinite joy
And merriment . . .
Experiment
And you'll see!

There are those here tonight who knew him as
husband, as father and as dearly loved friend. With
them let us celebrate this good man, his wonderful
life, and the living fulfillment of his dreams. In St.
Paul's Cathedral, the epitaph of its great architect Sir
Christopher Wren who built so many of London's
most beautiful buildings reads,

"If you seek a monument, look about you".

I rejoice with you that this too can be said of Bill.