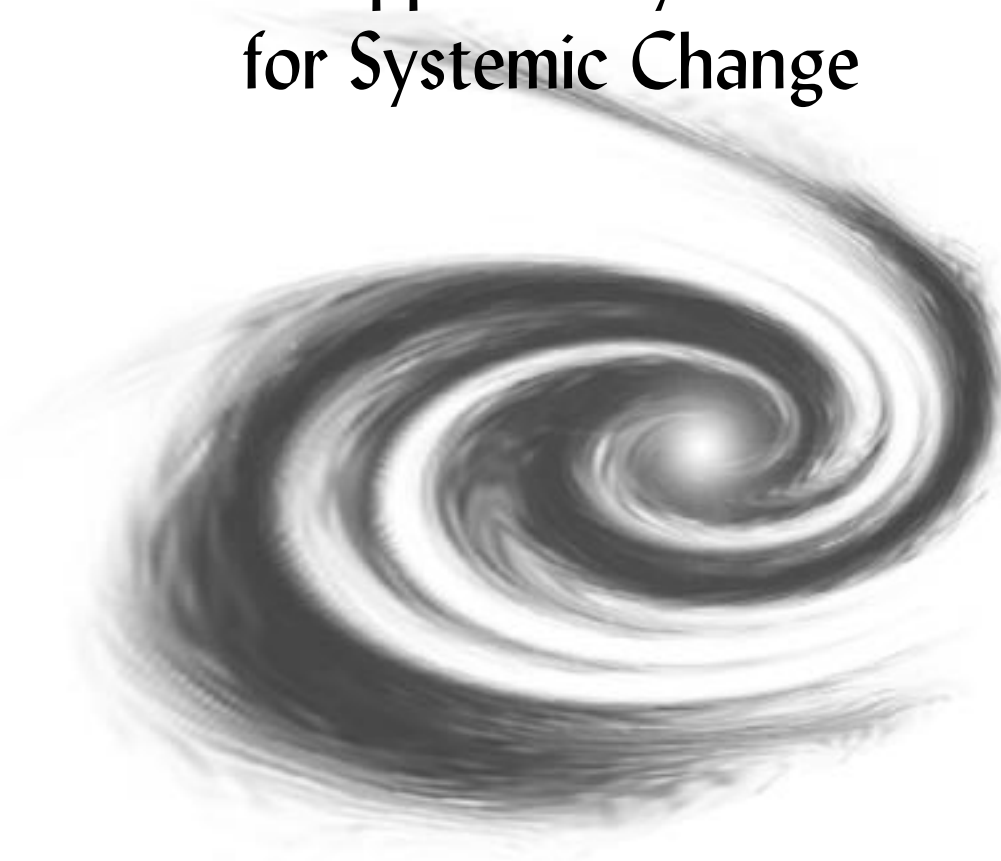


An Invitation to Systems Thinking:

An Opportunity to Act for Systemic Change



A Publication of the Leadership Conference of Women Religious

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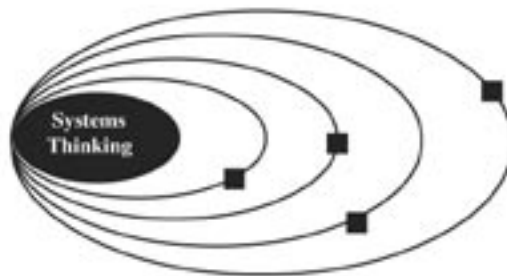
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An Invitation...

"Social thinking and social practice inspired by the Gospel must always be marked by a special sensitivity towards those who are most in distress, those who are extremely poor, those suffering from all the physical, mental and moral ills that afflict humanity, including hunger, neglect, unemployment and despair. . . . you will also want to seek out the structural reasons which foster or cause the different forms of poverty in the world . . . so that you can apply the proper remedies." -- John Paul II

Published in the early 1980s, an LCWR resource entitled, *Making Social Analysis Useful*, opened with these words of John Paul II. The LCWR Task Force that created this tool hoped it would help members establish a habit of thought, both personal and corporate, that would create an attitude of social analysis suitable for all decision-making. In 1976, LCWR goals emphasized the importance of "social analysis." More than twenty years later in 1999, LCWR goals recognized the need for "systemic change" and for "learning skills and processes of systems thinking:"

" . . . Recognizing both the overwhelming complexities of our times and the interconnectedness of all creation . . . we commit ourselves . . . to work for a just world order by

- deepening our understanding of how we can effect systemic change;
- learning skills and processes of systems thinking." (LCWR Goals)

Related to this LCWR Goal, an "open space" process at an LCWR Annual Conference in 1997 led to the development of an initial "Systemic Change Think Tank." Over the years, this annual opportunity has involved many LCWR members plus congregation justice and peace staff in direct application of systems thinking skills.

In this spirit, the LCWR Global Concerns Committee has developed a new resource, *An Invitation to Systems Thinking: An Opportunity to Act for Systemic Change*. This tool reflects the developments in our understanding of critical thinking and the complex nature of our reality. The material is divided into two main parts: first, a general overview of the nature of systems thinking; second, a practical application of systems thinking to two sample cases. The resource also includes a worksheet to facilitate practice with this approach, as well as bibliographic material.

Gertrude Foley SC reminds us: "A 'system' is an entity that maintains its existence and functions as a whole through the interaction of its parts. The behavior of a system depends on the total structure. The interrelationship among the parts of a system, therefore, must be continually sustained for the system to exist. Systems are purposeful, open, counterintuitive, multidimensional, and have emergent properties not found in any of the parts by themselves. . . . systems thinking will prevent us from unconsciously employing the same mental models that are causing the problems we want to solve. As Albert Einstein once said, 'No problem can be solved from the same consciousness that created it. We must learn to see the world anew.'"

As we undertake the challenge of seeing our world anew and developing new skills for "social thinking and social practice inspired by the Gospel," the threefold advice of Nancy Schreck OSF is helpful:

First, we need to find time to reflect on the "big questions." We need to plan for time in our lives together to meditate, to breathe, and shake the busyness from our souls; and also we must make the opportunity to engage in life in a way that precludes the possibility of controlling the questions, or having advance notice of the issues. Consistently (or at least frequently) we need to locate ourselves at the edges of life where pain and injustice place themselves so squarely in front of our faces and so deeply in our hearts that we are compelled into reflection and sometimes action.

Second, we must engage others and ourselves in remembering and telling our deep stories. The power of these stories and their telling ground us in our charism and tradition and move our hearts to balance the common good with our individual rights and needs. It is a challenge to explore our charism with its nuances and wisdom for today, because the busyness and the routine of our lives can overwhelm us and steal the stories from our hearts.

Third, we need to see things as they really are and mobilize appropriate responses, which create hope. It is our responsibility to help ourselves hear good news in the midst of suffering, and to come to hope not born of ease but given from the heart of God. It is important that we guide ourselves into the suffering places in the world, to touch the wounds created by the experiences of oppression, and there to be led to faith and action.

*LCWR Global Concerns Committee
Summer 2004*



"...you will also want to seek out the structural reasons which foster or cause the different forms of poverty in the world . . . so that you can apply the proper remedies." -- John Paul II

II. The Need to Reflect on the “Big Questions”: Overview of Systems Thinking

Systems Thinking: Essential Skill for Systemic Change

Gertrude Foley, SC

Thirty-five years ago, Sacred Scripture, the spirit of the founder, and the signs of the times stirred the winds of change that ruffled the prim and ordered lifestyle of women religious.

Through the newly ground lens of the Scriptures we saw with sharper vision the signs of the times that called us to address injustice, violence, and all forms of human struggle in our world. A fresh discovery of our founders and what they were about in their times energized the courage we needed to move out to meet new challenges in our own times. Today, across the United States and throughout the world, we can point with honest pride to the responses made with this new energy and courage. At the same time, our experience of three and a half decades has perhaps humbled the enthusiasms roused in the '60s and '70s, as the complex dimensions of the issues confronting us seem to expand by the day. Each day's mail brings yet another plea enlisting our attention to a need, an issue, a cause somewhere in the world. We might still be committed and yet feel fatigued by the constant process of social change.

Psychologists teach us that our feelings are caused by the way we think, even when we are not aware of thinking at all. It could be, then, that some of our fatigue with change is traceable to how we think about what it is we are trying to accomplish. Getting some distance on our thought processes takes time. But with so much change and so many requests for engagement pressing us to exhaustion, who has time to think at all, let alone about how she is thinking?

How we think, of course, is not simply a private matter. Our personal thought processes are conditioned by the larger frameworks of meaning that create what we call culture. One way of understanding culture is to see it as the result of shared assumptions, beliefs, and values. We can speak of

an organization's culture, a community's culture, a family's culture. On an ordinary day, we do not pay much attention to the way these largely unconscious assumptions, beliefs, and values condition our thought processes, shape our decisions, and focus our behavior. Encompassing and actually shaping all of these subcultures, however, are those assumptions, beliefs, and values that constitute the larger worldview of the society in which these subcultures exist. We don't usually bother about this larger worldview either. Any culture, large or small, only becomes a problem when its hidden assumptions, beliefs, and values no longer suffice to make sense for us of our experience.

Chris Bright, writing in a recent issue of *The Futurist*, offers some insight about this lag between our way of thinking and our experience. “Discontinuities and synergisms,” he notes, “frequently catch us by surprise. They tend to subvert our sense of the world because we so often assume that a trend can be understood in isolation. It is tempting, for example, to believe that a smooth line on a graph can be used to see into the future: All you have to do is extend the line. But the future of a trend -- any trend -- depends on the behavior of the

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entire system in which it is embedded. When we isolate a phenomenon in order to study it, we may actually be preventing ourselves from knowing the most important things about it.”¹ For many years now, the members of LCWR have committed themselves to something called “systemic

change.” With this intention, we focus our energies on a variety of causes and projects. The desire to effect systemic change, however, does not automatically bring it about. Expending energy on these efforts in an isolated way leads to exhaustion and frustration because we remain unaware of how the issues are interrelated. We fail to discern the systems in which the issues or problems are embedded.

To become aware of systems, to do “systems thinking,” we need first to become aware of the unconscious thought processes that condition us to view things in isolation from each other. The limits of a short article do not allow for an adequate overview of the development of Western thought. We can safely say, however, that for almost a thousand years, Western thought has interpreted reality from the perspective of a worldview characterized by dualism and hierarchy. The fascination with this worldview for human beings was not the result of malice or stupidity. The Platonic worldview that had previously held sway in philosophy gradually gave way to the thought of Aristotle, which seemed more useful for making sense of new experience. This new thinking offered a way to make useful distinctions between material and spiritual realities. A certain hierarchy or order of importance revealed itself in the physical world and opened yet another door to comprehending the universe. Thus, learning to think in linear, dualistic and hierarchical ways made it possible to discern, define, and classify the abundant and various elements in creation. These insights, once articulated and disseminated, helped people sort out and organize the various aspects of their lives and gave them a new sense of order and control. Modern science found its origins in this way of thinking.

One unintended negative consequence of the success of this way of thinking was that material and spiritual realities came to be seen as totally separate, even adversarial to each other. The long-term

result was an obsession with analysis, categorizing, and definition to the point that whatever was not subject to these processes was considered unimportant or unreal. This is the thinking that gradually separated the various fields of scientific study from each other.

With its precision, Western thinking also succeeded in separating science from religion, science from ethics, and theology from spirituality. Philosophy, theology, and scientific, political, and social theory continued to develop and reinforce the rightness of this way of interpreting life’s meaning. Theologians, for example, tried to deal with the dismissal of theological knowledge as less provable and therefore less important than scientific knowledge by attempting to design theological study along the lines of scientific “proofs.” Little by little, dualistic and hierarchical distinctions grew from being descriptive of the physical world to being definitive not only of the physical world but of social relationships as well.

The ultimate result was a learned inability to think in any other than linear, dualistic, and hierarchical ways when dealing with problems, organizing ideas or work, and in structuring society, church, or our religious congregations.

This way of seeing reality thus became an unconscious filter for the Western mind, a filter that made it easy to judge immediately what fit or did not fit a particular situation, to distinguish and define what was good, true, and right from what was bad, false, and wrong. The world was stable and sure, a machine-like structure of predetermined and fixed relationships. The human mind could comprehend the universe in its entirety. People accepted this explanation of the order they could see in the physical universe and in the natural structures of family and community. They designed other organizations on the basis of this same “rightful order.”

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Furthermore, people of faith saw in this “rightful order” the will of God. In this world, the sacred and the secular, the church and the state, science and religion, lived consciously at odds with each other. But it was this worldview unconsciously held in common which gave both the sacred and the secular spheres the rationale for their respective interpretations of life, and at the same time fostered their mutual sense of hostility.

In these early days of the twenty-first century, we are painfully aware that the dualistic and hierarchical framework of thinking is no longer adequate for interpreting our experience. The excessive reliance on analysis, sorting, and ordering along dualistic and hierarchical lines has long ago reached the point of diminishing returns. In 1969, Ludwig von Bertalanffy noted that “modern science is characterized by its ever-increasing specialization, necessitated by the enormous amount of data, the complexity of techniques and of theoretical structures within every field. Thus, science is split into innumerable disciplines continually generating new subdisciplines. In consequence, the physicist, the biologist, the psychologist, and the social scientist are, so to speak, encapsulated in their private universes, and it is difficult to get word from one cocoon to another.” Yet, “independently of each other, similar problems and conceptions have evolved in widely different fields.”² Today, no field of human learning can ignore the interrelationships that exist between and among issues and problems once seen as entirely isolated from each other.

What seems clear is that human consciousness itself continues to evolve and to “push the envelope” of previous categories and definitions. We see also that the speed of that evolution often outstrips our abilities to make appropriate adjustments in our political, social, ecclesial, and even our personal realities. Examples of this lag between consciousness and feasible solutions abound. The nuclear bomb, for instance, was a product of the new physics. The bomb, however, was deployed by political leaders who still saw the world in terms of domination, superior power, and absolute control — values flowing from the previous worldview, the one gradually being recognized by physicists as inadequate. The bomb gave new meaning to the destructiveness of war-

fare. And the world still suffers from the human and ecological impact of its deployment. As Bright reminds us, “Nature has no reset button.”

Another example comes from our own experience with the teachings of the Second Vatican Council. *Lumen Gentium* consciously grounded ecclesiology in the holistic image of the “People of God,” rather than in the “top down” definitions of the past. Thirty-five years later, however, we continue to struggle with how to effectively incorporate

The excessive reliance on analysis, sorting, and ordering along dualistic and hierarchical lines has long ago reached the point of diminishing returns.

the laity in structures still unconsciously defined by dualism and hierarchy. The “move toward the world” made by most apostolic religious congregations in response to Vatican II’s call to renewal still invites severe criticism from those who persist in holding the realms of spirit and matter as essentially separate.

Social theory prior to Vatican II was based on the dualistic and hierarchical world view and justified both the one up/one down relationship between the rich and poor and the superior/ inferior classifications of races and peoples. In *Pacem in Terris* (1963), John XXIII gave individual human rights an emphasis that was new in Catholic teaching. At the same time, he struggled to find a different framework for talking about the individual vis-à-vis the larger society. “On the one hand he implicitly acknowledges the tradition which states that individuals by reason of their place in society have certain duties to society; on the other hand he validates the modern claim that individuals by virtue of their personhood have legitimate moral claims over and against a society. . . it is not clear how one can reconcile the philosophy of both rights and duties within the encyclical.”³ Consciously, Pope John wanted to address new experiences in a new way. Unconsciously, he wrestled with the limitations of a centuries-old mental model.

A third example of this lag between consciousness and feasible solutions comes from the popular-

ity of the new science. The image of the universe as a living organism fascinates and intrigues us. This vital image has added new words like interdependence, mutuality holism, sustainability and globalization to our ordinary language.

These concepts can seem awesome, suitably addressed only by poetry and contemplation. How does one make these concepts operational? This image of the universe has at the same time, however, made us familiar with concepts like transnational corporations, the International Monetary Fund, and global warming. These concepts, too, seem awesome, but appear to have little to do with poetry and contemplation. How does one begin to deal effectively with them?

To address any of these issues, it is not sufficient to replace hierarchical order with simple circles. It is not satisfactory to create unity by simply denying distinctions and differences. These sorts of attempts, well intentioned though they may be, belie their proponents' own reliance on an

Systems thinking offers us tools for interpreting our experience by focusing on the relationships between elements rather than on the content of the elements themselves.

inadequate worldview that needs to be reconfigured. To be able to do more than simply stand and stare in awe and amazement or in confusion and powerlessness, we need to employ different mental models for interpreting what we see. To see the connection among all of these new images and concepts, we need to learn how to think about systems.

A "system" is an entity that maintains its existence and functions as a whole through the interaction of its parts. The behavior of a system depends on the total structure. The interrelationship among the parts of a system, therefore, must be continually sustained for the system to exist. Systems are purposeful, open, counterintuitive, multidimensional, and have emergent properties not found in any of the parts by themselves. "Systems thinking looks at the whole and the parts, and the connections between the parts, studying the whole in

order to understand the parts. ... A collection of parts that do not connect is not a system. It is a heap."⁴

We may think that a system is always an institution of some kind -- government, the church, a corporation. All institutions are systems, but not all systems are institutions. A detrimental situation that seems to defy all efforts to change it is a system. A problem that is solved but keeps returning is a system. To make progress with changing such situations or effectively resolving such problems requires systems thinking before taking action. To be effective, the action taken must alter the interrelationship of the parts. Unless one alters the relationship between or among the parts, there is little hope for effective change. This is why it is necessary not only to feed the hungry or house the homeless but also to address the systemic relationships that result in social ills like poverty, homelessness, and hunger.

Systems thinking offers us tools for interpreting our experience by focusing on the relationships between elements rather than on the content of the elements themselves. Bertalanffy writes, "We can ask for principles applying to systems in general, irrespective of whether they are physical, biological, or sociological in nature. If we pose this question and conveniently define the concept of system, we find that models, principles, and laws exist which apply to generalized systems irrespective of their particular kind, elements, and the 'forces' involved."⁵

Systems thinking can thus supply us with more effective ways to name, claim, and explain the need for new ways of acting. Using it, we will expend much less of our energy swinging with the pendulum of reactionary change. With it, we will see more readily how to restore missing parts (for example, how to restore contemplation to its right relationship with action) without fearing to appear regressive or reactive.

Thinking about how the system functions, how the parts are set up to bring about a particular situation or condition offers us more options for our action and eliminates the search for someone to blame. Our efforts at change can be more productive and less draining if we can discover

where there are points of leverage for change in a system.

Using the principles of systems thinking will offer us new ways of seeing and of interpreting what we see. We will be better able to distinguish authentic change from cosmetic adjustments. Systems thinking will help to break a rigid habit of "either/or" thinking, so often the cause of de-energizing polarization. At the same time, thinking systemically will free us to make real distinctions and to honor genuine difference and diversity. It allows us to think about 'wholes' without turning them into formless globs. This way of thinking not only alerts us to the complexity of relationships that constitute reality but also makes this complexity somewhat more intelligible. Most important, systems thinking will prevent us from unconsciously employing the same mental models that are causing the problems we want to solve. As Albert Einstein once said, "No problem can be solved from the same consciousness that created it. We must learn to see the world anew." Systems thinking, nevertheless, is not a magical or easy solution to the challenges that confront us in the new millennium. It is a way to create effective solutions.

Getting a general idea about systems or systems thinking is not difficult. To actually do systems thinking, however, requires study and practice. Persons who are serious about effecting change in a relationship, a community, or a society need to learn both the theory and skills of systems thinking. The effort it takes to learn will be rewarded by fresh insights into the work of renewing the earth, a work to which the Spirit invites us. Systems thinking can take us beyond merely affirming right relationships in society, church, and world. It can enable us to create them.

Notes

1. Chris Bright, "Environmental Surprises: Planning for the Unexpected," *The Futurist* 34:4 (July-August 2000): 41-47.
2. Ludwig von Bertalanffy, *General System Theory: Foundations, Development, Applications*. Revised Edition (New York: George Braziller, 1969) 30.

3. David J. O'Brien and Thomas A. Shannon, editors, *Renewing the Earth: Catholic Documents on Peace, Justice and Liberation* (New York: Image Books, 1977)119.

4. See Joseph O'Connor and Ian McDermott, *The Art of Systems Thinking: Essential Skills For Creativity and Problem Solving* (Hammersmith, London: Thorsons, 1997). O'Connor and McDermott offer a practical introduction to systems thinking.

5. Von Bertalanffy, 33.

Gertrude Foley is past president of the Sisters of Charity of Greensburg, PA. She has served as a board member of LCWR and chair of Region 4. She has written and given many presentations on systems thinking.

Gertrude Foley's article published in LCWR *Occasional Papers*, Vol. 29, Number 3. Fall 2000



Systems thinking can take us beyond merely affirming right relationships in society, church, and world. It can enable us to create them.

Excerpts from Systems Thinking Literature

Systems Thinking and Mental Models: What Are They

Systems

In organizations, as in people, identity has many dimensions. Each illuminates some aspect of who the organization is. Identity includes such dimensions as history, values, actions, core beliefs, competencies, principles, purpose, mission. None of these alone tells us who the organization is. Some are statements about who it would like to be. Some are revealing of who it really is. But together they tell the story of a self and its sojourn in a world it has created.”
-- *A Simpler Way*, p. 58

“At its broadest level, systems thinking encompasses a large and fairly amorphous body of methods, tools, and principles, all oriented to looking at the interrelatedness of forces, and seeing them as part of a common process. The field includes cybernetics and chaos theory, gestalt therapy; the work of Gregory Bateson, Russell Ackoff, Eric Tristy, Ludwig von Bertalanffy, and the Santa Fe Institute; and the dozen or so practical techniques for “process mapping” flows of activity at work. All of these diverse approaches have one guiding idea in common: “that behavior of all systems follows certain common principles, the nature of which are being discovered and articulated.” -- *The Fifth Discipline Fieldbook*, p. 89

A system is composed of parts, but we cannot understand a system by looking only at its parts. We need to work with the whole of a system, even as we work with individual parts or isolated problems. From a systems consciousness, we understand that no problem or behavior can be understood in isolation. We must account for dynamics operating in the whole system that are displaying themselves in these individual moments. -- *Leadership and the New Science*, 2nd edition, pp. 139-140.

“A system is a perceived whole whose elements ‘hang together’ because they continually affect each other over time and operate toward a common purpose. The word descends from the Greek verb *sunistanai*, which originally meant ‘to cause

to stand together.’ As this origin suggests, the structure of a system includes the quality of perception with which you, the observer, cause it to stand together. “Examples of systems include bio-

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logical organisms (including human bodies), the atmosphere, diseases, ecological niches, factories, chemical reactions, political entities, communities, industries, families, teams – and all organizations. You and your work are probably elements of dozens of different systems.” -- *The Fifth Discipline Fieldbook*, p. 90

Mostly we don’t take time to notice the dynamics that are moving in the whole system creating effects everywhere. As good engineers, we’ve been trained to identify the problem part and replace it. But a systems sensibility quickly explains why this repair approach most often fails. Individual behaviors co-evolve as individuals interact with system dynamics. If we want to change individual or local behaviors, we have to tune into these system-wide influences. We have to use what is going on in the whole system to understand individual behavior, and we have to inquire into individual behavior to learn about the whole. -- *Leadership and the New Science*, p. 142.

“Modern science and the Industrial Growth Society grew up together. With the help of Rene Descartes and Francis Bacon, classical science veered away from a holistic, organic view of the world to an analytical and mechanical one. The machines we made, to extend our senses and capabilities, became our model for the universe. Separating mechanism from operator, object from observer, this view of reality assumed that everything could be described objectively and controlled externally. It has permitted extraordinary technological gains

and fueled the engines of industrial progress. But, as twentieth century biologists realized with increasing frustration, it cannot explain the self-renewing processes of life.”

“Instead of looking for basic building blocks, these life scientists took a new tack: they began to look at wholes instead of parts, at processes instead of substances. They discovered that these wholes – be they cells, bodies, ecosystems, or even the planet itself – are not just a heap of disjunct parts, but are dynamically organized and intricately balanced ‘systems’, interdependent in every movement, every function, every exchange of energy and information. They saw that each element is part of a vaster pattern, a pattern that connects and evolves by discernible principles. The discernment of these principles gave rise to general living systems theory.” -- *Coming Back to Life*, p. 40

Mental Models

“Mental models are deeply held internal images of how the world works, images that limit us to familiar ways of thinking and acting. Very often, we are not consciously aware of our mental models or the effects they have on our behavior.”

Organizations have many mental models. In non-profits, mental models are likely to be built

Individual behaviors co-evolve as individuals interact with system dynamics.

If we want to change individual or local behaviors, we have to tune into these system-wide influences.

around the people served (“we serve the poorest of the poor”), around the role of the organization (“we are the agency of last resort” or “if we don’t provide a service, no one else will”), and around the nature of the activities performed by the organization (“we are advocates for change”).

Just beyond any organization’s boundary lies a treasure trove of information— about needs and opportunities, about what others are doing, about what really produces change in people’s lives. Mental models are a filter that this information must pass through, as shown below.

Mental models are subtle but powerful. Subtle, because we usually are unaware of their effect. Powerful, because they determine what we pay attention to, and therefore what we do.

Mental models are strongly conservative: left unchallenged, they will cause us to see what we have always seen: the same needs, the same opportunities, the same results. And because we see what our mental models permit us to see, we do what our mental models permit us to do.

-- *The Fifth Discipline: The Art and Practice of the Learning Organization*, p. 8

Systems Thinking: How Systems Work

“We can never direct a living system. We can only disturb it. As external agents we provide only small impulses of information. We can nudge, titillate, or provoke one another into some new ways of seeing. But we can never give anyone an instruction and expect him or her to follow it precisely. We can never assume that anyone else sees the world as we do.” -- *A Simpler Way*, p. 49

This kind of work must involve the whole group. The whole must go in pursuit of itself; there is no other way to learn who they are. But as people engage together to learn more about their collective identity, it affects them as individuals in a surprising way. They are able to see how their personal patterns and behaviors contribute to the whole. The surprise is that they then take responsibility for changing themselves. -- *Leadership and the New Science*, p. 144

“More often than not, as a systems effort makes underlying structures clearer, members of the group may have moments of despair. Jan Forrester has called systems dynamics the ‘new dismal science,’ because it points out the vulnerabilities, limited understandings, and fallibilities of the past, and the assurance that today’s thinking will be the source of tomorrow’s problems. But actually, things are finally getting better. People see formerly ‘undiscussable’ problems rising to the surface. They realize how their old, beloved ways of thinking have produced their current problems. Their new awareness reinforces their sense of hope about leading an effective change.” -- *The Fifth Discipline Fieldbook*, pp. 93-94

If a system is in trouble, it can be restored to health by connecting it to more of itself. To make a system stronger, we need to create stronger relationships. This principle has taught me that I can have faith in the system. The system is capable of solving its own problems. The solutions the system needs are usually already present in it. If a system is suffering, this indicates that it lacks sufficient access to itself. It might be lacking information, it might have lost clarity about who it is, it might have troubled relationships, it might be ignoring those who have valuable insights. -- *Leadership and the New Science*, p. 145

Systems Thinking: Why Do It?

"We suffer from Spatial Blindness.

- We see our part of the system but not the whole;
- We see what is happening with us but not what is happening elsewhere;
- We don't see what others' worlds are like, the issues they are dealing with, the stresses they are experiencing;
- We don't see how our world impacts theirs and how theirs impacts ours;
- We don't see how all the parts influence one another." -- *Seeing Systems*, p. xii

From witnessing how networks can communicate around the world with information they deem essential, I've come to believe that "preaching to the choir" is exactly the right thing to do. If I can help those who already share certain beliefs and dreams, sing their song a little clearer, a little more confidently, I know they will take that song back to their networks. I don't have to touch everybody; I just have to support those first courageous voices and encourage them to put it out on their own airwaves. Soon large populations in diverse places will have heard the song because some-

one in their network had their voice amplified by meeting the choir. We gain courage from learning we're part of a choir. We sing better when we know we're not alone. -- *Leadership and the New Science*, pp. 151-152

"Whenever a systemic breakdown occurs ... the breakdown is always experienced as personal. The fault lies with you or with me or with our particular mix of characteristics. And the explanations feel solid – the way things really are. And if you were to suggest that these breakdowns are not personal but systemic, you should expect resistance – not relief." -- *Seeing Systems*: 1996, p. 145

Behind every plan lies a gaggle of mental models, unconsciously shaping our decisions: about who will be served, what issues/outcomes will be addressed, what actions we will permit ourselves to take, what are desirable, and what standards we will use to determine effectiveness.

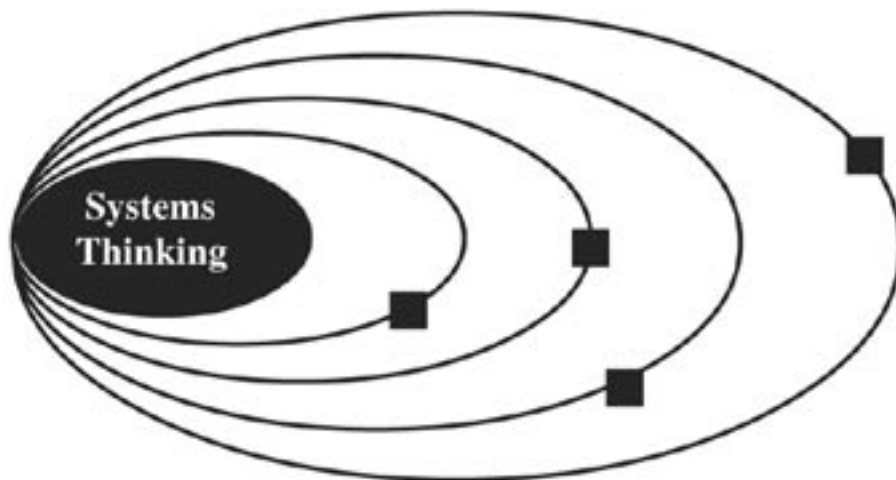
What many organizations call "planning" is simply a projection of their current mental models into the future—the status quo with a new date. These projections are not about change and therefore are not planning as defined in this set of documents.

Because mental models "limit us to familiar ways of thinking and acting," every planning procedure must, at some point, expose and challenge the organization's mental models. This does not mean that all mental models will be changed by a planning procedure. Many of our mental models, once exposed, will be recognized as the essence of our organization. But some of our mental models will have to change before we can change our future. -- *The Fifth Discipline: The Art and Practice of the Learning Organization*, p. 8.

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unconsciously shaping our decisions: about who
will be served, what issues/outcomes will be addressed,
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Laws of Systems Thinking

1. Today's problems come from yesterday's "solutions."
2. The harder you push, the harder the system pushes back.
3. Behavior grows better before it grows worse.
4. The easy way out usually leads back in.
5. The cure can be worse than the disease.
6. Faster is slower.
7. Cause and effect are not closely related in time and space.
8. Small changes can produce big results—but the areas of highest leverage are often the least obvious.
9. Dividing an elephant in half does not produce two small elephants.
10. There is no blame.



*The system is capable of solving its own problems.
The solutions the system needs are usually already present in it.
If a system is suffering, this indicates that it lacks sufficient access to itself.*

III. The Need to See Things as They Really Are: Applications of Systems Thinking

Questions to Use When Applying Systems Thinking to an Issue

1. What is the issue with which we are dealing?
2. In considering this issue, what is our vision, i.e. our hope, for how things might be in the future related to this issue?
3. What systems (or parts of a system) are at work in this issue?
4. Without judgment or evaluation, name the values, goals, assumptions, and needs of each system. What similarities and differences do you note?
5. What are the relationships among these systems or parts of a system?
6. How does the issue with which you are dealing reveal trouble in the systems? Consider availability of information, clarity of identity, the healing of relationships and the ability to hear all voices.
7. How are we a part of these systems or parts of a system? How do our behaviors affect the systems and how does each system affect our behaviors?
8. What are our places of entry into these systems?
9. How do we want to disturb or influence these systems?
10. What experience, skills, relationships, and resources do we bring to this effort?



Case Study: Congregational Issue

Description of the situation

Recently our leadership team has received individual and group letters expressing concern over a Saturday afternoon prayer service to be held at our annual congregational gathering seven months away. The prayer is the highlight of a weekend of celebration honoring our founder. The planners of the event, a congregational committee of three elected delegates and a few volunteers, have designed a Rite of Celebration for Saturday afternoon that is not a Eucharistic celebration. Sunday morning everyone is invited to participate in the two regularly scheduled Eucharists at our Motherhouse complex.

Concerns expressed by the sisters include

- 1) a belief that the most fitting way to honor our founder is with a Mass because “That’s what she would want;”
- 2) an assumption that our unity can best be celebrated if all of us are present at one event, and that event should be a Eucharist since it is the sign of our unity;
- 3) a fear that a small group (the Planning Committee) is thrusting something on the whole group; and a deeper fear that a small number of those who object to priest led liturgies is determining how we worship;
- 4) and a hope that such a decision could be voted on by the whole community.

1. What is the issue with which we are dealing?

The issue appears to be how we as a congregation can worship together in a satisfying way at a major congregational celebration.

2. In considering this issue, what is our vision, i.e. our hope, for how things might be in the future related to this issue?

Our hope is that our working through this issue and many other expressions of it will lead us to a common ground where we can worship together as a faith community with deep conviction and love, enhanced by, rather than divided by the theological and cultural diversity among us.

3. What systems (or parts of systems) are at work in this issue?

We see three systems at work in this issue: the Catholic Church, religious life, and the congregation. Each of these three systems interacts with larger systems that make up the social, political and economic structures of our nation and our world. As we consider the church, religious life and the congregation we see that these three systems are overlapping and complex. We have chosen to focus on our congregational system as a microcosm of religious life lived within the context of the Catholic church.

4. Without judgment or evaluation, name the values, goals, assumptions, and needs of each system. What similarities and differences do you note?

Considering our congregation as a system, the over arching goal named in our mission statement is that of being freed and helping others enjoy freedom in God’s steadfast love. We identify four core values of charity, justice, freedom and education.

In attempting to uncover the assumptions and needs of the congregation as a system, particularly in relationship to the issue at hand – worshipping together as a faith community, we turn to the tool of mental models. In this handbook’s section on Mental Models, Margaret Wheatley defines mental

models as “deeply held internal images of how the world works, images that limit us to familiar ways of thinking and acting.” She notes that “very often, we are not consciously aware of our mental models or the effects they have on our behavior.”

Many of our assumptions and needs as a faith community, appear to flow from two mental models. The first, “the Western Mind,” is described by Gertrude Foley in her essay on systems thinking also included in this booklet. This mind set or mental model allows us “to think in linear, dualistic and hierarchical ways when dealing with problems, organizing ideas or work, and in structuring society, church, or our religious congregation.” Gertrude goes on to say that this way of seeing reality became “an unconscious filter for the Western mind, a filter that made it easy to judge immediately what fit or did not fit a particular situation, to distinguish and define what was good, true, and right from what was bad, false and wrong.” Most of us have grown up with this mindset and it affects most everything we do whether we are aware of or not. Through the 20th century and in the early years of the 21st century we have begun to see that this “dualistic, hierarchical framework of thinking is no longer adequate for interpreting our experience.”

But what is adequate is as yet unclear. Hence the second mental model is harder to describe. Generally speaking it values a holistic, organic view of the world rather than the more analytical and mechanical

Through the 20th century and in the early years of the 21st century we have begun to see that this “dualistic, hierarchical framework of thinking is no longer adequate for interpreting our experience.”

view reflected in “the Western Mind.” This “Organic” mental model prefers to look at wholes instead of parts, at processes instead of substances. As Joanna Macy points out in *Coming Back to Life*, it sees reality as “dynamically organized and intricately balanced ‘systems,’ interdependent in every movement, every function, every exchange of energy and information.”

Not only the assumptions and needs, but also the values inherent in both of these mental models influence how we do theology and how we express spirituality. Generally speaking “the Western mind” values orderliness, predictability, efficiency, continuity, productivity and a clear chain of authority. Theology stemming from this system influenced many of us during our most formative years. Grounded in this theology sisters believe that the celebration of Eucharist is the summit of worship and at the core of what holds us together as a group.

Generally speaking the “Organic” mental model values chaos, connectedness, process, inclusivity, relationship, and a non-linear expression of authority. Process, liberationist and feminist theologies develop in this kind of a milieu. Some sisters, schooled in these theologies and situated within this mental model, believe that the celebration of Eucharist is so bound up with a church structure caught in negative aspects of the Western mind they can no longer participate with a sense of integrity.

With regard to theology and spirituality, many sisters move back and forth between the “Western Mind” and the “Organic” mental models. They value beliefs and practices flowing from a stable world of fixed relationships characteristic of an earlier time, as well as the insights of process, liberationist and feminist theologies grounded in a more organic model. For them, cherished beliefs about Eucharist co exist with a haunting awareness of patterns of ecclesial exclusion.

5. What are the relationships among these systems or parts of a system?

Within our congregational system relationships around Eucharist are often troubled.

Generally speaking the sisters who view reality largely from a “Western Mind” model and adhere to a more classical theology, cling to their understanding of Eucharist because it is a matter of divine revelation and to question it is to question God himself. Those who view reality largely from an “Organic” model while adhering to liberationist and feminist theologies, cling to their understanding of Eucharist because they believe that as long as men control women’s lives, there will be no justice. Both sides claim their worldview is faithful to the Gospel of Jesus. Those sisters who move between these two worldviews struggle to articulate their beliefs and to hold the tensions between the two in a constructive way.

6. How does the issue with which you are dealing reveal trouble in the systems? Consider the availability of information, clarity of identity, the healing of relationships and the ability to hear all voices. (Margaret Wheatley’s characteristics of a living system)

The issue reveals some trouble in our congregational system.

Ability to hear all voices:

The sisters with views closer to either end of the spectrum can feel that their voices aren’t heard and that they don’t count if the mode of worship for a particular celebration does not reflect their mental model. In the specific issue at hand, some felt that the Planning Committee only listened to the voices at the “Organic” end of the spectrum.

Clarity of identity:

Since so much of our identity is bound up with shared theological assumptions manifested in group behaviors and practices, who we are as a group can be called into question if we do not believe the same things. The function of ritual is to bring to visibility our deepest beliefs through symbolic word and action. Tension over which symbolic acts and words to use reveals differences at the level of belief. Such differences call into question our identity at the core of who we are. They push us to ask, ‘Is there something at the heart of who we are which is beyond a common Eucharistic theology and which holds us together?’”

Availability of information:

Some sisters felt that they not only did not have a say in the work of the planning committee, but they knew nothing about what the committee was actually planning. Through hearsay, pieces of information were circulated out of context by some who were feeling much anxiety over the issue.

Healing of relationships:

Sisters with significantly differing views, instead of talking to each other, talk mostly with those who agree with them. Diverse views shared in a large group setting are not explored further in the intimacy and safety of a small group. There is need for sisters with differing views to come together in a safe context and talk directly with each other.

Gertrude Foley cautions that “It is not satisfactory to create unity by simply denying distinctions and differences...A system is an entity that maintains its existence and functions as a whole through the interaction of its parts.”

7. How are we a part of these systems or parts of a system? How do our behaviors affect the systems and how does each system affect our behaviors?

As leaders we have distinct positions within our congregational system by virtue of the offices we hold. Family Systems theory tells us leaders will affect the well being of the congregational system in a healthy way

- 1) if they are able to name and claim their personal beliefs and assumptions as leaders, without expecting that every member share those beliefs and assumptions;
- 2) If they are able to stay in relationship with congregational members regardless of their personal beliefs and assumptions;
- 3) and if they are able to remain a non-anxious presence in the face of competing values.

As leaders of our congregation we receive all the systemic disturbances created by members, e.g. the letters of concern about the anniversary celebration.

As leaders we also see reality through the lens of the Western Mind and/or the Organic mental models. Growing in awareness of these filters helps us to respond reflectively rather than reactively to the disturbances we encounter.

8. What are our places of entry into these systems?

Our places of entry into these systems - in this instance, the congregation as a system - are the places where disturbances occur. Something that upsets the status quo or the equilibrium of a system offers an opportunity to look at the system as a whole and respond in a positive fashion. In the issue at hand, the letters of concern provide a place of entry for leadership.

9. How do we want to disturb these systems?

In our response we are guided by Margaret Wheatley's characteristics of a living system: availability of information, clarity of identity, the healing of relationships and the ability to hear all voices. Any disturbance we can create that will promote the free flow of information, strengthen identity, enhance relationships and increase our ability to hear all voices, will benefit the congregational system. It will also help us to gain perspective on the shared assumptions, beliefs and values embedded in us from both the Western Mind and Organic mental models affecting us.

More important than the characteristics of any mental model, are the relationships that exist among and between all of us as members. Within this relational context, we believe our exercise of authority rests primarily in clarifying and articulating our own beliefs, and in staying in contact with our members.

In responding we intentionally created our own 'disturbance.' We wrote and spoke with many of those who expressed concerns. In our response we

- 1) resisted the temptation to 'fix' the situation;
- 2) provided information by sharing our understanding of what the planners had in mind;
- 3) attempted to clarify both our own and the congregation's identity at this time, by stating our belief that our current situation of differing understandings about the Eucharist and differing ways of celebrating Eucharist not only create uncertainty and frustration, but also offer new opportunities for the Spirit to lead us in life giving patterns of prayer;
- 4) attempted to strengthen relationships by thanking the writers and at the same time voicing our

- support for allowing the planning committee to do its work as it saw fit;
- 5) tried to honor all the voices by receiving without judgment each one's uncertainty and frustration around the Eucharist question facing the Congregation; and by affirming the desire in each of us to have the best possible celebration of our founder.
 - 6) invited a broader discussion of the Planning Committee's proposal at our open representative Governing Board meeting a month later where the tensions around the issue were aired, and the authority of the Planning Committee was respected.

From a broader perspective, in the months before the summer celebration various congregational groups are exploring the value of differences, as well as strategies for talking about and living creatively with differences. While no small group discussions are planned for talking about Eucharist directly, various guided small group conversations on other congregational issues are currently underway and help to strengthen relationships and provide opportunities for many different voices to be heard. Sacred circles, where members come together in small groups to share their faith journeys, are active throughout the congregation. Finally, in our leadership address to the congregation at this summer's gathering, we intend to describe our congregational dis-ease around the celebration of Eucharist and to name our own convictions regarding ways to address it.

All of the above efforts hopefully will contribute to a climate in which sisters will be able eventually to hear and tell the stories of their faith in an atmosphere of reverence and acceptance. Such conversation helps to create the common ground for worshipping together in deep faith and love, enhanced by, rather than divided by the theological and cultural diversity among us.

10. What experience, skills, relationships, and resources do we bring to this effort?

As a leadership team we bring a variety of life experience, academic backgrounds, and enneagram and Meyers-Briggs configurations. Our strongest resource is the conviction that we do not have to change the congregation. We have first to change ourselves and stay in relationship with our members. Changes in the congregational system and consequently in other systems will eventually follow.



Case Study: Societal Issue

Description of the situation

The high cost of prescription medicines is prohibitive to thousands of people in this country and abroad. Without access, preventative health is compromised increasing the cost of chronic and acute care costs. In the situations of third world countries, the consequence is death.

1. What is the issue with which we are dealing?

The issue is concerned with our own access to prescription drugs, our advocacy for the poor, and our responsibility as shareholders with Health Management Association, Inc., Johnson and Johnson, Merck & Co., Pfizer Inc., and Schering-Plough Corp.

2. In considering this issue, what is our vision, i.e. our hope, for how things might in the future be related to this issue?

Our hope would be that our actions and ministry would address this issue and enable us to be advocates to bring about systemic change, i.e. to lower the cost of drugs and increase their accessibility.

3. What systems (or parts of systems) are at work in this issue?

Within the congregation:

- A sister directs a pharmaceutical ministry with the poor and is assisted by two other members of the community.
- The congregation is active in socially responsible investments programs. We are members of a local CRI (Coalition for Responsible Investment) and are involved with the Interfaith Center for Corporate Responsibility.
- Consumers: We provide medical coverage for most of our employees and for all of our sisters not covered by employers insurance.

Collaborative systems:

- Health care systems in the area: The pharmaceutical program is support by funds from United Way, a local health system, and federal grants.
- Interfaith Center for Corporate Responsibility (ICCR)
- Health care policies and programs of the congregation

Outside the congregation

- Pharmaceutical companies
- State and federal policies/legislation particularly Medicare and Medicaid
- Other advocacy groups e.g. AARP

4. Without judgment or evaluation, name the values, goals, assumptions and needs of each system. What similarities and differences do you note?

Congregation

Values:

From our direction statements we have committed ourselves to the care and empowerment of the poor and to be advocates of systemic change.

Goals:

- in ministry, to find and distribute prescription drugs to people who do not have access to them

- in socially responsible investment to collaborate with others in challenging companies to responsible behavior

Assumptions:

- we will support the sisters whose ministries impact on the issue
- we will collaborate with groups to bring about change
- we will educate ourselves to the issue as needed as well as give support information to the congregation so members can respond to legislative and policy issues

Needs:

- link our social justice components (social justice coordinators, newsletters, legislative alerts) with the ministerial experiences of our sisters.
- collaboration with ICCR to develop resolutions, dialogues with companies.

Collaborative Systems

Values:

That poor and low income people should have access to health care including prescription drugs

Goals:

- The pharmaceutical ministry and health care systems in Saginaw will secure funding and drugs for the project.
- ICCR will be able to facilitate the filing of resolutions and ongoing dialogues on drug issues (ethical extension of patents, financial incentives to health providers, quality control).
- ICCR members will take responsibility for filing or co filing and participating in the process of discussion.

Assumptions:

- that congregations, health systems, pension boards will allocate resources and personnel to maintain and continue these efforts
- that there are less available resources than in the past
- that those congregations, health systems, pension boards with staffed SRI positions will take lead responsibility
- that congregations will be knowledgeable of the effects the pharmaceutical system has on their own health care systems

Needs: Collaborative efforts be supported

Outside the congregation

Pharmacy companies:

Values:

- Pfizer's Mission Statement: *to emerge as an industry leader by 2000 and to become the world's most valued company to patients, customers, colleagues, investors business partners, and the communities where we work and live.* www.pfizer.com
- Merck's Mission Statement: *to provide society with superior products and services by developing innovations and solutions that improve the quality of life and satisfy customer needs, and to provide employees with meaningful work and advancement opportunities and investors with a superior rate of return.* www.merck.com

Goals:

(from Merck)

- Preserving and improving human life
- Committing to the highest standards of ethics and integrity
- Dedicated to the highest level of scientific excellence

- Expectations of profits but only from work that satisfies customer needs and benefits humanity
- Ability to excel depends on the integrity, knowledge, imagination, skill, diversity and teamwork of our employees

(from Pfizer)

- To achieve our Purpose and Mission, we affirm our values of Integrity, Leadership, Innovation, Performance, Teamwork, Customer Focus, Respect for People, and Community.

Assumptions: regarding pricing restraints

(from Merck opposing shareholder resolution)

- Competitive pricing is achieved by the emergence of powerful buyers through managed care organizations and health plans thus ensuring good value for the cost.
- Prices for drugs are determined by the value of the knowledge it represents
- Price control would decrease incentives for research and development
- Patient assistance programs provided for low income
- Restraint pricing is not in the best interest of patients, the Company or its stockholders

(from Pfizer Forum 2002 by CEO Henry McKinnell)

- We believe that the affordability of medicines must be addressed in a way that will allow people access to needed medicines while at the same time maintaining the incentive to search for new and better treatments and cures
- Our *Sharing the Care* and patient assistance programs provide our medicines at no charge to more than a million patients in the U.S. each year.
- Pfizer has a history of introducing our valuable new medicines at reasonable prices and of implementing only modest annual price increases.

Needs: (derived from literature of both Merck and Pfizer)

- More public or private insurance
- Strengthen the healthcare infrastructure
- Develop public policy to care for the issue

Government

Value: health care for all citizens

Goal: to provide maximum coverage with minimal expense

Assumptions:

- Health care is not a national priority.
- Medicaid is under funded.
- A national health care system could move incrementally but does not have political viability.
- The market will take care of the problem i.e. transfer of medical care to HMO's
- A national policy would be too expensive.

Need

- Grassroots and advocacy input to government policies
- Political will to critically explore health care options
- Change of fiscal priorities from military to human services.

5. What are the relationships among these systems or parts of systems?

Between congregations and collaborative efforts, there is a great overlapping of vision and concern. The direct service pharmaceutical program in the area is the result of health system's support, foundation and government grants, and subsidized personnel. The SRI advocacy represents many members and associates of ICCR.

The government's relationships are more supportive within existent health care policies than with systemic change processes. There appears to be efforts to "patch" present health care system and to turn over responsibility to HMO. There does not appear to be major incentive to radically look at the fiscal priorities of the nation.

The pharmaceutical companies use their lobbying and political contribution power to influence both the government and the medical community and attempts to avoid any advocate input. However, with the resolution process of shareholders, many companies have entered into dialogue to avoid conflict. These dialogues have initiated change and keep the issues on the table.

6. How does the issue with which you are dealing reveal trouble in the system? Consider the availability of information, clarity of identity, the ability to hear all voices, and the healing of relationships.

Availability of information

The exorbitant costs of drugs are common knowledge and have had significant news coverage on programs such as 60 Minutes. It is a political "football" especially during election times. It is an experiential reality for people without good insurance coverage.

The causal issues are less well known and can be manipulated from the pharmaceutical companies to other entities i.e. insurance coverage, government policies, hidden costs of R&D.

Within the congregation, information has been disseminated through Options for Justice and through education around various insurance plans including Medicaid.

Within the SRI system, major commitment to study is made by staff and filers.

Clarity of identity

Within the congregation, this issue could go unnoticed except that there is a ministry present with two sisters (one in direct service and one in advocacy). Nonetheless, there is no core commitment to it beyond the scope of their efforts within the parameters of the congregational direction statements.

Within the collaborative systems, identity with the issue increases as time, support and resources are allocated to its remedies.

Ability to hear all voices

Some impediments experienced in dialogue with pharmaceutical companies have been:

- Lack of mutual understanding of responsibility for the problem of the uninsured
- Lack of consensus that health care is a human right not a commodity for sale
- Lack of consensus regarding financial credibility relative to research and development, marketing practices, and shareholder profits

Healing of relationships

This would occur with change of policies to protect the rights of the poor to receive adequate health care.

8. What are our places of entry into these systems?

The immediate entry points are with direct ministry (distribution of drugs to the poor), SRI. activity with shareholders resolutions and dialogues, and as consumers attempting to find the best prices for prescription drugs. From these vantage points we have the ability to make the issue known anecdotally and through research and can enter negotiations necessary to give the issue a "human face", to demonstrate the need and effectiveness of services, and to demonstrate that profitability is possible with universal access to medicine.

9. How do we want to disturb these systems?

By creative use of our existent points of entry we can move the base of information from a select few to all members of the congregation in order that many would become able to be legislative or policy advocates.

10. What experience, skills, relationships, and resources do we bring to this effort?

We bring an experience of and commitment to collaboration to work with the experts in the field. We bring a history of supportive SRI activity with ICCR. We bring a study system that allows us to integrate the experiential reality of a few members to the moral fabric of us all.



*"No problem can be solved from the same consciousness that created it.
We must learn to see the world anew."
-- Albert Einstein*

Practice Worksheet

1. Identify systems of which you are a part.
2. Select a familiar system.
3. Identify an issue with which you are dealing in this system.
4. Apply systems thinking by using the 10 questions on p. 14. (Questions to Use When Applying Systems Thinking to an Issue) Remember, not all of these questions may be applicable in every case.

“An old proverb says: ‘We see people not as *they* are but as *we* are.’ To which we add: ‘And who we are is shaped by the context in which we exist.’ We win first prize when we are able to see not just the actions of others, but also the context out of which these actions come. We win second prize (and it is not an inconsequential prize) when we know that, for the most part, we don’t.” -- *Seeing Systems*, p. 21

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