

In Search of an Ethical Science: An Interview with C. West Churchman An 80th Birthday Celebration

Interview by
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In 1993, we celebrated C. W. Churchman's 80th birthday. On this occasion, we asked Dr. Churchman to tape an interview, the transcription of which is printed below.

In this article we will not review Dr. Churchman's many accomplishments. Another journal (*Interfaces*, a TIMS/ORSA Journal, 24 (4), July-August 1994) is presenting a list of his publications. Suffice it to say that Dr. Churchman's ideas are of fundamental importance to the management community. I would characterize Dr. Churchman as a philosopher and an epistemologist. His thinking reflects a deep

understanding of the sources of knowledge for the management discipline. Often, his colleagues have considered his writing to be esoteric and difficult to understand. However, once you overcome the "churchmanalia", you discover very rich ideas which, without any doubt, will become classic reading. Right at present, he is involved in a project to formulate the outline of an Ethical Science. This subject is not new; he has always stood for the conscience of management and for the morality of systems. We hope that this small tribute is a demonstration of our deep affection for a friend/colleague and our unbounded admiration for a great thinker. He has many admirers throughout the world and has been awarded honorary degrees from two Swedish University, at Umeå and at Lund.

This interview was conducted on the campus

C. West Churchman joined the Case Institute of Technology and then, in 1958 he joined the faculty at the University of California at Berkeley. He served as the first editor of Management Science 1954 to 1960/ He is the author of a dozen books such as Prediction and Optimal Decision (Prentice-Hall, 1960), Challenge to Reason (McGraw-Hill, 1968), The Systems Approach (Delacorte, 1968), The Design of Inquiring Systems (Basic Books, 1971), The Systems Approach and its Enemies (Basic Books, 1979), as well as countless publications which span the fields of management, philosophy and ethics.

John P. van Gigch's main research interests center around the application of the theory of science and system science to subjects outside the main stream of management, such as the application of strategic approaches to environmental management and to conservation of our cultural heritage. He is the author of Applied General Systems Theory (Harper and Row, New York, 1978, 2nd Ed.) and System Design Modeling and Metamodeling (Plenum, New York, 1991). He is on the editorial board of several international management and system journals.

Dr. Burton V. Dean is Professor and Chair, Department of Organization and Management, and Director, Total Quality Management Certificate Program, San José State University. Publications include seven books and approximately 100 articles on manufacturing, technology, operations, systems and project management. Research/consulting assignments involved over 80 regional, national and international organizations.

Ernest Koenigsberg (Professor Emeritus at the Walter A. Haas School of Business, University of California, Berkeley) is proud to have been a student of West Churchman's at the second Operations Research short course at Case Institute (1954). In addition to teaching the subject himself, he has since carried out and published numerous theoretical and applied studies, bringing management science to industry, government and academe.

of the University of California at Berkeley on April 30, 1993. The interviewers were:

- John P. van Gigch (JvG)*, California State University, Sacramento, CA. (Also convenor of interview and editor of proceedings)
Ernest Koenigsberg (EK), University of California, Berkeley, CA
Burton Dean (BD) San José State University, San José, CA.

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Interview with C. West Churchman (CWC)

Participants: John P. van Gigch (JvG), E. Koenigsberg (EK), and B. Dean (BD).

JvG: Can you tell us what you consider is the biggest achievement of your career?

CWC: I've been thinking about the answer to that question since I received a copy of the questions for this interview. It is difficult to pick out a date and say that on that March date of such and such a year, I discovered something of horrendous importance. I've had a single purpose life.

I attended a Quaker school in Philadelphia. What I got from the Quakers was the knowledge that you can have a life dedicated to humanity. That was the best thing one could do. At the age of seventeen, I began keeping a journal and in that journal it says what I would do. At the time, I was a freshman at the University of Pennsylvania. The question was not, to what should I devote my life, but what course would be important to my major.

It has been my life's ambition, trying to

figure out the nature of the human species and why it leads such a miserable life. We are endowed with intelligence, a sense of humor, caring, love, and all the rest of it, yet, I would estimate that more than 90% of human beings live lives that could easily be described as miserable. And I haven't changed on that . . . I'm still struggling with this issue at the age of eighty. What I have come to realize, in the last five years, is that there is a lot of literature on ethics of humanity and lots of scientific literature on humanities and lots of literature on how to reduce the misery of human beings, but one of the characteristics of the human species is that it does not have the capability of transferring the written word into action. That's amazing. Here are all these bright ideas and no clear suggestion on how we go from sensible arguments to any kind of action.

When I got into Operations Research and Management Science, I was naive. I thought that the precision those two areas promised in looking at problems and trying to understand management, would carry with it, an acceptance on the part of management. I really did believe that we could trace the problem of implementation of research findings, by undergoing a really drastic change, even in the language of management, and introduce a mathematical, more precise way and then use measurements.

In the early '60s, the students and I, here at UCB, wrote to the authors of 13 articles in journals of Operations Research and Management Science and asked them, "Dear author, you wrote a brilliant article on inventory (or queuing or whatever the topic was) and we're so interested, we want to know what you did about it? Did management accept your research and could you then see how successful you were in practice?" There was only one author who even had an idea about what happened. We were very anxious about implementation. The other 12 did not. So implementation was not taken seriously.

Then, I decided to find out how general this was and ran some experiments. I got five MBAs running a little business with 3 products. They had to decide on the price of

each product, the scheduling of each process, the production schedule, and the way in which they would respond to demand. There was an ideal solution, so there was no excuse. The MBAs should've been able to work out the mathematics. They could determine the mathematical model and derive the optimal solution.

We ran the experiment 40 times and, with two 2 exceptions, not one individual implemented the solution which was *told* to them. We primed one member and told him the solution and he tried to tell it to the others.

JvG: You even had some stooges there, didn't you?

EK: It says something about students . . .

BD: It could also say something about the difference between the "real world" and the MBA world.

CWC: Well, we came into the MBA world. The MBA world is made up of unreal problems that have solutions and that is what we gave them. But, that was not what was blocking the managers.

Our result was the same as that which you'd find in the real world of practice of Operations Research and Management Science. Nobody was using the solution, yet companies were using a lot of money to find these solutions.

JvG: I was really moved by your intent when you said that "I had a single purpose life", and then . . . I find that there's some contradiction between the purposes of managers and the ideals of academicians. We don't teach students in management to pursue the lofty purpose of saving humanity. In other words, management doesn't have this lofty purpose as its goal. Therefore, I don't understand how you came to a school of business administration, and pursued your life-long ambition to inculcate your philosophy in this setting.

CWC: Well, when I began my journal at seventeen, I put down a list of maybe 5 to 7 possible majors and ended up with philosophy, because that seemed to me to be the discipline that was most interested in the broadest possible view of humanity.

JvG: Yes, I can understand that.

CWC: I could understand that myself, but it was

a lie. Today's philosophy departments are not interested in the misery of humanity; they're interested in the misery of philosophy.

Anyway, my journals didn't address that question. They were particularly interested in ethics from the point of view of its accuracy of its definitions and how you verify ethical imperatives, but they did not have any interest whatsoever in applying it. I didn't even see the world of application. I knew nothing about management. It gradually dawned on me that it's the world of management that I need to be in. If this is what I want to do, to improve the human condition, where am I going to do it, but in the world of management?

JvG: So really . . . within this word "management" you encompass much more than is encompassed in, probably, the mission of a school of business. You're really talking about bringing to society and applying to society everything you know and you can do about social ills.

CWC: It was really World War II that saved me from philosophy departments. At that time, we academics really had a choice of trying to stick to the university or go out and do something and be a volunteer for military service or do research. I elected to go into a laboratory and do research. I was performing mathematical statistics. My boss said, "What I would like you to do is to be as sure as possible that the ammunition we produce here will fire when the GI pulls the trigger of his gun anywhere in the world". That was my first introduction to a true management problem.

JvG: How old were you then?

CWC: Twenty-eight.

BD: Following up on that, isn't this a problem of quality as well as saving soldier's lives? Quality being that the firing mechanism would work properly. Did you have some contact with people who were concerned with quality problems?

CWC: The originator of the whole notion of quality is not Dr. Deming, but Walter Shewhart, at Bell Telephone Labs, who was the developer of statistical quality control in manufacturing.

I went to Bell Labs several times. We used to explore together whether or not the issue of quality could or could not be applied to the kind of management I was hunting for. "Total Quality" has only fairly recently come to the attention of management schools, but it goes back to Schewhart before World War II. He was the founder of Statistical Quality Control. Part of my job during World War II was to go around to the plants and introduce Statistical Quality Control so that the machines that were manufacturing were kept in statistical control.

But, then, of course, that's only part of my boss' question. The question involved, not only to make sure that soldiers were trained and that ammunition was shipped, but also the reason for the war.

EK: I found it very interesting that when defining quality control in a plant we refer to controlling the machine and seeing that the machine is in conformance. The whole new modern phase of statistical control says that you don't control the product, you control the process. But, you and Schewhart saw that in the '40s. Somewhere along the way we lost it, and, somewhere along the way again, we've re-discovered it.

CWC: I found out that management has a type of problem that no academic would even dream of taking on. This applies to shirts, to automobiles, to anything else. I found out that what you want to do is to make sure that the product, once it gets in the hands of the consumer, is used safely and ethically. And ethics was the main thing I cared about. I sometimes felt that I was the only one in my time who cared about that at all. There's a final justification that when the GI sees a sniper up in the tree and pulls the trigger, that the GI knows that he is doing an ethical act. Now, nobody told me to do that, but that's what I understood. And that's management. I then discovered where I needed to be.

After the war was over, I went back into the philosophy department and found that a majority of the department had no interest in the action part of philosophy. The response I got from the philosophy department was that

they turned down my Ph.D. candidates. That's where you hit a professor hardest. You can't get to his salary very well. You can't overload him with courses, but you can kill his Ph.D. candidates.

JvG: I'd like to go back to the concept of ethics because I think that listeners and readers will see a contradiction here. You said that to encompass, in the concept of ethics, the act of the soldiers pulling the trigger is in conflict with your concept of ethics. Maybe you can explain what you mean.

EK: I think it's your (indicating JvG) concept of ethics that conflicts with his.

JvG: Of course . . . the accepted concept of ethics.

CWC: Where were we pacifists in the 1940s? There was a Hitler who was on the rampage, taking over countries, suppressing Jews . . . a figure that was a threat to the ethics of the world . . . a dangerous man. Now, we're witnessing Dunkirk. The English Army was crossing the English Channel in rowboats. Nothing was going to stop them.

When Paris fell, we thought it was the end of Europe. What's a pacifist going to do? Above all, what is a pacifist? Above all: "The world must not fight". We couldn't say that that year. Above all, we had an evil of tremendous magnitude. My response was to go and work on bullets, steel, and all the other things, from a statistician's point of view.

JvG: Is it safe to ask you what is different today, in Bosnia?

CWC: We've learned a lot since 1940. In the Yugoslavian states, things are different. We admit that. Bosnia is not Hitler. It is something very different.

BD: You're an advocate of science. And using your example of Hitler and World War II, the German science used in concentration camps was not ethical. We used science to counter the German threat. My question is: Do you think science can and should be used ethically? Is it possible?

CWC: That's the biggest question of the interview. Can science improve the human condition, ethically? So far it hasn't done so. Science in the form of technology, in all its forms, has

never been ethical, if, by ethical, you mean that all human beings, who have the ethical need for the technology, are served. Take agriculture, for example, which has some of the oldest technologies. Look at the state of agriculture today, where, even with impressive technology, in excess of 35,000 children die from starvation or starvation-related diseases every 24 hours. Compare that with World War II, where, every day, 7,500 military were killed or declared missing. Our war against the children, through the technology of agriculture, is four or five times more severe than the military war was. That's true of all the technologies that we have.

Kirk Smith, who conducts social research on the Pacific Rim, tells me that, by 1999, 25% of the homes will be electrified; 75% won't. Is that serious? You bet it is. Non-electrified homes get heat and energy through inadequate wooden stoves that contaminate the air which then creates something worse than the worst kind of air pollution Los Angeles ever had.

That's characteristic of all the technologies, including medical technologies. Today's science does not serve humanity. But there is such a thing as a science that could, which is what I am trying to promote today. What would that science be like? For one thing, I would tear down all the walls between the disciplines. For example, organization theory was developed in an institution that is badly *disorganized*. If we were operating sensibly, we would make sure that all the disciplines are working together. We all share the same kinds of problem.

EK: There's a line in Oklahoma. "I'd like to say a word for the farmer," and that's what I'd like to do. You're placing the blame on agriculture. The fault isn't on agriculture, but how we distribute agricultural products and that's part of organization theory. That's where we fail. We know how to do a lot in farming, but we don't know how to get it from the farmer to the mouth.

JvG: Isn't this true for every field? We know we have technologies, but . . .

EK: We say it is not the farmer. It's the system we

use to go from the ground, from the farmer to the mouth.

CWC: I didn't say "farmer;" I said "agriculture." Agriculture goes all the way to ingesting and digesting the food. I do not separate production from consumption.

EK: You need to have a definition of the agricultural system that includes the full cycle. If you include all the parts, like consumption, that's okay.

CWC: You're a systems guy. How can you separate the farming from the consumption?

EK: Many people do.

BD: In your models of science, application and methods, what is the role of government in solving problems? Is there a separate role of government beyond science?

CWC: When I was in the Quaker school, they impressed on us that the need of humanity was for a world government. They wanted to get rid of the nations. The nations would be like states of the U.S.A. That impressed me a lot as a young man. One of the big problems was the national government. Since I have been in the Business School on this campus and other places, I have come to realize that what they were saying had the potential to be a solution to the management of the world, but not necessarily the right one. The problem is with implementation. What would it take to make one world government? Would you call for the obliteration of unsatisfactory human beings? Hitler's aim was the same thing; they're doing the same thing in Bosnia now.

If that's the aim, and you would do it through the implementation of a world government, "the hell with it." One of the things I've found about implementation is not that it fails, for it can be put into laws, but the failure is with the way the law is implemented, which is unethical. The implementation destroys the ethical idea. That was the way it was with Hitler. I've seen it over and over. The U.S. government is not democratic; it does not even approach democracy.

BD: What would it take, what changes would we need

in order to make government ethical and, therefore, make science ethical?

CWC: There's already lots of it around. Russ Ackoff believes in interactive management. He's working to test, in practice, his idea of a democracy in a corporate environment, of all places. That's the last place that you would expect to find democracy.

JvG: *After reviewing your proposal, it occurred to me that you would have to introduce some kind of popular socializing democracy to replace the capitalistic style that currently exists. Can you explain your concept of this democracy that you visualize?*

CWC: I can explain some of the characteristics but not how to do it. That would be stupid and I have no idea how to do it. I'd be afraid that if I made up an idea somebody would implement it.

JvG: *You have taught us about these wonderful ideas, including implementation. If you have these characteristics of a world government, we should start asking ourselves is it an ideal that can be implemented or a pipe dream or something only in your head? I'm moved by your intentions, but then I ask myself, "is this possible?"*

CWC: I began as an idealist. My teacher was Edgar Singer. He said: "First state your ideal, what you think is the ideal world". We broke it down that way in the business schools and taught the problems of consumer goods and services, then marketing, etc. We think of the ideal way, with all the technology and how it could be used and managed, how to work towards it. Cooperation brought it about. That's what my first books were about – ideals. Then you need to study the problem, how to work towards the ideal and measure it. Measurement was the ideal.

For example, look at history in the 18th century. When the physicists first started measuring the velocity of light in a vacuum, they could measure it to within several kilometers per second. Now they can come within 0.1 kilometer per second. That's progress. There is no way to get to zero but we could begin to approximate zero. Singer thought that approximation could be true of every idea.

The trouble with idealism is it's not very good. It fails to describe what needs to be done to take one more step. In a laboratory setting it's different. It's easy to describe what to do next, but with human beings, it's different. I have no idea how.

EK: *In the early days of the Industrial Revolution the Quakers were idealistic managers of industry. For instance, they were the owners of Roundtree and Cadbury, the chocolate business. They saw their role as bettering the life of people. They improved the lives of their workers. For the times, they built comfortable homes for their workers; paid wages the people could live well on. At the same time, there were large profits to be made by doing good. They were doing well. But all that disappeared. Even Quaker places are not owned by Quakers anymore. How do you feel that the Quakers missed something in passing on this tradition?*

CWC: It is not only the Quakers. In the 19th century, my idea of improving the human condition was prevalent, especially in this country. The notion of going out and setting up a commune, where you wouldn't be interfered with, was a popular one. But, not a single one of these communes lasted. This same spirit was present at the beginning of the kibbutz. In this situation, you are your own isolated world and you make it the best you can. Then, you start allowing the outside world to impact on it. When that happens, you have to wonder how long the original community will keep its own characteristics. Within five to ten years most of these communities disappeared.

Why? Why have these ideal communes and the Quaker community disappeared? Now that's an interesting and workable scientific problem. "Why?", I ask you. The answer I get is "greed" sets in.

For the scientists, that's the end of the question. If we were working in a laboratory and I said, "Something about the lighting is influencing our experiment," you'd say, "Let's test it out," and we'd get excited about it. But, if you say "greed," you say ugh, and that's the end, you have popped the balloon.

JvG: *Not popped . . . it's just that the whole system that we have here is based on greed.*

CWC: Why don't we study human greed? Greed is an addiction. One characteristic of all addicts is that there is never enough, E-N-O-U-G-H. Never enough. Like eating, do you need to eat everything? No, you say stop. But an addict cannot stop eating. He needs to consume all of it.

BD: *You've indicated several attributes of misery, the latest now being greed. Have you thought that if you could change things, what would you change? What choices would you have made differently?*

CWC: Practically nothing. There are lots of incidents where I shouldn't have been engaged in this or that. I shouldn't have been the first editor of *Management Science* because it was a waste of time. In the first volume you can see what I had hoped would happen. I hoped there would be a science of management. What I got as the editor, more and more, was mathematical model-building. I would have liked that to have been different. I would have liked to publish a true science of management journal that says we don't know what management is about. Let's start with what we've got and make that question our study and try to use our results, and not make it all mathematical. Management theory was turned over to mathematicians.

If I could change anything, I would like to be born now because I have an exceptional idea, mainly, how do you create a science that will help the human condition.

I want to start with logic. That was my first discipline in my thesis. I want to start with logic. Most of symbolic logic is of no particular use in management except set theory. Set theory begins with, "If all As are Bs and all Bs are Cs, then all As are Cs." The question is, when is it the case that all As are Bs? Under what conditions does an item belong to a class? I taught logic for years and students never asked the right question. You, as a manager, want to know whether to hire this guy or this girl. That's the question. Does that guy or girl belong to the class of people who should be

hired? You want to know whether they have certain characteristics that will help you as a manager. I want to redo the foundation of mathematics.

BD: *An emerging field is "fuzzy logic." It seems to have an increasing number of applications. Do you feel that fuzzy logic can be applied to some human misery problems?*

CWC: What Zadeh did was to become precise about fuzziness, which is something that no manager is able to do.

JvG: *He fell into the same trap as operations researchers. He became precise about fuzziness. The error of operations researchers is to not recognize that, as you enlarge the slice of reality with which you are working, the problem that you are solving becomes more complex and, hence, less precise. We attempt to be more precise and very exact about problems, when the world isn't precise. It's exactly the opposite.*

CWC: I have lived a life with all these theories. Chaos Theory, for example, is an attempt to be precise about chaos. How can you be precise about chaos?

EK: *What they attempt to do is to define chaos so that they can be precise about it.*

JvG: *But, is that the way to go?*

CWC: No.

EK: *For some things.*

CWC: Have you lived through a serious earthquake yet? You can't be precise about what it feels like to live through an earthquake.

EK: *To know what you don't know . . . when you can't be precise . . . don't pretend to know that it's a rough approximation. But, when you know that you have found a way to put human feelings in a numerical scale, and that's more important than anything else, you've missed the whole point of every research.*

CWC: To do good science you must have an essential qualification and that's humility. A lot of what's happened in this area has been numerical or mathematical programming where there's a great deal of competition to be

successful. There is a lot of self pride. The most humble scientist I know of was Einstein. He wrote in a book, "I can't understand why they thought I was any good. I was just like any other scientist who had to puzzle things out. I happened to have had suggestions to make."

I don't have it (humility). I have lived a life struggling to get the Nobel Prize. This has been a real blockage for me. This place has disappointed me because I didn't get the promotions I thought I should. I didn't get as many honorary degrees as I thought I should. It's all part of a characteristic I had, in carrying out my work, that showed a lack of humility.

JvG: . . . which, in a way, is a little bit like greed.

CWC: Greed is characteristic of fame. How do you get to be famous? Win the Nobel Prize.

JvG: *But the whole world revolves around the notion of greed. We have to succeed, we have to achieve, get there.*

BD: *But is that true of both the western and eastern worlds?*

EK: *Maybe what we can observe of the eastern, maybe not.*

CWC: Look at the influx of the gurus in California. They were not modest. Experts on spiritual life came here, made up Transcendental Meditation for which you had to pay \$75. That's hardly humility.

EK: *There is a lot of folklore about Japan and how they look at things differently. Their way of life may or may not be more like what they've written about it.*

BD: *Are there any managers that you admire?*

CWC: The head of ARCO, the President or CEO, had the right idea. Part of what you're talking about when you talk about human misery is the notion of hierarchy. Hierarchy is part of the misery. People who get high on hierarchy begin to lose their sense of humanity. They think they are superior.

I have a friend who was head of a firm in Stockholm. He figured he shouldn't be the CEO, the CEO idea was wrong. In fact the whole building where he worked was symbolic

of it all. It had the lower-level employees on the lower floors and increasingly higher levels of management on the higher floors – which was wrong. It was not his idea of an ethical firm. Later, he wrote a book about a company that operates ethically.

JvG: *Are there any organizations, worldwide, that represent a different paradigm?*

CWC: That was the original idea of science. Alcoholic Anonymous (AA) – there's no hierarchy there. It's an upside down pyramid. There is no central office. Other self-help and non-profit organizations are like this. Non-profit organizations haven't received nearly enough attention in business schools.

JvG: *Some of them became "successful" promoting their goals, but then they became greedy, and more like big business. Fundraising became a big business. They lost their altruistic nature.*

EK: *There is a saying, "business is business." Maybe it can't be ethical.*

JvG: *The way business is organized today, by definition, it cannot be ethical, at least not in the way that West conceives of ethics.*

EK: *It can in some areas, where they show humaneness. But that is more than likely a private company, where they help their workers. You won't find that in public companies.*

JvG: *That's true, when the private companies have to compete for a share of the market. Then the battle starts.*

EK: *That happens because the competition plays dirty, is doing illegal things. I don't know how an "ethical" company can stay in business. At least in the way that West conceives of ethics.*

CWC: That's where you get carried into another area. If you go back to the Quaker companies, they were trying to help workers. They were not helping consumers. They were not helping those consumers that would never be able to afford their products.

EK: *By ensuring that they had quality goods, they were.*

CWC: That's another admirable quality, market sense. Look back at Thomas Edison. In the 1870s, Edison had a great idea. An invention

was not an individual matter, it was a marketing matter. You have to go searching for the market for the invention. You have to go looking for those that can afford to pay for the product. That's very much the U.S. sentiment.

My ethics are different, Quaker-like. You have to watch out not only for those that can pay. You have to be concerned about those that don't have the ability to pay. How are you going to fill that gap? And that's a big gap. The Edison model is "the ability to pay model".

JvG: This company you're thinking of does not have the same economic goal that drives other companies. They can't. This ethical goal is contradictory to the economic goal.

CWC: What you could say to many producers today, is that they're missing a huge market, those people that want the product, but don't have the ability to pay for it.

BD: What is the role of government with companies that are not satisfying customers? Does government have a role beyond business to ensure that consumers get what they need? Is there a role for government, beyond business?

CWC: You could create that kind of service or role and call it government, but it's nothing like the government I live under. Government has the concept of greed. We elect the most greedy individuals we can find. It's the great American tradition. Otherwise it's communism. Serving the people with the greatest need, that's Lenin or Marxism. The whole spirit of Lenin was the practical man. He wanted a government to implement this idea. This same spirit of communism, serving the needy man, underlies what I'm talking about.

Marx was a revolutionary and was shown to be incorrect. We've seen what happens to that kind of communism. They went to a dictatorship which may be the only way to get anywhere. But is that the way it has to go for all idealists?

You have to hope that there is such a thing as a better human species. This whole idea of hope is not scientific in today's language, but it's a terrific theory. Without hope you have nothing.

EK: Do you think we'll find a better human species through genetic experimentation?

CWC: That's another fear I have. When I was growing up, pure science was just that, pure. We were looking to discover the truth. I was curious about the origin of the universe. There was no application. It was just pure science in 1945. I later discovered that someone was able to use that.

JvG: In the wrong way.

CWC: Yes. Now look at our world. We lived through Hitler, who claimed he would improve humanity. If he'd known much about genealogy, he wouldn't have obliterated the Jews, he might have tried to make much better humans. Who should produce what children? And I think there are guys out there now who plan to do just that. I don't know what they're up to. Again, under the notion of purity, science is threatening to destroy us. It's frightening.

EK: I have a question about March's work in organizational theory. Are you familiar with it and how do you feel about that work?

CWC: That work is part of an effort, on the part of the business schools, that came when there was an increased interest in the structure of the organization. We knew the meaning, okay, but what about the structure? What parts produce useful organizations? Like most, we never referred to ethics, or when an organization was ethical, which would be, namely, *when* and *how* do you reduce the inner disturbances and chaos that are present in so many organizations.

March and Simon's effort was an attempt to put it all together. And it did not, like Peter Druker, bring out problems of management per se. It was more descriptive and it was theoretical. It didn't interest me. It didn't raise crucial issues about life in an organization.

Our courses in the MBA program are centered around March and Simon's work. This is a school of management, giving an MBA. We're teaching people to manage through organizational theory which is not

helping them know *how* to manage an organization. They become good at knowing the facts. But there is a difference between *factual science* and *ethical science*. It seems to me that it is all an attempt to use different ways of *describing* and *classifying* organizations, but it does not address *how to manage* them.

It was in the business school, where I first came across accounting. And I asked, what was its purpose? I was told it was to keep accurate data on the status of a firm for purposes of determining its financial position. Why? Why should we be accurate? What is the point of double-entry accounting: to be accurate. Why didn't we take it one more step? What's the point?

Later, when I was working with the railroads, I discovered that as the accounts were settled every month, there was a way they could save billions of dollars if they used random stratified sampling. It was accurate to 1%, not to a penny! Wow! They were spending millions of dollars on penny accuracy, but no one was asking why accuracy was important. I was stupid and earnest. Where were the savings going to occur? On accountants. They didn't need to hire so many accountants. I got strange reactions to my suggestions of stratified sampling. Some people asked, "We're not going to turn into a gambling outfit are we?"

BD: On the issue of Quality Control and Deming's Theory of Total Quality Control, would you contrast and compare your philosophy with Deming's?

CWC: Ethics. The issue is the same. The center of Total Quality Control is ethics. With Total Quality Control, ethical management is not reached, until the product being produced or service being provided has reached everyone who has a true need for it.

BD: Deming considers the entire environment. He does not advocate evaluating personnel on their productivity, but is very much an advocate of team production.

CWC: Total Quality Control is mainly oriented toward the product and not toward the ethical

nature of the market. I may be unjust about the whole idea of Deming's fit with what I am looking at, but there is nothing about ethics in it.

BD: There are strong similarities between what you advocate and Deming.

CWC: I have just seen one of the latest textbooks on it. I don't see anything about ethics. It's not in the index. Of course, maybe that's the wrong place to be looking for it.

BD: Deming is very concerned with the customer.

CWC: I want the customer who isn't served.

BD: Deming is very concerned about satisfying the customer who has the money to pay for the product. He is working with both governments and major corporations. What about the conflict between science and society? Science is interested in producing facts and answers. Government really wants immediate results. Government can't wait as long as science. Is there a conflict between government and science?

CWC: Let's be even more general and look at management and science. Management and science look at things very differently. You can tell because science thinks of solutions, how to formulate problems and solutions. That's the scientific way. No manager would expect to find solutions to problems if he carries the problem out. If he puts boundaries on it, he only comes to an *approximate* solution. But, it is not even approximate because he does not even know if it is accurate or not.

I want a science for management, something like the Institute of Management Science (TIMS) which is pursuing an effort to invent a science of management. Look at my boss. He asked me to look at ammunition to guarantee that the ammunition would work and the soldier is justified to pull the trigger. It is a management question but it is also a scientific question. I want a science for management. "Management Science" was a great label. TIMS had to invent a science of management which would also be a management of science. I wanted an "X of X". I wanted to see it both ways. As it is, neither modern

science nor management can satisfy the ethical demand.

BD: In your book, you call for an ethical management science. Is this possible in a non-ethical society? It seems like an ethical society would be a necessary condition for this to occur.

CWC: We would have a different meaning of science, a different meaning of management.

BD: But the society in which both operate is non-ethical. You have greed, war, hostility, etc. The environment of science is not ethical. How can science itself be ethical?

CWC: Here's a suggestion. Greed is a disease just like any other disease. It comes about because of [dysfunctional] interrelationships between human beings. Can the disease be lessened?

I'm an alcoholic, so I know that there is a way to overcome an addiction. For me, I never seemed to have enough to drink. The word E-N-O-U-G-H meant a lot to me. That's also characteristic of wealthy people, there's not enough wealth to be saved. It seems like an addiction. Look at it this way, we may be able to get over it, not see people getting as wealthy as possible, and not have a society of greed, greed for fame, for political power, etc. That's a conquerable disease.

I want a science that's going to help me find out about that disease. But it won't look like today's science. It will not come from a collaboration of different disciplines. It will become a coordinated science where the experts are not today's experts of rigorous science but of a science whose main concern is the service of humanity. It won't look like today's science.

JvG: How can this science exist in the context of this society? Will we have to revolutionize our organizations and the institution of science to implement this program?

CWC: It's not that difficult. What if you were to set up a research organization in the middle of Los Angeles? Students go out to work on city problems and become part of the course. Some of the prime researchers are inhabitants of that city. They know things others don't,

things that no urban planner knows. It's the same principle as AA. The main research is done by alcoholics to research their own addiction. They are the researchers.

I'm not talking about our current hierarchy of knowledge and human science. This new effort is starting already. Like AA, there are over 200 different kinds of twelve-step programs around that are all based on the same principle of the twelve steps of the AA approach to the problem.

The new science is coming, and we can get it. It will be in existence. The universities will be competitors with that science. That's what I want, but it will be institutionalized and then overrun with bureaucracy and then ruined!

BD: Let me pick up on your point of the research organization in Los Angeles, using the Total Quality Management (TQM) idea as a basis for the question. One of the basics of Total Quality Management is that you have teams of workers who know the process. It's not the traditional scientific approach. Workers are multi-functional in that they know the production process, accounting, marketing, etc. They have access to data and attempt to solve problems.

The Graduate School of Business of Chicago is organized around the Total Quality Management (TQM) theory. Faculty and students work together with administration to develop curriculum and the pedagogy. And I am sure there are other examples of where teams of workers are working together to solve questions and improve their organizations.

My question is: Is there some way to capture what is going on within the organization in order to study it systematically rather than in an ad hoc fashion, which is what's currently happening? We have examples but not a theory about how these things operate. We know they are successes after the fact, but we are not clear on how they do it.

CWC: You don't know whether that's a good way of doing it or not because that has to do with the management of inquiry. In the study of management, I do want to create a science where each human being is a scientist and move away from the distinction between being a human and being a scientist. Russ Ackoff is doing the same thing that you described at

Chicago. There are lots of examples around. If I didn't find examples, I'd be worried, but I find them everywhere. The only thing that's not emphasized enough is ethics. I want to see the improvement of the human condition. We need to bring about joy in the human condition. Maybe that's what we need, a Department of Human Joy. But to what department does that really belong?

EK: Be careful about that . . . Hitler used the phrase "strength through joy."

JvG: It's interesting that we're talking about ethics in the context of the School of Business. Within the academic community and the accreditation community they want us to teach ethics, but that would go against the concept of greed, which is also taught and greed takes precedence. An undergraduate has no idea what you mean by ethics. Therefore, when he graduates, he goes out and sets up his business in a very unethical way.

EK: The business schools teach ethics but they don't understand West's concept. Their concept of ethics in a corporation means to be legal and to operate just within the boundaries of the law but to never get caught.

CWC: Take, for instance, our courses on Conflict Resolution. These courses are designed to teach how to influence workers so they don't fight with management and what management wants. It is about getting the rest of the organization to go along with management. It is not about ethics. You resolve the conflict when you make the proposal and you know beforehand that the rest of the organization will agree beforehand, rather than reach a situation with conflicts afterwards. That is not ethics.

BD: Is there a hierarchy of ethics? Are you more concerned with satisfying the higher aspect of ethics, e.g. social responsibility?

CWC: There isn't any good hierarchy. My mind works that way. Perhaps if I had to select a higher ethic, I would say "kindness." I have the same idea as Immanuel Kant. Kant's main idea was Ethics by a Moral Law. He wanted to reach a kingdom dictated by the highest principles. If you're motivated by kindness,

true human kindness, you've got it. But most people aren't so motivated. You can't feel kind about starvation or killing 50 000 people on our highways. Laws do not operate kindly. In the courtroom, lawyers are not kind and neither is the medical profession. If you spend any time in the hospital you'll find that medicine is not kind. They treat you like a machine.

JvG: Let's talk about greed and kindness. If greed is a disease that we must eradicate, how do we use kindness to do it? Do we encourage people to be kind? Our society is not like that. We're not kind, because of greed, competition, pressure and the like.

CWC: There are more books being written now on this idea of "care" than anything else. I'm sure of that. What this means is that there's a bigger push for the human species. How do you care? Not like the good Samaritan who sees a mugging victim and takes him to a house down the road to get help. That's not how we care today. I try to care for those who drink too much. I can't tell them to stop because they don't know what I'm talking about. You have to learn how to care. Learning is what we professors are all about. Why isn't there a course on that. There should be a number of courses on caring. Human Care. What Department would you put that course in?

EK: Nursing . . . no, not really. Stafford Beer, in his writing, quotes from the Bhagavad-Gita and this is what he says, "In reality, action is entirely the outcome of all the modes of nature's attributes; moreover, only he whose intellect is deluded by egotism is so ignorant that he presumes. I am doing this." He gets to the greed aspect of the managers: I did this, so, therefore, I deserve everything I can get. He introduces the Creed of Greed. But Stafford Beer quoting Bhagavad-Gita is coming close to what you're trying to do in your book.

CWC: With one notable exception. The Gita makes no mention of implementation.

EK: He says that all action goes toward implementation.

CWC: His is not a book of implementation. "If

you listen to me then you will do what I tell you". That's what I get from Gita enthusiasts. His work is really about taking control. We're famous for control devices. We have beautiful technologies. They are control devices. What they don't tell us, however, is how to control *desire*. That's the Gita message. You haven't got anywhere near control if you can't control the desire function.

EK: We know how to control influence, through advertising, etc. But we can't control desire. We know how to enhance the desire function.

JvG: Is desire a purpose?

CWC: It's one purpose. We don't have to have a desire function. A lot of biological functions are carried out without a desire function. Gita's point is that where humans go off the track is because they can't control their desire. For example, just ask Mr. Perot, "How many more billions of dollars do you need to be satisfied?" If he is honest, his answer will be that he will never reach that point.

The Gita is one of my best examples. Some of my students introduced me to the Gita. It's a marvelous book. It starts with a young man who is confused, wanting to know why he should go out in the field and kill his family that's at war with itself. He is talking to his character. What comes out of this is that we are all in a state of confusion because our ethics are in a state of confusion. We don't know how to control the desire in our lives. The Gita is a control book.

Stafford is exactly right. It says the message clearly. I don't get it out of Kant. Plato is the first management book about the management of cities. He tried to implement it. He wanted to have the dictators implement his ideas in his Republic. And he almost got killed trying.

BD: Wouldn't you say that the Ten Commandments are a fair representation of ethical management principles?

CWC: Yes, it's an example. But, in the analysis of its content and justification, it just doesn't work for me. From the translation that I have, I don't get it. It doesn't help me understand. They are a good guide for some, but I do not

understand them. Plato, who was really one of the first great Western management theorists, for each step in the Republic, he gives a justification. That is what I call science. I didn't get that from the interpretation of the Ten Commandments. Also, they come from Yahweh through Moses and his conversation with Him on a mountain top. I can appreciate that. I think most of us listen to an inner voice. But, if you believe that the Ten Commandments come from Yahweh, there is less of a tendency to analyze them, to be reflective.

BD: But aren't the Ten Commandments obvious statements about how we should ethically manage ourselves and society?

CWC: Not for me. To go back to World War II, "Thou shalt not kill", wasn't very obvious even to this pacifist. If we didn't oppose Hitler I could see a world of terrible tragedy. I had a strong feeling. Not a solid belief. I felt frightened, we all did. But we believed we had to defend ourselves and our children, and to do so, we had to kill the enemy.

JvG: I have a little bit of a problem – maybe others do too. If others were to listen to our tape, they would hear the concept of war talked about and hear that war is ethical. Can you temper your statement with an explanation of what you mean by that? I think it can be misinterpreted.

CWC: We make generalizations all the time. For instance, all drinking, all alcohol is bad. Well, that's not true. We say the same thing about drugs and there are some drugs that are good. The problem is to identify when the ethics are different. That's a systems approach, straightforward systems approach. There are no true generalities for action. That does not mean you can go backward and find a standard basis. I am not a Kantian. I don't try to find a moral law. You can try to find a basis, but they are always changing. So the rules change, but not the overall ethical purpose: service to humanity. That's an invariant.

JvG: We keep coming back to how do we decide and who decides, in this case, what's ethical?

CWC: Who decides what kind of mathematics is appropriate? We didn't do that at the beginning of the Institute of Management Science (TIMS), and the Operations Research Society of America (ORSA), and we should have.

JvG: *Do you really have this faith in mathematics? Really?*

CWC: What is math?

JvG: *Logical thinking, but . . .*

BD: *No, it's applied psychiatry.*

CWC: We still don't know. Mathematics is described as rigorous thinking. Described as deductive thinking as opposed to inductive thinking. Mathematics is described in Principles of Mathematics by Whitehead as pure logic, applied. We don't even know what the number system is. How can it be the final foundation when we don't know what it is.

JvG: *Maybe what went wrong is how mathematics is applied. It seems synonymous with making a field or a discipline more scientific. This is what befell management science.*

CWC: I don't think it's scientific at all. I don't think modern science is scientific.

JvG: *This was the purpose of TIMS, trying to make decision-making more scientific.*

CWC: Maybe we should've said, back in the 1950s, "We're starting something that is going to call into question what science means". Because the current state of knowledge-gathering is terribly deficient in terms of its management.

BD: *Do you think you're giving mathematics too much credit? Mathematicians had an axiom for parallelism and then later found there were some non-Euclidean geometries. Do we need a variety of mathematics or geometries to describe human science or science applied to the human condition?*

CWC: Consider Plato. The Pythagoreans were the strongest mathematicians in Plato's time. They didn't think of the deductive stuff. They would not have said that set theory or propositional calculus are the foundations of math. They said that numbers had a spiritual nature. Saying five plus seven equals twelve symbolizes something far beyond just the manipulation of symbols. But eventually, the numbers were stripped of their spiritual meaning.

EK: *The concept of calculus is spiritual.*

CWC: Numbers mean to us, human beings, incredible things. Just look at the mystery of April 15. That's a spiritual holiday in this country.

JvG: *I'd like to ask you to conclude our interview by giving us your definition of hope. I know it is important to you. Why don't you tell us about hope and with this we will close out the interview.*

CWC: I used to think, because I'm a logician, that definitions had to be rigorous. It's a paradox. You can explain A by B, but B is not clear enough so you do C, but C is not clear enough because it doesn't define rigor. So you have to define rigor. You can't do that except by D. It's a lot of nonsense. Definitions should be meaningful. And meaning goes deep to the spiritual side of me. It can't be made rigorous at the present time.

HOPE is the spiritual belief in an ethical future.

JvG: *On behalf of all of us, thank you, Dr. Churchman, for kindly agreeing to take part in this interview. We appreciate the time you have spent with us. May the years to come be as fruitful and as creative as all those earlier ones. We wish you continued health and happiness.*