DYADIC DYNAMICS IN INTERPERSONAL CYCLES

Harold Kurstedt
Virginia Tech
Director of Systems Engineering
College of Engineering
7054 Haycock Road, Room 442
Falls Church, Virginia 22043-2311
Phone: 703-538-8302
Fax: 703-538-8450
hak@vt.edu

Abstract

Dyadic dynamics is the study of and learning about interpersonal interactions in pairs of people—the system dynamics of dyads. The generalized causal map for a vicious interpersonal cycle that includes four reinforcing loops is developed first to show the structure of the system generating exponential growth in personal hard feelings, personal low regard, and interpersonal anxiety. A real-life example of an interpersonal cycle is developed in the form of an evolving exercise for employing a real-life experiment rather than a simulation. The example develops the reinforcing loops, demonstrates the power of a systemic goal statement, and shows structural changes that lead to different system behavior and hopefully to a virtuous reinforcing cycle. The dyadic system structure is generalized to show the effect of balancing loops and the role of corrective action. The marriage relationship is mapped to show the most intense dyadic relationship. Simple stocks and flows are developed for hard feelings as a state variable. The adjustment time for a person responding to behavior change in another person is mapped. The results and thinking are extended to triangular relationships, organizational dyads, archetypes, and other interpersonal issues such as trust.

We live with interpersonal cycles.

Do you ever wonder why it's so easy to get into and so hard to get out of difficult interpersonal cycles with another person? These vicious cycles are characterized by difficult or hurtful patterns of behavior. And that behavior leads to increasing hard feelings for both people in the relationship or increasing low regard for each other. We also find continuously increasing anxiety in the relationship. From time to time, we participate in virtuous cycles in interpersonal relationships—usually when we're dating. What's behind the difference between virtuous and vicious interpersonal cycles?

We should recognize the principles of feedback thought and of system dynamics in these cycles. Therefore, we know the hurtful or helpful patterns of behavior in vicious or virtuous cycles result from the structure of the dyadic system—the system of two people in relationship. By mapping the structure of the relationship, we can learn why we get into either vicious or virtuous cycles. We can also learn of the possibilities for reversing vicious cycles or for maintaining virtuous cycles.

Dyads are fundamental.

I call the study of and learning about interpersonal interactions in pairs of people Dyadic Dynamics—the system dynamics of dyads. I'll describe how to generalize and map the patterns of behavior in interpersonal cycles. I'll show how to apply the learning from the map to a cycle in your life. (In dealing with relationships within systems of people, I prefer real-life experiments over simulation when appropriate.) The learning is broadly applicable in that dyadic relationships are the building blocks of team interaction, family interaction, organizational interaction, and societal interaction.

A three-person team includes three dyads, a four-person team includes six dyads, and so on. The performance of the team (or family) often hinges on the behavior of the most dysfunctional dyad. Ultimately, we want to study the structure and behavior of teams, families, and organizations; but we start by understanding dyadic behavior.

Shortly, I'll illustrate a dyad of a laboratory director and his administrative assistant around their disagreement about the level of attention to detail needed for good productivity. This real-life case study will assist in applying causal maps for understanding and resolving vicious interpersonal cycles.

Behavior comes from structure.

When we participate in interpersonal cycles, we first recognize and then react to events and patterns of behavior. (We think, "Uh-oh; here we go again!") This behavior at the most simple level shows the reinforcing-loop engine that energizes the interaction of the dyad over a particular issue. This simple reinforcing loop is shown in Figure 1 as two reinforcing links forming a loop around a contentious issue in the interactions of the two people in the dyad. I'll use a real-life pattern of interaction between Ted and Ann as an example here.

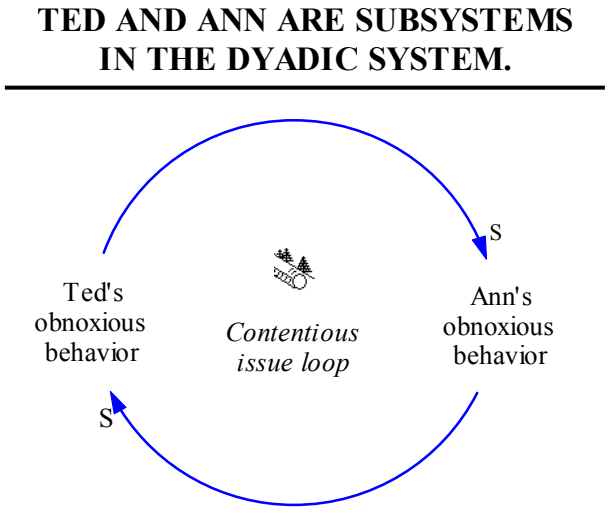

Figure 1: When the issue is contentious, the cycle is vicious.

The loop can be virtuous if the reinforcing behavior is kind and helpful. The loop would be vicious if the reinforcing behavior is obnoxious and harmful. The vicious reinforcing cycle in Figure 1 occurs because the amount (frequency) or degree (intensity) of obnoxious behavior in one person rises and falls with the rise and fall of obnoxious behavior in the other person. A cycle that looks like Figure 1 but contains kind and helpful behaviors for the two people would be the virtuous reinforcing cycle.

Later, I'll illustrate the reinforcing behavior as a vicious cycle between myself and my administrative assistant as a case study around the issue of our disagreement about the level of perfection, or attention to detail, needed for a productive workplace.

In a vicious interpersonal cycle, there are at least three other reinforcing loops in addition to the central reinforcing loop in Figure 1. These additional loops shown in Figure 2 add to the rapidly growing hard feelings or low regard (unfavorable mental models) of each person in the dyad and add to the rapidly growing level of anxiety in the relationship.

HARD FEELINGS AND ANXIETY GROW EXPONENTIALLY IN A VICIOUS CYCLE.

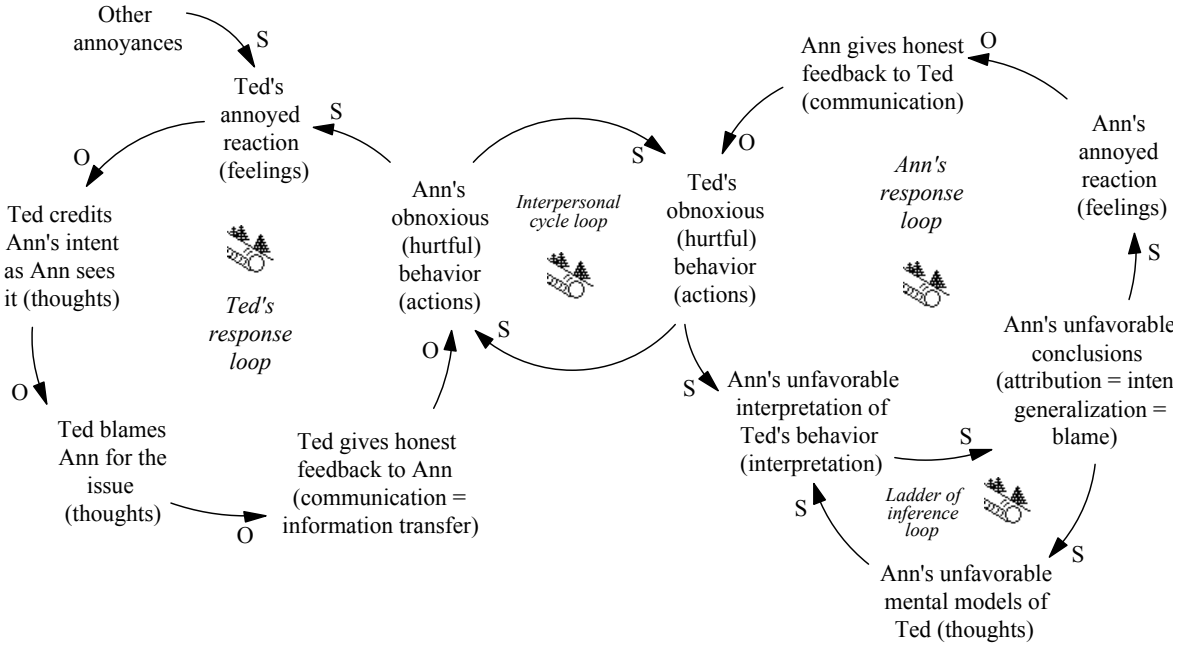

Figure 2: The vicious cycle derives its energy from four reinforcing loops.

Ted's response loop and Ann's response loop capture the unfavorable interpretations, conclusions, and mental models resulting from the other person's obnoxious behavior. These unfavorable attitudes lead to annoyed feelings and a reluctance to give honest feedback to the misbehaving person. In the process of moving through the ladder of inference with these unfavorable attitudes, each person increasingly builds up stocks of

hard feelings from their annoyance and low regard for the other person from the reinforcement of their unfavorable mental models. Figure 2 reflects a somewhat more simple construction suggested by O'Connor, aptly titled "the road to hell" map. (O'Connor, 1997, p.156)

The map for a virtuous cycle would also have reinforcing loops but would have reverse variables; that is, friendly behavior, favorable thoughts, pleasant feelings, and reinforcement of favorable mental models of the other person.

We recognize that each of these reinforcing loops will result in a stock that increases exponentially. The stocks in question include at least hard feelings on the part of both Ted and Ann, low regard for the other on the part of both Ted and Ann, and the anxiety that rises in a dyadic relationship involving hurtful behavior of both people. The anxiety stock is a dyadic reaction, whereas the hard feelings and low regard are individual reactions. Anxiety is a feeling that arises in all dyadic relationships and is central to the study of interpersonal interactions. (Friedman, 1985) I'll discuss the consequences of anxiety in a dyadic relationship later.

To understand how the rapid growth in stocks of hard feelings, low regard, and anxiety come to a stop and perhaps reverse into favorable attitudes, we need to recognize the working of balancing loops in the dyadic system. I'll diagram those balancing loops after I lay out my real-life example of a vicious cycle.

I've mapped hundreds of issue-specific, real-life vicious cycles for participants in my Solution-focused Leadership workshops. (Kurstedt, 2000) Without exception, the mapping experience is enlightening. Often, the experience leads to life-changing thinking or behavior. Now, I'll demonstrate the cycle between Ted and Ann (made-up names to protect the guilty). In this example, I'll use a relationship vision (systemic goal) to energize balancing loops to stop the growth of hard feelings and to support the growth of good feelings.

The example in Figure 2 is for a laboratory director (Ted) and his administrative assistant (Ann). Any thought that unequal power of the two people in this real-life example will have greater significance than the variables discussed here runs counter to my experience with so many different cycles for so many different situations. Unequal power is one of a great many factors in a number of relationships. However, that factor isn't significant to the process or the outcomes in this case study or in the general sense.

To be quite specific in this real-life example, it was Ann's courage in standing up to the laboratory director that led to Ted's desire to change the structure of the dyadic system. This structural change supported the change in behavior of the system over time. Any motivation to look at the relationship as a system rather than concentrating on the selfish interests of either party will lead to the desire to make appropriate changes. In my experience, that motivation can come from a wide variety of sources.

I'll focus on the details of the interpersonal cycle loop of Figure 2 in a moment. Now, I'll focus on the other three reinforcing loops. I could use identical loops for both Ann's and Ted's mental and emotional response to the other's obnoxious behavior in Figure 2. I've chosen to show their loops differently so I can show different ways to view their response. For Ann's response loop, I've chosen to include the ladder of inference (Senge, 1994, p. 242) process where Ann knee-jerks to unfavorable conclusions based on her observations (sensory data) of Ted's actions. These unfavorable conclusions lead to annoyed reactions (feelings); and, therefore, Ann isn't inclined to give Ted open or honest feedback on his behavior. In turn, this lack of interest and of feedback adds to Ted's obnoxious behavior. In the process of adding meaning and jumping to conclusions based on Ted's behavior, Ann adds to her unfavorable mental models of Ted and of the relationship—the "Ladder of inference loop" in Figure 2.

For Ted's response loop, I've chosen to include his tendency to attribute Ann's behavior to his perceived unfavorable intent on her part—certainly not to her real intent. (This cycle is similar to the cycle in O'Connor's map.) Therefore, Ted doesn't credit Ann for having favorable intent. (We assume Ann isn't mean-spirited and her intent isn't to hurt Ted.) This unfavorable interpretation of Ann's intent leads to Ted blaming Ann for the difficult patterns of behavior around the issue. Of course, Ted's unfavorable experience reinforces his unfavorable mental models of Ann also. (I haven't shown that reinforcing loop.)

The vicious-cycle diagram exemplifies the interpersonal-cycle loop.

I'll diagram the specific thoughts, feelings, and actions (behavior) of Ted and Ann as a vicious interpersonal cycle around the specific issue of the appropriate level of perfection needed for a productive workplace. I'll start from Ted's position and include Ann's actions from Ted's perspective. (Note that actions and behaviors are used interchangeably throughout this discussion, as indicated in Figure 2.) Figure 3 shows the construction of the interpersonal-cycle diagram and the linkages from Ann's actions to Ted's resulting thoughts and feelings. (Jacobson, 1995) Ted uses his mental models (shown as the dashed oval around Ted in the Figure 3) to interpret the sensory data (arrows from actions to Ted) from Ann's actions into Ted's inferences in the form of his thoughts and feelings.

Although I've shown the list of Ann's actions as viewed by Ted and Ted's resulting thoughts and feelings in the diagram, the process of constructing the diagram proceeds one step at a time. Usually, I start with the actions of the other person. (From Ted's perspective, that's Ann's actions.) Ted, who is Ann's boss, is a perfectionist and gives high priority to attention to detail that he labels "meticulosity." Ann, who is Ted's administrative assistant, is one of the least meticulous people in the universe. When working on a document, Ted identifies errors; and Ann corrects a few and, in the process of correction, adds more. The cycle of finding errors and making incomplete corrections continues indefinitely and the document never reaches perfection in Ted's view.

From Ted's perspective, he senses Ann's actions listed in Figure 3. I've shown Ann's actions as Ted would describe them and also in measurable terms (in parentheses). These actions generate sensory data that come up against Ted's mental models (frame of reference, filter, paradigm) to form his corresponding thoughts and feelings listed in Figure 3. The process of constructing the diagram proceeds from listing Ann's actions by asking Ted questions such as, "When Ann does sloppy work, what are your thoughts?" and "When you think those thoughts, how do you feel?" That is, the information in the cycle diagram is elicited from Ted, based on his experience.

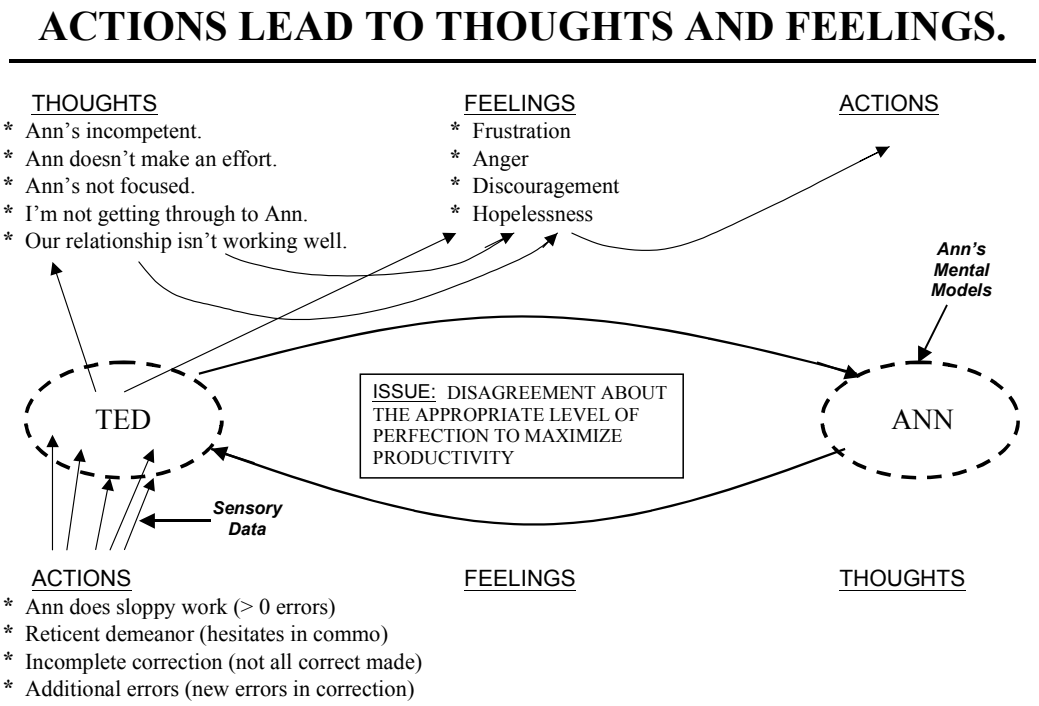

Figure 3: Based on mental models, Ted infers thoughts and feelings from Ann's behavior.

Assuming that Ted is the person constructing the diagram, the next part of the diagramming effort, as shown in Figure 4, is the hard part. However, Ted can construct the diagram quite effectively without consulting Ann. As in the diagramming process from Ted's perspective, in the diagramming process from Ann's perspective, we see that the sensory data from Ted's actions when compared to Ann's mental models yields Ann's thoughts and feelings.

Ted must identify his own actions from Ann's point of view. For example, Ted might say he carefully explains the need for meticulosity to Ann, but Ann might say, "He uses that tone of voice with me." Having an unbiased facilitator reflecting on what the diagram shows as the diagram evolves is quite effective. Putting yourself in the other person's shoes is easier to do than you might imagine at first blush. Also, chances are Ann has made statements in her interaction with Ted that will verify Ted's estimates of Ann's perception of his actions and her resulting thoughts and feelings. As shown in Figure 4, now the vicious cycle diagram is complete.

We want to stop and reverse the vicious cycle.

The reinforcing feedback in Figure 4 will build up the levels of hard feelings in Ted and Ann, low regard in Ted's and Ann's mental models, and anxiety in the relationship without limit. The limiting of these levels results from balancing feedback based on the desired condition of the relationship expressed as a relationship vision statement.

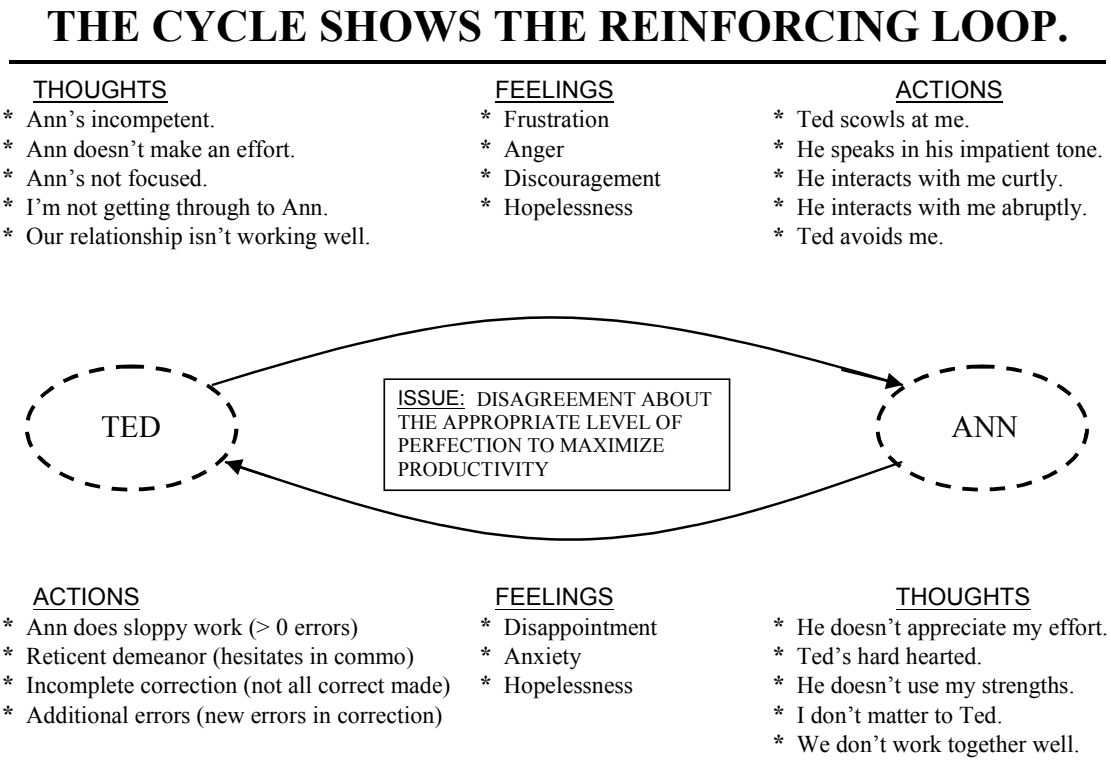

Figure 4: The finished interpersonal cycle diagram shows both perspectives.

If Ted were to construct a vision statement for his relationship with his administrative assistant, Ann, he would write these sentences: 1) We appreciate and respect each other and our contribution to the work. 2) We're an effective team. 3) We enjoy working together. 4) We get our work done well and on time. 5) We have open and honest communication. 6) We continually improve our work processes. 7) We're concerned about each other. It's a good vision statement; but, certainly, the cycle in Figure 4 isn't moving Ted and Ann in the direction of Ted's vision.

Note that the power of this real-life exercise is in the construction of and focusing on the relationship vision statement. That is, we step back from component goals (selfish wants) to determine system goals (relationship vision). Thereby, we derive the motivation to intervene in the structure of our own dyadic system, and affect system behavior.

Before examining the process for diagramming the balancing feedback, let's consider the principles we can draw from the vicious cycle diagram in Figure 4.

The interpersonal cycle is sequentially logical. The cycle is logical from actions to thoughts, thoughts to feelings, and so on. Later, we can examine the logic in the comparison between Ted's thoughts and Ann's thoughts. As humans, each person focuses on his or her own position. This focus means that, given Ann's actions, Ted interprets his thoughts and then feelings resulting from Ann's actions to be absolutely reasonable and logical to him. If we were in Ted's shoes, we'd have many of the same thoughts and feelings. And we'd probably act out on those thoughts and feelings in ways similar to or at least as hurtful as does Ted. Likewise, Ann sees the logic and reasonableness in her response to Ted.

Given that Ted sees reasonableness and logic in his side of the interaction, who does Ted think should change to improve the interaction? Ann, of course. And because of the same reasoning, Ann thinks it's up to Ted to do the changing. And nothing changes. So who's in charge of this pattern of behavior as shown in Figure 4—Ted or Ann? Neither! The answer is that the cycle is in charge because the cycle represents the structure, and we know that system behavior results from system structure.

To repeat, when we focus on our own position, we get vicious reinforcing loops. When we step back and focus on a systemic goal, we get the motivation to change our contribution to the structure of the interpersonal cycle. When we change from viewing sequential logic to cross-diagram logic (e.g., compare Ann's and Tim's thoughts), we discover contradictions that we can follow up on and generate more balancing loops for change.

The cycle is moving Ted farther away from his vision statement. So, why is he doing and thinking what he does and thinks? Because the cycle is in charge. How important is it to Ted to move toward his vision? If Ted always does what he always did (given the same conditions), he'll always get what he always got. Where does Ted have power in the cycle? He only has power in his part of the cycle: his thoughts, feelings, and actions. Ted must change his thoughts, feelings, or actions if he wants to move toward his vision.

What Ted must do is continually question himself by asking, "Is what I'm about to say, do, or decide going to move me closer to or farther from my vision for my relationship with Ann?" Then, Ted's response has to be, "What do I want to change: my thoughts, feelings, or actions?" "How might I surprise the other person?" "Do I have the strength and courage to stick to my change, given that in a human system, we'll find change-back behavior?" (Lerner, 1997) Interestingly enough, in changing dyadic system behavior we don't necessarily need the presenting-problem component (person) to change. We need the component (person) most willing and able to change. That person changes the structure, which leads to different system behavior.

Ted decides to change the focus of his thoughts. (In my experience in working with people in constructing these interpersonal cycle maps, some people start by changing their actions, and, in a few cases, start by changing their feelings.) Ted doesn't really change his thoughts; he adds new thoughts. When he focuses more and more on the new thoughts, the old thoughts recede into the background. We can't consciously eliminate

old thoughts. We can change focus. Since we can only entertain so many thoughts at one time, we focus on the more-helpful thoughts we've added, thereby crowding out the more-harmful thoughts we started with and leading up to different feelings and actions.

The rest of the story is that when Ted decides to focus on Ann's strengths instead of her weaknesses, he'll sense more of her strengths and fewer of her weaknesses. Ann will also act out more of her strengths and fewer of her weaknesses. The principle is based on the Heisenberg Uncertainty Principle, which leads to the notion that the other person changes based on what we focus on.

Ann is one of the least meticulous people in the universe, but she's also one of the most helpful, friendly, and willing people in the universe. Ted adds those thoughts to his list as shown in Figure 5. These additional thoughts lead to additional feelings and additional actions as shown in Figure 5. These additional thoughts also help reduce the intensity and frequency of the original unhelpful feelings and actions. Ann processes the new actions; and we find the new cycle in Figure 5. The new cycle is more balanced between helpful and harmful behavior with the potential of evolving into a virtuous cycle.

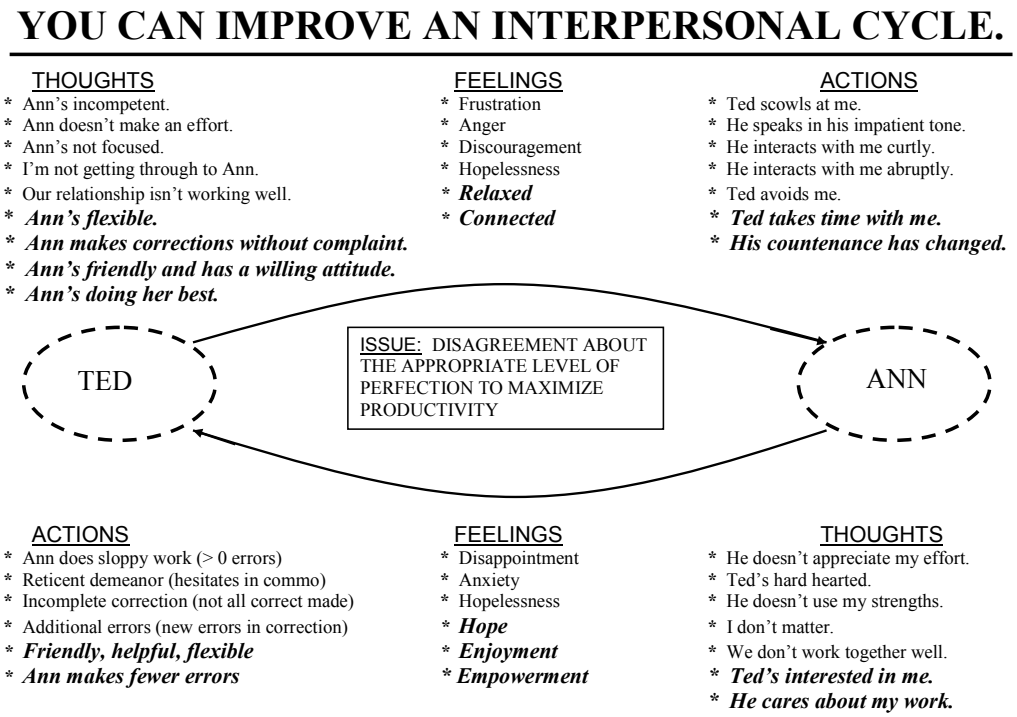

Figure 5: We add thoughts, feelings, or actions to change vicious to virtuous cycles.

Stephen Covey's notion in leadership that we affect another person's paradigm of how they see themselves (Covey, 1989), the Hawthorne Effect in management (Homans, 1941), the Pygmalion and Galatea effects in psychology (Livingston, 1969; Eden, 1982), and the Heisenberg Uncertainty Principle (Hawkings, 1988) all reinforce the premise that we get what we focus on. Another way of saying that premise is that we get what we measure. Through the Copenhagen Interpretation of the Heisenberg Uncertainty

Principle, we learn about the idea that the observer becomes part of the observed system. Through the act of measurement, the observer becomes part of the observed reality. (Newton, 2003; Thebigview, 2003) The premise that we get what we focus on and that we can influence another person simply by what we focus on are significant in choosing whether we're going to engage in a vicious or a virtuous cycle with another person. Ted chose to focus on Ann's strengths and that's what he got AND Ann's strengths increased within her.

This discussion about getting what we focus on is especially important to the process of changing a vicious cycle to a virtuous cycle. We get what we focus on both in terms of our perception changing and in terms of the other person changing. When either of the people in the dyad rises above his or her selfish goals to focus on a relationship vision for the dyad, the second person of the dyad is moved by the system and the expectation such that the dyadic relationship progresses toward that vision. The second person may not be aware of the first person's system goal. The dyad progresses through the action of the balancing loop based on the gap produced between the system goal and the system behavior.

We see balancing feedback in the dyadic system by generalizing the structure.

When we focus on our vision, we energize corrective action that will add balancing loops to the reinforcing loops of the vicious interpersonal cycle shown in Figure 2 and exemplified in Figure 4. I've generalized that corrective action effort in Figure 6.

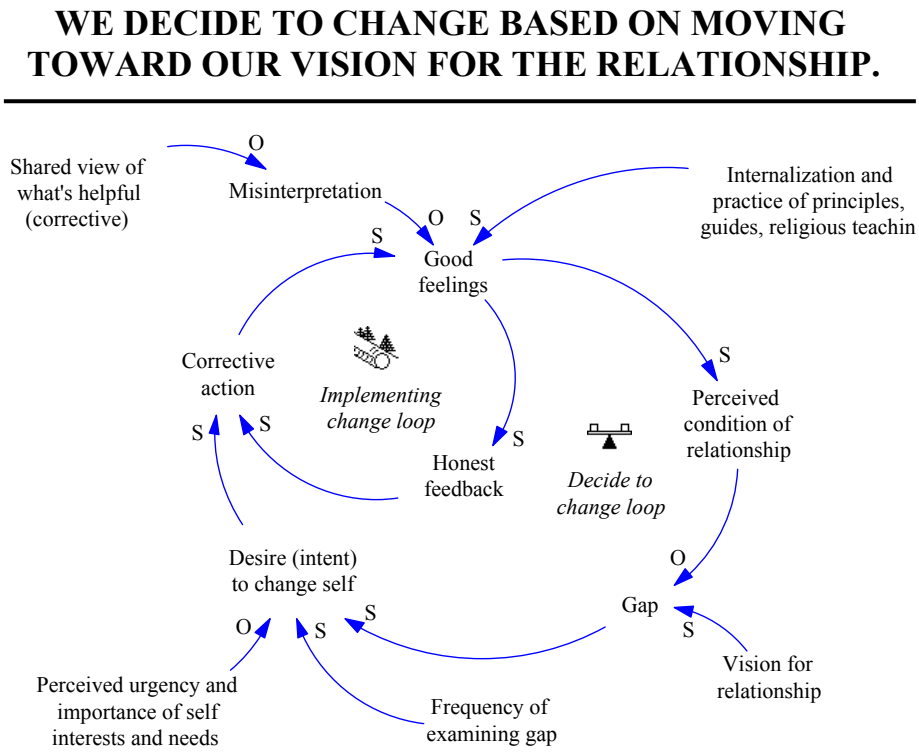

Figure 6: We get balancing loops from adding a goal leading to a corrective action.

The key that unlocks the resistance to change in the vicious cycle is the development of and focusing on the relationship vision statement. In Ted's and Ann's case (and generally speaking, in any case), we know Ted had goals for himself around the contentious issue and around his interaction with Ann. Ted had helpful, logical, favorable *personal* goals, or a personal vision. And Ann had helpful, logical favorable *personal* goals too. But, when one of the people in the dyad decides to play a leadership role, step back from personal needs, and view the dyad as a system, we get a *system* vision. The *system* vision of the relationship in the dyad unlocks the potential of moving to a virtuous cycle based on that vision.

There may be some concern that the discussion for interpersonal cycles, as illustrated in the Ted and Ann example is a one-sided perspective as Ted plays the leadership role in raising his goal from a personal goal to a systemic goal. After all, Ann may not agree with Ted's systemic goal. However, my experience is that one of the people of the dyad usually is totally unaware of the analysis and intervention of the other person, and the relationship still improved. This important point of only one person viewing and acting on the situation shows the power of the dyad as a system. When the structure of the system is changed due to one person changing a thought, feeling, or action, the system behavior must change. We can't predict what that change will be—whether the system behavior will be better or worse. We can predict that the system behavior will change. The fact that the other person is unaware of the analysis and intervention but is surprised (or at least is aware of) the change in system structure (the other person's behavior) reinforces the idea of the power in the system.

The systemic goal is crucial for introducing the balancing loop that brings the reinforcing loop under control. Recall that the specific seven sentences of Ted's vision statement make the systemic goal specific and tangible for him. Of course, any person in any cycle would construct his or her own vision for the dyadic system. As long as the goal is for the relationship and not for the person, the person will have the direction, motivation, and power to make a structural change and stick to it. In the Ted and Ann example, Ann would most likely write a somewhat different vision statement as the systemic goal that Ted did. However, her vision would be as powerful in guiding her intervention as Ted's vision was for him.

The systemic goal gives the person looking at the relationship the motivation to address the leverage points in the system structure. Those leverage points are the thoughts, feelings, or actions of the person making the change. Of course, when we see the logic in our own thoughts, feelings, and actions, we assume the place to make a change is in the other person's actions. However, the leverage point for us is our own behavior.

The lessons to take away from this case study are generally applicable to all interpersonal cycles. 1) The key to making a change in a vicious cycle is to develop a systemic goal (vision statement) to emphasize over individual goals. 2) The leverage points are in our own thoughts, feelings, and actions—not in those of the other person. 3) In a vicious interpersonal cycle, neither person is in charge, the structure of the system is. 4) We have the power to change the structure of the system by changing our own thoughts, feelings,

or actions. 5) If we keep doing what we've done in the past, we'll get the same results we got in the past—all else being the same. 6) When I make a change in my thoughts, feelings, and actions, the system is going to want to return to the old stable position and, as part of the system, I might be the culprit. 7) The change a person makes doesn't have to be huge for the relationship to change when the person's change is at a leverage point and the other person notices the change. 8) The power of the relationship vision comes into play when the person with the vision asks himself or herself, "Is what I'm about to say, do, or decide going to move me closer to or farther from the vision I have for this relationship?" 9) Reinforcing loops in vicious cycles are based on self-centered needs or desires, and reinforcing loops in virtuous cycles are based on other-centered needs or desires.

In Figure 6, we see that the reinforcing-loop engine is the loop that links corrective action to good feelings and honest feedback. But what makes this virtuous cycle loop possible? It's the balancing loop, "Decide to change loop." This loop results from focusing on the vision for the relationship and is based on the gap between the condition of the relationship and the desired condition of the relationship. When we see a large gap between what we have and what we want, we desire to do something to improve the relationship. The only power a person has is to change oneself.

I've shown several exogenous variables in Figure 6 to demonstrate that we can extend our study of dyadic relationships much further and learn a lot more. An interesting exogenous variable is the idea that what one person considers to be helpful in correcting the situation may not be shared by the other person. Our desire to change and the corrective actions we take to make helpful change may be misinterpreted by the other person and have the opposite effect from what we intended.

The marriage relationship is the most intense dyadic relationship.

One of the situations in dyadic relationships that I think is crucial is the difference between our selfish side and our more generous side. I like to consider the marriage relationship because it's probably the most intense of dyadic relationships. Therefore, I think we can see and experience more of the dynamics of a dyadic relationship through our marriage or our romantic relationships.

In the marriage relationship, we start our interactions with each other through a virtuous cycle of reinforcing loops similar to those shown in Figure 2. In the romantic interaction, the unfavorable, hurtful, and annoyed variables of Figure 2 become favorable, helpful, and pleasing. As in the vicious cycle, these favorable variables in the virtuous cycle increase without limit. That is, in our romantic relationship, our love, joy, other-centeredness, kindness, and desire to communicate would increase until we would burst. But balancing loops come to our "rescue."

That is, the virtuous cycle is constrained by the balancing loop in an analogous fashion to the vicious cycle being constrained by a balancing loop. The difference is the goal of the balancing loop that brings the vicious cycle under control is the helpful vision statement

as illustrated in the Ted and Ann example, whereas the goal of the balancing loop in the virtuous cycle relates to selfishness. In balancing a vicious cycle, we become relationship oriented or other centered. In balancing a virtuous cycle, we become self centered.

The value of Figure 7 is that we can see the potential of different types of balancing loops that work together with reinforcing loops in interpersonal relationships. The structure shown in Figure 7 is applicable to work life as well as to home life. That is, the idea of a servant leader is that leadership comes more from our other-centered side than from our self-centered side. I define Solution-focused leadership as "recognizing the strengths in other people, affirming and encouraging those strengths, and gathering those strengths and moving them toward a common vision." The common vision is the system goal.

OUR SELFISHNESS AFFECTS OUR READINESS FOR CORRECTIVE ACTION.

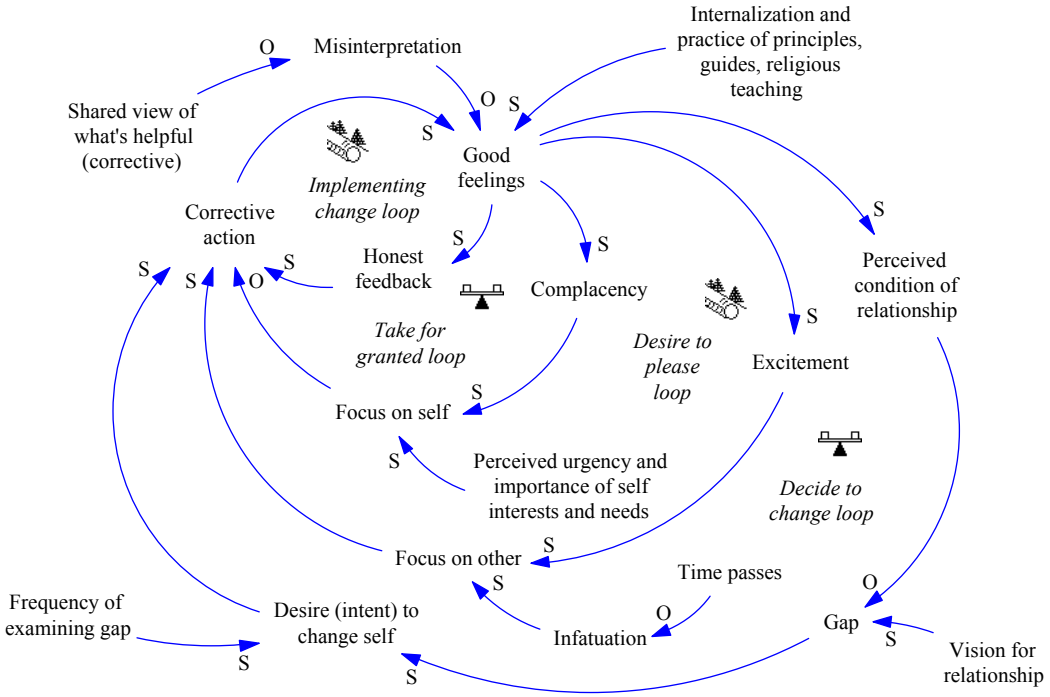

Figure 7: The tension between attention to self and other rules our interaction.

What about stocks and flows?

I've implied a number of stocks in my discussion of these causal maps; for example, hard feelings, good feelings, low regard, high regard, and anxiety. Stocks imply flows. Examples of the flows affecting the stock of hard feelings are the rate of being offended as input and the rate of forgiving and the rate of forgetting as output. Our stock of hard feelings is also affected by a rate of improving our self-esteem (not shown in the simplified diagram in Figure 8). The value of introducing stocks and flows here is for the

system dynamics discussion to be a bit more complete and mostly to ensure we understand it's the changes in the stocks that we're after.

There's much more to say about stocks and flows. However, the simple representation of the hard feelings stock in Figure 8 helps us see how we can integrate research results into our study. John M. Gottman (Gottman, 2001) is generally recognized as the successful researcher in marriage therapy. He has shown that there are many models for successful marriages (translate: system dynamics modeling opportunities), including validating, conflict avoiding, and volatile marriages. In Figure 8, I've shown two links from exogenous variables into the rate of being offended. Dr. Gottman says that the only indicator of a successful marriage relationship is that in successful marriages there are five times as many favorable moments as there are unfavorable moments. The place for inputting these research data is through the favorable and unfavorable behavior exogenous variables in Figure 8.

SUCCESSFUL MARRIAGES ARE CHARACTERIZED BY FIVE TIMES AS MANY FAVORABLE AS UNFAVORABLE MOMENTS.

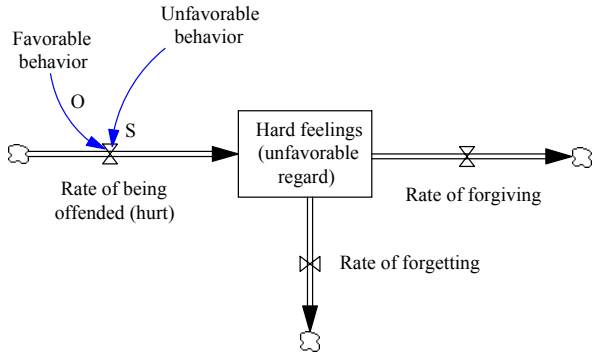

Figure 8: Each stock in human interactions gives opportunity to model research results.

A Person Has a Time "Constant."

Consider a situation in a relationship where you've lost the trust of someone or generated hard feelings in someone because of a number of unhelpful (obnoxious) acts you've made (statements, actions, or decisions). We know that if you change your behavior and start with helpful acts today, chances are this person won't adjust his or her feelings or regard immediately. In fact, we know it will be some time before a person regains his or her good feelings or high regard for you at the level he or she did before you misbehaved. The time it takes depends on a number of variables, one of which is the person's individual adjustment time, which is influenced by his or her inherent propensity to hold people in high regard or to trust. This propensity is based on the person's life-long experience in healthy or unhealthy relationships, partly influenced by your recent misbehavior.

If you've ever thought that a person has a time constant to react to your advice, direction, or behavior, you're dealing with an adjustment time. The adjustment time discussed here has to do with good feelings or high regard in response to changing to improved behavior on your part. I suspect the time "constant" is neither constant over time nor constant from accepting one type of influence (e.g., trustworthy acts) to accepting another type of influence (e.g., policy changes).

I've shown the influence of adjustment time (Sterman, 2000) in Figure 9. We know that when we have a belief or assumption that disagrees with sensory data we're getting, we have what's called cognitive dissonance. Cognitive dissonance is the gap between what we believe and expect and what we sense (e.g., see and hear). When we have cognitive dissonance, we tend to change our beliefs or assumptions over time to agree more with the sensory data. Good feelings and high regard involve our beliefs and assumptions. In Figure 9, we see the formation of cognitive dissonance in that better feelings or high regard closes the gap, or decreases the dissonance, while more sensory data from helpful acts increases the gap.

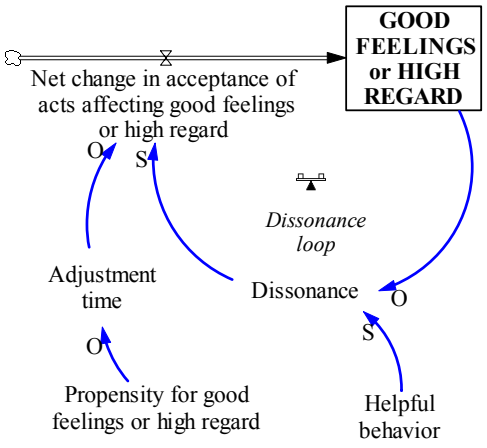

Figure 9: A person's adjustment time affects his or her mental and emotional response to our behavior change.

As the gap, or dissonance, increases, our tendency to have our good feelings or high regard affected by these acts, or our acceptance of them, goes up. In turn our good feelings or high regard increases. However, our tendency to have our good feelings or high regard affected is tempered by our adjustment time. The longer our individual adjustment time, the less we're affected by the dissonance. Also, the greater our propensity toward good feelings or high regard, the shorter our adjustment time will be. A smaller propensity leads to a larger adjustment time.

In the case of Ted and Ann, Ann had hard feelings due to Ted's past behavior (generating her belief that Ted would continue with the behavior she was used to) at the same time she was experiencing Ted's new helpful behavior. Over time, this gap, or dissonance between belief and action, influenced Ann's feelings to become favorable and more in line with Ted's new behavior, thus reducing the gap. Until the gap closes, we can expect

Ann to continue, or even increase, her old unhelpful behavior. Once the gap closes, there's little reason for Ann's old behavior; and we can expect Ann to exhibit new, hopefully helpful, behavior toward Ted. This change in both Ted and Ann can lead to not only the stabilizing of the old vicious cycle and the leveling out of the hard feelings but the institution of a new virtuous cycle and the generation of good feelings. The anxiety in the relationship would decrease.

This map should serve as a warning for those who are changing their thoughts, feelings, or actions in their interpersonal cycle. Even with a powerful systemic goal for motivation, an understanding of the power of the structure of the dyadic relationship, and a commitment to maintain a helpful change, the system probably won't change fast. We know of change-back behavior (Lerner, 1997); but we also have to deal with the adjustment time of the other person. In my personal case, I had what I call "the mother of all vicious interpersonal cycles." In changing my actions to be helpful actions, the adjustment time of the other person took six months to settle into new reciprocal actions.

How about simulation?

Even though for dyadic interpersonal relationships I prefer real-life experiment to simulation, I know we can simulate dyadic interaction and observe the effect of dominant loops and of delays. I know there's a certain amount of risk in conducting real-life experiments rather than simulations. It's valuable to have an idea of what may happen in the future, perhaps a long time in the future, or with others who may have relationships with one or more of people of the dyad before changing the structure of the relationship by changing thoughts, feelings, or actions. However, simulation is limited by our ability to write equations for the variables and identifying initial conditions and other constants needed for the simulation to run.

Of course, there are pros and cons to real-life experiments. Purists may want to use the idea of a case study as opposed to the idea of an experiment when considering the discussion so far. One reason is that to experiment just sounds like manipulation. Another reason is that to many the idea of an experiment relates to treatment groups and control groups. The point is that there's a difference between doing something (my real-life experiment) and modeling something (simulation). We can learn both by simulating or doing. In my experience, doing something can be more fruitful than studying something. Clearly, formal simulations could give us forewarning before we make changes at the leverage points (our own thoughts, feelings, and actions). Even though the variables we're dealing with are qualitative, we could use the technique of scaling (For example, I assess my hard feelings to be a seven on a scale of one to ten.) to help get an idea of the sensitivity of one variable on another.

Regardless of the pros and cons to real-life experiments, I believe that we tend to get helpful new behaviors (not always helpful-looking at first glance) when we change our thoughts or actions based on what we believe is right according to the relationship vision and that we know we can maintain in light of the change-back behavior experienced in human systems.

What's next?

We can look at organizational dyads as well as interpersonal dyads. For example, we can map the cycle for inter-departmental vicious cycles. In fact, I've worked with organizations in doing this exercise.

Dyadic relationships are the fundamental building blocks for human interaction. However, triadic relationships, called triangles, (Friedman, 1985) are the strongest, most robust, and usually the most dysfunctional combination of human subsystems in systems of human interaction. When anxiety rises in a dyad, a triangle will form. Usually, one of the people in the dyad will bring in another person, a thing (obsession with the computer), or a behavior (alcoholism) that will form a triangle. Often, neither person in the dyad seeks the third party; instead the third party enters of his or her own accord.

There's a lot of information that defines the results of generating a triangle. One of the principles in triangles is that whatever the third party tries to do to improve the original dyadic relationship (the other two people), the opposite result will occur. Another principle is that the third party will inherit much of the anxiety, thus meeting the need of the dyad to reduce the anxiety in the dyad. The opportunity to model triangles is enticing.

I hope you see the characteristics of system dynamics all over dyads and triangles. I hope also that you see the value of the study by learning how to recognize and improve the cycles in your own life.

Recall that in discussing the interpersonal cycle between Ann and Ted in Figure 4, we recognized the sequential logic in progressing through the steps in the cycle. That is, from Ted's view, the sequence from Ann's actions to his thoughts and feelings and to his resulting actions is rational and logical. Therefore, Ann should do the changing. From Ann's view, her part of the sequential logic is also clear—at least to Ann, acting as a component within the larger dyadic system. Therefore, Ted should do the changing.

However, if we step back from the cycle and take a systems view, we see that at least the thoughts of Ann and Ted aren't systemically logical. That is, Ann can't be incompetent (according to Ted) and have unused strengths (according to Ann). Also, it can't be true that both the thoughts "Ann doesn't make an effort" and "He doesn't appreciate my effort" are valid. These thoughts contradict each other. This example highlights the importance of the systems view and the opportunity to make real-life changes simply by pointing out the contradiction and inquiring (Senge, 1994, p. 237.) as to the reason for the contradiction.

The number of opportunities to apply systems thinking and systems dynamics to human relationships and especially to dyads is huge. (Kurstedt, 2001) For example, I've studied additional dyadic interactions starting with a number of reinforcing-loop engines similar to the one in Figure 1. Examples include the chicken-and-egg type loops of trust and trustworthiness, overfunctioning and underfunctioning, pursuer and distancer, and

others. For example, a question I've addressed is, "Why is trust so fragile and distrust so robust?" (Kurstedt, 2003) As we can't distinguish the dependent and independent variables in a chicken-and-egg-type loop, we also can't distinguish the dependent and independent variables in the trust-and-trustworthiness-type loop. (Richardson, 1991)

It's fun to consider the archetypes; for example, limits to growth, fixes that fail, escalation, accidental adversaries, and the tragedy of the commons. These and other archetypes tip us off to additional modeling and learning opportunities in human relationships.

In limits to growth, if we don't plan for our romantic favorable feelings to have limits, we'll be shocked by the seeming reverse effect of our good efforts. In fixes that fail, if we humor the other person, we can get through the moment to find a bigger problem later on. In escalation, we can try to outdo each other with kindness or to achieve our own selfish interests. In accidental adversaries, we see the results of not cooperating with each other in relationships. In the tragedy of the commons, we can come to blows over the consumption of what didn't seem like a limited resource (time and money being prime examples).

There's an extensive body of knowledge that can guide us in learning about human relationships. (Nichols, 1998) This body of knowledge helps us improve our maps and develop mathematical relationships for simulation. We'll find that principles of structural therapy, family systems therapy, and solution-focused therapy shed light on and reinforce the learning from our causal maps.

In structural therapy, we use structural maps to identify relationships and characterize the types of boundaries between or interactions between two people in relationship. We find that the structure in systems of humans is really rules in the relationships—usually unwritten rules we call norms. In system dynamics terms, these rules form the structure in the system of humans that leads to the system behavior. Indeed, our mental models form the deep structure in the human-interaction system.

In family systems, we use maps called genograms. (McGoldrick, 1999) Genograms map out patterns of behavior or characteristics over generations in families. We don't understand a problem presented by a family member without investigating the working of the family as a system of people.

In solution-focused therapy, we find that we can reverse difficult reinforcing patterns in relationships by identifying and focusing on a vision (goal, or target) for the relationship and adding nonexistent or emphasizing submerged balancing loops in the relationship. We get to the vision through a technique called the miracle question and we emphasize submerged balancing loops through a technique called the exception question.

I believe the opportunity to learn about human interactions, relationship competence, and building community at home and at work is huge. My intent is for this discussion to demonstrate how we can learn about how the structure of our interpersonal cycles affects

our behavior and at the same time find a place in our lives where we can act to make a difference.

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