

Whole System Design (WSD): The Shifting Focus of Attention and the Threshold Challenge

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Abstract

As pressures for change confront organizations, the capacity for rapid, substantive, and sustainable change in core business processes, and supporting systems and structures, becomes increasingly important. Our thesis is that such change is most likely to happen when: (1) the people who do the work are the ones engaged in the redesign of both the technical and social systems, and (2) when individual and structural change is addressed systemically among Organizational Development (OD), Information Technology (IT), and Business Process Reengineering (BPR) professionals and, (3) when the predictable mid-point challenge (the threshold challenge) associated with shifting the focus of attention in Whole System Design (WSD) is understood and managed effectively. A threshold challenge results from a shift in attention from technical system issues to social system issues. This occurs when the technical system design (business process/work flow and equipment) is complete enough to begin social system design (supporting roles, measures, and structures). During technical system design, strong emotions about loss—of status, authority, and certainty—can be suspended, but starting design of supporting “social” elements tends to unleash these concerns. We call this transition a “threshold” because getting beyond it is like completing a passage or crossing.

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Unrelenting competitive pressures characterize the increasingly complex environment faced by many organizations today. Responses to such pressures often are fragmented. These responses emphasize either Organizational Development (OD) -- how people and human systems hold on and let go, or Information Technology (IT) -- the automating and “informating” (Zuboff, 1988) of work practices and relationships, or Business Process Reengineering (BPR) -- the reconceptualizing and redesigning of the organization’s value-adding work. Some organizations select primarily IT-based strategies, despite of a failure rate approaching 70% (Davenport, 1995); others pursue acquisition and/or merger strategies, despite a 50% failure rate (Michel & Shaked. 1996). Still others pursue efforts such as Just-in-Time inventory systems, self-managing teams, 360-degree feedback, quality circles, and so on -- with similar lack of success. As Cotter (1995) points out: “...single-focus fix-it schemes no longer work and isolated unintegrated one-time improvement efforts fail...”

What is needed, we believe, are better answers to the question: How can we achieve rapid, substantive, and sustainable change in core business processes, and in supporting systems and structures, while quickly transforming attitudes behaviors and skills in a critical mass of employees? This challenge requires not only OD but also IT and BPR practitioners to provide more unified, synergistic approaches which will concurrently transform people, technical systems and the social architecture of the organization.

Our thesis is that this is most likely to happen when (1) the people who do the

work are the ones engaged in the redesign of both the technical and social systems, (2) the approach to individual and structural change is addressed systemically among OD, IT, and BPR professionals and, (3) the predictable mid-point challenge (which we call the threshold challenge) associated with the shifting focus of attention in Whole System Design (WSD) is understood and managed effectively.

One evolving strategy for achieving simultaneous change in people, technical systems and the social architecture of the organization is Whole System Design (WSD). This is a practice framework using large-group processes as a vehicle within which OD, IT, and BPR concerns, tools, and methods can be integrated. By whole system we mean the technical and social system components within any part of an organization containing two or more core business processes from start to end. The technical system includes the core business processes, the set of linked activities/steps, typically crossing functional and sometimes organizational boundaries, as well as the technology (hardware and software) required to transform inputs into outputs of value to the customer. The social system by contrast is the set of roles/jobs/relationships, performance measures, structures, beliefs/assumptions, and the management systems/policies, required to support core business processes. The term design describes both the activity of rethinking and implementing changes in the whole system and the resulting organizational architecture—as in “the new design.”

The traditional rationale for using large-group processes is that: (1) people support what they help to create (thus reducing resistance to change), and (2) the diversity of knowledge mobilized

through such large-scale involvement leads to greater creativity and innovation in both the technical and social system arenas (Bunker and Alban, 1997). A less emphasized but more significant benefit may well be that the very act of participatively designing the organization's future technical and social systems assures that the necessary changes in attitudes, skills, beliefs, and behaviors begin to evolve concurrently. In our own practice we have repeatedly found,¹ as have others (Jacobs, 1994), that when people are asked to collaborate in the creation of future realities -- if their activities are structured to evoke the use of new skills and behaviors -- the participants cannot help but be changed by the experience.

Although OD, IT, and BPR practitioners endorse the need for simultaneous change in people's skills, behaviors and attitudes to support substantive change in work processes and new forms of work organization at the conceptual level (Tapscott and Caston, 1993; Hammer, 1996; Tannenbaum et al, 1985), in practice many OD practitioners continue to treat "people" issues (under the umbrella of change management) either as a prologue to system change or as a fallout from it (Mohr, 1989). For IT and BPR practitioners, the changing of skills, behaviors, beliefs and attitudes tends to be acknowledged as a necessary evil, but as someone else's responsibility; such people issues are not considered to be an integral part of BPR- or IT-driven change projects. Consequently, we find large-group methods being used for bits and pieces of WSD. Only a few applications include (as they should) all of the following key activities: (1) researching and assessing events, trends and developments in the external environment; (2) creating a high-level view of an ideal business process; (3) discovering innovations for both technical and social systems that will

operationalize the business process vision; and (4) planning the coordinated implementation of all needed changes.

Although our experience suggests that WSD has promise, it is by no means a panacea. Instead, WSD presents a unique set of challenges which accompany the shifting focus of attention as the project progresses. In the few instances where the goals of OD, BPR and IT practitioners are fully integrated into a large-group methodology (as in the six stage WSD project model we describe), the overall effort must still contend with what we call the challenges of the threshold. We call this transition a threshold because getting beyond it is like completing a passage or crossing. This is the point where the organization's skill and courage to cross over from the past into the future is most severely tested. At this important transition point between past and future, the organization experiences either a breakdown or a breakthrough.

The threshold challenge appears when the technical system design (business process/work flow and equipment) is complete enough to begin social system design (supporting roles, measures, and structures). During the technical system design, strong emotions about loss—of status, authority, and certainty — can be suspended, but starting the design of supporting "social" elements tends to unleash these concerns. The threshold occurs at the transition from being overpowered by technology to being empowered by technology; from designing the flow of work to designing the roles and structures that will affect the individual quality of working life; from fearing that the change cannot work to fearing that it can work; and from driving change to the moment when change begins to have a life of its own. Changes in OD/BPR/IT practitioner roles, skills and perspectives meet their greatest challenge in

anticipating, diagnosing, and adjusting around the threshold.

The body of this paper describes the basic flow and rhythm of a large group/comprehensive participation WSD project (six stages). It analyzes the what, why, and how of anticipating and crossing the threshold, including two field studies, and makes suggestions of new roles for OD, IT, and BPR consultants.

The Six Stages of WSD and the Shifting Focus of Attention

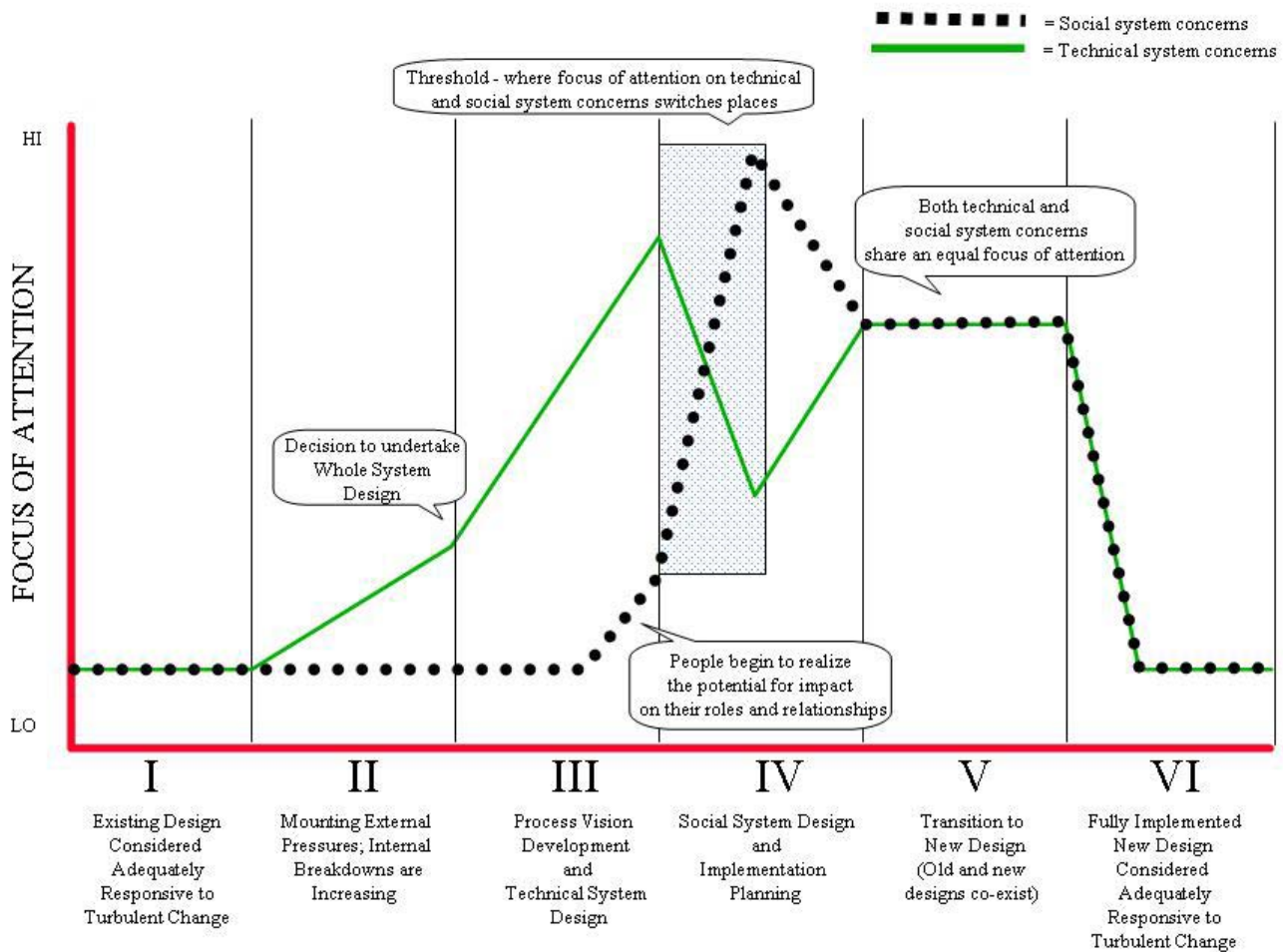
We propose a six-stage project model, Figure 1, where the level of concern by the organization’s members about

technical and social system issues increases and decreases stage-by-stage. This shift in the focus of attention signals a predictable, critical, mid-point transition when the technical system and social system concerns trade places or cross over, which we refer to as crossing the threshold.

Stage I. Existing Design Considered Adequately Responsive to Turbulent Change

In this first stage, the organization is responsive enough to its environment that the technical system and the social system designs, and the “fit” between them, are at least adequate. People are focused on day-to-day task accomplishment. Dissatisfaction

Fig1. The Shifting Focus of Attention In Six Stages of Whole System Design Projects



(Beckhard, 1969) is low enough that motivation for change is minimal.

Stage II. Mounting External Pressures; Internal Breakdowns are increasing

In the second stage, problems and issues in the technical system (work process) realm have grown and become visible enough to prompt a need for disciplined change. These internal breakdowns are usually caused by organizational failure to respond to external changes such as competitive pressure, customer buying practices, technology, or government regulation. Concerns expressed at this stage are: (1) We can't get the information we need, (2) There are too many steps in this workflow, (3) Things just aren't getting done at the time they are needed, and (4) Are our business processes really able to respond to what the future will require?

At this stage concerns about emotions, relationships, and loss of power, while present and unfocused, remain largely submerged. Typically, these thornier issues are not valued in the organization's culture, or are not-yet-visible as a cause or an effect of the internal breakdowns in responding to changing external demands.

Stage III. Process Vision Development and Technical System Design

By the time the third stage is underway, the concerns related to the core business processes have become sufficiently advanced that there is a decision to begin some form of technical system redesign. Within the WSD practice framework, large-group methodology (Bunker and Alban, 1997) is used to engage a critical mass of stakeholders with the processes being redesigned in the development of process visions and innovations to the technical system.

During this stage the WSD approach reinforces attention to the technical aspects of the work process being redesigned as a means to create common ground, build trust, and heighten interdependence among members of the design communityⁱⁱ. Therefore, social and emotional concerns are intentionally dampened and/or directed into the task of technical design and innovation.ⁱⁱⁱ This is achieved by inviting participants to: (1) align on purpose and outcomes based upon their desired future, (2) create a shared picture of current business process problems and opportunities based upon their unique perspectives and knowledge, and (3) pool their desire for the future and their knowledge of the business in discovering high-leverage innovations for new process design. Therefore, it is not surprising that initially technical system concerns rise more sharply than do social system concerns.

The highly tactile and easy-to-use analysis and design tools used in this stage are specifically chosen to make the process vision and technical innovations real and tangible to the participants. As the reality of major change dawns and large-group participants begin to realize the potential impacts (socially and emotionally) of the changes in the technical system, social system concerns begin to increase.

Stage IV. Social System Design and Implementation Planning

As the WSD process moves the large group into explicit dialogue about redesign of the social system, social system concerns skyrocket. At the same time, attention to technical system concerns drops sharply. Typical social system concerns often are expressed in terms of fear about loss, as in the following examples: (1) Will I still be able to do my job if it changes? (2) Will I be evaluated differently? and (3) Will I lose all the power and influence that I

have worked so hard to build up over all these years? As a result of this crossover from technical system concerns to social system concerns, the dynamics of the threshold begin to emerge.

Stage V. Transition to New Design (Old and New Designs Co-exist)

Threshold dynamics have been effectively managed if people come to grips with proposed social system changes, and also deeply internalize the linkage between technical and social system changes. As this happens, an integrated view of the technical and social consequences of implementation begins to form. The struggle here is to manage the transition from old work processes to new designs, since these must co-exist for a while. This is problematic for social innovations that involve new behaviors and values since they may contradict the behaviors and values associated with previous technical work process.

Stage VI. Fully Implemented New Design Considered Adequately Responsive to Turbulent Change

As in Stage I, the focus here for people is getting daily work done, rather than worrying about the social and technical designs for doing that work. The level of concern about both the technical system and the social system is low to non-existent. When the changes have become an invisible part of the daily flow of work activities, then new practices, values, and behaviors have been deeply internalized. Stage VI may have some of the placidity of Stage I, but without its complacency, because the organization has gained WSD capability.

The Challenge of Crossing the Threshold

We have chosen the term, crossing the threshold, because it captures the real-life experience of the organizational transition between technical and social

system designs, and because it is a strong, visual image that has qualities of both the familiar and the concrete and of the multi-dimensional and metaphorical. These aspects of the term offer a revised framework for recognizing and experiencing what is happening during this crucial transition in the life of a WSD change effort.

Predictable transitions or crises in organization development have been well documented and are generally useful for understanding and intervening in human systems (Greiner, 1972). Group development models that emphasize storming, mid-point transitions, or punctuated equilibrium phases (Tuckman, 1965, Gersick, 1988) are also valuable^{iv}. However, our notion of crossing the threshold expands these well-accepted ideas about the structure and rhythm of change with some new connotations that underscore the key challenges of WSD. For example, as Figure 1 illustrates, there is an actual crossover between the technical and social concerns that signals the approach of the threshold. Also, the threshold period appears to demand an evolutionary leap -- a discontinuous shift in an organization's capacity to change. This suggests a type of change which is not reversible (as in the irreversible commitment of newly wed couples crossing their own threshold).

A threshold also can be thought of in scientific terms and symbolic terms. It is a meeting place, for example, between the earth and sky or is the ripples left on the beach, showing the threshold between ocean and sand. This connotation emphasizes a dynamic relationship. On the other hand, threshold also conveys the symbolic image of a doorway or a passage, connoting an inner journey requiring an organization to face its deep self and to muster its courage. Finally, the imagery of crossing a threshold is congruent with

the qualities of experience which many colleagues, clients, and ourselves have reported.

What follows applies the image of crossing a threshold to the shifting of attention from technical system to social system between Stages III and Stage IV of WSD as illustrated in the shaded area of Figure 1. To describe what is happening at the threshold and why, we will address preparing for the threshold; to describe how to determine whether or not the threshold has led to breakthrough or breakdown, we will describe what happens as a result of crossing the threshold. In terms of Figure #1, we will be zooming in on key elements of Stages III and IV, without similarly detailed attention to Stages I and II or Stages V and VI.

The work, in Stage III, of co-creating the organization's technical system of the future not only brings diverse stakeholders together in a way that creates higher quality technical design, but it also raises deeper issues. The WSD approach uses the technical design process as a means to build trust, develop relationships, and improve capability for meaningful dialogue. These "secondary gains" serve as an investment in learning to better address the difficult issues and feelings that will come to the fore in Stage IV, when the community designs the social system.

Threshold dynamics can be fully addressed only after the technical design has achieved a certain level of accomplishment in Stage III. That is, there needs to be a technical design for there to be a threshold! Finding that level of accomplishment in technical design, designing for it, and facilitating toward (but not past it) requires a guiding conception of WSD that includes attending to a dimension we call energy or willing. This quality is similar to the theory underlying

appreciative management in that it seeks "...to generate hope in the human capacity to achieve potential" and "to locate, highlight, and illuminate 'life giving forces of the organization's existence'" by helping to "ignite the collective imagination of what might be". (Pradhan, 1997, pp.1)^v.

Energy or willing represents the organization's desire and capacity to create "the what might be" of its own future. Willing focuses on intention and forward-looking action (McDermott, 1984, Lievegoed, 1973, and Schaefer and Voors, 1996)^{vi}. Willing in the life of groups is the level of energy, action and commitment that accounts for groups moving ahead rapidly or getting stuck. Willing as used here is not to be confused with willingness to change, or the force of willpower or the exercise of brute or sheer will. In approaching and navigating the threshold, it is this quality of willing that will be of greatest value for evaluating readiness to engage the challenges.

Alignment in the organization's willing life, we claim, is more important for collective commitment than is either attunement in its feeling life or agreement_in its thinking life^{vii}. This alignment often seems to have a life of its own, as if being pulled from the future, rather than being pushed forth out of the past. This pull is analogous to the unfolding of a melody which carries a sense that it is going somewhere. This pull can be felt by the listener. "Watch what they do with their feet, not what they do with their mouths," so the common wisdom notes. Action. not reaction, but the inner side of action as the blooming of a possibility expressed in the collective imagination of the will. It is the seeding of this collective imagination that guides the design and execution of Stage III and that will blossom on the other side of the threshold in Stages IV and V.

During Stage III, this seeding is the ground to the figure of technical system innovation. What then should be expected of the technical system design? How much technical system design (and in what form) is enough to enable the crossing to occur? “Enough” technical design is measured less in terms of quantity or completeness and more in terms of qualities and metaphors, as in a seedling being planted into the soil of the imagination of the design community.

This imaginative seedling must have germinated enough (but just enough) to fuel anxiety about the technical design and its social implications. This seedling cannot merely aggravate the unfocused and undirected anxiety about change and loss in general which permeated Stages II and III with low intensity. Only focused and directed anxiety—made visible and addressed late in Stage III — can be productively engaged and transformed into commitment, capability, and successful change. Until this occurs, the organization’s will, cannot be said to have been fully engaged. This full engagement is required for the organization to even consider negotiating the threshold crossing. Recognizing and then becoming immersed in these concerns, as a whole community, are the key challenges of preparing for, and crossing, the threshold.

Stage IV begins the redesign of the social system, the supporting social elements required for the technical innovations to work. This is where such issues as the following are addressed: jobs/roles -- who does which jobs, which jobs are eliminated, whether there still are jobs in the conventional sense (Drake, Beam, Morin, Inc., 1996); business performance measures -- what will count most and whether the measures will favor one function over another; and structure -- who will report

to whom and where the power will be. At this juncture, emotions are high because: (1) a solid, collaborative version of the technical system exists and (2) the jobs and structure issues often are where power and status is perceived to be won or lost.^{viii} The emotional dimension of the change process shifts as the technical system recedes and the social system takes center stage.

A key challenge during the threshold is dealing with the responses that surface along with these emotions— explosive or masked attempts to deal with fear and loss. These may result in threshold breakdown: a splintering of the change effort or a tendency to relapse. Splintering may mean fragmentation, loss of energy, and a slow death for the WSD effort. Relapse is a form of hiding or stalling which produces social system designs which re-create the status quo and undermine the proposed technical system innovations. The task of understanding and working through relapse is enhanced by thinking of it as an incomplete engagement of the organization’s willing life and, hence, a faltering at the threshold.

Relapse is an attempt to go back to non-controversial, tried-and-true jobs and structures even after breakthroughs in the technical system involving high creativity and innovation have occurred in Stage III. We call this a relapse because participants appear to undo these technical innovations. Although a full answer awaits future research, our experience suggests that relapse happens because employees for the first time are fully realizing the potential social impact of the innovations. In particular, they begin to realize the impact of change upon on themselves! This is the point where systemic and individual change become most enmeshed, requiring an approach which handles them simultaneously if not seamlessly.

The notion of alignment in the willing life, individual and collective, and of uniting imagination, action and commitment offers such an approach.

The motivation for facing this uncharted territory begins with commitment and hope regarding the technical innovations of which employees as a group have become champions. The question and the test of the threshold, then, is this: Are the innovations compelling enough to motivate the innovators to face these fears? This is where systemic change both influences and is influenced by the heroic acts of individuals who disclose their most private assumptions, find courage within themselves that they did not know they had, and commit -- even lead -- despite their doubts. Paradoxically, it is the participative work on system changes (technical and social) which enables personal transformation; this in turn enables implementation of the system changes.

Individuals and systems both face the question of choice that emerges in the threshold: If not us here and now, then who and when? The shift required is from fearing that the change cannot work to recognizing that the real fear may be that it can work. Facing and living into this reversal is the ultimate test of whether or not the design community can take action through a fully engaged, collective will. The change effort has shifted from being driven by an individual or group or business pressures to developing a life of its own, as if an already living being (born of the collective imagination and embodied in the new technical design) is speaking to its creators, inviting and challenging them to commit:

Now that you know what is really at stake, the gains and the losses, the confusions and the fears, do you want what you together have created enough

to say, ‘Yes,’ despite the doubts and the obstacles?

When the answer to this question is Yes, a new world opens up. This opening is described poignantly by the Scottish mountain climber, W. H. Murray (1951): “...the moment one definitely commits oneself, then Providence moves too. All sorts of things occur to help one that would never otherwise have occurred.” Obstacles and doubts lose power; individuals are never the same; a new culture is birthing. What had been up to this point alive only in the collective imagination becomes planted -- in that moment -- in action.

This can happen only when the organization’s will has been fully engaged and answers the metaphorical question posed to it. Often the answer is not a rational statement or a conventional decision. It also is not adequate to call it a feeling or an intuition. Rather, the concept of will -- the seedling of collective imagination bursting forth from its germination into consciousness, light, and the world of overt, physical reality -- offers a more tangible and robust description of what has occurred. This is the best concept and language we know to describe what does (or does not) happen in change regarding the presence of both imagination and commitment. The actual moment in which the full engagement occurs is unpredictable -- the huge silence after a highly emotional disclosure; the applause after a customer’s plea for collaboration; a senior leader’s expression of humility; the laugh after a dropped microphone; or the clamor in response to a picture, concept, or story that captures what everyone has been saying or feeling for days, or perhaps decades.

These are indicators of threshold breakthrough. When the answer to the question of whether the organization

wants to cross the threshold is not Yes, the concept of willing can also be used to describe the organization's faltering and withdrawal from its potential future. This is the indicator of threshold breakdown. Thus, full engagement of organizational willing, sustained through the temptation of the threshold challenges to withdraw, is the primary measure of and vehicle for influencing whether a change effort will break down or break through during the transition that we call crossing the threshold.

Research Methodology -- Consulting Practice and Observation

Our research data were obtained primarily from actual consulting projects in which organizations engaged in WSD experienced the significant challenges which we have come to label crossing the threshold in organization redesign. Some of the behaviors, interventions, and conditions we experienced and observed in response to the obstacles and opportunities of organizational change have been observed in our experiences and those of colleagues throughout 20 years of consulting practice using design teams within complex system change efforts. However, the bulk of what we offer here comes from our experience using large-group methods with a socio-technical approach to redesigning business processes within the past 10 years. These experiences (producing the WSD model with crossing the threshold as the key challenge) draw upon 8 consulting engagements with large, mid-sized corporations or not-for-profit organizations. The two examples cited below were projects lasting more than one year, using 2-8 external consultants plus internal consulting teams of 2-8 people, and involved between 50 and 300 organizational members.

These interventions included, in addition to large-group sessions, some or all of

the following: working with senior sponsors on their roles in cultural change, forming and training internal core teams, transferring of design tools and technology to internal consultants, integrating functional and local change efforts into WSD, and joint meaning-making about culture, commitment, and sustainable change by internal/external teams. Although only informally captured and codified, our personal experiences and observations have been significantly broadened by the reflection of the many consultants and managers who participated in the two change efforts described below.

Preparing for and Crossing the Threshold -- Two Field Studies

North American Telephone Company.

The following description illustrates what actually happens in the transition from Stage III to Stage IV. At a mid-sized North American telephone company, an initial 250-person conference focusing on the development of high-level process innovations in the redesign of customer service delivery had gone well. Concerns about not having enough training to use the envisioning tools, the absence of some senior executives, anxiety that it would be impossible to get 250 people to agree, and the union's concerns about setting aside advocacy roles all had given way to the excitement of new dialogue, new learning, and tangible innovations. "We've been able to do in 3 days what we haven't been able to do in 3 years," said one participant. An internal OD facilitator remarked: "I have had a year's worth of learning in these three days." However, scheduling and planning the next two conferences -- which concerned technical systems design followed by social system design -- posed a dilemma regarding preparing the organization for the challenge of the threshold.

The conferences on technical system design (June) and social system design (September) were to be separated by two months of summertime. This hiatus in the threshold between Stages III and IV was a problem. As discussed above, to attain just-the-right-level of technical design required the full engagement of the design community with the content and quality of the technical design work. Momentum to carry forward technical design innovations would be the key to facing the emotional challenges and the temptation to falter and back away during the social system conference in Stage IV.

This meant that by the end of the technical design conference we needed to assess the organization's readiness for crossing the threshold into the social system design (Stage IV) even though the second conference would not occur until September. To carry out this assessment, a 3-hour segment on stages of change and a diagnostic/public commitment process for letting go and moving on were included at the end of the final day of the technical design conference. The lecture and discussion in large-group format concerned the predictable emotional stages of change, using key concepts on loss, acceptance, and anger from the work of William Bridges (1980) and Elizabeth Kubler-Ross (1969).

Even though many participants expressed dissatisfaction with the resulting technical design and with the process mapping tool for creating it, they shifted their attention to more personal and social concerns surprisingly well. What was being tested was personal commitment, trust in each other, and belief that the WSD process could produce real change. The threshold was being broached. We challenged the participants about where they stood with the following question:

Now that we have completed our technical system design work for this meeting, what current beliefs and behaviors are you willing to leave behind, to let go of, in order for you and everyone to have the new work flow we have just designed as the new service delivery process for the company?

Participant answers were posted on a floor-to-ceiling star shape of the supporting processes, structures, and procedures needed to make the new technical system succeed. Starting with a large, blank star containing ample space for posting 5 x 8 index cards, participants voluntarily disclosed beliefs and behaviors they were willing to leave behind, by walking up to the star and posting what they had written. Some of the admissions were very moving -- management apologizing to union, union putting aside grievances, functions owning up to how they blocked others' work, disgruntled executives and telephone installers writing how they was time to let go of the past, and so on. While this exercise certainly created enormous good energy and positive feeling, it is critical to understand this expression as more than an emotional unburdening or catharsis. These answers were elicited in the context of looking backward and accepting their technical work, and looking forward and saying, I want this future more than I want the protection and certainty of the way I have been.

The guiding concept of this exercise was the notion that large breakthroughs begin with small commitments. As the flow of individuals to the star to do their personal part turned into a crowd, the deep message of the exercise became clear. These individuals and their design community as a whole had captured its own imagination in the technical design work of the past two and one-half days culminating with the reports earlier that final conference day. Their willingness

to act upon those designs was being met with a small (but clear) Yes, to themselves and to what they had created. Seeing the whole wall filled with over 100 index cards in a culture that had eschewed such public, personal commitment, one guest observer said, “I’ve never seen anything like this. This is real change.”

Despite some difficulties and drawbacks, this process confirmed the community’s readiness for social system design while also increasing its readiness to face these challenges. While only at the beginning of the threshold challenges, the community had responded to the first step in a resounding way. The organizational will had been demonstrably engaged via the physical postings of personal, emotional baggage as a symbol of wanting the future more than the past.

If participants had not responded by disclosing their blocking beliefs and behaviors or had persisted in complaining about the design tool or even outright rejecting the new design, then their first approach to the threshold could have resulted in threshold breakdown. This would have made moving ahead into Stage IV risky without further interventions to keep them from pulling away from the desired future. However, this transition exercise closing Stage III and opening Stage IV succeeded as a visible, physical way for the community to assert its desire and to translate its commitment to what it had imagined into a tangible form of action.

North American Paper Company. The redesign of a major North American paper company’s corporate information system and solution development processes provides a good example of a relapse during social system design. Like many IT organizations in the early 1990s, the IT department at this

company reasoned that if it was going to deliver reengineering services to internal customers, it had better learn by reengineering its own work first. The project structure included a design community made up of a steering committee, a full time 8-person core team and a large-group design team. Despite the efforts of the core team members to actively communicate with the rest of the organization and excellent support of the CIO and the senior IT manager, resistance was high among some people not participating in the large design team. The obstacles included distrust of management, disinterest in what the design team was doing, poor communication between the design team and others, and resentment that work loads of others were increased to enable designers to be in meetings 3-4 days per month.

The project team overcame difficulties using the process mapping tools, worked through emotional issues around gender differences, and struggled successfully to become truly innovative and playful (Levine, 1994). As the team dynamics and creative results improved, commitment to the future redesign heightened despite increasingly disturbing corporate messages about lay-offs and outsourcing of IT. Having successfully completed Stage III with a handful of well-documented, coherent innovations, the social system design began.

Threshold dynamics emerged right away. Compared to the technical innovations, the job redesign proposals were surprisingly unimaginative. Design team members clustered activities and responsibility levels and named jobs in ways that were limited by old clustering and old job names. This became glaringly obvious as designers used the standard role/responsibility charting technique which maps roles (rows) against activities (columns) and labeled

each cell in the chart according to level of action and accountability required. When confronted with this relapse, their resistance ostensibly focused on confusion between the definitions of jobs versus roles. They avoided the question of how and why their innovations were being lost as the new jobs were designed. Good faith attempts to meet the resistance by the facilitators included trying to unravel the roles-versus-jobs confusion and re-teaching basic job design concepts.

So what was happening that stalled creativity when the target became jobs and roles? A powerful, unspoken collusion had emerged among team members. Collectively they retreated from the now visible implications of their technical design innovations for real people doing real jobs for real customers. The impact on them was beginning to sink in! Feelings and thoughts which may have been suppressed were now becoming discussible. Concerns included the following indirect expressions of fear (and perhaps a retreat of the collective will): (1) Do I have the skills and knowledge to do that new job? (2) If I do that job, will I have to move my office, or work at another site? and (3) I am looking at the jobs we have designed, and frankly, I don't see myself anywhere. Where do I belong? Will I lose my job? One way that participants in a WSD process handle this kind of fear and faltering of the organizational will is by designing roles that re-create the status quo and do not raise issues such as loss of authority, identity, competence and job security.

Team members were beginning to experience the threshold; this would demand skill and courage requiring them to face fears, take personal risks by speaking out, disclose their vulnerabilities, and open up in ways they had never done before. The final

activity in job design, a dramatic walk-through to act out the design innovations, would make these difficult issues even more visible.

With technical designs in hand as scripts, 4-6 individuals at a time tested out the newly designed roles on typical requests for IT training, solution development, and strategic planning. Excitement could be felt in the room -- So this is what our new design would really look like! -- alongside anxiety and fear -- If this is what the new design really looks like, I don't know where I fit; I don't know if I want to fit! Positive or negative, the walk-through tool pushed the group head-on into the challenge of the threshold by making their technical and social innovations come to life in the form of a play. With some difficulty, group members were able to recognize the relapse in role design and to move beyond their wish (and attempt) to retreat from the real changes embodied in the new roles. Their provisional commitment to the technical design gave them momentum to meet this piece of the threshold challenge. We believe that the skills they had developed just enough during Stages II and III -- the skills of engagement, dialogue and inquiry, facing conflict, dealing with diversity issues, and voicing concerns -- were what made the crucial difference in not getting stuck. This was important, since their biggest challenge still lay ahead.

A second and more common relapse during Stage IV social system design occurs during structure design. The questions regarding structure are most threatening to people who have more to lose—power, authority, people, budgets and control. The steering team found ways to come up with structural options that did not threaten any of them too much. They put the focus of structural design criteria outside of the redesign process -- onto political considerations

and external forces which were largely out of their control. That is, they abandoned one of the clearest rules of social system designing -- that structure exists to supports the technical work processes.

This time, it was not the facilitators who confronted the relapse (and the taking-back of the design team's authority to design the whole system); it was the rest of the design team. The steering team was told they were acting like parents. Design team members said they felt betrayed; some said they wanted to quit the design team; others said they always knew it would come to something like this. Top steering team managers were defensive and apologetic. Again, the threshold challenge was met initially with a kind of retreat or pulling back, a relapse. Fortunately, once again, the social skills of engagement and dialogue developed just enough during Stages II and III were there when they really needed them in Stage IV. Design team members were able to say hurtful things to each other without destroying relationships; they disagreed productively and challenged the assumptions and viability of the whole redesign effort.

In the paper company case, perhaps the most notable moment in the threshold challenge occurred even before the structure relapse discussed above. This episode concerned questions about rumored lay-offs and outsourcing. Though this was unplanned in the meeting design, participants spent over an hour in large group at the start of their three-day structure design conference discussing whether to continue or to stop. Some said they wanted to leave the meeting and go back to their desks because, as one participant stated, "My job will be most threatened if I'm out at this hotel designing a future that we may never see. Continuing to believe that we can create this the way

we want is crazy." At this, heads nod, people agree or disagree, mumble or act uncomfortable. Others said just the opposite, for instance:

"You know I figure if they're going to lay us off or outsource IT, that maybe the most marketable skills for the future just may be learning how to do this redesign stuff. What we're doing and learning here is probably more valuable to the company than what I can be doing back at my desk. I say we acknowledge the risks and proceed as planned. Doing this is the best thing I can be doing for my job security and career."

This conversation tested the group's commitments and its capacity to confront each other and the realities. What most stood out was the group's capacity to listen -- perhaps better and harder than ever before -- to individuals' vastly different perspectives about why to quit and why to continue. Through overcoming a culture in which these kinds of vulnerabilities about security, competence, and effectiveness were never discussed, the open-ended talk about these difficult issues spoke volumes about the new culture that was already taking root.

It is in these moments that managers and consultants often have reported feeling in the presence of a power or magic beyond what can be described as thoughts or feelings alone. We attribute this to the challenge of the threshold demanding an organization to come face-to-face with its courage and commitment in the willing dimension of its being. In the end the paper company group did continue; they persevered past the second relapse about structure described above, and still ended up committed to what they had created and eager to move into implementation.

The organization recovered from its two relapses and clawed its way across the

threshold, even though participants considered the final structure to be a bit of a betrayal. While much innovation was lost in this passage, much was gained in trust and skill. That the new designs (technical and social) had transitioned from imagination into action via the collective commitment of the group was evident in the speed and ease with which they took up implementation planning at the end of Stage IV. The kind of energy, commitment, and focused action the group exhibited just does not occur if the threshold experience has led to breakdown. Our observations were that participants had become focused, willing to compromise, appreciative of each others' positions, and more concerned about movement than about getting it right. These are some of the qualities that come to the fore when the threshold has been successfully crossed.

Even though the implementation plans of the paper company group were shelved due to lay-offs and outsourcing, the benefits of having successfully completed a threshold crossing via full engagement of the collective will were evident. Participants approached outsourcing creatively and committed to training sessions on change, loss, and career transition. They agreed to a conscious ending process in which they used expressive techniques to experience the metaphors of being on a merry-go-round and riding a rollercoaster, which some members had used to describe their redesign experience. In the end they learned even more about loss, letting go and completion, and about what they could harvest and apply elsewhere of their social learnings, of redesign itself, and of their hopefulness. Perhaps there is no better measure of the kind of will engagement required for threshold breakthrough than the organizational capacity to experience a death and also carry hope forward, as members of the

North American Paper design community demonstrated they would and could do.

Implications and Applications of WSD for Practitioners

The challenge of the threshold poses opportunities and obstacles for consultants as well as for the client. One of the benefits of this research is the opportunity to examine how the disciplines of OD, BPR, and IT can achieve a synergy that increases the odds that clients will experience threshold breakthrough rather than breakdown. This synergy may require new roles for consultants, new relationships with each other and with the client, and perhaps a new perspective on the success of consultation.

Together, the three disciplines (OD, BPR, IT) draw upon an enormous pool of expertise that is needed in different proportions, like a chemical reaction, over the six stages of WSD. We are most concerned with preparation for and crossing of the threshold, Stages III and IV, regarding what the three disciplines bring to the engagement and how they work together to support facing the threshold challenge.

OD, IT, and BPR bring complementary knowledge required for effective WSD as follows. The OD practitioner brings experiential methods enabling lay persons to deal with interpersonal and small-group dynamics and a theory and methodology for understanding and facilitating human transitions. These are critical for enabling small-group design work in the large-group technical and social system design conferences and for working through resistance to change and what we call relapse in the social system design. From IT comes the expanded imagination in technical design showing how broadly and quickly information can foster

collaboration and customer responsiveness. The impact of IT on the scope and power of individual work is multiplicative, and therefore it can have enormous influence on workflow, job design, and organizational structure. Finally, BPR's greatest contributions are in challenging assumptions about work process and flow to discover high-leverage innovations that cross organizational boundaries and capitalize both on IT capabilities and on the advantages of an informed and empowered workforce.

We claim that these three elements all are required in Stage III to develop that hard-to-describe right level of technical design detail that will both focus resistance and anxiety for moving forward and also provide a tangible enough picture of the future technical design to engender high commitment. Additionally, we find that the technical designs have the greatest chance of achieving rapid, substantive, and sustainable performance improvement when they are created within the context of a socio-technical approach. That means approaching the redesign effort with tools and methods that enable those that do the work to address the whole system. It means an open systems perspective, and recognition of the need to respond to multiple stakeholders. Finally, it means the separate design, but inter-dependence, of technical and social systems including joint optimization of both.

One example of how this synergy works among the three disciplines to achieve separate but complementary goals occurs in the vision and innovation conference at the beginning of Stage III, even before the technical system design conference. By focusing more on desired futures and actual tasks than on current conflicts or group dynamics, large-group conferences enable common ground to be reached more effectively,

while also enhancing relationships, developing trust, and building skills. This is a new way for OD to achieve its traditional objectives of problem-solving, teambuilding, or conflict resolution in small groups. This also is a way to do IT system envisioning, domain analysis, or engineering requirements definition. Thirdly, WSD also satisfies the BPR goal of substantive process change by discovering a few innovations (through radical rethinking) that will change the work paradigm significantly and also identifying short-term improvements (low hanging fruit). Thus, all three disciplines can meet their requirements for change via the large-group conference and, together, build the foundation for addressing threshold dynamics.

As threshold dynamics increase, as described in the two field studies of the transition from technical to social system designs, alliances among consultants also experience a challenge as well. The partnerships formed in obtaining and/or beginning the work in the early stages of WSD will be tested under the pressures of technical design and as the social system concerns begin to rise. Under these pressures, the different needs, agendas, and issues among OD, BPR, and IT practitioners become most apparent and may upset their synergy and unity. Ironically, this may compromise the consultants' ability to most serve the client, when the client most relies on them.

For OD, the key pressures concern personal commitment, skill adequacy, and momentum. Empowerment becomes more clearly an issue of self-empowerment than ever before. Identifying and managing resistance also is key. Finally OD consultants need to step up and become the emotional architects of WSD, staying focused on willing, commitment, and energy. They

must achieve this without sacrificing the goals and responsibilities of their consulting partners.

For IT, the threshold puts more pressure on computer system capability because business process needs are beginning to become real. Large-group conferences, in order to maximize creativity, synergy, and mobilization of energy during the conference, sometimes sacrifice the kind of detailed blueprints IT often requires. This can make IT people feel extremely vulnerable.

For BPR, questions of technical design completeness can get tense at the end of Stage III. The definition of enough technical design for crossing the threshold rarely meets BPR experts' expectations of a complete technical design. Keeping scope manageable but not rigid is also an increasingly difficult challenge before the threshold. The BPR person's key concerns at this point are: (1) Is the technical design innovative enough? and (2) Will it meet the stated performance goals?

To ensure that consultant partnerships do not become victims of threshold breakdown, some new roles may be required. Consultants must change what they emphasize, how they play their roles, and how they work with each other.

OD consultants need to focus more on the willing level of change. They also need to integrate people, business, and technology in their guiding framework. To the degree that OD consultants champion values and goals, they need to articulate why these make sense in terms of specific business and process needs. OD consultants will need to understand IT capabilities, BPR tools, and some of the terminology associated with both. They will need to become expert in addressing group dynamics and human commitment issues in BPR activities

and in managing resistances specific to IT. OD people will also need to demonstrate, in their daily practice, the power of technology for enabling positive change in the quality of interaction between people. They will need to specialize less, and likely will become the strategic architects of engagements into which the IT and BPR activities fit (rather than the other way around). Finally, OD people will lead IT and BPR people in being conscious about the consulting role and its effect on clients, being extra thoughtful about the facilitative versus the expert stance.

The new roles require that IT professionals shift their attention from data and systems to relationships among users, developers, and brokers; permit locally sensitive content within a range of best practices; enable positive change in the quality of interaction among people; and informate (expand what humans can do with information) to help people address complexity (Zuboff, 1988). IT people will need to think of technology as empowering and enabling change, rather than as driving it. IT professionals also will need to: (1) be able to handle projection and transference of emotions to technology, (2) recognize when people issues are in the way, and (3) become skillful at using tools like the change curve to know when to support or confront people experiencing loss and fear due to change (Kubler-Ross, 1969; Bridges, 1980).

In BPR experts' new roles, they will need to redesign human interactions as well as activity and material flows, reconceptualize processes and relationships among internal and external customers, and balance the goal of getting the right answer with the practical limitations of what can be implemented. Moreover, they will need to operate within the context of a change engagement. That means soliciting knowledge from key contributors and anticipating resistance throughout.

Additionally, BPR people may be in a better position to link with both OD people and IT people than they are to link with each other. Thus, BPR people may play an important role in building the integrated consulting team.

To help the client navigate the challenge of the threshold, consultants will need to put their team first, before their individual discipline-based needs. This perhaps will turn out to be the most difficult part of the work. Despite the increasing incentives for synergy among OD, IT, and BPR and the increasing numbers of consultants who are more broadly trained, the cultures of OD, IT, and BPR remain different enough to make partnering difficult in general and doubly difficult under the additional pressures of the threshold. Much contracting and negotiating will have to occur to get these disciplines to the same table, not to mention developing proposals that land a WSD client contract in the first place.

There are many questions here for OD, IT and BPR consultants: Who leads; Who closes the deal; What comes first? etc. These, we claim, will be the easy part! The more difficult challenge will be staying together in response to the bumps along the road. Consultants will have to coach each other to try out new behaviors with clients before they feel totally ready to do so. They will have to become masters at what Chris Argyris (1991) calls second order learning. This means not just adding new knowledge or practice, but making reflective discoveries about knowledge and practice. The ability to let go of familiar answers and to suspend assumptions (both as individual consultants and as a consulting team) plays a central role in being fully available to a client in the throes of the threshold.

OD, IT and BPR practitioners come to the situation with tools, knowledge, and

interpersonal skills, but they will also have to be great learners. In fact, the consulting team itself will need to model a learning community in order to deliver community-to-community consulting (Levine and Nabozny, 1994). No longer can major change be the province of one or two technical areas, or even a few such areas operating in parallel. Rather, a sense of common goals and assumptions, and a shared passion for learning and risk-taking will provide a synergy and unity that intervenes in, and models new possibilities for, the client system as a whole.

Future Research and Practice

We identified two critical success factors for organizational change: redesign of both social and technical systems, and simultaneous change at the individual level. We outlined WSD as an integrated six-stage alternative which stresses the shift from technical to social concerns and engagement of organizational will. Two extended field studies illustrated the phenomenon of approaching and crossing the threshold. The implications of WSD for practitioner role changes were considered, particularly around the threshold, in anticipating and responding to threshold breakdown.

While this research has made a contribution to achieving rapid, sustainable change and the roles required of OD, IT and BPR professionals, a number of questions it raises would benefit from further study. Profitable avenues for future research include but are not limited to the following: (1) A test of the assertion that an organization cannot get to Stage V (the transition phase) unless the organization's will has been fully engaged in Stage IV (during the threshold), (2) a test of the assertion that leaders and facilitators can, through their actions, increase the likelihood that this will occur, (3) a test of the assertion

that critical actions of leaders and facilitators include building synergy amongst the disciplines of OD, IT, and BPR, and (4) creation of a behavioral assessment tool for evaluating synergy-in-action vs espoused synergy among the consultants; i.e., what does synergy-in-action look like, and how will we know it when we see it?

In the area of practice, more dialogue is needed between managers and consultants and among OD, IT, and BPR consultants about: (1) the obstacles to making required changes in the roles of managers and consultants before, during and after the threshold, (2) improving ways of communicating about the threshold and also guiding WSD efforts based upon an appreciation of threshold dynamics, and (3) knowing when and how OD, IT, and BPR practitioners should be skilled technicians who can do parallel work separately, authoritative experts who dispense critical advice, and educative facilitators who use expressive, appreciative, and radically nondirective methods to guide and interpret organizational willing.

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Notes

ⁱ We have observed this in our own work with small (10-15 person) design teams during the 1970's and early 1980's at Exxon, Coca Cola, R.R. Donnelley, Hannaford, Domtar and other companies. We have often seen members of small design teams acquire major new skills in analysis, synthesis and solution generation, not through extensive formal training in these areas, but simply through the process of co-creatively redesigning their work.

We also have consistently observed team members evolve radically new behaviors for working collaboratively in teams and also make major attitudinal shifts from the view that: "It's their company so who cares?" to "It's our company too, and we have responsibilities here!" Bunker and Alban (1997) describe a similar shift in individual world views -- From me to We -- as participants in large group meetings go through the process of co-creating the organization of the future.

Clues to how and why this happens may come from the emerging practice of appreciative inquiry (Cooperrider and Srivastva, 1987) and the underlying precepts of social constructionism (Gergen, 1990). Both of these approaches hold that: (1) Our conceptions of ourselves, each other, and reality are derived not from the nature of the world or the nature of who we are, but rather from our conversations; (2) conversations create our internal images of reality that in turn guide our external actions; and (3) we create the very reality that we discussed with each other in such conversations.

ⁱⁱ We define design community as the set of people/stakeholders who are brought together in groups of 50 to 1000 for the purpose of collectively creating the future organization. This is in contrast to a design team, that usually includes 5 to 15 people, as was the more common practice in the 1970's and 1980's.

ⁱⁱⁱ It should be noted that one well-known approach reverses this order. According to Merrillyn Emery (personal communication, May 1997), a new social system must first come into being in order to obtain high-quality technical innovations. We find this reasoning appealing, but fear that this approach may be too slow. We wonder if it overlooks the temporary community building made possible by approaching the technical system from a high-participation, cross-functional, BPR approach. We look forward to future research that could describe when the Emery approach is most advisable and when WSD is most advisable.

^{iv} The primary difference between small-group models and large-group models concern modes of intervention. In small groups, adjustments can be made via process consultation, process observation, and the exercise of human relations skills. In large-group conferences, such direct intervention often is inadequate and greater anticipation of such mid-point phenomena is required. We chose the term threshold with its associated connotations to begin approaching this mid-point challenge in WSD in a different enough way to permit interventions that are more expressive, appreciative, and energetic in nature.

^v These quotes and ideas come from Pradhan (1977). Our choice of terms and sources clearly indicates a dimension of the force for change which is difficult to describe. However, our experience in applying this way of thinking about change and with the efficacy of this type of focus for predicting success and guiding consulting interventions encourages us to believe that this type of force or energy (by whatever name) is at work in the experience of participants too.

^{vi} According to Rudolph Steiner, turn-of-the-century Austrian philosopher (McDermott, 1984), human beings and organizations have a threefold nature: thinking, feeling, and willing. Therefore, according to Steiner and others (Lievegoed, 1973; Schaefer, 1996), efforts to change both people and organizations must consider all three of these elements.

^{vii} It is not enough to engage the head (thinking) to obtain agreement for change. It is not enough to engage the heart (feeling) so that people are in attunement with each other about change. In WSD this "alignment" in the organization's willing life is more important for collective commitment than either agreement (thinking) or attunement (feeling).

^{viii} It is through repeated observation that the organization chart seems to hold sway over mission, technical design, and even customer pressure regarding the site of power and what priorities are truly essential. This almost "automatic" association between hierarchy and power is a significant obstacle to redesigning work. It was discussed directly with participants during the episode (recounted below) of the North American Paper Company relapse on organizational structure.