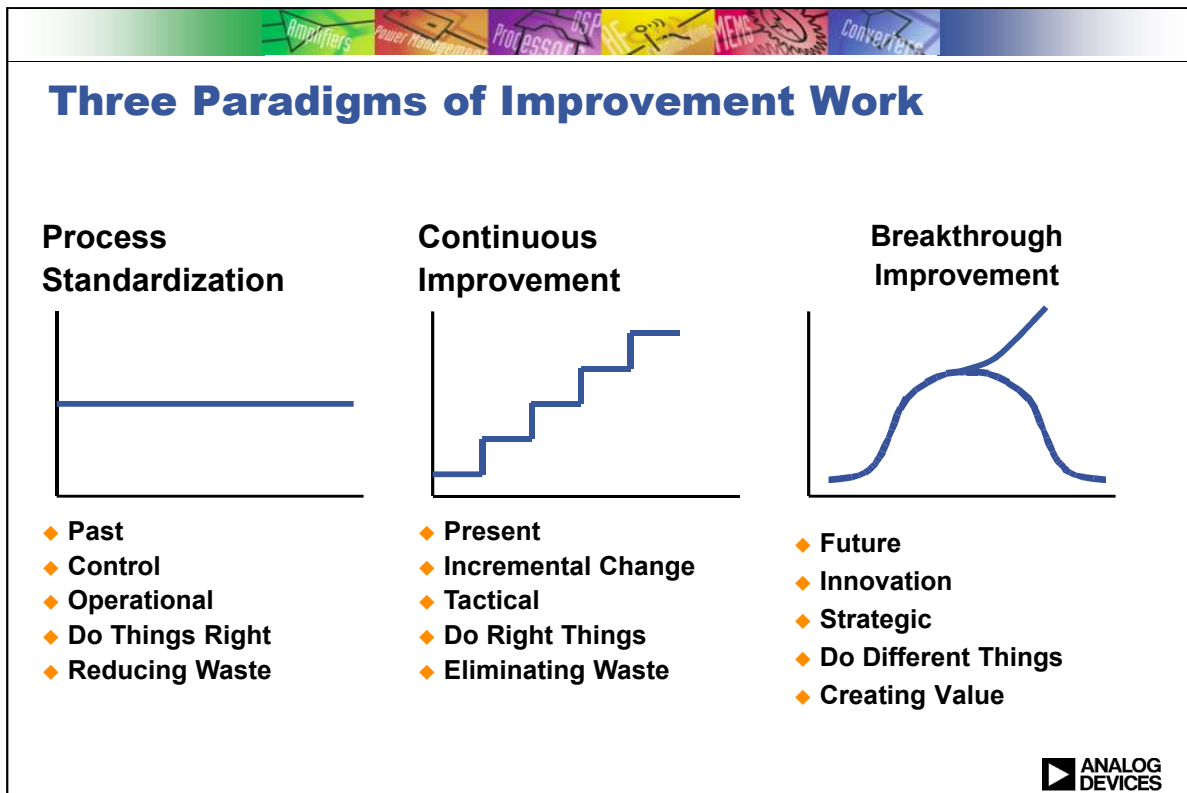


- I'm pleased to be invited to share learnings and experiences that are relevant to the human side of engineering practice.
- Set the stage – 80's
  - Japan emerged in the late 70's from WWII
    - Soundly beating U.S. companies from auto's to semi's
- Success due to superior operational management.
  - Learned from Demming and Juran
  - Established TQM
- By mid 90's inspired by Baldrige and fear, US companies copied Japanese TQM to close the quality gap.



•TQM starts with process standardization then progresses to continuous step by step incremental improvement.

•Statistical, data driven problem solving.

•It works but tension with high tech engineering community.

•U.S. culture attuned to breakthrough innovation for competition advantage.

•MIT invited Professor Shiba for Leaders for Manufacturing program.

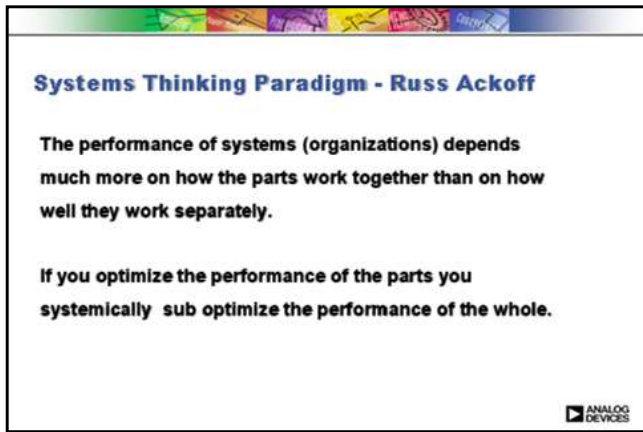
•With Shiba's help established Center for Quality Management.

–50 companies in Boston area.

–Focused on shared learning in practice of TQM

–Book published from experience.

–A New American TQM – Shiba, Graham, Walden

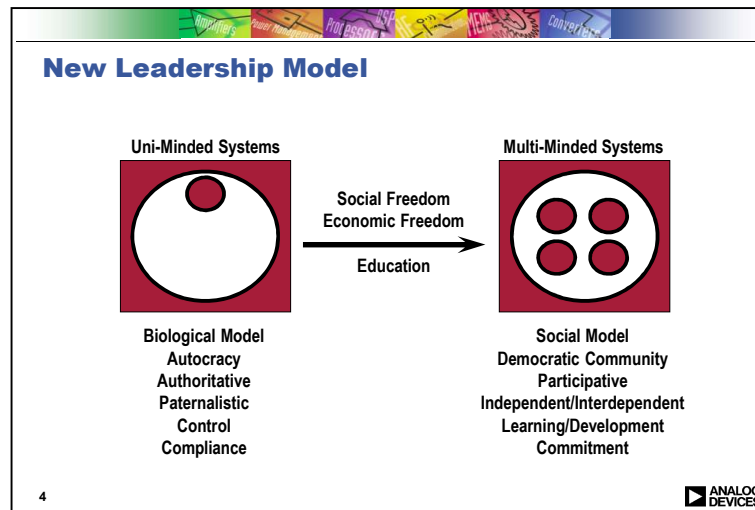


# Ackoff's Axiom for Systems Thinking

- In parallel with Shiba and TQM I was introduced to Russell Ackoff, from the Wharton School.
- He was the father of Operations Research but then abandoned this field to focus on the application of Systems Thinking to management.

**His conclusion was that ....** The performance of systems (organizations) depends much more on how the parts work together than on how well they work separately. If you optimize the performance of the parts you systemically sub optimize the performance of the whole.

- He insisted that TQM was the wrong focus.
  - Big gains, or breakthroughs come from dissolving messes not solving problems.
  - Messes are a system of related problems.
- Russ focused on structure; Shiba on process.
- TQM is about analysis; breaking problems down into parts which are solved independently.
- Systems Thinking is about synthesis, understanding problems in relation to the whole of which they are apart.
  - Dissolving the conflict and dysfunctionality among the parts.
- Ackoff/Shiba Had Conflicting Views
  - But they were both right, not either/or.
- Challenge – Act as one Company
- For me, a rude awakening; I was focused on optimizing the parts.



- **Two forces creating change in the U.S. after WWII.**
  - Economic freedom from two job holder families enabled job mobility.
  - Shifted power from the boss to the employee.
  - New theories of human behavior - M'Gregor's positive review of human nature – Theory Y v. historic negative review which emphasized control.
- **Historical top down control – Uni-minded Systems.**
  - Do as I say, the boss knows best
  - Reinforced by family, religion, military
  - Motivation – reward and punishment
- **Today, Multi-minded model.**
  - Corporation has purpose, but so does each employee
  - Motivation – Self Actualization
  - If not satisfied, employees move on
  - Onus is now on the boss to please employees.
- **Hard to transition.**
  - People inherently want to control others and their environment
  - Learned behaviors
  - Default – revert back to command and control



## Multi-Minded Systems

- ◆ Conflict is inherent.
- ◆ Dissolving inherent conflict is the role of leadership.
- ◆ Leadership is the ability to influence those whom you do not control.
- ◆ Focus on managing interactions versus actions.
- ◆ Doing what comes naturally doesn't work.

5



- Multi-minded systems have inherent conflict
  - Purpose of the parts versus the purpose of the whole
- Role of leadership is to dissolve conflict and achieve alignment of the parts with the purpose of whole
  - Not any easy task when authority is out
- Required new skills
  - Managing through influence
  - Managing through teams
  - Managing interactions versus actions
- Doing what comes naturally often doesn't work



## Management Challenge

### Achieving Alignment of Purposes of the Parts and Whole

- ◆ Shared Purpose and Values – Why?
- ◆ Shared Strategies and Goals - What, When?
- ◆ Shared Processes – How?

6



- So what are the tools to achieve alignment?
- Challenge is to achieve alignment
  - Purpose and values
  - Strategy, goals and priorities
  - Process, roles and responsibilities
- If employees understand the vision and believe it will work then they will give up some of their autonomy to achieve greater productivity and success through collaboration.
- Won't say more about systems thinking, but refer you to his book, "Re-Creating the Corporation" in which Ackoff describes his approach to idealized design and interactive management.



## **Tom Malone – CEO Millikin**

**“The hard stuff is easy.”**


**“The soft stuff is hard.”**

**“And the soft stuff is more important than the hard stuff.”**

7




- Now switch back to TQM and visit to Millikin, a Baldrige prize winner.
- TQM and Process Re-engineering ignored the soft stuff.
  - Thus TQM benefits began to asymptot.
- Need for a breakthrough
  - One direction was systems thinking
  - Another was to emphasize innovation
  - Another was to shift the focus from Quality of Management to Quality of Leadership
- Distinction
  - Management is about business processes, the responsibility for which you can delegate.
  - Leadership is about relationships the responsibility for which cannot be delegated.
  - It is an individual activity and skill to achieve.
  - Influence versus control.



## How to Operationalize Improvement of Soft Stuff

- ◆ What do managers and leaders do?
- ◆ How well do they do it?
- ◆ Conversations as a Process

8



- **What do managers/leaders actually do in their roles as managers/leaders**
  - **70% of the time is engaged in conversations – which is more than communication; real time, dynamic interchange, with the potential for emotional involvement**
  - **How well – not so well**
  - **How to improve – think about conversations as a process**
  -
- **What I'll talk about next is based on the work of Fernando Flores and Terry Winegart - "Computers and Cognition".**
- **And Chris Argyris at HBS – "Double Loop Learning".**





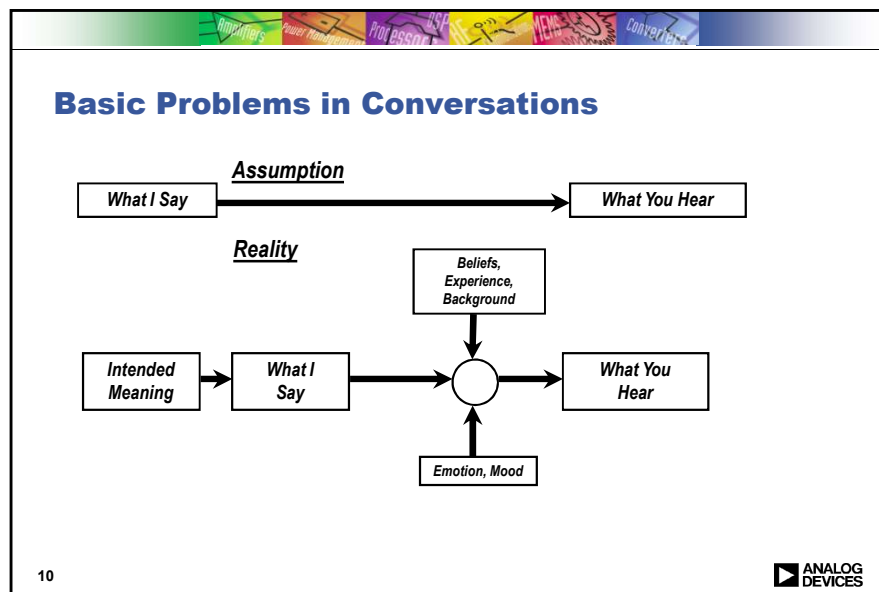
## **Conversations Are Basic Processes in Multi-Minded, Team-Based Organizations**

- ◆ Visions are created with language.
- ◆ Possibilities are discovered through conversations.
- ◆ Alignment is achieved by conversation.
- ◆ Coordination of work is managed through conversation.
- ◆ Motivation is inspired by conversations.
- ◆ Breakdowns are dissolved through conversation.
- ◆ Learning is achieved through conversations.
- ◆ Relationships are enhanced through conversation.
- ◆ Business processes are networks of conversation.

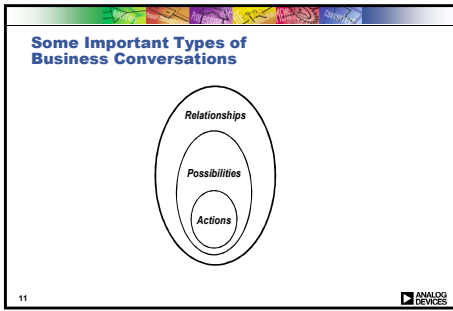
9



- Think about conversations as a process
- Network of conversations is the backbone of business processes



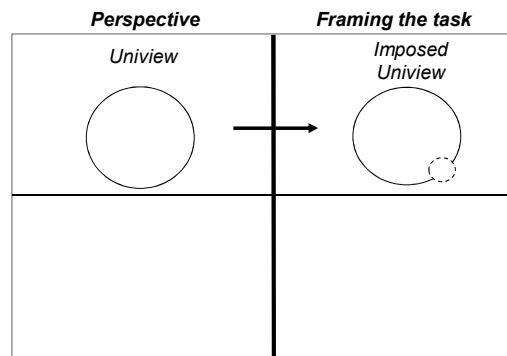
- **Why are conversations a problem?**
  - It took a long time in my early career development to figure out why things weren't getting done the way I expected.
  - A fundamental problem was the assumption that what I said is what the other person heard. The broadcast model.
  - First, I learned that what I said did not always express my intentions and expectations. So I had to become more thoughtful and holistic in expressing and explaining what I was thinking and what I expected.
  - But more importantly, I had to understand that what I said goes through a set of filters depending on the background of the individual and the emotional mood at the moment.
  - I had to learn that emotions play a role in conversations. It is not just words.
  - Use feedback to assure clarity both speaking and listening: What do you think I said? Is that what I heard you say?



# Some Important Types of Business Conversations

- **To dig a little deeper, there are different types of conversations. You should be conscious of the type of conversation is appropriate for what purpose.**
  - **For example, Japanese focus a lot on conversations for relationships, drinking green tea and sake.**
  - **Americans like to move immediately to action, overlooking the value and requirement for trustful relationships.**
- **About 70% of business conversations are for action**
  - **They take the form of requests and promises and offers and acceptances**
- **For important conversations, you should think about the kind of conversation you should have beforehand and its intended purpose.**
- **Then analyze the conversation afterwards to see where you can do better the next time.**
- **Think of conversations as a process where you continuously improve your skills.**
- **But its is like learning to dance. You have to have a willing partner to practice. Someone who will give you feedback on how you are doing. For this you have to give permission or make a request for feedback.**
- **Not every conversation warrants planning and analysis but the important ones deserve discipline and care.**

## Viewpoints – Conversations for Relationship & Possibilities

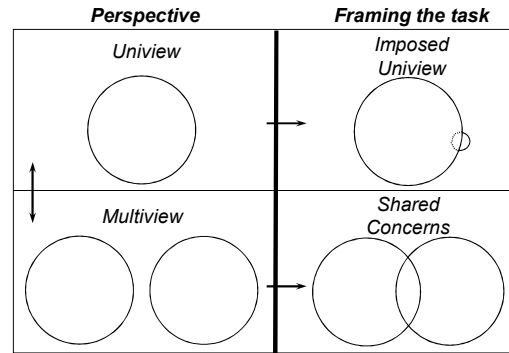


12

ANALOG  
DEVICES

- Uniview is our instinctive approach to conversations.
  - What I say is more important than what you say.
  - I am more important than you.
- Goal is to impose our views on others.
- What Chris Argyris (HBS) calls Type I Behavior.
- Command and Control
- Authority based
- Theory X – I know best

## Viewpoints – Uniview to Multiview to Shared Concerns



13



- **Multi-View**

- **Open yourself to the possibility that other points of view are legitimate**

- **Goals – To openly share our different views to find shared concerns on which we can act**

- **Type II, Theory Y behavior (Chris Argyris)**

- **Asian – Listen first, then speak**

## On Listening and the Observer-That-One-Is

- ◆ People speak to be listened to
- ◆ However, speaking does not ensure listening: People say what they say and we listen to what we listen
- ◆ Listening often just happens to us--- we don't control it
- ◆ This creates the belief that our listening comes from what a person has said
- ◆ But different observers listen differently
- ◆ Listening = Hearing and Interpreting
- ◆ The Ways we listen and see things is more indicative of the kind of observer-that-one-is rather than on the way things are
- ◆ We are substantially unaware of our own interpretive processes and of the observer-that-we are
- ◆ We just see the view of the situation that our interpretation creates

14



•What goes on when we speak and listen

•Back to my previous slide.

•What is reality? What is truth?

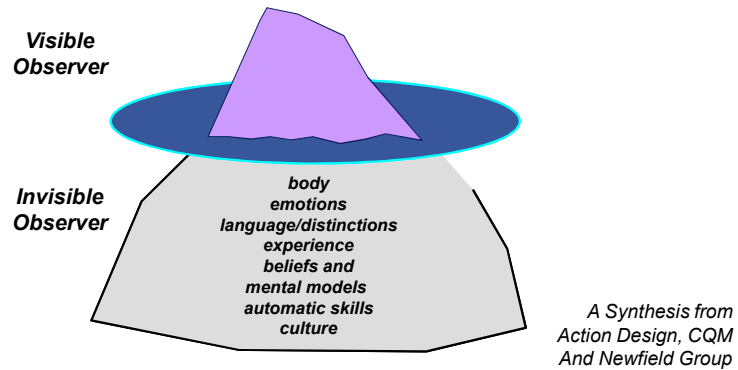
•Truth is correspondence to reality.

•But whose reality.

•Family counseling – “Multiple Realities”

- “Objective” Reality - Mantarano

## Visible and Invisible Observer-That-One-Is



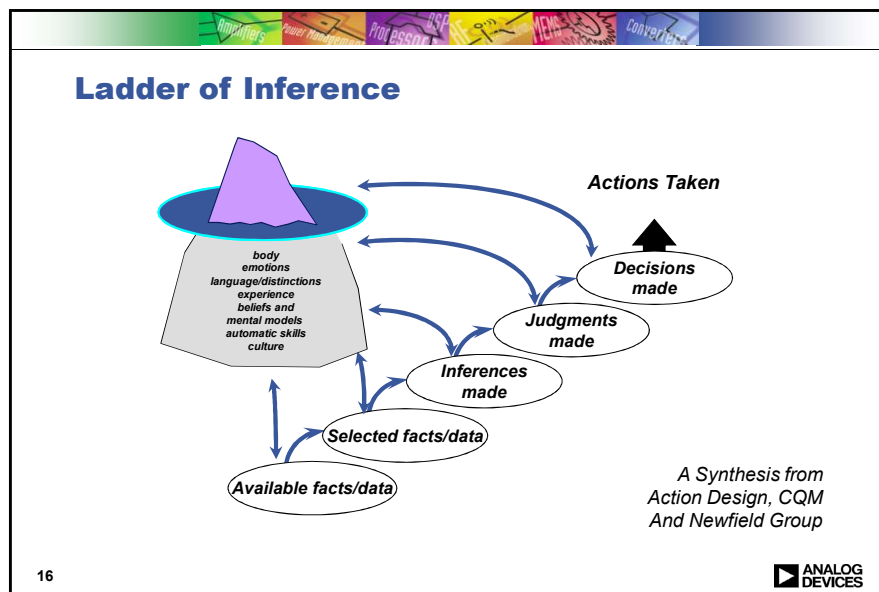
15

ANALOG  
DEVICES

- We are a product of our history, our experience, our beliefs, our cultures, our emotional mood, our interests.

- Our observations are filtered by this history – most of which is hidden from others and from our conscious awareness.

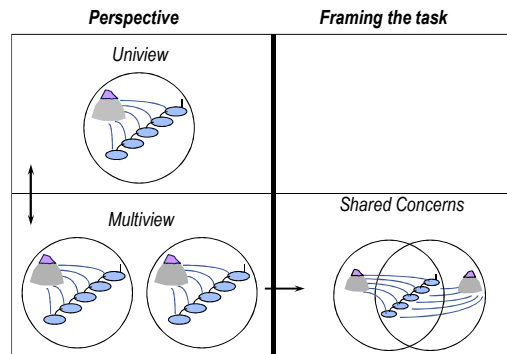
- Listening just happens.



- When we enter conversations, our selection of relevant facts, our inferences and judgments are done unconsciously at lightening speed.
- People with different history select different facts and draw different conclusions
- This process is influenced by the observer-which-we are, our history, experience, culture.
- So we need to be sensitive to what is going on, consciously and unconsciously, when we speak and listen.



## Tools for Finding Shared Concerns



17

ANALOG  
DEVICES

**In your conversation be explicit about understanding how the other person reached their conclusion and be willing to ground your judgment with the facts and reasoning that got you there.**



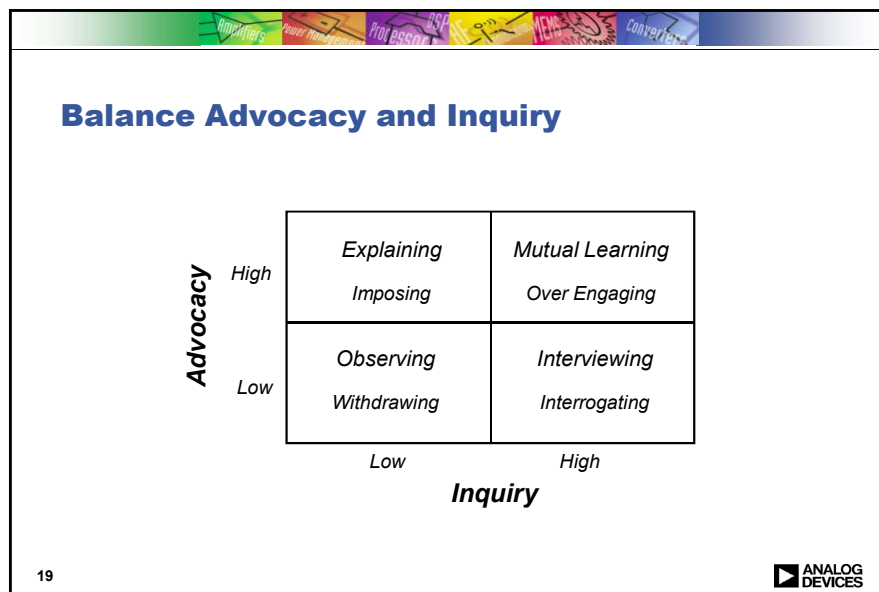
## Grounding Judgments

*The key to grounding judgments is our capacity to observe action.*

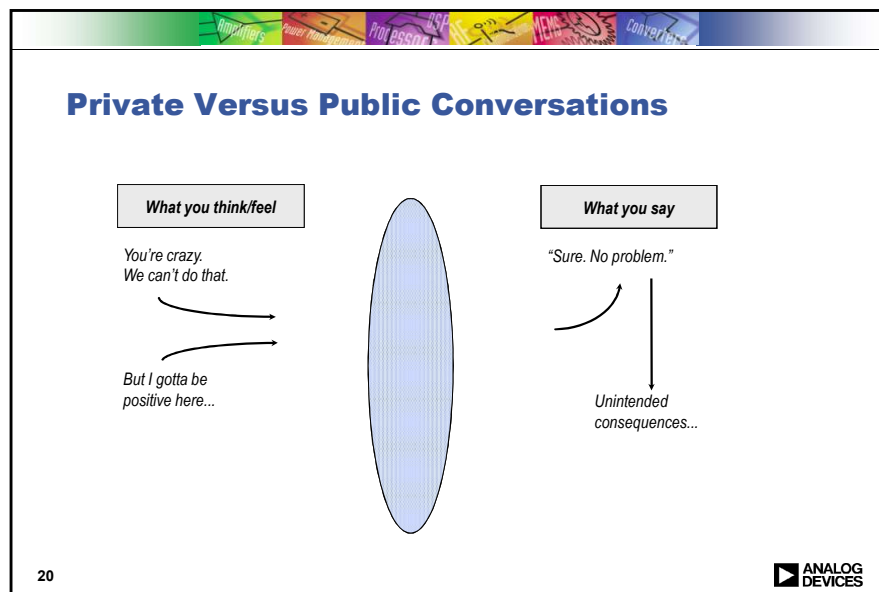
- 1) Describe the actions or events (statements of fact) that we see as supporting the judgments  
Ask if others would describe the facts differently or would point to different facts as relevant
- 2) Make explicit the inferences that lead us to believe those facts support those judgments  
Ask if others differ with these inferences
- 3) Seek both to understand and to be better understood. Be ready to alter our judgments based on what we hear
- 4) If differences persist, identify possible actions or events that might resolve the differences going forward
- 5) Name the implications for action that we see, and ask if others would offer modifications

•How do you create a multiview?

•Not for every conversation, only the important ones.



- Another concept is to think about balancing advocacy and inquiry.
- First listen, then speak – Asian culture - Importance of “you” word.
- One aspect of inquiry is for learning.
- This requires a weakness orientation:
  - An openness to feedback of what went wrong, what can be improved?
  - An invitation for feedback
- Ackoff - We only learn from mistakes, not from doing things right.
- There is a positive approach to advocacy and inquiry.
  - Observing, Interviewing, Explaining, Mutual
- There can also be a negative approach.
  - Withdrawing, Interrogating, Imposing, Over Engaging



- Chris Argris at HBS has pointed out that in conversations, two conversations are going on.
- Public – what you say
- Private – what you think and feel, but don't say
- Left-hand column exercise is to compare the private and the public aspects of conversation.



## **What You Were Thinking or Feeling and Not Saying**

- 1) What a ding-bat!
- 2) He just doesn't understand.
- 3) Here we go again, same old story.
- 4) That's totally unrealistic; what can I say.
- 5) He's a control freak.
- 6) Why is he so stubborn?
- 7) He is just protecting his turf.
- 8) What's he trying to pull on me this time?
- 9) He just doesn't like change.
- 10) Why doesn't he take the "can-do" attitude and get on with it?
- 11) Why is he so defensive?
- 12) Just wait, I'll get you sooner or later.
- 13) He understands the problem and the importance of solving it but sees no personal reward for assuming any additional work or risk.

21



- From research there are the typical private conversations that go on in our heads, influenced by our uni-view of the world.

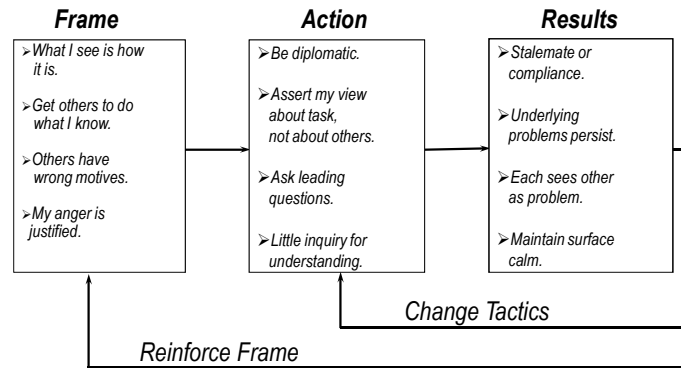
- Predominately a pejorative orientation.

- So what do we do about this?

- Blurt out what's in our left-hand column?
- Our sensitivities tell us this is not a great idea.

- The goal is to change what is in your head.

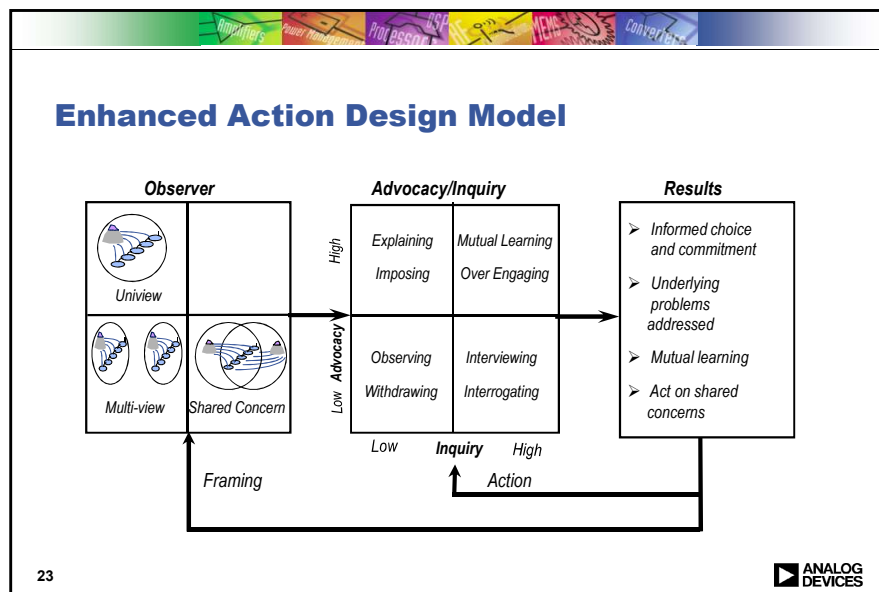
## Unilateral Action Design Model Type I Behavior



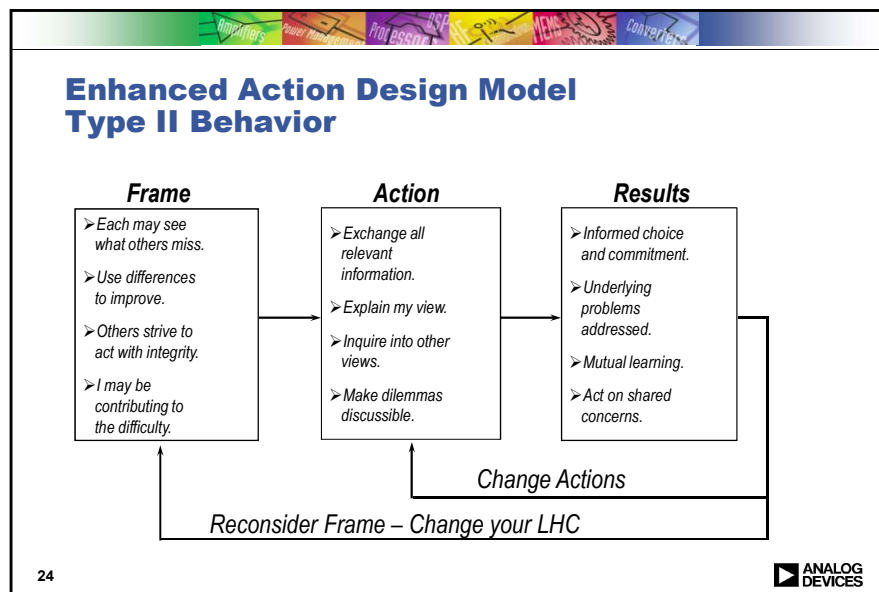
22

ANALOG  
DEVICES

- Frame is our uni-view of the world.
- Action is predominately advocacy.
- Results are unresolved problems and conflicts.

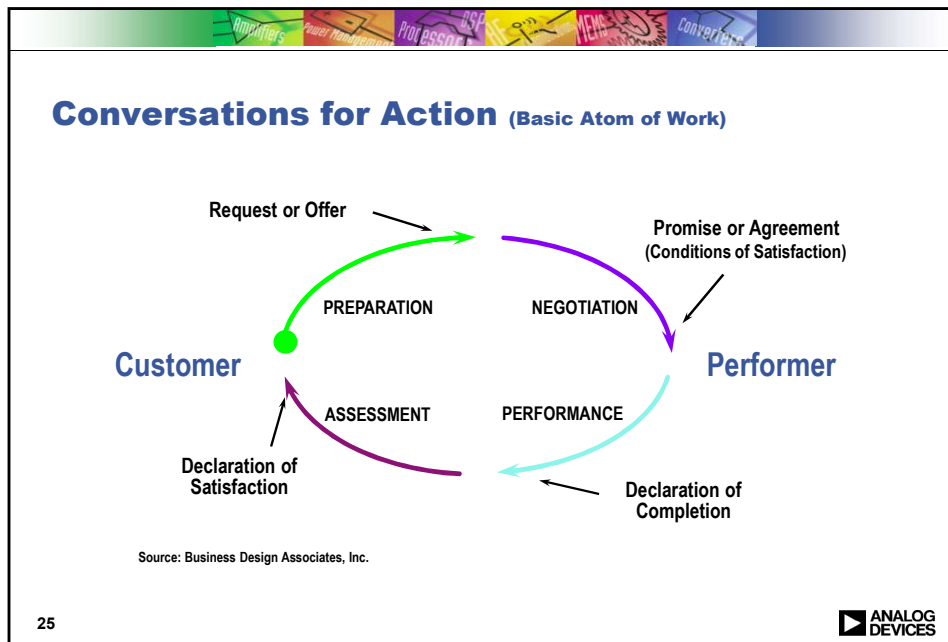


- An alternative is Type II behavior
- Through the multi-view and sharing your ladder of inference you change what's in your private conversations.
- And you balance advocacy and inquiry as appropriate.



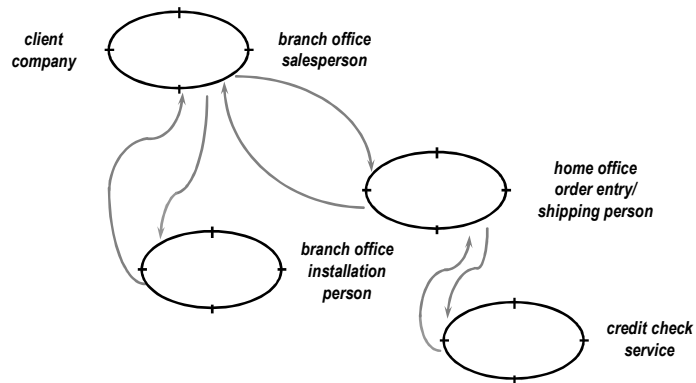
- **Where differences remain, escalate with honor**
- **Honor, first exercise multi-view process to understand the basis of differences**
- **Agree to disagree, but not disagreeably**
- **Escalate for resolution, where alignment is important to success**





- **Analyze language as speech acts – requests and promised are about 70% of business conversations.**
- **Not just outside customer, but also internal customers where coordination of action is important.**
- **Think how often promises or expectations are broken in internal transitions.**
- **This requires that you expedite**
- **Think what it would be like to work in an environment where promises were never missed**
- **A request or offer takes planning and preparation**
- **Response to request – yes, no, negotiation, not now (conditions of satisfaction)**
- **Negotiate conditions of satisfaction with statement of assumptions and awareness of “background obviousness.”**
- **Perform (or declare breakdown)**
- **Declare completion**
- **Seek declaration of satisfaction**
- **What happens if not satisfied?**

## Network of Atoms of Work



26



- **Business processes are networks of requests and promises.**
- **Since the possibility of breakdown occurs at each node, the probability of successful outcomes without excessive expediting is low unless the integrity of each conversation transaction is high.**



## Concepts for Effective Leadership

### ◆ Different Approaches to Learning and Improvement

- TQM vs. Systems Thinking
- Incremental vs. Breakthrough/Innovation
- Optimizing the Whole vs. the Parts
- Leadership Through Vision and Inspiration to Achieve Alignment

### ◆ Conversations as a Process

- Concepts for Effective Listening and Speaking
- Conversations – A Process for Achieving Alignment
- A Process for Building Trustful Relationships
- A Process for the Coordination of Action



## Concepts for Effective Leadership

- ◆ Different Approaches to Learning and Improvement
- ◆ Conversations as a Process
- ◆ Judgment/Prioritization
  - Doing the Right Things – Effectiveness
  - Doing Things Right – Efficiency
  - Doing the Right Things Wrong - Learning
  - Doing the Wrong Things Right - Disaster
- ◆ Innovation Drives Success
  - Life Blood for Startups
  - But Everything has an S-Curve