April 14, 2005
Conference Report
In2:InThinking Network 4th Annual Forum: *Daring to Lead – Influencing Better Thinking*
for a Better World.
April 7-10, 2005

Introduction

The In2:InThinking Network is a group of people who came together because of their shared
enthusiasm for the work of Dr. W. Edwards Deming and related teachers. We are from many
different organizations and several countries. Our theoretical grounding joins the work of W.
Edwards Deming, Genichi Taguchi, Edward De Bono, H. Thomas Johnson, Peter Senge, and
Margaret Wheatley, among others. Our aim is to create awareness and consciousness about how
thinking can bring forth a better world. We believe that by "thinking about thinking" –
inthinking – we will manage resources, acquire knowledge, work together, lead organizations,
and plan more effectively. With *inthinking* we create a new awareness of various forms of
thinking, their interdependency, the possible ways of integrating and including them in our lives
– toward more joy and quality of life for individuals and organizations.

I attended the Fourth Annual In2:InThinking Network Forum on April 7-10, 2004 in Los
Angeles. The theme this year was "Daring to Lead – Influencing Better Thinking for a Better
World." The Boeing Corporation (Rocketdyne Propulsion & Power facility in Canoga Park), as
primary sponsor of the Network and the annual Forum, also invites Forum participants to choose
among and attend several pre-conference workshops based on Boeing's internal leadership
development program or provided by other members of the Network. These workshops are
presented in cooperation with the Forum as part of Boeing's ongoing efforts to contribute to the
community. This year I collaborated with a colleague from the University of Texas to present a
3-hour workshop titled "Introduction to Systems Thinking – How Big is Your System?" (Course
description attached). I also attended three other workshops, described below. The cost of the
conference (workshops and Forum and meals Friday – Sunday) was $300.

Learning highlights

This year's conference was an invaluable experience. I contributed to conference planning and
program development and speaker selection, led development of the nascent scholarship
program, and delivered a workshop session; I was keen to see a successful conference. The
conference met all expectations for quality of presentations, opportunities to interact with
speakers, serious discussions with systems thinking colleagues, and pleasure in the company of
new and old friends. I received several invitations to collaborate on future workshops for other
conferences. The Network is a true community and, as such, provides a model for what many of
us would like to experience in our own organizations.

Here are a few insights related to organizational learning that I received from workshops,
presentations and conversations:

- It would be useful to provide training in receiving feedback. Few organizations train anyone
  to deliver feedback; almost no one trains people to receive it. We can design a better system
  for giving and receiving feedback. We should do this.

- Separating the *learning* mode from the *decision* mode in the decision-making process is very important. It is a matter of asking whether we know enough to make a good decision.
- More emphasis on personal mastery can help an organization by improving the quality and strengths of the relationships among people in the system. Of particular importance is understanding our mental models and assumptions, and how they affect the way we think. There are tools that can help with this development.
- Group action learning would be a good method to teach to our operations supervisors.
- Leadership, and the characteristics of "good" leaders, is a useful topic for long-term attention and exploration. Most people I spoke with from large organizations described some kind of ongoing discussion on leadership and related topics.
- The idea of *designing* a future for oneself or one's organization is more and more discussed these days. This is different than planning for what might happen.
- Assume good will, and then ask a deeper question. Inquiry is one of a number of "better ways to think". Inquiry can be taught.
- Going "below the waterline" is hard work and takes courage and must be done.
- We all need to understand the ladder of inference and how it works.
- Many so called change efforts are really about keeping things the way they are. Substantive change is about how we think, not organization charts.

Building the Capacity to Act – Practical Ways to Influence My Organization. (3 hours, by Jon Bergstrom of the Bergstrom Learning Center).

This workshop had three parts: Decision Making, Process Improvement, and Personal Mastery. In Decision Making, Jon emphasized the importance of separating the learning mode from the decision mode. That is, learning is needed prior to making a decision, but we often rush to the decision without considering whether we have enough information to make the decision. We discussed different methods for determining whether a group feels they have enough information to move to the decision mode.

In Process Improvement, we learned the Challenge Process, which involves challenges to necessity, our reasoning, and the uniqueness of the activity. That is, is the step or process necessary, why do we do it this way, and is this the best way we know?

Personal Mastery (one of the five disciplines) poses this learning challenge: Accomplish ever more challenging tasks while developing fulfilling and meaningful relationships and achieving a sense of personal worth and accomplishment. Jon described four elements related to Personal Mastery: telling the truth, making commitments, taking responsibility, and managing emotions. Among several methods useful in achieving personal mastery, Jon described in detail the Ladder of Inference (see attached summary; also described thoroughly in the Fifth Discipline Fieldbook). The ladder of inference is a reflexive loop: our beliefs help determine what data we select the next time. The ladder of inference is one way that we actually develop and reinforce mental models and assumptions, often to our detriment.   The ladder of inference helps us understand how we think and why we think the way we do. I recommend that WIRB consider introducing this concept widely in the organization toward the objective of improving communication and understanding.

From Profound Knowledge to InThinking and Enterprise Thinking (3 hours, presented by Dr. William Bellows, Ph.D. in Mechanical Engineering, Process Leader for Enterprise Thinking at Rocketdyne.)

This workshop was an overview of Dr. Bellows' 9-hour Enterprise Thinking seminar. The objective of this seminar is to explore the philosophies of several management theorists as they apply to the performance of products, processes, and the delivery of services. Stated another way, the objective is to explore the potential of "better thinking" directed toward continuous <u>investment</u> in our products and processes. In the new economy, the proficient utilization of thinking is a necessary condition, fundamental to business competitiveness. Enterprise Thinking is Systems Thinking taken further – using systems thinking principles to think about thinking.

The aim of Enterprise Thinking is to elevate the consciousness of individual and collective thinking about sub-systems, variation, knowledge, numbers, and interactions. Among the topics of discussion were the paradigms of "acceptability and desirability", the system of profound knowledge (Deming), rock logic and water logic (DeBono), relationships in systems (Capra, Senge, Johnson, and others), thinking roadmaps, one-line thinking and two-line thinking, Taguchi's loss function, and managing variation (rather than reducing variation).

The format of the class was mainly group discussion led or provoked by Dr. Bellows and two colleagues. We heard stories to illustrate principles and applications. Key among the stories is development of the analogy of the "Red Pen Company" and "Blue Pen Company". This analogy permeates the In2:InThinking Network, providing a useful shorthand for describing different kinds of companies and practices.

[*The story behind the Red Pen/Blue Pen exercise comes from the Ford Motor Company. In the late 1960s, an assembly plant manager instructed the plant to purchase a competitor's cars. His plan was to have his final assembly team disassemble the competitor's cars and learn first hand how well they were made. During that time period at Ford, if two connecting parts could be assembled without the use of handy rubber mallet, then these parts were known as "snap fit". The remaining parts might well require hammers to assemble. To the plant manager's amazement, one of the purchased cars was 100% snap fit. Disbelieving, the team repeated the exercise. They did and found again that the* Toyota *pick up truck was 100% snap fit. In an office environment, "snap fit" implies that everything is where it should be. Dr. Bellows calls such a company or organization a "Blue Pen Company". A "Red Pen Company" is the antithesis of a "Blue Pen Company". In Dr. Deming's language, a "Red Pen Company" practices the "prevailing style of management", which he said we must change.*]

The Red Pen/Blue Pen analogy is a teaching tool and a provocation for discussion. Imagine that you need to buy a red pen and blue pen each week for your job. Different manufacturers make them. Each costs a dollar. The cap on the blue pen comes off easily and goes back on with a satisfying click. Snap fit. The red pen cap comes off only with the aid of pliers, and goes back on only with the aid of a hammer. With only this simple premise, the group is asked to imagine a weeklong visit to each plant, during which you make observations both about the plant itself when no one is working and the people while they are working. Descriptions are organized into a four-box matrix on a flip chart or white board. For example:

Red Pen Company	Blue Pen Company
Facility Space dedicated to rework; waste evident; consecutive operations not co-located; layout isolates workers from each other and from management; posters and signs about "quality" and "production targets"; policies on everything.	Facility Neat, clean, organized; no walls to separate workers; logical layout; evidence of process measurement; clear work instructions; no space set aside for rework; waste not apparent; space given to training and learning; managers' offices near the workers.
People Narrowly focused; fearful; use blue pens; poor understanding of where they are in the system; little appreciation of internal customers; knowledge/information is hoarded (power); poorly developed relationships; minimal training; possessive of personal work time; see things in black & white, as good or bad; managers control and judge; Us vs. Them; people are "interchangeable parts".	People Enthusiastic; using blue pens; purposeful; knowledge is to be shared; communicative; aware of customers; aware of system; well trained; engaged; know different ways to think; positive relationships; willing to spend own time to save others' time; see things in shades of gray; managers coach and help; We; people are "part of" the organization.

This exercise of course leads to the participants forever talking about red pen companies, blue pen companies, red pen policies, blue pen policies, red pen managers, blue pen managers, and so on. It turns out to be a pretty powerful analogy. Once people understand the analogy, spontaneous discussion about the nature of one's own organization occurs. What is leadership in a red pen company? What does it mean to "work together" in a blue pen company? Of course, everything is not only Red or only Blue. It depends. It is a continuum. Within the Network, Toyota is generally cited as an example of a Blue Pen Company. There are plenty of examples of Red Pen Companies.

Here are some specific items or ideas from Enterprise Thinking that caused me to think about my role in an organization.

- An organization competent in Enterprise Thinking understands the difference between what is acceptable and what is desirable in products and services, and knows when one or the other is important. The answer to "*when*?" is, it depends. It depends on context. Generally, though, favoring "acceptability" breeds problems.
- Customer satisfaction? It depends, also. Satisfaction means meeting expectations. If we don't meet expectations, we disappoint. If we exceed expectations, we delight. Customers will tell others about disappointment or delight, but not so much about satisfaction. So how important is it? Where do you spend the money to achieve delight? Not everything about the customer's experience can be delightful.
- An Enterprise Thinking company is unified, is one company. Individuals in the company hand off [work] *physically* but not *mentally*. Interdependent relationships are understood and nurtured.
- Red Pen companies often use spray paint to become more Blue.
- We would benefit from studying the differences between rock logic and water logic, and understanding when each is the appropriate way of thinking.
- Red Pen thinking is pervasive and is found even in companies that believe they are making progress toward better thinking.

- It requires sustained effort to <u>educate</u> a work force and the management team and help them change the way they think. A thinking roadmap is one way to organize such an effort. A thinking roadmap is a way to plot a systemic approach to learning. We could develop such a roadmap to guide us.

Here's "What's Old":
- Reducing variation, cost, waste, inventory, etc.
- Talk about "working together"
- Striving for zero defects and zero waste
- Continuous improvement
- Using metrics for alignment

Here's "What's New":
- Resource and relationship management (striving for balance)
- Thinking and learning together – then working together
- Continuous investment
- Using thinking for alignment – Inthinking and Enterprise Thinking

Dr. Bellows has offered to visit WIRB and present a 2 or 3-hour overview of Enterprise Thinking.

Leadership Redefined by the World Famous Pike Place Fish Market (3 hours, presented by Dr. Cyndi Crother, author of "Catch! A Fishmonger's Guide to Greatness". Book available from QA). Dr. Crother used her experience working at the Fish Market and writing the book to guide us in a far-ranging discussion about leadership.

Daring to Lead with Authenticity and Finding Meaning at Work. The Forum began Friday evening with a keynote speech by Dr. Karen Ayas of The Ripples Group and the Society for Organizational Learning, where she is co-editor (with Peter Senge) of the journal "Reflections". In the past seven years, Karen has continued her practice with the Ripples Group based in Newton, MA. Karen leads the organizational consulting efforts and works primarily in the areas of large-scale change, leadership development, and organization design. Her projects, typically large scale, long-term organizational transformation efforts include work in China, Vietnam, Thailand, India, Netherlands, Finland, Turkey, Israel, as well as the US. She is co-author of "To the Desert and Back" (soon to be available in QA), the story of Unilever's dramatic turnaround, and the background for her presentation at the Forum. She also writes articles for "Reflections", several of which are available from QA.

Companies who truly invest in developing authentic leaders can have a far-reaching impact. People who find meaning in the work they do can truly shape their organization, community and the world at large. The path that Unilever has chosen for developing its leaders is one that demands heavy investment in personal growth and community building. Memorable events with leaders at all levels in remote corners of the world - Costa Rica, Jordan, Iceland, Croatia, India, Thailand, China, Vietnam - increasingly more sophisticated and engaging - punctuate the growth of leaders and have been instrumental in transforming ways of thinking and acting at individual, team and collective levels.

Activities at these events are sequenced to promote individual, small-group, and collective engagement giving leaders the opportunity for deep personal sharing and extraordinary

experiences working with locals - renovating the home of disabled children, cleaning beaches and villages, building roads and bridges, working and living in different communities. More importantly, such "service learning" experiences shape leadership practices and inspire them to not only to become better business leaders but to also assume an active role in creating a better world for their consumers.

Although she left for China later that night, Dr. Ayas was very generous with her time, meeting with several of us, including my son and his friend, for over an hour following the dinner. We discussed her methods of engaging leaders, and how to possibly scale these events for a smaller organization. This conversation was inspirational, and we all felt we were in the presence of someone with intimate and authentic knowledge of leadership and how to nurture it.

Leading and Learning in the Age of Systems. The Saturday morning keynote was by Dr. Gerald Suarez. Dr. Suárez came to his current position (at the National Graduate School) after serving with distinction for 11 years at the White House in two administrations. He initiated the first efforts in the history of the White House to inculcate systems thinking and organizational redesign into an existing agency, the White House Communications Agency. Later, as Director of Customer Support and Organizational Development for the White House Military Office (WHMO), Suárez initiated an organizational redesign that involved over 2,200 personnel.

Dr. Suarez spoke about his experiences in the White House, particularly regarding his own development as a leader. His main message was that one must *challenge the leadership by asking tough questions*. He shared several personal anecdotes to illustrate this idea, pointing out that challenging leadership carries certain risks. One has to be willing to look for another job as a possible consequence.

Other comments by Dr. Suarez: "Every system deserves a beating" (attributed to Dr. Russell Ackoff, who was in the audience), meaning that regular intense scrutiny and questioning is important. "Benchmarking is the action of a 'settler', not a pioneer. Pioneers design the future." And, "If you think you need data to show that you're better off, then you're not", also attributed to Dr. Ackoff.

Journey to the Center of Your People Systems. Mary Jenkins, co-author of "Abolishing Performance Appraisals" (available in QA), and former Director of Human Resources for General Motors, spoke about performance appraisal and what do to instead. She presented some data. >85% of employers use some form of appraisal; about 90% of appraisal systems are not successful per the criteria of the organization using them. 80% of people see themselves in the top quarter of all performers; 98% see themselves in the top half of all performers; 59% disagree with any rating less than the highest possible rating for any category – this is why whenever an organization rates people, there is an undesirable effect on morale. Mary pointed out that it is hard for us, the people in the system, to see the assumptions that affect our thinking when we attempt to evaluate and judge another person. We simply are not aware of many of the assumptions that affect our thinking all the time, especially when we presume to evaluate another person.

Mary showed a video of a simulated appraisal conversation (based on a "360" process) between an HR Director and his Compensation Manager. The video showed the discomfort that often exists during appraisal processes, the distance that develops between the two people, how quickly someone can climb the ladder of inference regarding one's coworkers, and the general

lack of skills among people either offering feedback or receiving it. Then Mary discussed some of the universal structures of performance appraisal (e.g., multi-purpose, one size fits all, supervisors drive the process, evaluate individual performance; focus on identifying weaknesses) and the underlying beliefs attached to the structures. There are eleven universal structures, and Mary proposed eleven emancipation strategies to promote good performance. Information is available in QA.

Mary suggested that people in an organization receive training in <u>receiving</u> feedback. People should be allowed to determine when they want feedback.

Finding the Courage to Lead: There are no silver bullets. Ginny Wiley, president of Pegasus Communications presented the afternoon keynote speech. Pegasus Communications (www.pegasuscom.com) distributes books and other media on systems thinking and related subjects, and puts on the annual (14 and counting) "Systems Thinking in Action" conference that attracts people from all over the world. (The 2005 conference is in San Francisco in November).

Ginny's presentation was about tools useful in leading a team and her particular team (12 people) at Pegasus. Even her small organization is often tempted to go for the quick fix, the instant solution that will solve all problems simultaneously. And of course, we expect it to be quick, cheap, and painless. Change in a complex organization or system is rarely painless. If it is, it usually means you have already suffered the pain in getting to the point where you have no choice but to change.

I particularly appreciated her reflections on how to lead with courage. First, always assume good will, if you happen to perceive something from a colleague that could be interpreted negatively. Assume good will and ask a deeper question. Next, pay attention to and nurture the workplace ecology. Third, be open and transparent so that good decisions can be made. Fourth, focus on coherence rather than control. We are done with command and control. Finally, support self-organizing behaviors.

Here is the list of tools that she discussed. More information is available from QA.
- Dialogue – Listening, respecting and reflecting, suspending (assumptions), and voicing
- Shared meaning and vision (who would you want to be in a lifeboat with?)
- Ladder of inference (human doing vs. human being)
- Iceberg – go below the waterline to understand and alter the structure
- Fixes that fail – understand this archetype

Ginny asserted that no one will change unless they receive feedback, but they need learn how to *receive* feedback.

She closed with this quote from Dr. Peter Senge (MIT and SOL):

> "Managers continually find themselves drawn into reacting to symptoms. Frequently, problem are *defined* by their systems…While the willingness to tackle important problems is a necessary characteristic of effective leadership, the wise leader appreciates that efforts to manipulate problem symptoms are rarely successful in complex systems."

Understanding the Human Brain – Its Generative Capacities, Its Functional Limitations, and Source of Human Error. Ed Chaplin, M.D. Dr. Chaplin is a neurologist very interested in

brain function and how that relates to human performance. He presented similar material in both a three-hour workshop and a track session. I attended the latter, but will obtain a recording of the workshop as soon as it is available. His shorter presentation was completely fascinating, though I don't yet feel I have grasped all of it. It was a terrific presentation, partly because of the density of the content. He packed a lot into the time, and wasted not a word.

His goal was to "challenge some of the silent assumptions of our current Western common sense, to disrupt some belief structures and to reconnect to the enchantment and wonder in everyday phenomena." He defined a contradiction as "a problem where an attempt at improvement in once area of a system resulted in a negative effect in another area." For example, building heavily armored vehicles for soldiers and sacrificing fuel efficiency means that more fuel is required to support a given adventure which means that more fuel must be transported more often by more tankers, thus increasing exposure of the fuel convoys to attack. Continued attacks increase the call for more armor.

"Contradictions are barriers to effectively incorporating the knowledge that is already available to us. Many of the contradictions and apparent trade-offs we encounter in efforts at organizational change become simplified or disappear if we resolve contradictions between our presuppositions and the expectations they generate and the nature of human awareness and action." He then offered five contradictions, and a set of five alternative assumptions, which were examined during the presentation.

In conclusion: "Successful organizations are emergent and generative. Generative relationships, whether couples, business organizations or societies, embody four characteristics: 1) Morality – a set of agreed upon distinctions between helpful and harmful actions; 2) Accountability – the glue for coordinating actions; 3) Charity – contributing creates more good than can be obtained individually; 4) Transcendence – a powerful vision and a view that the whole is more than the sum of day-to-day appearances. The anxiety, burnout and despair then tend to show up along the way. The first three of these factors shape how actions unfold. The fourth – a sense of transcendence – counteracts them."

Networking sessions. In addition to generous breaks between different sessions, the Forum provided space for special networking sessions in which people could organize conversations about particular topics, or simply join up with a group to reflect on the experience or ask questions. Most speakers were also available for conversation at specific times.

Taiko performance. On Saturday evening following dinner, we presented a Taiko (traditional Japanese drumming) performance. This was a new thing this year, something to ensure the day concludes on a very strong uplifting note. The event was consistent with the theme of the Forum, as this particular group was known for its innovation and experimentation with the traditional music. They dared to lead.

Daring to Lead with Systems Thinking. Rick Stephens of the Boeing Corporation was the Sunday morning keynote speaker for the second year. He discussed his vision for reform in education in order to prepare children to be competent citizens. Mr. Stephens has undertaken a long-term project to influence the quality of education and is enlisting the help of media organizations, other aerospace companies, educators, and others. Of primary concern to Mr. Stephens and Boeing is how scientific or technology careers are portrayed in the media today – that is, generally in a negative or unappealing way. Further, he suggests, people are largely

unaware of, or give little thought to, the importance of technology in their lives and so do not appreciate the need for more students to continue to prepare for careers in some aspect of this broad profession. New ways of thinking must be applied to this "problem", which is really a large system of problems involving nearly every component of our society.

Panel discussion featuring Dr. Russell Ackoff (Wharton School of Business), Ginny Wiley (Pegasus Communications), and Rick Stephens (The Boeing Company). Questions from the audience.

Key Contacts (see S. Byers for details)

Bill Bellows, The Boeing Company and co-President of the In2:InThinking Network
        Possible presenter/trainer to WIRB (Enterprise Thinking)
Jon Bergstrom, The Bergstrom Learning Center
        Possible presenter/trainer to WIRB (Group Action Learning)
Ginny Wiley, President, Pegasus Communications
Karen Ayas, The Ripples Group and Society for Organizational Learning
Robert Dickman, FirstVoice and Society for Organizational Learning
Glenda Turner, Executive Coach, The Boeing Company
Brian Atwater, Professor of Organizational Development, Utah State University
Ed Chaplin, M.D., Medical Director at Continental Rehabilitation Hospital, San Diego

An Introduction to Systems Thinking:
"How Big is *Your* System?"
Presented by:

Ryan Schoenbeck   Steven Byers
The University of Texas at Austin   Western Institutional Review Board
Austin, TX   Olympia, WA

Workshop length: 3 hours

Class size: 10 – 25

Description: Systems thinking is a way of looking at the world and at all we do in the world. Systems thinking is about seeing holistically, and trying to understand the interactions and interdependencies among parts that make the whole. Systems thinking is about seeing the whole picture. In this workshop we will explore the development of systems thinking over time. We will identify leading systems thinkers and discuss their ideas and particular contributions to the whole. Rather than a systems "dogma," we will present ideas across a broad spectrum and prepare you to explore further on your own, to ask useful questions, and to continue learning. We will use discussion, books, video, games, and stories to learn, understand, and seek insight.

Target audience: One may approach and explore systems thinking from any discipline. People in government, manufacturing, education, healthcare, service, agriculture, and many other professions and avocations study and apply systems thinking to their work and their lives. This workshop will be useful to you if you belong to any organization - such as a work team, volunteer group, or family – and wish to understand better how that organization works. We believe it would be particularly advantageous for students, or those just starting in an organization or changing life paths, to learn as early as possible about systems thinking.

Business issue: We all work and live in systems, whether we recognize that fact or choose to ignore it. Ignorance of how systems function, particularly in a business environment, is to invite inefficiency, errors, recurring problems, "unintended side effects," and blame. Best efforts to solve a problem often make the problem worse because we did not understand how parts of the system are connected, or failed to look beyond the immediate effect of a "solution." *Choosing to learn* how systems really work is to seek improved processes, stronger relationships among people, improved quality, better thinking, lasting fixes, trust throughout the company, and joy in our work.

Seminar Objective (Ability and Knowledge): At the completion of the workshop, we hope that participants feel motivated to either begin or accelerate their journey to become better systems thinkers. Linda Booth Sweeney (author of "The Systems Thinking Playbook", 1995) suggests that a systems thinker is someone who:

- Sees the whole picture
- Changes perspectives to see new leverage points in complex systems
- Looks for interdependencies
- Considers how mental models create our futures
- Pays attention and gives voice to the long-term
- "Goes wide" (uses peripheral vision) to see complex cause and effect relationships
- Finds where unanticipated consequences emerge
- Lowers the "water line" to focus on structure rather than blame
- Holds the tension of paradox and controversy without trying to resolve it quickly

Participants will realize that one or many of these characteristics are important to them, and they will "take away" the energy to learn more and develop these characteristics in themselves.