

LEADERSHIP & THE NEW SCIENCE

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Agenda

- * Introduction.**
- * Program Expectations.**
- * Movie: Leadership & The New Science.**
- * Break.**
- * Applying Leadership and The New Science: Presentation Overview concerning Relationship, Information, Chaos, Vision and Dialogue as Applied Today.**
- * Creative Time-Space and Dialogue.**
- * Question & Answer.**
- * Closing Statement & Thank You.**

Suggested Learning Values

R **Responsibility**

O **Openness**

P **Participation**

E **Experimentation**

S **Sensitivity**

**INFORMATION..CHAOS..RELATIONSHIPS..VISION
DIALOGUE..IMAGES**

MEG WHEATLEY'S Web of 4 SHIFTS:

- PARTS TO WHOLE - SUMMATION TO SYNERGY **CLOCK TO**
LIVING ORGANISM
- PROCESS AND STRUCTURE - SYNERGY IS DYNAMIC
- UNIVERSE ----->>>> DYNAMIC WEB OF RELATIONSHIPS
RELATIONSHIP FIELDS
- DYNAMIC = H. U. P. (HEISENBERG'S UNCERTAINTY PRINCIPLE) **GAP**
BETWEEN OUTER SENSES AND INNER IMAGES

LESSONS FROM THE NEW SCIENCE

"Cumbersome bureaucracies and complex hierarchies simply can't work when things need to get done quickly in an environment that changes constantly. The challenge of our times is to invent and discover the organizational forms that can be as resilient, adaptive and healthy as most living organisms. How can we create organizations that don't get stuck in their own structures? How can we design work so that it gets done with maximum efficiency and effectiveness, by people who feel good about what they're doing? How can we create organizations that thrive on change? "

Says Richardo Semler, president of Semco:

"The organizational pyramid is the cause of much corporate evil because the tip is too far from the base. Pyramids emphasize power, promote insecurities, distort communication, hobble interactions, and make it very difficult for people who plan and the people who execute to move in the same direction...Managers and the status and money they enjoy-in a word, hierarchy-are the single biggest obstacle to participatory management. We had to get the management out of the way of democratic decision making, and our circular system does that pretty well."

Says Don Peterson, former CEO of Ford,

"For too long businesses and other enterprises have been managed with a top-down approach that leaves little room for the average individual to think...Employees have long since learned that their ideas are not wanted, so they simply wait to get 'the word.' They do exactly what they are told to do, nothing more... The result is that the only mind of the leader, and possibly those of a few closes, are involved in creative and problem solving processes...Companies that are run this way are in serious jeopardy."

Says CEO David Whitwam of Whirlpool,

"When the chairman walked down the halls in my early years with Whirlpool, you found an office to duck into. According to the old paradigm of hierarchy and discipline, it wasn't his subordinate's place to question his decisions. Employees today question and challenge all the time. They don't accept things at face value...a contemporary CEO has to convince employees why transformation is necessary. Then there's the critical step of

persuading them that they can perform at what seems to be impossibly high levels."

Paul Allaire, CEO of Xerox, envisions organizing "the entire company into self-managed work teams or...productive work communities" to replace the functional and hierarchical organization of day's past.

Peter Drucker observes,

"...the most probable assumption is no currently working business theory will be valid 10 years hence...And yet few executives accept that turning around a business requires fundamental changes in the assumptions on which the business is run. It requires a different business."

Says Gross, Athos and Pascale:

"When leading organizations into the future, executives come to a fork in the road. As they come face-to-face with their organizations needs to re-invent themselves, many executives hope for the best and opt for the prudent path of change. Even when they choose re-invention their feet are cold. Thrown into the unfamiliar territory of re-invention, where the steps along the path and the outcome themselves are often unpredictable, the responsible thing to do, many executives think, is to get back on track. It's not surprising that so many executives decline invitation to re-invent themselves and their companies. It like aging: experts tell us that its difficult, yet most of us hope to go through it without pain."

Says Nicolas Hayek of the firm's ability to manufacture low cost products in high wage nations,

"You can build mass market products in countries like Switzerland or the United States only if we embrace the fantasy and imagination of childhood and you. Children believe in dreams. And they ask the same question: Why? Why does something work a certain way? Why do we behave in a certain way? We ask ourselves those questions everyday...People may laugh at the CEO of a huge Swiss company talking about fantasy. But that's the real secret behind what we have done...the people of the original Swatch team asked a crazy question: why can't we design a striking, low cost high quality watch and build it in Switzerland?... The Swatch is based on radical innovations in design, automation, and assembly, as well as in marketing and

communications...Swatch is a triumph of engineering. But it's really a triumph of imagination. If you combine powerful technology with fantasy, you create something distinct."

SHIFTS IN SCIENTIFIC AND ORGANIZATIONAL THINKING

"How do systems grow and change constantly? How do they retain an identity in the midst of change? How do they work with chaos, rather than resisting it?"

Silicon Graphics and Rational have created chaos in the marketplace through innovation as a consciousness strategy.

Says CEO David Whitwam of Whirlpool,
"Too many companies implement one improvement program after another but ignore the larger picture, which has to do with establishing enduring relationships between a company and its customers...They look at these 'little pictures when they're creating strategies, and because it's so hard for them to back away from such close-up view many can't entertain the notion that their industry could be evolving into something different over time."

Robert Shapiro, CEO of NutraSweet states,
"Innovation is dedicated to creating new frontiers for people to expand into...You grow into the domain of the unknown to create space for something interesting to happen."

Don Peterson, former CEO of Ford, states,
..."But now we're seeing more competitors, here and abroad, recognize that their workers are their greatest resource. They are using their vast pool of skills and knowledge to improve the quality of their products and services dramatically."

Executives can also create chaos through "strategic roaming."
Strategic roaming involves idea exchange, networking, and knowledge creation. Hewlett-Packard has assigned 90 production managers to continuously "cross pollinate" its labs. Granite Rock rotates both hourly associates and managers throughout the organization.

Semco S/A has a circular organizational form and self-organizing groups. The short range future factory is envisioned as a pulsing wave field of virtual ventures interconnected by a computer network. Apple uses networks, fields, and pyramids.

In Leadership Is An Art, DePree states that giants give the gift of space, "space in both the personal and corporate sense" so that associates can actualize their potential. Great Plain Software is an example of an enterprise that supports open space. Management encourages associates to "push out of the parameters of their jobs." CEO Doug Burgum supports this by letting go of authority and by supporting bottom-up innovation.

SHIFT 1. FROM THE PARTS TO THE WHOLE.

"...to observing whole systems... Many organizations now define the boundaries of their system to include customers, suppliers and community members."

George Sztykiel, CEO of Spartan Motors, states, "We don't recognize the terms labor and management here. I'm not the boss. I am the number one servant of the corporation."

Of Spartan, say John Rouser of Cummins Michigan, a vender, it's "my favorite account...It builds unique products, and we have a unique relationship. We take our resources and its resources and together we go farther than either of us could alone."

Don Peterson, former CEO of Ford, states, "We tried to instill the philosophy throughout the company that quality was everyone's job...'It's difficult to believe that we can have a truly excellent product unless literally every process and activity in the company emphasized quality."

Digital Equipment Corporation used a search conference to assess the future of product information with its stakeholders. The Boulder School district's search conference was sponsored by the League of Women Voters. Representatives from the district's stakeholder groups planned, initiated and participated in the conference.

Microsoft and Lotus are competitors in certain software niches. However, each copy of Lotus 1-2-3 contains Microsoft MS-DOS. Microsoft requested Lotus input in developing Window 3.0.

Reebok International set up outpost in 100 malls to secure information from customers on its products. This information influenced the firm's marketing strategies and tactics.

SHIFT 2. FROM UNDERSTANDING PROCESSES RATHER THAN STRUCTURES.

"In the past, scientists tried to understand the mechanisms, how the parts were structured to fit together. Now they look behind the structures to the processes, to the dynamics of a system that then give rise to certain structures. ...organizations are trying to discern the processes they need in order to be responsive to customer and market demands."

New Balance, a shoe manufacturer, went to teams because they allowed the firm to cut production costs, improve quality, reduce new product development time, manufacture in the United States and reduce time to fill customer orders; thereby, also reducing customer inventory costs.

Says CEO David Whitwam, Whirlpool, of customer research for R&D,

"We're now studying consumer behavior from the time people take off their dirty clothes at night until they've been cleaned and ironed and hung in the closet. What are we looking for? The worst part of the process is not washing and drying. The hard part is when you take your clothing out of the dryer and you have to do something with them...Whoever comes up with a product to make this part of the process easier, simpler or quicker is going to create an incredible market."

When faced with a major down turn in the Brazilian economy, Semco used free enterprise, personal freedom and democracy. They created teams to discover new opportunities and satellite network of former associates who contacted with Semco but were also free to hunt for opportunities.

Don Peterson, former CEO of Ford, states, "Oftentimes when there is a small problem, such as bad screw on a car door or an editing mistake in a newspaper, people put their attention entirely on the error instead of examining the process that allowed it to happen. Endlessly correcting little problems is not only frustrating, it doesn't lead to lasting improvement. You have to ask if you could make any change in the process to eliminate the chance for an error entirely."

While large airlines have suffered, Southwest Airline with its "fun" culture and flights has developed. Southwest recognizes the relationship between happy associates and customers. It also supports through its policies, practices and processes employees who can serve customers.

Bread Loaf Construction's competitive edge is not cost or product quality but customer perception of its creativity, innovation, and integrity.

Fletcher Music Stores sees its business as creating a community of organ enthusiasts and not just selling organs.

SHIFT 3. TO UNDERSTANDING THAT THE UNIVERSE IS A WEB OF RELATIONSHIPS, CONSTANTLY SHIFTING AND GROWING.

"...patterns of connections and dynamic interrelationships... ...a web of skills, markets, and technologies, bringing all three together to respond quickly to new opportunities. ...how good we are at working together across traditional boundaries of diversity, background, and functions. ..what the leader needs to do (develop relationships) in order to foster a strong relationship with others in the organization."

Silicon Graphics scouting of lighthouse customers and forming alliance with software firms illustrates this shift. When lighthouse customers are scouted, Silicon Graphics is seeking to understand and create new opportunities in the computer industry. Silicon Graphics uses scouting information information to work with software firms to produce new software to meet the needs of leading edge customer.

Jack Welsh of General Electric has coined the term the "boundaryless" organization to describe General Electric's quantum evolution. The boundaryless organization will not restrict its members through the tyranny of form. Members will not be tied to their offices, desks, or departments. In fact, the boundaryless organization transcends fixed space and absolute time perspectives.

The Director of Pueblo County, Colorado used open space to plan winter work with snow plow operators. The Vice President of Sales and Marketing empowered customer service associates through open space conferences. A software firm used an open space conference to assess customer future needs for new product development.

In the U.S. and Europe, small enterprises are forming network organizations. Competitors are cooperating to gain the advantages of large and small enterprises. In Denmark, small firms have clustered into groups of three or more to create new products, brands and to move into exporting. 3500 businesses are involved in such networks. The results have been: (1) a reversal of the negative trade balance with Germany and (2) the world's highest trade balance in 1992. Erie Bolts, today EBC Industries, and Minnesota's Tri-State Manufacturing Association are U.S. examples. Both have reversed decline through forming strategic alliances amongst suppliers and former competitors.

Say Fumio Kodama, of the R&D processes and strategies, " Either a firm can invest in R&D that replaces an older generation of technology-the 'breakthrough' approach' or it can focus on combining hybrid technologies- the 'technology fusion' approach. The former is linear, step-by-step strategy of technology substitution...Technology fusion, on the other hand, is nonlinear, complementary and cooperative. It blends incremental technical improvements from several previously separate fields of technologies to create products that revolutionize markets."

SHIFT 4. TOWARDS THE REALIZATION THAT WE CAN NEVER KNOW REALITY ABSOLUTELY, OR PREDICT ANYTHING.

"Scientists now acknowledge that they cannot predict anything; approximations are the best we can hope for."

Says Akio Morita of Sony, "You can't do market research on a product that doesn't exist." Columbus thought he discovered Japan. Thomas Edison didn't envision the applications of the phonograph recorder. Macroni didn't see the radio as creating broadcasting. He thought of it as a wireless telegraph. Apple didn't see desk top publishing when it launched the Macintosh. 3M planned and marketed scotch tape as book blinding product. Apple Computer and Monasto are providing Newtons to farmers to discover new applications. Few would have predicted that Microsoft would become a Fortune 100 enterprise. Sun Microsystems with its inexperienced founders seemed an unlikely candidate for becoming the dominate workstation player.

A study of Inc. 500 founders indicated 20% discovered their business ideas serendipitously. Only 4% resulted from systematic research. The majority developed their growing enterprises by replicating or modifying an idea experienced during their previous employment.

Says Fumino Kodama,
"When it comes to gathering intelligence on technological innovations, most companies do a poor job. They typically focus on the immediate competition and rely on a limited channel for collection information. They lack the breath necessary for technological fusion strategy...The visible competition is a known quantity... Invisible competitors, on the other hand, are unfamiliar and often unknown. They are companies from outside the industry that possess a technological capability that could be a threat if turned to new markets."

Says CEO David Whitwam of supporting innovation at Whirlpool,
"If you want to open the door of imagination and innovation, isn't it more useful to think of 'the fabric-care business...The starting point isn't the existing product; it's the function

consumers buy products to accomplish. When you return to first principles, the design issues dramatically change. The microwave couldn't have been invented by someone who assumed he or she was in the business of designing a range. Such a design breakthrough required seeing that the opportunity is 'easier, quicker food preparation,' not 'a better range.'

SAS' knowledge structure was based on "airline as product" rather than service. Carlson recognized the need to change the enterprise's knowledge structure for the firm to revitalize.

At XEL Communications, managers still wrestle with the issues of control and authority. They experience the dangers and delights of writing a new book of organization life. They are troubled by asking questions and not knowing. They are uncomfortable with the autonomy of associates. However, they have a deep intentionality to face their demons and transform them into creative energies.

Donald Frey, former CEO of Bell and Howell states:
"Financial controllers may be bright enough, but they often incapable of grasping, let alone quantifying, what executives too often blush over: the softer data of business, the new market share one might gain from amazed customers, the revolutionary implications of seminal product innovation, the energizing power of a company's best people...How can numbers be expected to reflect what customers want when customers themselves can't imagine the new product existing? How, when you are not deeply involved with the use of something, can you speak intelligently about the opportunity costs of an investment? I am now back in academia, but these are hardly academic questions. Curiously, the harder the questions, the "softer" the answers."

White Storage and Retrieval Systems, a manufacturer of retrieval systems, devoted 7000 hours to training in 1991. In Manco Inc.'s, a distributor of duct tape, business is viewed as learning. MacTemps, a temporary service agency, has a Back to School program to support its commitment to organizational learning. Springfield Remanufacturing educates shop floor associates in economics, accounting and management practices.

UNDER THE LENS OF NEW SCIENCE.

" There are no easy prescriptions...these ideas urge us to become explorers and discoverers, eagerly engaged in inventing our organizations... We all need to think together in new ways, and be willing to support our joint experimentations. ...share expertise that is valuable for our organization, and that we have to work in new relationships and new processes in order to capitalize on our collective wisdom."

GFT's ideal of the "designer organization" illustrates this mindset. GFT executives envision developing an organization that will be able to continuously transform itself to meet changes in its environ.

Honda Motors didn't capture the American motorbike market through a grand strategy but through serendipity. Here's the story.

Two executives come to the US. to sell large bikes. Targeted customers were not interested in them. However, people were interested in the smaller cycles that the executives just happened to bring for their personal use.

OurTown Television Productions illustrates self-management in action. Associates design their own work with CEO Steven Rosenbaum serving as a facilitator. Rosenbaum reports that self-creating work has improved productivity. It has created a workplace where associates really love their work.

Order Found In Chaos.

"The traditional definition of chaos is a system whose behavior is totally unpredictable: we can't tell what the system will do next."

Semco's scouting team discovered, by accident, the seed of its environmental business. If Semco had stuck to its vision and strategy of being a manufacturer of pumps, it would have never grown this seed.

Ralph Slayer, CEO of Johnsonville Foods illustrates this mindset. Slayer came to the realization that management couldn't build an organization based on a rational plan orientation. Structure

evolves "from day-to-day working realities; no one could dictate them from above and certainly not in advance."

Panasonic's general manager was walking through the ladies' clothing section and noticed a sign, "It's not for everybody. This dress is just for you." This opened his mind to the insight that bike's could be customized.

During an open space conference, Rockport Co. discovered a new product line serendipitously. A guard at the conference facility mentioned that he loved the comfort of the company's shoes. However, they just didn't look right with the guard uniform. This comment triggered the idea of developing a new product line that "looked right." Sr. VP and CFO Anthony Tiberii, a vocal opponent of the conference turned advocate, estimated the new line will produce \$ 20 million a year in sales. Says Tiberi, "The funny thing is the guard wasn't even a Rockport employee." He wasn't even invited.

Strange Attractors

"From moment to moment, the system was still unpredictable, but when observed over time, they saw that the system conformed to a boundary. Chaos has a shape... ...chaos is order without predictability. These attractors show us that order is inherent in the system; it emerges as the system moves and plays in its environment. ...order is available, but not through the control of individual people or events. ...order is different from control..."

Paul Allen was seduced by computers and a vision of their future. This beckoning led Allen and Bill Gates to create a program from which Microsoft evolved. Says Allen, "What I really find exciting is creating new products or ideas and the opportunity to tie technologies together."

Richard Branson, founder and Chairman of The Virgin Group, makes business development decisions based upon whether the business is exciting and funny. In the world of intangibles, excitement and fun may be as effective as market research and benchmarking.

The newly launched Republic of Tea illustrates thinking in new

ways. The chairman is minister of leaves. The founder is the minister of enchantment. Marketing is directed by the minister of progress and finance, the minister of big ideas. The cans are decorated with whimsical watercolors. Marketing includes educating people about tea as a metaphor of life through its motto, "Sip by Sip, not Gulp by Gulp," a book, The Republic of Tea, and a catalog that includes books of philosophy from "Tea Mind Library."

David Packard and Bill Hewlett didn't have a goal or a clearly defined idea or plan when they began Hewlett-Packard. They just wanted to start a business together in the electronic engineering field. Masaru Ibuka had no idea what kind of business his new company would enter. For weeks, Ibuka, Akio Morita and their associates sat around discussing what kind of business the new firm would enter. Today, this confused and lacking in purpose group is known as Sony.

Springfield Remanufacturing metaphoric vision is the "Great Game of Business." This vision lead to unique principles guiding the game: the open book management, training associates in economics accounting and quality, and profit sharing and expanding the horizons of each and every associates work.

President Lars Kolind decided that Oticon needed a new story: the organization of the future. Kolind created a "spaghetti organization" designed to be a problem solving structure. There are no departments. The entire headquarters is based on project teams. Associates self-select their own projects which are posted on "computer job offer board." Anyone can initiate a project and serve as a project leader when approved by a five member board. Manufacturing is also moving towards the spaghetti organization. Production is based on nine member project teams. Members can and do voluntarily change from team to team.

Says Peter Drucker,

"You (manager) have to learn to manage where you don't have command authority, where you are neither controlled or controlling...I am not comfortable with the word manager anymore because it implies

subordination...The new organization needs to go beyond senior/junior polarities to a blend with sponsor and mentor relationship."

Patterns or Fractals In Nature.

"Fractal shapes...appear everywhere. Their beauty and variety emerge as a result of two contradictory processes: total freedom of the the equations to evolve as they will, with no moment-to-moment predictability possible; yet a pre-determined final shape described by the initial parameters...If nature creates complex structures by building them up from a few simple patterns. ...then maybe we could focus on establishing the right patterns, and then let individuals express their interpretation of what the pattern means for them?"

"At the top ABB (Asea Brown Boveri, a giant industrial company) is broken into eight major business segments. Next come 65 Business Areas, then 1,300 independently incorporated companies, and some 5,000 autonomous profit centers. At the 'bottom,' the profit centers are beginning to reorganize into 10-person, multifunctional High-Performance Teams. ABB employs about 215,000 people, so a company averages 200 people, a profit center about 50. Almost all the centers have their own profit-and-loss statements and a balance sheet: they own assets; and they serve external customers directly. The average profit center is led by a 'management team' of five - a chief and four colleagues."

Oticon's CEO, Lars Kolind asserted, " The offices and long corridors created emotional barriers. We took down the walls and liberated everyone from having to sit in the same space day in and day out. Now all members of the headquarters contingent gather where they wish to work with whomever on their self-selected projects. The 'mobile office' means that the R&D engineer who likes marketing can join the marketers, and the same for the administration person interested in sales. Kolind said,"You can't get the process started if the employee can't move to see how things work in other groups. Each workstation (desk!) in the giant, undivided space is identical. No workstations are assigned. Instead, employees roll their personal 'caddies' to the spot where they'll work for the day. These mobile carts contain 10 or so

files pertinent to their current project and whatever else they can squeeze in - picture of the children, the dog, etc. If you're away on a long business trip, you stow your caddy in a storage area."

Says founder and CEO Ted Castle of Rhino's Food simple pattern called, The Game of Business, ..."Most people love a good game. It needn't be football, baseball or hockey. It could be checkers, or chess or Ping-Pong or canasta. (Or a bakery) How do you get people to care about spilling a rack of chess cake?... I want the employees to care about the business as much as I do. (That's where Rhino Food's Game of Business comes in). The opponent here is expenses. The home team is work to make a good quality product that were able to sell...If you just through the numbers at them, all they can do is get confused. We worked on it from scratch. (Rhino's employees with management learned what the numbers meant. They started by looking at costs for producing and revenues from a single pallet of batter. Next, the lessons were made into a daily score card which is posted each day. There's a bonus check for each associate when profit guidelines are meet. When they aren't, associates focus on improving their performance. The game makes associates aware of how each action and decision effects profits and bonus. The game has supported Rhino's 600% increase in revenues and profits).

Levi Strauss & Company devoted two years to creating its Aspiration Statement, guiding values of the enterprise. Executives recognized that they couldn't force acceptance. Leadership Week was created. Says Chairman and CEO, Robert Haas,

"Since you can't train anybody to do anything he or she doesn't fundamentally believe in, Leadership Week is designed to give people an opportunity to reflect on their own values and to allow them to say what they want to get out of their work. In most cases, people learn that their personal values are in alignment with those of the company."

Don Peterson, former CEO of Ford, states, "I wrote a memo about the 'driver's car,' to develop the idea that the car and driver should be in perfect harmony when the car is in use...I didn't write the memo to tell people specially what to put in the car. I hoped to encourage them to be more conscious of these attributes as they designed

and built the car and to keep asking themselves, 'How will the final customer react to this? If I don't know, how can I find out?'"

Once upon a time, a group of Fortune 500 executives stop at Chaparral Steel to discover their management magic for managing teams. "How do you schedule coffee breaks in the plant?," asked a visiting executive. Said the Chaparral manager, " The worker decide when they want a cup of coffee." "But who tells them it's ok to leave the machine." Later, the Chaparral manager stated, " The guy left and still didn't get it." Say Kouzes and Posner of this tale."...they are trained to know how the whole business operates. They know the big picture. Once trained in the "Chaparral process," a worker understands how his or her job relates to the welfare of the entire organization."

Chaos As A Route To Order.

"...when a complex living system is subjected to a high level of change, it possesses an innate ability to self-organize... ..new and different information, and if that information gets inside the system, it may grow and become so large that the system can no longer deal with it in its present structure. If this happens, the system falls apart, and at the stage of disintegration, it has two options. It can die, or it can reconfigure itself to be healthier in its environment. Neither we nor our organizations can transform ourselves without being willing to pass through the dark night of chaos. If chaos is a necessary step in the creative, life-growing process, then we need to change our usual approaches to it. If we want breakthrough thinking, we need to encourage people to be overwhelmed, confused, uncertain--not forever, but at key times when new thinking is required."

The benefits of chaos are illustrated by Rational, a German oven manufacturer. Owner Siegfried Meister created chaos by announcing the suspension of its existing product and the devotion of its total energies to a new oven. This created a variety of problems for Meister. Foremost was convincing his associates that he hadn't lost his mind and that the new oven would create a new order in the marketplace. From this chaos arose a new commitment and order to support the new product. When launched, the oven created chaos in the industry. Other

firms were unable to compete against the new oven resulting in an expanding market share for the firm.

Kingston Technology has created chaos in its "business" through speed, exceptional quality, and creating long term relationships with its vendors. The firm created chaos and a new order in "the business" with its "ship the product the day it is ordered" strategy. Founders David Sun and David Tu are intuitive thinkers who act on their hunches. They recognize that in messy world an over relevance on the analysis is like playing soccer with a golf club or baseball bat. The firm also has a culture of fluidity and pays its associates well above the industry norms. Kingston tests 100% of its parts which is an unheard of devotion and commitment to quality in an industry where the norm is 5%.

The story of Pro Fasteners, Inc.'s quest to become a world class enterprise is an example. Pro Fastener's journey was filled with false starts and missteps. While quality and customer satisfaction dramatically improved, morale collapsed, and management resented employee involvement. Key managers left. Employee involvement teams failed to meet. However, CEO Steve Braccini supported the change and from the chaos, order has begun to emerge. Says Braccini of the experience, "These last two years have been about learning to walk, then trot, then run fast. Now, we're ready to compete."

The implementation of self-managing team at XEL Communications illustrates the acceptance of and working with chaos and uncertainty. XEL has continuously experienced chaos and worked with it. Say the Vice President of manufacturing of the self-managing team process, "The books all say you start in a state of chaos and march through several stages, and you end up in this state of ultimate self-direction, where everything is going great. They never tell you it can go back in the other direction, sometimes as quickly." Teams have been discovered cheating, experienced numerous difficulties selecting and bring in new members and developing and implementing evaluation and compensation systems.

The chaotic re-engineering of Vortex, which was re-engineered

without a consciousness re-engineering planning and principles, illustrate this. To become more competitive, CEO Fulkerson established an experimental "whole business" branch. Specialized positions were transformed into multi-task jobs and profit sharing instituted. The experiment worked and was pushed through the rest of the organization. Most associates resisted. Seventy-five percent left. Fulkerson's partner left. He started a competing firm. This was shortly followed by a second chaos period created by the recession. A second re-engineering took place. Through experimentation and unconventional strategies, the firm shifted from focusing on repairing doors to customers.

Another example is Springfield Remanufacturing Corporation (SRC). At SRC, management wants associates to do away with their jobs. Says CEO Jack Stack, "We try to show people they don't have to limit themselves and they do have choices. We try to eliminate the sense of being trapped...We continuously challenge people to tell us where they want to go, what they want to do with their lives."

Herb Kelleher, founder and CEO of Southwest Airline, observes that life is change. However, Kelleher does not compete with other airlines to survive. Southwest's strategy is to stay within its niche, and to actualize its potential.

Information As The Source of Organization.

"Ikurjiro Nonaka states: 'An Organization that creates information is nothing but an organization that allows a maximum of self-organizing order, or order out of chaos.' ...we will have to trust the people we work with... We will have to act on the belief that they are mature adults who have the best interests of the organization at heart."

Says founder and CEO Ted Castle about sharing financial information for Rhino's Food's The Game of Business, "I'd been struggling with whether I should open my books to my employees...I was working with a consultant who put my concerns into perspective. He said, 'Imagine you're playing touch football. You play for an hour or two, and the whole time I am sitting there with a book, keeping

score. All of the sudden I blow the whistle and I say, "Ok, that's it. Everyone, go home." How would I feel?" That convinced me."

Web Industries measures idea generation and application. Associates scout other firms for new ideas. Preston supports idea generation and has implemented 97% of associate suggestions. These range from the simple to the redesign of operational system.

At Manco, Inc, members are constantly scanning and sharing articles, conducting idea swapping sessions and conducting classes at Manco U. using a large conference room and library. Organizational members are aggressive about apply their ideas and sharing their discoveries.

Spartan is continuously engaged in a contextual field of controlled chaos. The firm scouts trade shows and customers for new needs and future wants. It also supports internally developed innovations.

General William Pagonis, logistic commander for all phases of the Persian Gulf operation, emphasizes the importance of MBWA and created a scouting team called "the Ghostbusters" to serve as his proxy eyes and ears in the field.

Rational sends chefs into the field to learn from their peers. Rational's scouts provide engineers with critical customer information for improvement. Such scouting provide the organizations with information for creating marketplace chaos.

MCI has an R&D staff of twelve technologists who don't do R&D. They scout the globe for new technologies. The FI Group uses the "flying squad" to seek out useful knowledge from its project teams to be developed into new products. Toyota assigned two engineers to scout customers prior to designing a mini-van. These individuals led the team that developed the new van. Stew Leonard's Dairy transports associates to another store to discover new ideas.

When Frisby Airborne Hydraulics faced a declining defense

industry, it decided shift focus to commercial opportunities. The owners went to associates for their ideas. Say CEO Greg Frisby, "We should have been doing that along...it was incredible the number of suggestions and the wealth of information. They had been waiting for that moment."

Quicken, a computer program development firm, conducts an annual survey of customers, dealers, and reviews of customer calls concerning problems, questions and suggestions. They also have a "Follow-Me-Home" program. A first time customer is observed at home using the program for the first time. An important dimension of this process is observing the body movement of the user. Scott Cook, CEO and founder, states, "You watch their eyebrows, where they hesitate, where they have a quizzical look."

Networks can also be used to create "fluxing change." The Royal Bank of Canada used a network of 12 managers to conduct an extensive assessment of the organization to discover critical operational and human resources issues. The firm's goal is to include all area managers in a network to support individual and organizational learning.

Bob Fletcher, chairman and founder of Fletcher Music Stores was puzzled by stagnant sales of high tech organs. Fletcher undertook an experiment and slowly eliminated non-organ products while becoming more empathic to customers. He learned that older customers were turned off by the design. Fletcher designed a elder friendly organ. He now sells approximately half of the organs sold in the U.S.

Ford energized and gained commitment to quality improvement by scouting competitors, high performing enterprises, disenchanted customers, and dealers. Scouting created new information, insights, myths and stories. Ford's people recognized they had to change. Says Don Peterson,

..."The best place to start is with disenchanted customers...we thought we were making some good cars. Unfortunately, too many customers disagreed with us...we video taped these group meetings and brought

them back to Detroit. Hearing people tear us apart was extremely sobering. We also brought in a number of dealers and asked them, 'What do customers think of our products? What don't they like about them? Why?.' We decided that we had to get out and see firsthand what our best competitors were doing...We sent hundreds of people to Japan-a mixture of salaried and hourly employees...Before his trip to Japan, Bill Hayden...was certain he ran the world's most efficient production operation. But he came back and openly admitted that the Japanese were far ahead of us...When someone like Hayden says that thing get done...The value of the visits, however, lay in Ford's people's discovery that the real secret was how people worked together-how the Japanese companies organized their people into teams, trained their workers in the skills they needed, and gave them the power they needed to do their job properly. Somehow or another, they had managed to hold on to a fundamental simplicity of human enterprise, while we built lays of bureaucracy."

Says Jim Kouzes and Barry Posner,
"A study by Xerox's Palo Alto Research Center revealed that service personnel learned more of what they need to know about fixing copiers by swapping stores than they do from reading the company's manuals. Instead of breaking up the gang at the water cooler, make opportunities for storytelling at informal get-togethers and loosely organized off-site meetings."

Relationships At the Heart of All Reality.

"...dynamic movements of energy, energy that took different forms in a web of interconnections that could not be broken...waves of potential, energy fields filling space.... The conclusion of physicists is that particles can be thought of as 'intermediate states in a network of interactions,' or as a 'set of relationships that reach outward to other things.' At the heart of all, there are not blocks of anything; the universe is composed of relationships? We don't know who we are, what we think or how we'll respond until we meet up with another person, event, or idea. Our best bet for discovering the complexity of who we are is to put ourselves into more and more relationships. New information and ideas are created when new relationships form."

Ingersol Rand changed the time-space from product development from sequential and orchestrated to circular and jazz. All functional departments were involved in creating the product. Team members were encouraged to scout and work with customers and suppliers. Informal space-time, informal gatherings, augmented formal meetings to support team spirit. This change reduced new product launch time. A scouting team discovered that workers in their customer firms were taping their shop tool handles. This scouting experience led the team to recognize the importance of tool comfort and to design a new and highly profitable set of products.

At 3M's Austin operation, the facility is designed to support chance encounters. Functions are jumbled together. The space between people is small to encourage the sharing of ideas. Couches and black boards are placed next to space where people come together: bathrooms and coffee machines.

In their article on the technological commercialization process of the best firms, Nevens, Summe, and Uttal state, "companies with strong commercialization capabilities see the process as a series of overlapping phases that involve many business functions simultaneously." An example is AT&T use of a multi-departmental team to develop its 2400 cordless phone.

When Spartan learned that Allison Transmission had built a new transmission, it obtained two. A group of engineers and production workers built a new chassis for the transmission at warp speed, two and half months.

Granite Rock creates a team of drivers, mechanics, and managers to select new vehicles. The team explores the requirements for new vehicles and scouts firms using potential candidates. It leads to better decisions, learning, and a higher level of commitment. In fact, Granite Rock uses such teams for most decisions of this nature.

Business Interiors shifted its strategy from "selling to" to asking customers what they wanted. It organized itself to meet customer needs. The whole organization focuses on, for example,

making J.C. Penny's number one.

In Moments of Truth, Jan Carlson tells a story about how aircraft were located in such a spatial fashion that customers had to walk a half mile to their next flight. The space expectancies were directed towards servicing aircraft rather than customer convenience. This arrangement went unquestioned until Carlson traveled this flight. It changed shortly thereafter.

Unity Forest Products questioned the spatial expectancy of lumber industry. The industry tends to manufacture and then try to sell its product. Unity changed this spatial expectancy to sell first and then manufacture. It also changed from a spatial expectancy that put a premium on excess inventory to just-in-time; thereby, increasing inventory turnover which provides customers with "fresh" product. And, this system has led to the spatial expectancy of teamwork between sales and manufacturing. Sales and production associates at Unity Forest Products experienced numerous conflicts because of their different temporal expectancies. These conflicts were reduced when they created space-time to meet together prior to making sales and production decisions.

Chesapeake Packaging's cardboard box plant was transformed from a traditional structure into eight whole business units. The traditional time-space of management was shift to each business. Each assumed responsibility for: (1) selecting its own leader, and associates, (2) designing its own work processes, (3) formulating its own budget, quality and production levels and (4) is responsible for both external and internal customers. This change lead to dramatic profit increases while sales remained flat.

After conventional methods were unable to produce a high quality bread maker, an associate at Matsushita Company suggested that she study with the head baker at a hotel famous for their bread. She learned that the baker twisted the bread in a certain way. This information was used to develop a mechanism that produced this effect.

Strategic alliances are also learning fields. Through cross-

industry R&D strategic alliances, firms are learning to produce fusion technologies. For example, Nissan working with ceramic supplies developed a light weight ceramic rotor for its turbocharger. Apple Computer is a master at creating such fields.

Apple, a fluxing network enterprise, makes extensive use of subcontractors and alliances to enhance the intelligence its core of associates.

Silicon Valley illustrates a regional learning field. This field created high levels of innovation and new enterprises from human cross-pollination: peoples sharing ideas and moving from one firm to another. Additional examples are the Growth Opportunity Alliance of Greater Lawrence and the Philadelphia Area Council for Excellence. Both were created to spread the word of quality. However, they also created a space in which transorganizational learning could take place.

Vision As An Energy Field.

"Is the vision of the organization strong enough to be felt? If we meet with different employees at different levels of the organization, do we pick up the same messages or commitment to the vision?change might occur through a consistent, intentional field that affects everyone in the organization simultaneously."

Executives can create chaos by presenting ambiguous visions of the future and using self-organizing groups to design new products and services to actualize the vision. For example, Honda vision was, "Let's gamble." A team was assembled to create a new vehicle that actualized this vision: the City.

NEC used metaphorical vision to focus its technological scouting: a tree. It's customers are the sun. Branches and roots symbolize its product modules and generic core technologies.

Atmosphere Processing, Inc. abandon the traditional structure, replacing it with a circular field composed of activities directed toward creating the vision of customer satisfaction. The outcomes are: (1) associates have shifted their attention from their cubbyholes and pleasing their supervisors to improving

customer satisfaction and organization profitability; (2) managers have stopped undertaking "look good" projects to support their climbing to the top; and (3) empire building has ended. It has also led to the creation of rituals that support an understanding of the whole organization. For example, new associates spend their first two weeks travel around learning about the firm's various activities. This ritual has encouraged direct contact problem solving rather than the traditional strategy of pushing issues off to supervisors and managers.

Haworth conducted a future search conference involving seventy stakeholders to improve its quality efforts. Stakeholders created shared futures, visions and action plans to improve quality. Intelligence and energy was devoted to creating the new future rather than putting "Humpty Dumpty" back together again. At Weyerhaeuser's Cottage Groove mill, a cross-section of plant members began spending a week as employees of their customers to gain an awareness of their needs and wants.

AT&T Phone Center visioning process involved 150 people who volunteered to participate in the two day event. Each store created its own business plan. Measurement and information systems were transformed to provide stores with critical business information.

Monroe County, New York schools also used a future search conference to involve stakeholders in creating a vision for the district high schoolers.

In a meeting of 100 senior executives, Bob Galvin, CEO of Motorola announced a large scale change. However, he didn't suggest strategy or tactics. This created creative time-space for innovation and experimentation.

Great Plains Software illustrates a "systems field" composed of the enterprise, its customers and partners. Great Plans is a master at field management. Critical to field development and management is Great Plains Software's generative order of creating long term relationships with people rather than focusing on quick sale transaction amongst particles: the firm and its

customers and distributors. (Generative order is characterized as that which gives shape to the whole. Purpose and vision are the generative order of the organizational field.)

Another critical aspect is continuous change and transformation: the process of becoming of the whole field. To this end, Great Plains has created a information system that supports continuous evolution. Through customers and partners, Great Plains is playing with 10,000 to 15,000 active suggestions at any given time. Customer and partner surveys, user groups, and scouting customers creates this information. This information is used to develop new products and improve existing ones. Also, associates and managers are supported in continuously transforming their operations to evolve the generative order.

Union of The Shifts---Whirlpool and Being a Global Enterprise

Wholeness

Says David Whitwam,

"The only way to gain lasting competitive advantage is to leverage your capabilities around the world so that the company as a whole is greater than the sum of its parts...We want to be able to take the best we have and leverage them in all of our operations worldwide."

"We want to be able to take the best capabilities we have and leverage them in all of our operations world wide."

"The key is getting your organization-and just not top management-to think globally."

"...employees have to change the way they act and think, taking on progressively more responsibility and initiative until the company behaves globally in all of it's parts-without the CEO cracking a whip."

Processes

Says David Whitwam,

"To me, 'competitive advantage' meanings having the best technologies and processes for designing, manufacturing, selling and servicing your products at the lost possible cost."

"CEOs have to create the processes and structures to get the organization going and the people aimed in the right direction, but they cannot achieve anything requiring sustained effort by edict."

"...we currently believe that external customers do not exist...the only customer is the final consumer...we're organized multi-functional processes that are focused on serving the end user."

Relationship

"You must create an organization whose people are adept at exchanging ideas, processes and systems across borders, people who are absolutely free of the 'not invented here' syndrome, who are constantly working together to identify the best global opportunities and big global problems facing the organization."

"...we were planning to build a global enterprise, not a U.S. army of occupation. If you try to gain control of an organization by simply subjugating it to your preconceptions, you can expect to play for your short term profits with long term resentment and resistance. That's why we choose another course...We worked hard to communicate the company's vision, objectives and philosophy...Building a shared base of understanding takes time..."

"During the first two years after we acquired the Philips business, we didn't concentrate immediately on improving performance. Instead, we spent a lot of time building trust and creating a common vision of the future. We deliberately encourage our employees to think like owners so that they would come to believe that it was in their best interest to create a global organization."

"...we brought 150 of our senior managers to Montreux...we spent a week developing our global vision...managers at Montreux commissioned 15 projects..."One Company Challenges...Each of these challenges had to have a major impact on the realization of the vision. Each person who attended...went home and gathered a team of employees from all levels the company to work on a given project."

"We want to have agreements that give us access to supplier technologies so that we can work together on process improvements in all of our plants."

"We have a long-standing relationship with them (Procter & Gamble), exchanging basic information, ideas and so forth. But now we have a more intense involvement at the development, engineering and technology level."

Uncertainty & Unpredictability

"Our strategy is based on the premise that world class cost and quality are merely the ante-the price of being in the game at all...Our goal is for consumers to prefer the Whirlpool brand because it offers greater value than competing products. Achieving that goal requires taking a giant step

back from our business and rethinking who are customers are and what their needs are...It means rethinking the very nature of the business."

"...we have created what we call an advanced product development capability...Its charter is to look beyond traditional product definitions to the consumer processes for which products of the future will have to provide clear benefits."

"...consumers often speak in code...our market research showed that customers wanted "cleaner refrigerators.' Did this mean refrigerators that were easy to clean? No. We figured out that it meant refrigerators should look clean and hide finger marks which helped us come up with a textured finish."

"...As we look to the future, perhaps the greatest trap will be our own successes. Success has a way of drawing attention away from the present and future onto the past. The history of business is littered with companies that were short term successes. Complacency should have no part in any organization. It is the responsibility of leaders to manage against it."

Traditional and New Approach for Organizing Meetings & Conferences

Traditional	New
Managed, Structured & Directed Meeting.	Create time-space for participants to self-organize teams for perform selected tasks.
Management & Facilitator Responsibility	Participant & Team Responsibility
Stable and Controlled.	Messy & Dynamic.
Structure Is Imposed.	Order is Created by Participants.
Problem Solving.	Information Creation, Visioning & Learning.
Chaos is Controlled.	Chaos is Constructive and Supported.
Information is Controlled & Managed.	Information is Freely Generated.
Create Plans & Solve Problems.	Develop Relationships & Action planning.

Suggested Principles For Creating & Working in Creative Space-Time

Principles Creating & Working in Creative Space-Time

- * Whoever comes is the right people.
 - * Whatever happens is the only thing that could happen.
 - * Whenever it starts is the right time.
 - * Whenever it's over, it's over.
 - * Law of Two Feet: You have the ability to leave the group whenever you aren't contributing or aren't interested. Engage in scouting other groups or form your own.
-

Principles for Supporting Personal and Group Trust

- * Be who I am.
 - * Express my thoughts, beliefs, feelings and values.
 - * Do what I want.
 - * Be with others in an interdependent fashion.
-

Principles for Supporting Meaningful Communication, Inquiry, Learning and Action Planning

- * Show up.
 - * Pay attention to what has significance, value and meaning.
 - * Be truthful. Don't blame or judge. Engage in deep inquiry.
 - * Be open to outcomes, not just your agenda. Be open to fresh information and ideas.
-

Suggested Principles for Supporting Dialogue

Dialogue is not a discussion. Discussion can be imagined as a ping-pong game with participants hitting ideas back and forth to win. Participants tend to talk at others. There tends to be a real or imagined hierarchy. Participants have numerous issues and ideas that tend to be undiscussable, non-negotiable and untouchable.

In dialogue, a person treats others as equally important beings. They talk with others. They respect each person as unique. They ask questions, listen to responses, and provide feedback.

A dialogue takes place for the purposes of mutual learning and creativity. A dialogue involves a flow of communications, possibly resulting in understanding and new meaning from creating new knowledge. In a dialogue, one can begin from a certain position. However, this position is flexible and can change. The spirit of an dialogue is creative, neither competitive nor hostile.

The likely outcome of an dialogue could be a New Theory. A theory is a set of assumptions about the world directing action and behavior. Everyone has theories. For example, many people hold the theory that people are only motivated by monetary rewards.

It is important in a dialogue that all facts, feelings and insights are recognized and not disregarded because they do not conform to one's theory. It is also important that no point of view be written in stone. When a person becomes angry about another's position, the assumption(s) causing the feeling must be explored. When the core assumption is discovered, it needs to be compared with the facts and the views of others. Often, people assume that their assumptions are a part of their personality. This is not necessarily true. Many assumptions are learned.

It is important that each person involved in a dialogue explore their own assumptions. This needs to be done by assuming or role playing the position of the other to gain an understanding and not to discredit or discount the other.

The outcome of a dialogue is not necessarily consensus. Too often, the idea of consensus and team spirit involves a group of people who already share a common set of assumptions. When a disagreement or facts contrary to the group's theory are presented, the presenter is perceived as not being a "team player" and his or her point of view is disregarded. This is not a dialogue. In a dialogue, a new idea is explored. One likely result is the creation of a new theory. This is the spirit of true community and democracy, not group think, conformity and authoritarianism.

The following are principles for supporting dialogue.

- * Suspend your assumptions. Most people tend to take a position and defend it. In groups, this creates polarization. Dialogue does not require you to suspend your position but to be open to hearing the position of others. Also, dialogue encourages examining the assumptions and beliefs upon which your position is based rather than defending them.

- * Support a Spirit of Inquiry. Explore the thinking behind your's and other's views and beliefs. The purpose is to create fresh insights and support creative intelligence amongst group members. It's not a contest or game of winning. Asks such questions as "What leads you to believe that's valid?" and "What are the beliefs, values and assumptions upon which your idea or view is based?"

- * Be Colleagues and citizens. Dialogue is best facilitated when all members live the words of Thomas Jefferson presented in the Declaration of Independence. "All people are created equal." That means leaving your hierarchical position and professional credentials

at the door. We are all citizens in a dialogue. That means each has a gift to express.

Potential Applications of Creative Space-Time

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- * New Product Development
 - * Strategic Visioning
 - * Self-Organizing Work Teams
 - * Customer Assessments
 - * Market and Environmental Assessments
 - * Empowerment
 - * Organizational Learning
 - * Discovering Discontinuous Improvements
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