

—Chapter Five—

Taming Complexity
(The Challenge of Systemic
Perspective)

"Pluralism, the 'ism' of our time, is both the great problem and the great opportunity."

—Charles Jencks

"When one tugs at a single thing in nature, he finds it attached to the rest of the world."

—John Muir

"In my house are many mansions."

—John 11:25

Our world is becoming an evermore complicated place. Globalization makes locales we've barely heard of—Azerbaijan, East Timor, Montenegro—suddenly front-page news. Environmental crises remind us of how much we have to lose if we ignore life's intricacies and interconnections. And the greater pluralism that comes with today's surrendering of absolutes means a world with every kind of diversity—ethnic, religious, gender, temperament, different ways and degrees of being "abled"—suddenly clamoring for its place on culture's stage. Today's reality has more flavors, more dimension, more voices calling out than ever before, and everything points toward our future being even more complex and kaleidoscopic.

Like we have seen with uncertainty, responsibility, and change, effective future decision-making will require a new kind of relationship with complexity. At the least, we must learn to better tolerate complexity, not run from it or respond reactively. We must also better understand how to manage complexity, and complexity often of a bewilderingly apply-and-oranges sort. And as with our other themes, in the end, our times challenge us rethink what complexity is about, understand it in new, more complete ways.

The theme of complexity shares with the theme of change a special relationship to the truth's "multiplicity" task. Complexity addresses here-and-now differences and just how they work. We will see how a creative frame again can provide the basis for an

important kind of “pattern language.” We will also see how we can put change- and complexity-related distinctions together to help us understand why we’ve viewed complexity as we have in times past, just what now is changing, and how complexity’s picture changes—predictably and necessarily—as we move forward.

In times ahead, our experience of substance and vitality will lie increasingly with our ability not just to acknowledge, but to find delight and meaning in our human complexities and intricacies—and also in the rich complexities and intricacies of life and existence more generally. Cultural Maturity supports such a robust picture of complexity, one that illuminates and celebrates differences and, at once invites a deeper recognition of coherence, and even simplicity.

Our excerpts from the stretching exercise focus on progress and diversity:

Evan (an economist): My question concerns progress. I suspect we need to rethink the whole notion. We equate progress with more and more things. But the planet can't sustain that kind of progress. And even if it could, something is missing in the definition.

CJ: What do you see missing?

Anne: Lots. To start with, a deep enough appreciation for most anything that isn't a commodity...nature, communities, families.

CJ: And?

Evan: We hear a lot these days about society becoming less civil. Traditional indicators of progress like the Gross Domestic Product don't address civility.

CJ: Anything else?

Evan: The disadvantaged. Our present definition tends to increase the split between the wealthy and the poor—both at home and around the world. And kids, certainly. I think the health of young people says a great deal about the health of a society. The

concerns of children tend to get left out in how we measure progress, at least formally.

CJ: Anything more?

Evan: You are pushing me. There is another thing, but I feel funny mentioning it. I don't want to end up sounding flaky.

CJ: Go ahead. Sound flaky, then we'll sort it out.

Evan: We've left out the spiritual in our thinking about progress. I don't necessary mean this in a religious sense. But I think our old definition of progress, if carried too far, does damage to our souls. I like how children's author Maurice Sendak put it: "There must be more to life than having everything."

CJ: So, in a lot of ways we need to include more in how we measure progress if progress in the future is really to be progress—something that makes life more healthy and full.

Evan: Yes.

CJ: I think you are right. And the observation could not be more important. Mismatches between how we conceive of advancement and the critical tasks ahead will lead to dangerously ill-conceived decisions. And how we conceive of progress and how we understand meaning are intimately tied—progress describes the values and priorities we hold most dear, how we measure "more." Notions of progress that miss the mark will lead to deep personal and social confusion and even hopelessness.

Evan: That says it.

CJ: A couple aspects of what you point toward are not just important, but new to us as a species. Each follows from the tasks of Cultural Maturity. They are worth separating out.

Evan: Sure.

CJ: The first concerns the fact that you would bring up the question of progress at all. Go back to the middle of the last century and we might talk about whether we would succeed at progressing—will the United States beat the Russians to the moon? But it is unlikely we would be talking about what progress itself should appropriately entail. Back then, progress's definition was a cultural given—like gender roles—water to the cultural fish. Progress meant new inventions and material growth—"onward and upward."

Evan: The first new piece has to do with that need to take new responsibility in the story of culture we talked about.

CJ: Yes—and for that to be possible, the ability to step back sufficiently from culture's story in the first place. Reformulating progress—or at least rethinking culture's truths—is not itself new. In a lesser sense we've done it before. For example, the Reformation and the Age of Industry each introduced not just new inventions but new sets of values.¹ But what we see today requires a more fundamental kind of reformulation—and, for this to be possible, a more complete kind of stepping back.

You implied how different the new definition must be in the missing elements you listed. Rethinking truths and values in time's past continued a familiar direction—toward individual autonomy and material achievement. Cultural

¹ Questioning its modern definition is also not new. Plenty of people opposed various effects of the industrial revolution, for example. But these have tended to be polar reactions, similar to romanticism's response to Modern Age advances more generally.

Maturity brings into question whether the basic direction that advancement before has taken can serve us in the future.²

Evan: I need help with that one.

CJ: The second new piece helps clarify. It concerns the greater complexity of progress's needed new definition. You captured it well. The task with rethinking progress lies not just with questioning the old definition and coming up with a new one. We have to hold the question of progress—and its definition (and human meaning as a whole)—more expansively and complexly.

Production and consumption provided an adequate measure for the tasks of the industrial revolution. Bigger (in a material sense) came pretty close to equaling better. But a healthy future today requires more multi-faceted measures—a lot more must be taken into account. Progress' new definition must be more fully systemic, encompassing in a sense that before now we could not have grasped..

Evan: That makes abstract sense, but I would hardly know how to start making use of what you describe. Application would seem very difficult.

CJ: Yes and no. It certainly means more must be considered, and much of what we need to consider is not so easily quantifiable. But complex in this context does not necessarily mean more complicated. In ways the task becomes simpler. Try a thought experiment with me. You've been asked to convene a group to take on the task of redefining progress. Who would you invite?

Evan: More than the group that sits at the table for most policy decisions—people from government, business, and sometimes science. I'd want to include maybe an ethicist, a social worker—perhaps a farmer, a policeman, a religious leader, an artist. I'd want both rich and poor represented. I'd want some kids. I might even go

² We saw this distinction implied earlier in teasing apart our two definitions of maturity. CST calls the quandary it presents the Dilemma of Trajectory. See Chapter Seven for a more detailed look.

further. Why does this need to be just people? Maybe someone could represent the world's oceans, or endangered species.

CJ: And when you get this group into the room, what would you do? What questions would you ask them? And what traps would you need to watch out for? For example, an economist—though not yourself—might miss how economic wealth is but one measure of cultural success. Or a person might fall for an opposite trap. Someone whose deepest concern is the environment could end up forgetting that economic and social factors are as critical for good long-term environmental policy as a love of nature.

Evan: I think, ironically, I sometimes fall for that one.

CJ: I can see that. The things you mentioned could be lumped together as an opposite to our old onward-and-upward definition. But you also implied a simple way beyond the trap. We just need to include those people who have always been at the table (or better, more top-notch replacements), folks from the harder side of the equation—government, business, science.

Evan: So, rethinking progress is about getting all the pertinent dimensions of the question into the same room—a real room if we were to act out your thought experiment, or the room of one's mind.

CJ: Yes, and we also have to be ready to think this large, to get our minds around such complexity. Miss why an effort like this is needed, or just not be up to all it asks,³ and not much is going to happen. At best we end up with something like the blind men and the elephant—people arguing over whether it is the tail or the ear that matters.

And, actually, there is more. In the end, we need also to think in some new ways about complexity itself. Even if we accept that all the parts hold truth, just having

³ See the concept of Capacitance in Chapter Six.

parts in a pile doesn't give us a living elephant. We are dealing not just with a picture that has more pieces, but also a different kind of picture.

Evan: You said mature perspective would make the task simpler. All that doesn't sound simple to me.

CJ: I said simple, not easy. But a couple factors do make the challenge—if we are ready for it—easier than we might assume. Each follows from ways the new picture is new.

First is that fact that we have a living elephant not a pile of parts. In one sense this makes our task more difficult, but there is also a way in which it makes what is needed more within our reach. An elephant's workings are complicated, infinitely so. But the fact that it is alive provides a coherence—we could say a simplicity—that otherwise would be lacking: A living elephant is also just an elephant. Social systems are not living in quite the same sense as an organism, but the particular way they are systemic gives approaching your task of discernment—if we can hold it large enough—a special logic and order.

The second factor concerns ourselves, we who are doing the discerning. Creative Systems Theory proposes that as individuals we embody a complexity—a logic and order—very similar to what we are trying to make sense of in culture. If accurate, we may be particularly well equipped to sort out this more complex picture. If we can't adequately bring to bear our own complexity, such apples and oranges multiplicity becomes confusing if not overwhelming. But if we can, the task, while not easy, becomes surprisingly straightforward. It asks more of us. But taking it on, when the task is timely, can feel very much like common sense.

Evan: I guess whether simple or not, we have no choice.

CJ: That is true. And this need to think more complexly doesn't apply just to progress. Most all critical questions today require that we get our thinking around multiple, often incompatible-seeming considerations. Understanding all this involves

will be essential if we are to successfully address any of the major tasks ahead. We need to practice thinking more complexly every chance we get.⁴

Bonney (A psychotherapist and trainer): As I listened to you and Evan, I was struck by how much my work has to do with complexity—more fully holding it and what can happen when we do. I get to practice every day.

CJ: Great, say more.

Bonney: I lead workshops on diversity. I don't think what I do would be possible without the changes the two of you were talking about. Bigotry is simple—about us versus them. Getting beyond it requires a more complex picture of the world around us—and of ourselves.

CJ: What kinds of diversity do you most work with?

Bonney: Often the more obvious kinds of diversity—gender and sexual orientation differences, ethnic and racial dynamics, all that. But I find working with personality style differences most fascinating.

CJ: You are probably aware that temperament diversity has an important place in my work—both on it own and as a tool for supporting culturally mature understanding.⁵

⁴ This analysis leaves out a recognition we encountered in a different form earlier in looking at the evolution of governance. The need for a more complex definition is only in part a product of how now-necessary elements have been ignored or dismissed. It also has to do with how historically we've categorized various elements. We've tended not to regard certain elements as having to do with progress. We've most often treated civility and the appropriate treatment of children, for example, as the province of moral and religious considerations (which we have tended to view as eternal). The task of reconceptualization brings together elements that before we have relegated not just to separate categories, but to separate worlds.

Bonney: You use a different conceptual framework than I do, but I think what we are trying to accomplish is pretty similar.

Cj: What has made your work with personality style differences particularly enjoyable for you?

Bonney: Enjoyable sounds a bit too cheery. I have often found the work decidedly unsettling. But I think personality style factors underlie a lot of other differences—political, religious, even differences we often associate with race or ethnicity. Certainly they color our prejudices.

Cj : I agree.

Bonney: Personality diversity also fascinates me on its own. To a startling degree, individuals with different temperaments live in different realities. I think I got involved with diversity training because I was afraid of difference. I wanted everyone to get along. As you might imagine, I have not always been grateful for what doing this work has taught me.

CJ: But it is important work.

Bonney: I think very much. We are just beginning to grasp all the ways it is.

CJ: Your question?

Bonney: It's a bit rhetorical. I think I ask it because I'm getting closer to an answer. To put it bluntly, why should people who are different—often so fundamentally—even bother to connect? Certainly it's a lot easier to just hang out with those who are like ourselves—which is what we most often do. We need a good answer. In my

⁵ CST includes a detailed temperament diversity framework—the Creative Systems Personality Typology. (See later in this chapter and the Appendix.)

experience, just wanting to get along is rarely a good enough reason for people to leave behind their prejudices. I think I also find personality diversity so interesting because it provides the beginning of an answer.

CJ: Which is?

Bonney: I found myself thinking about it as you talked with Evan. You described different constituencies as like parts of the proverbial elephant. Personality styles, too, are about more than just difference; we are different in ways that at least in potential add to one another. It is increasingly obvious to me in my work just how powerful such complementarities can be.

CJ: Temperament categories are less like boxes and more like notes on a scale, or colors of paint on a palette.

Bonney: Exactly. If we really want to be effective in what we do together, in some way we need them all. I wonder if this is not the reason we see such diversity in the first place. Given how evolution works, differences this dramatic must have somehow helped us as a species be more effective.

CJ: Certainly, today we need them all. When I bring together think tank groups to work on difficult social issues, I make an effort to include not just different viewpoints and knowledge sets, but, always, too, people who are different by virtue of personality style. I find it hard to generate the kind of creativity, and the maturity of perspective, such efforts require without such diversity in the room. I do the same thing with trainings I lead.

Bonney: So while temperament differences may have always been important, somehow today we need to be more aware of them—and make more conscious use of them.

CJ: I think that is right. I'm interested more specifically in how you work. For example, how do you get beyond the easy-answer conclusions of simple inclusiveness? It is a place that diversity training, even at its best, so often gets stuck.

Bonney: I don't think it is really possible to get at the commonalities—at least the ones that really matter—without first addressing differences. That is where I always start in my teaching. I talk about the diverse value sets and worldviews we commonly see with personality style differences. I describe conflicts that predictably result from such differences, and how, because such conflict is based on something much deeper than belief, it can be particularly intractable.

I can sometimes be startled, even bit frightened, by what happens when people become more conscious of differences. I often begin classes by breaking the group up by temperament and giving each smaller group a set of questions for people to answer: "what do you see as your greatest strengths and your greatest weaknesses," "what attributes do you find most irritating in others," "if someone wanted to most compliment you or most insult you, what would they say," "how would you describe your spiritual or religious beliefs," "when people misunderstand you, what most often is it that they are missing."

Later, I bring the small groups back together and have them interview each other. It can be tricky. Feelings in the room, at least initially, are often not that pleasant. Unconscious bigotries toward people with different personality styles—people who are more introverted or more extroverted, more artistic or more scientific, more intellectual or more down to earth—can be quite extreme.

Cj: I often work in similar ways—and have seen similarly extreme responses. Just the degree of difference explains part of it—we aren't used to confronting this kind of difference so directly. But there is also how we've all experienced violation at the hands people who are different from ourselves by virtue of temperament.

Bonney: I'm getting better at the difference part—though I've had to deal with that good girl in myself who wants everyone to get along. Now with diversity training of

any sort—not just with temperament—I am immediately suspicious when I hear people putting too much emphasis on sameness. Appreciation of our individual richnesses and collaboration in any deep sense both require understanding of difference.

CJ: Where do you go from there?

Bonney: Once participants begin to be comfortable with the differences—hopefully by this point rather fascinated by them—I work to help people get at how differences can directly benefit us. This isn't just touchy-feely, get along, stuff—it can be as unsettling as seeing differences. But it is about mutuality.

We discuss the way each temperament has both particular strengths and particular blindnesses. I also tell stories about the kinds of mistakes people are likely to make if limited to the beliefs and biases of one personality style. Most important, I put people together in work groups so they can experience how creative and powerful a team with lots of diversity can be—once people can handle the differences. This is where people really get it.

CJ: How has this work affected you personally?

Bonney: Certainly it has helped me understand many things in the world that I'd before found confusing and made me a better collaborator. But just as important, it has helped me appreciate my own complexity—to use your words, more of my personal notes and colors. I've become more interesting to myself, and also stronger. I'm less likely to run from my contradictions, more likely to be intrigued by rather than fearful of what I don't immediately understand in myself. It helps me think more complexly in general.

CJ: What you are doing is very important in its own right, and, as you suggested, it also makes great practice for what the future requires more generally. You are getting people to engage a kind and degree of complexity—in themselves and in the world around them—which we as a species are only just learning to tolerate much

less make sense of. In times ahead, we must learn not just to tolerate it, but to celebrate it and to consciously draw on the greater power such complexity makes possible.

Complexity's Challenge

Rethinking progress and more creatively understanding our human differences present particularly nuanced complexity-related challenges. But we only need look to the front page news for more obvious examples. Today's world presents an endless litany of new complexities: confusing global economic relationships, impossibly multifaceted environmental dilemmas, information technologies that throw us into a world that is interlinked and often transparent at a level we could not, until very recently, have imagined. Without greater maturity in how we think about and address complexity, it is hard to imagine a future that is at all healthy, indeed one that makes much sense.

At the very least, we must learn to be more comfortable in the face of greater—and often confusing—complexity. Modern life all too easily buries us in a deluge of data. And the messages of a pluralistic world can seem bewilderingly contradictory. So much to consider can leave us numb. It can also make us vulnerable to easy substitutes for order and meaning. Dangerously narrow, reactive, and shortsighted decisions are a common result.

The sheer quantity of complexity also leaves us vulnerable to social fragmentation. We can end up hiding from life's bigness in the parts of life we find easiest to grasp. We retreat to chat rooms of the like-minded; to gated communities; to narrow religious, ethnic, or philosophical persuasions.⁶ Fragmentation not only leaves us ill-informed and our experience impoverished, it feeds on itself, compounding people's paranoia and feelings of isolation.

⁶ Here, the information revolution plays a double role (a further example of the Janus-faced contribution of new technologies). By linking us, it helps us, at least in potential, to better understand our differences. At the same time, our growing ability to individualize communication (not just with blogs to link those who think alike, but "intelligent agents" able to scan the Internet for just the kind of information we might want) markedly amplifies the potential for fragmentation.

Besides better tolerating complexity, we need also to learn to think more complexly. Each of our defining themes thus far has framed aspects of what simplistic beliefs shield us from: the magnitude of life's, and particularly contemporary life's, uncertainties; the depth of today's new responsibilities; how fundamentally change is part of reality and the depth's of today's changes. But the themes of complexity addresses most directly what past simplistic answers have protected us from. It also makes the fact that such protection no longer serves us particularly inescapable.

The "single-cause/single-cure" solutions that before have most often driven human problem solving, today, not only work less and well, increasingly they put us at risk. This is particularly the case when such limited answers have their origins in ideology. Beliefs that take one part of truth's complexity and make it the last word fail absolutely in a world where mature whole-ball-of-wax perspective in increasingly where we must start. New questions in every part of our lives, today, require that we better appreciate the diverse elements (causal factors, stakeholders, aspects) involved in questions before us and also better recognize how diverse ingredients relate one to the other.

In the end, we need not only to think in more complex ways, but also to fundamentally rethink what complexity is about. This is something we might have guessed from our experience with previous themes. Complexity's new challenge is more demanding—and ultimately interesting—than just learning to take more pieces into account. We need to address complexity with a sophistication that before would not have been an option. Without more complex ways of understanding, we are left helpless in the face of today's new challenges.

At least we need to think in ways that better include aspects of an apples-and-oranges sort. We will fail in our efforts to deal with terrorism if we can't include in our considerations, along with violent acts, the mechanisms of globalization, cultural and religious history and differences, economic disparities, and much more. Similarly, we will fail in efforts to protect the environment if we cannot successfully take into account not just specific acts that result in harm, but also the complex ecological interrelationships in which they occur, economic and political variables, cultural assumptions of human populations involved, and, again, much more. Without

perspective's able to take into account such diverse concerns, we will make dangerously naive decisions and get caught in endless circles of blame.

And, as we shall see, this need to rethink complexity itself requires more even than this. We need not just to better take diverse pieces into account, but also to think in some wholly new ways of what happens when we do. Without this additional step, our conclusions, even if generous and well-meant, will not provide the creativity of outcome today's question ultimately require. It is this further step that gives us the newly all-the-crayons-in-the-box picture of complexity on which our future depends

Cultural Maturity's Response

Cultural Maturity's changes again provide the needed new perspective. We can think of Cultural Maturity reordering our relationship to, and understanding of, complexity (of all sorts) in four related ways:

First, culturally mature perspective helps us better appreciate multiplicity—how a diverse array of factors are ultimately involved with most any human question. We saw this in Evan's recognition that progress's new definition needed to address all the disparate factors that contribute to life being rich. It was there similarly in Bonney's recognition of the great diversity of forms human temperament could take and the contributions each embodied. Cultural Maturity alerts us not just to how life's puzzles have multiple pieces, but also to how very often these are pieces of a different sort than we before considered. And it makes us not just more accepting of such more complex complexity, but also better able to get our arms around it and apply it to useful ends.

Second, culturally mature perspective brings new attention to relatedness. It helps us see how all questions happen in contexts. It also helps us better appreciate how complexity's ingredients fit together, helps us understand interconnection and pattern. Recognizing lots of pieces is critical, but by itself it only makes things more complicated. Mature understanding is also about linkages, about wholes as well as parts. Evan's task of redefining progress required ultimately not just the inclusion of all the pertinent elements, but also a beginning sense of how those elements relate one to the other. Bonney found her excitement not just in the fact of difference, but also in the recognition that those diverse contributions might be mutually enhancing.

The third piece concerns who we are and how we relate. Cultural Maturity helps us better recognize our own complexity. It also helps us interact in ways that better take complexity into account—we become more able to engage others without projecting and mythologizing. Cultural Maturity's changes make possible what I've called Whole-Person/Whole-Systems relationships—this between friends, lovers, between leaders and followers, in community, in organization as nations and as a species. They both support the option of Whole-Person/Whole-System relating and make the skills needed to succeed at such relating understandable.

The fourth new piece more directly confronts that need to rethink complexity itself. We've seen how uncertainty, responsibility, and change each require whole new ways of understanding what they were about. Cultural Maturity's reframing of complexity not only involves a similar leap in understanding, it brings previous needed redefinitions together. Culturally mature thought is necessarily systemic thought. And it is systemic in a sense we have not before been able to consider.

Systemic thinking in the sense of attentiveness to detail and how parts fit together is nothing new. It is what good engineers have done since the days of Stonehenge and the Pyramids (you need this many stones and you fit them together in just this way). Culturally mature perspective helps us understand both difference and relatedness in more dynamic, "living" ways. The understandings of detail and coherence that gave Evan's and Bonney's conclusions significance in each case drew on perspective of this more demanding sort.

Cultural Maturity doesn't eliminate complexity—or even reduce it. In fact it contributes to it. The diverse elements that Evan considered in redefining progress and the multiple views of the world that were Bonney's interest, would not confront us so directly were it not for Cultural Maturity's changes. And the way Cultural Maturity reframes complexity gives us even more to consider. But, at the same time, Cultural Maturity makes complexity of all sorts (whatever its source) seem less a foreign presence. It also helps us better understand how complexity works. And often it reveals underlying patterns that make complexity more manageable. If we can stretch sufficiently, Cultural Maturity makes life's complexities not just more tolerable and comprehensible, but sources of fulfillment and inspiration.

Connectedness and Difference

Where these changes take us can at first seem contradictory. In complexity's new picture, parts are more interconnected. Yet, at the same time, they are more different. This apparent contradiction provides an important introductory window into complexity's new picture. It helps us grasp what the needed more mature relationship to complexity is about and, also, to distinguish it from what it is not.

We've seen this contradiction implied with each of the main examples I've used in these pages. Let's start with how each of our examples reflect greater appreciation for connectedness. The basic shift is this: Realities of times past tended to involve differences of an absolute sort. Truths were often not just polarized, they were seen as God-given. And even everyday categories were treated as clear and final. When we leave behind cultural absolutes and mythologized truths, our understandings become inherently more encompassing.

Men and women have historically been seen as wholly different. Whole-Person identity, in contrast, produces a picture in which, at the very least, we are no longer opposites. Today we not only better appreciate what we have in common we often mix and match in the roles we take.

When we make another social group—country, ethnicity, political persuasion—an “evil other,” they become the very embodiment of difference. Cultural Maturity's more Whole-System picture of identity at least makes us more able to recognize our common humanity, if not always to see eye to eye.

With mythologized authority, leaders and followers live in different worlds. Cultural Maturity's changes make authority relationships more overtly interdependent. At least we become more explicitly leaders in our personal lives. We also become more fully responsible for our particular pieces in larger systems—in our communities, organizations, countries, indeed in the continued wellbeing of the species and planet. At the same time, authority of all sorts becomes more humble, necessarily as much about listening as dictating, as much about following what is contextually called for as determining leadership's path. From each side of the leadership equation, we become more “in it together.”

Morality has historically been clear cut, good and evil the epitome of opposites. Cultural Maturity does not at all make moral truth only in the eye of the beholder, as we've seen. But good and evil do stop being opposites in the same cut-and-dried sense. When we take newly conscious responsibility for whether an act is enhancing of life, we better see how moral acts, in the end, have as much to do with the who, when, and where, as the act itself.

Implied in our look at government and governance has been the conclusion that effective future governance must be a more participatory enterprise than we've considered governance to be. Just taking part when it is time to vote cannot continue to be enough. I've described how governance has always been a more embracing endeavor than we have commonly made it out to be—what we do everyday as teachers, carpenters, doctors, or parents is ultimately a part of governance. Effective governance in the future should include a more overt recognition of such relatedness and address questions of all sorts from a more consciously encompassing perspective.

With this chapter, we've added how progress, when maturely considered, becomes an explicitly systemic measure. We've also seen how temperament differences, so often a source of unconscious conflict, reflect a deeper coherence when understood with sufficient perspective.

So one thing Cultural Maturity teaches us is that in our complex world things are a lot more connected than we might have thought. It also teaches us, however, that just where this takes us may be different than we suppose. Certainly the result is wholly different from some "all is one" conclusion. We saw this essential distinction earlier with our look at how "crux" truths become more encompassing beyond Cultural Maturity's threshold. The kind of connectedness that is our concern follows from the fact that all the examples I described involve the "bridging" of past polar relationships. What before seemed opposites reveal themselves to be aspects of larger systemic wholes.

One consequence it that difference plays a key role in all these observations about connectedness. And we should all be grateful. Not only does confusing unity with connectedness miss the mark, it would shortchange us of the depth of connectedness mature perspective reveals. Love as murgence is not love at all. One cell mashed into another is the antithesis of life. Distinction and connectedness are each necessary to any

system's vitality. Indeed, they are necessary to the system's existence. In the end, difference not only plays a key role with systemic interconnectedness, it plays a new, particularly fascinating and critical kind of role. What we see doesn't just add to what we have known, it results in a wholly new picture of what connectedness is about.

That is half of complexity's new picture. How difference on its own takes on new significance can be less immediately obvious. But Cultural Maturity's changes, just as much, help us better recognize difference. In the end, in a similar way to what we see with connectedness, they also help us understand difference with a dynamism and nuance that was before we could not have recognized.

An easily surprising insight is important to appreciating how deeply something different is happening with difference. Ways we've traditional thought about difference have often as much served to protect us from it. Certainly this is the case for polarized truths. While such truths might seem to be explicitly about difference—indeed difference at its most firm, they've also worked to keep the real thing at arm's length. This is most obvious when the polar opposite is idealized—difference becomes as much about oneness—but it is just as much the case, ultimately when the polar opposite is loathed and placed conceptually at the greatest distance. Projection locks perception into a cut-and-dried reality with very little room for variation. We see something similar with any single “crayon” belief. And, in the end, the same result applies with more everyday lists and categories. Our previous look at the history of “multiplicity” discernments revealed how even the most rationally conceived of distinctions have resided in one half of a polarized conceptual world. All the way around, differences as we have before perceived them have been of a crude and rudimentary sort.

Step back from polarized assumptions and reincorporate aspects of ourselves that before we have projected and difference itself becomes different. Not only do we better see things as a whole—and thus recognize connectedness—at the same time, we better see the real nature of difference. This involves complementary changes to what we see with connectedness. Just as culturally mature connectedness includes difference, so is the reverse the case—a deep understanding of differences requires a recognition of connectedness. And in a similar way, changes don't stop there. Complexity's new picture also makes difference different in that it becomes more dynamic. Difference becomes of a newly all-the-crayons-in-the box sort.

Let's again turn to our examples. In each case we see a new and deeper appreciation for differences that have always been there, but which have always, too, been a bit beyond us to grasp. Recognizing that men and woman are not opposites does not at all result in unisex equivalence. It produces new appreciation for our real differences and a new and deeper understanding of the ways we can add to each other's lives. Getting beyond chosen people/evil empire projections on the world stage (or on any more limited stage) does not produce an all-loving world, or even necessarily more peaceful relations. It does make it more possible to cooperate and compete, as is appropriate, based on a more accurate picture of our real similarities and differences. Stepping beyond the mythologizing of authority, doesn't suddenly put us all equally in charge. It does make it possible to develop more sophisticated and dynamic decision-making mechanisms. Similarly, leaving behind absolutist moral beliefs doesn't at all make one action as good as another. Rather, it presents the possibility of much more nuanced, contextually specific, moral decision-making. And making government more "of the people" in the way I've described is about something far different from socialist equivalence. It challenges us to think about governance in ways that most effectively acknowledges and draws on each person's unique contribution.

Here we've added that rethinking progress, rather than being about some romantic opposite to modern material progresses, teaches us that to go forward we must factor in all the diverse elements that together create significance. In a similar way, effectively getting beyond our personality style differences is about neither liberal inclusiveness nor simple spiritual oneness, but rather about more deeply recognizing how we are different, and through this, how, together, we can create things larger than ourselves.

In summary, past ways of thinking about complexity—its connectedness and difference aspects equally—have protected us from systemic complexity's full demands. This has been a good thing. Polarity and projection have made a world of multiple options and multiple causal factors more manageable.⁷ But more today is

⁷ This statement might seem to contradict the earlier claim that polarity has its origins in the workings of formative process. More precisely, as human thought has evolved, each succeeding kind of creatively appropriate polarized perspective has at once helped us grasp more of complexity and kept complexity's larger implications at bay.

needed. Cultural Maturity's changes provide the needed larger picture. Culturally mature perspective takes what has been an either/or world and replace it with a picture that is more of a whole, and, at once, also more multi-hued.

We can extend this systemic picture in a way that has important implications for where Cultural Maturity's more "complexly complex" picture of complexity as a whole takes us. The changes I've described are products not just of the fact that each of these examples involves a "bridging" of polarities. Difference and connectedness is itself a polarity. Indeed, if it is accurate to think of truth as creatively ordered, it represents truth's ultimately defining polarity—at least one very useful way to think about it. Difference and connectedness becomes what it is all about.⁸

Later we will come back to the implications of this recognition for understanding as a whole and for how these reflections fit into the larger history of ideas. We will look at how it helps us address some of the most fundamentally elusive of human questions. The topic of complexity in another way brings us to that critical task of a new human story. All great stories have been in some way about interconnections and differences, and just how they work. Better understanding complexity is ultimately about more deeply understanding ourselves, the significance of our time, and how, in the larger picture, it "all fits together." Cultural Maturity's reframing of complexity invites us to ponder the task of new story from a further provocative angle.

Complexity, Maturity, and Creativity

We can make use of any of our now familiar metaphors and analogies to help us get at where complexity's new picture takes us. Certainly, we can again draw on our developmental metaphor for insight. Developmental parallels help us both grasp complexity's task and to better understand why succeeding at it might be possible (and happening).

⁸ CST adds that they represent "what it is all about" behind the scenes during the first half of any formative process, then more explicitly with creative integration. With creative integration, connectedness and change also change, as in these descriptions, by becoming themselves more explicitly "bridging" notion.

Earlier we saw how second-half-of-life challenges make us more cognizant of our life as a story in time—help us appreciate chapters in where we have come from and recognize threads that have given life meaning. As important, maturity in individual development helps us appreciate here-and-now life complexities. It makes newly visible the often-contradictory multiplicities that together define our unique identities.

Few characteristics of life's second half more stand out than the way it challenges us to better grasp and deal with complexity. We value wisdom because it appreciates nuance—shuns easy answers. With maturity we recognize how much more often needs to be considered than we before assumed. We become more sensitive both to interconnections and intricacies. And maturity confronts the contradictory as fearlessly as the simply complicated—indeed it often finds particular fascination in paradox.

One of the most striking aspects of midlife is how it puts before us parts of our psyches that prior to that time we have kept hidden, even from ourselves. These parts may at first seem to conflict with the elements with which we've most strongly identified. But central to wisdom is learning to live with acceptance of and even appreciation for such internal complexity. A person who has been highly extroverted may suddenly begin paying attention to more inner aspects, or the reverse, an introvert may suddenly discover her more gregarious side; a person who has been more intellectual may become more attentive to feelings, or the opposite.

Various people respond differently on first encountering a neglected part. One person may vigorously push it away, another may idealize it, make the newly discovered aspect of himself the new answer, the new truth.⁹ In time we recognize that the task is not about choosing between parts, but about holding a larger picture, about acknowledging and embracing our contradictions and multiplicities. The result is a deepened and, paradoxically, more solid and coherent experience of identity. If anything defines maturity it is this more complete embrace of our inner narratives. I like the words

⁹ Often with at least short-term unfortunate consequences. A highly rational person gives up her job in business to join an ashram, or an artist leaves his canvases and takes a position on Wall Street, each in time to regret their decision.. We can miss that the discovery of new "truths" is not a call to discard past identity, but to greater completeness.

of Walt Whitman in "Song of Myself": "I contradict myself, very well then, I contradict myself. I am large; I contain multitudes."

And just as much, personal maturity is about seeing the outside world more complexly. Wisdom finds new fascination in difference. It seeks to set aside personal bigotries and narrow assumptions. It also gives new attention to connectedness. Interpersonally it reminds us that, "no man is an island." It brings fresh appreciation for friends, family, and community. And it reminds us of the importance of things larger than ourselves more generally.

The parental (and polar) assumptions of first-half-of-life perspective protect us from experience we are not yet ready to handle by shielding us from both multiplicity that might overwhelm us and interconnections that might stretch us beyond what we could tolerate. Personal maturity makes it safe to open our eyes to both aspects of complexity's more embracing and challenging picture—the depths of both real difference and inescapable relationship. It also makes it imperative that we do so.

We could turn as readily for reference to our more general creative analogy. The idea that the kind of complexity we are interested in is creative at least works as a helpful image—think of Bonney's reference to temperament differences being like notes on a scale and colors of paint on a pallet. And the previous section's look at connectedness and difference in a further way affirms a creative picture. I spoke of connectedness and difference as an ultimate polarity. I addressed that same most basic of opposites earlier in speaking of any juxtaposition having creatively-related left-hand and right-hand, more archetypally feminine and more archetypally masculine, aspects

Creative language not only provides useful imagery, it can also be applied concretely. I've described how the first half of any generative process is defined by the growing emergence of delineation and structure out of original unity, the second by more integrative mechanisms. The second half of formative process brings together the complexity of voices and dimensions that the course of any particular generative mechanism relegates to different worlds. Bridging begins as a joining of creative halves. It finds completion in a celebration of the new system's full multi-hued complexity and diversity, in the infinitely rich and wondrous ways parts link to create new significance.

Cultural Maturity's cognitive changes let us be even more explicit. An Integrative Meta-Perspective is specifically about being aware in, and responsible for, the whole of

our human complexity, this in a sense not before possible. Each of the three ingredients that awareness more deeply engages supports this more whole-ball-of-wax picture. Each also supports the usefulness of a creative interpretation.

That new recognition and reincorporation of psychological/social elements that before we've projected at least helps us better appreciate interconnections. Add the recognition that polarities have an inherent creative symmetry and we get a specifically generative picture.

That newly integrative understanding and application of our multiple intelligences directly affirms a more multi-faceted grasp of ourselves—and ultimately of understanding more generally. Add the thesis that our multiple intelligences relate in specifically generative ways, and we get not just further support for a creative interpretation.

And that deeper engagement with past stages in our generative history (which we will soon examine more closely) adds important depth to our interconnected and detailed picture. It also helps fill out what it means to say that complexity in the sense we are talking about is creative.

Cultural Maturity produces a new and different relationship with complexity, and a new and different picture of what complexity is ultimately about. Put simply, it propels us toward all-the-crayons-in-the-box systemic understanding. We get the same result whether our point of reference is how connectedness and difference ultimately relate, the mechanisms of maturity, formative process more generally, or where an Integrative Meta-Perspective inherently takes us, we arrive at the same conclusion. Of particular importance for our project, this result supports the conclusion that the demands of our ever more complex world might not be beyond us. Complexity's new picture offers that we might better avoid being overwhelmed in the face of complexity, develop important new insights about complexity's workings, and make use of complexity for newly rich, positive, and meaning-filled ends.

The Changing Face of Complexity (and Simplicity)

If this general picture is accurate, we should expect to find changes in our understanding of complexity in all realms of experience consistent with it. And, indeed,

we do. The best thinking of the last century at the least appreciates that there is more to consider than realized in times past. It also recognizes how the ways things connect may be as important as how they are different. And the most advanced begin to rethink past ideas about both linkages and parts.

Again, as with previous listings of uncertainty-, responsibility, and change-related advances, my concern is not the specifics of new ideas or even whether they are right, but only that they reflect what Cultural Maturity's changes would predict.

The harder of the hard sciences, certainly, have thrown us into a more multi-faceted world—of galaxies upon galaxies, of subatomic particles that forever reveal yet smaller particles. They've also elucidated before inconceivable links. Relativity joins our thinking about matter and energy, time and space. And quantum mechanics, while increasing our appreciation for the intricacies of the very small, reveals those intricacies to have as much to do with connectedness as difference (however confusing such connectedness might at first appear). Physicist Henri Stapp put it this way: "An elementary particle is not an independently analyzable entity. It is in essence a set of relationships that reach outward to other things."¹⁰

Ecological thought gives us the most familiar twentieth century picture of complexity and coherence. Nineteenth-century biologists focused almost exclusively on individual organisms. In the 1920s scientists began to look at relationships like food webs that link organisms. Such more integrative thinking was slow to gain influence—for much of the century biology treated ecological research as a poor cousin, denied it a place

¹⁰ The most radical current interconnectedness-related topic in physics is the phenomenon known as "entanglement." In certain situations, particles that were once joined can influence each other at a distance without any apparent causal link. They can be yards or even miles apart, yet act as if they were still united. Once simply a theoretical implication of quantum mechanics, modern research demonstrates this effect in a variety of contexts. Erwin Schrödinger wrote that "Entanglement is not *one* but rather *the* characteristic trait of quantum mechanics."

While fascinating, quantum interconnectedness is a common source of unwarranted conclusions in popular writings. I like Jeffrey Satinover's synopsis of the issue in *The Quantum Brain*: "It's easy to understand why so many people—poets, mystics, philosophers, and some scientists, too—have seen in quantum mechanics a new religion. But the 'reality' of the quantum world is not so simple. It may not sit comfortably into the four-hundred-year-old categories of Cartesian, Enlightenment, determinism, but neither does it fit comfortably into any preexisting or freshly minted religio-mystical scheme. It occupies ground never before conceived of."

at the table of hard biological inquiry. Today, ecological perspective drives many of the most important conversations at that table—and likely will continue to do so well into the future. Ecological thought is equally about distinction and interconnection. It brings a new sensitivity to the multiplicity of factors that influence the health of ecosystems, and at once challenges us to address ecosystems as systems—as integrated wholes. I'm fond of how Jonathan Swift summed it up:

"So, naturalists observe, a flea
Hath smaller fleas that on him prey;
And these have smaller fleas to bite 'em
and so proceed *ad infinitum*."

Ecology combines with biological sub-disciplines that focus more on change—evolutionary biology, embryology, genetics—to produce an even more dynamically interwoven picture of life.

For many people of scientific ilk, the the word complexity's first association is to the new "mathematics of complexity"—chaos theory, fractal geometry, and the more general study of complex adaptive (evolutionary) systems. Complexity is only one thing the mathematics of complexity are about, but their formulations hold some fascinating surprises in this regard. For example, they demonstrate how we can mimic highly complicated phenomena—such as the shapes described by the meandering of a river, the billowing of clouds, or the intricately serrated edge of a leaf—with relatively simple equations. Further, by producing results that defy prediction out of fully deterministic equations, they offer another way uncertainty and structural stability need not be at odds. The mathematics of complexity represent more a collection of approaches than a formal theory, and, as we shall see, at least in their more simplistic interpretations stop short of the needed new sophistication of thought. But they offer an intriguing window into how a portion of nature's complexity may be (simply) derived.

As important for our discussion as such specific advances is science's general change in attitude over the last century with regard to complex phenomena. Classical science dealt with the overly complex by eliminating "extraneous" variables. Science today often gives particular attention to what may seem aberrant or contradictory. It also finds fresh fascination in subtleties of connection. Of particular importance is how it

more explicitly alerts to the fact that what we observe exists always in a context (a key aspect of which is ourselves, the observer).

The modern social sciences that focus on group behavior—sociology, anthropology, political science—make the most obvious new contributions to understanding human complexity.¹¹ Each is concerned not just with individuals, but social systems. They teach us about the unique attributes that families, organizations, and cultures have by virtue of being not just collections of parts, but interpersonal wholes—social systems.¹² The result is both greater appreciation of what it means to be an individual and newly dynamic pictures of what it means to be together. Not all such thinking is mature in more than a beginning sense.¹³ But the modern social sciences do bring important new emphasis to the importance of appreciating both diversity and relatedness.

I think of the twentieth-century evolution of my own field of psychology and psychiatry in terms of a sequence of such systemic recognitions arranged like a set of nesting bowls. The first attends to ourselves as individuals, challenges us to better see ourselves as wholes—and has played a key role in these pages. It begins with that recognition that the Age of Reason's equating of conscious awareness and identity was incomplete. The modern picture of self and psyche— a complex, always evolving, interplay of rational beliefs, symbolic representations, emotional constellations,

¹¹ The implications of new thinking in the social sciences—particularly aspects that deal with relatedness—often didn't stand out as dramatically as with new ideas in the harder sciences for a reason parallel to what we observed with new perspectives on change. Just as it is obvious that we grow, so it is obvious that different parts of our psyches, the members of a family, or the institutions of culture at least in some way interconnect. It is not so obvious, however, that they might interconnect in the ways we are discovering that they do.

¹² A team is more than a collection of players, a friendship is more than just one person added to another. In a sense each has a "life of its own." Modern anthropology and sociology introduced the word "culture" (meaning what we get when we bring together all the aspects of who we are together) into common usage. And both help us consider not just opinions, but shared worldviews. Sociologist Peter Berger proposes that "Man's self-production is always, and of necessity, a social enterprise."

¹³ It may err from either side of the conceptual coin. Some notions continue to treat interactions in individualist, mechanical cause-and-effect terms (they just multiply the number of interactions). Others replace the idea that culture is many individuals with its opposite, make society little more than a herd or hive.

spiritual inclinations, bodily drives, interpersonal relationships, and more— is both decidedly more multi-faceted and more overtly interdependent than interpretations of times past.¹⁴

The second of psychology's nesting systemic recognitions offers that we should focus not just on individuals as systems, but also on families as systems. Therapists and theorists now commonly emphasize that the person in a family who at first appears most troubled may be in truth the healthiest, his behavior a call to give attention to more complex family concerns. Family systems perspectives help us both better distinguish roles and to makes clearer sense of the dynamics that link them.¹⁵

This book is a product of the third of these systemic recognitions, one just now receiving adequate acknowledgment. We cannot fully understand the health of individuals as systems by attending just to intra-psychic and interpersonal complexities. We need also to give attention to the complex interrelationships that define us as cultural beings—to the evolving "psyche" of culture. Fail to do this and we risk being at best unhelpful. We can't today address a couple's concerns about intimacy without appreciation for changes reordering the world of love. And we can't at all confidently understand an individual's feelings of hopelessness without some sensitivity to how today's changes can be felt as a collective "crisis of purpose." Culturally mature perspective more fundamentally separates individual and culture, and through this reveals new dimensions of choice. And, at once, it makes visible the creative depths at which individual reality and cultural reality have been, and continue to be, linked.

With twentieth-century philosophy, post-modern thought in particular emphasized plurality, made truth endlessly multiple and specifically tied to context. Such appreciation for contextual relativity has often walked perilously close to making

¹⁴ The early thinkers of Gestalt psychology—Wolfgang Köhler, Max Wertheimer, Kurt Lewin—introduced a related shift into our understanding of perception. They made their focus of study not details of perception, but perceptual wholes. The neurosciences have recently contributed a further fascinating wrinkle to this more embracing picture. Current research suggests that not just intelligence, but human intelligence's capacity for awareness, may be systemic. While many specific structures in the brain are essential for conscious awareness, we have found no ultimate seat of awareness. It is possible that awareness is best thought of as a systemic function of the brain as a whole.

¹⁵ Important early contributors to family therapy include Carl Whitaker, Donald Jackson, Salvador Minuchin, Jay Haley, and Virginia Satir.

truth only a product of personal whim—or worse, reduced it to that. But the best of formulations make a good start toward acknowledging the importance of more multi-faceted understandings of truth and identity.¹⁶

The arts witnessed a related new emphasis on multiple perspectives—as with the simultaneous representation of contrasting viewpoints in the cubism of Picasso and Brach. Advances also emphasized links between before-distinct realities, as in the blurring of traditional representational boundaries with surrealism. Abstract expressionism—particularly in the works of Pollock, deKoonig, and Tobey—was less about represented objects than "fields" of experience. We also saw a blurring of distinctions between art as object and the everyday—most notably with "pop" artists like Rauchenberg and Warhol.¹⁷ We witnessed, too, a breakdown of boundaries between esthetic traditions that before we would have had taken great care to keep separate—for example in Gershwin's early melding of classical music and blues, and, later, the growing prevalence of "crossover" music on the popular scene (sometimes combining rock and roll, jazz, country, world music, and more).¹⁸ And such linking extended beyond genres and traditions to artistic forms, most notably in contemporary performance art's blending of dance, poetry, music, theater—and often social and philosophical commentary. By the end of the century such bridging between traditions and disciplines was so commonplace that we hardly noticed it as anything culturally significant.

Religion saw the most obvious convergence of difference and relatedness in ecumenicalism's challenge to the absoluteness of particular faiths. Much of ecumenical thought has had more to do with liberal tolerance than understanding. But we also saw

¹⁶ Post-modern philosophy's marked aversion to overarching perspective has also at times functioned as an obstacle to mature systemic conception. See Jean-Francois Lyotard's reference to "an incredulity toward meta-narratives" in the section on "Post-Modern/Constructivist Scenarios" in Chapter Nine.

¹⁷ Twentieth-century architecture's newly conscious emphasis on multiplicity provides some of the most explicit examples of post-modern esthetic. The works of Frank Gehri, Michael Graves, and Robert Venturi were expressly eclectic. At its best, twentieth-century architecture also reflected a new appreciation for interrelationship. In the words of Venturi: "I like elements which are hybrid rather than 'pure,' compromising rather than 'clean'. I prefer both-and to either-or."

¹⁸ With all of this it is essential to distinguish simple mashing together of traditions and efforts that truly take expression to new places.

growing interest in learning about religious traditions distinct from one's own, and growing fascination in the differences. We've also seen attempts to link not just religious traditions, but religious thought with understanding as a whole. Most ideas that attempt to bridge sacred and secular, religion and science, do not really succeed (later we will look at how and why). But the fact that such efforts have gained legitimacy amongst serious-minded people is itself significant.

As important as these systemic linkages within particular spheres of understanding and actions, is a growing recognition of connections between spheres. Academia has witnessed a burgeoning proliferation of hybrid disciplines—sociobiology, medical anthropology, bioengineering, behavioral economics, and more. Even more expansively, we see new respect given to questions that require an all-embracing, multi-disciplinary reach. Such questions aren't about just chemistry and biology, or chemistry and biology with a little engineering thrown in. They are about chemistry and biology and engineering ... and business and anthropology and philosophy and you name it. This book can be thought of as an argument for (and an example of) such broadly sweeping inquiry.

Systems—and What Makes Them So

We need ways to talk not just about particular complexities, but also about complexity more generally. In particular, we need more encompassing ways of thinking that help us reframe connectedness and difference and make better sense of where complexity's new picture takes us.

The language of systems provides the most respected general approach to addressing complexity. I've suggested that we must take care with the use of systemic language—traps lie waiting for the unwary. But if we make our thinking sufficiently precise, systems language can help us both to make sense of how our understanding of complexity is changing and to compare and contrast conceptual approaches.

As the whole notion of systems is unfamiliar to some people, let's start with the obvious first question: What is a system? A familiar phrase captures the basic principle. In systems, "the whole is greater than the sum of its parts." My clothes thrown into the corner is not a system, merely a heap. The integrity of a systemic whole is a product of

the interactions of its parts. Remove a part and what makes the system a system is diminished if not destroyed. And the relationship goes both ways—parts gain significance by virtue of the defining context.

Remove a creature from a pond and we compromise the ecosystem. At the same time, our grasp of the creature in any living sense is markedly impoverished if we don't also pay attention to the life of the pond—indeed without the pond the creature may not have life. Remove an individual from a community and the community is fundamentally altered. And while we may think of ourselves as individuals, our experience of ourselves is inextricably tied to our social relationships.

That makes a good beginning, but we need a further distinction if our interest is the kind of systemic thinking needed for a culturally mature perspective. We can usefully think of two kinds of systems—just as we identified two kinds of uncertainty (that which is the opposite of order and that which is necessary for the kind of order that we see), two kinds of responsibility (that of duty and that of mature creative engagement), and two kinds of change (that of simple actions and reactions and of the more dynamic, "self-organizing" sort). Similarly we can talk of two kinds of systemic thinking.

The first kind of system is adequately described with the language of machines. Your car is such a system. Neglect to change the oil or break a gear in the transmission and your car becomes of more use as a planter than as a mode of transportation. Systems thinking that addresses such mechanisms reminds us simply, “don't forget to connect the dots” (and change your oil).

In its more rudimentary forms, this first kind of systems thinking is not new. It is what I referred to earlier when I proposed that systemic thinking is what good engineers have always done. Such connect-the-dots systemic thinking is great for analyzing traffic patterns, or figuring the best way to get your package from New York to Philadelphia, anywhere interactions are essentially mechanical. Each of us use it every day—for helping our children put together pieces of a puzzle or when attempting to fix something broken around the house. With this first kind of systemic perspective, the rules are of a simple cause-and-effect sort. A pushes on B pushes on C. We can also often use it without doing great harm in contexts where more deeply complex processes may be at work—say, for mapping simple ecological or organizational relationships.

Conceptually, connect-the-dots understanding has a proud history. Think of Newton's radical concepts of planetary motion. Cultural Maturity predicts we should get increasingly good at recognizing when various forms of connect-the-dots systems thinking can be helpful. High-speed computers let us apply such thinking much more rapidly and precisely and to much more complicated systems.

But for many questions we'd like to address—and most of greatest importance—this first level of systemic understanding leaves us short. This is most obviously so when it comes to human systems, but it is just as much the case for more purely physical and for biological systems if our interest is the new kind of thinking the future requires. A second kind of systemic understanding is needed.

The Dilemma of Differentiation

A concept I've introduced briefly, what Creative Systems Theory calls the Dilemma of Differentiation, helps make the needed distinction. In first introducing the concept, my reference was to the inadequacy of purely mechanical models if our interest was anything alive. But we now have tools at our disposal that let us address the quandary at a more fundamental level.

Differentiation, the ability to think in terms of parts as well as wholes, to say "this as opposed to that," is what makes a theory a theory. Ultimately it is what allows us to think at all. The Dilemma of Differentiation alerts us to how the question of parts throws us into a double bind. Certainly this is the case with living systems. Ultimately it is the case more generally.

For this to make full sense, we need to fill out the Dilemma some, put some flesh on what so far has been at best bare bones. We appropriately ask, "If parts are not just mechanical entities (gears and pulleys, balls on that billiard table) or rational categories (separately analyzable conceptual boxes) what are they?" "And just how do they relate?" Limited to usual ways of thinking, the question of parts leaves us nowhere to go. Beyond the initial systemic recognition that parts exist within larger contexts, we are left with only two options, neither very helpful. We can depict parts in a traditional atomistic, mechanistic manner—as separate analyzable entities in causal relationship. But if we do this, no matter how subtle and sensitive our delineations, when we put the parts together,

we end up back in a machine world. Or we can come at things with an opposite strategy, ignore parts altogether, talk only in terms of relationship. But in the end, this gets us no closer. It leaves us with notions which, however sophisticated their language, become but elaborate ways of saying "all is one." Recognizing ultimate unity can be comforting—and it identifies a truth just as important and accurate as the "all is many" of atomistic or mechanistic assertions. But begging the question of parts makes for impoverished conception at best. Worse, it makes for misleading conception. Real relationships (unity in the systemic sense we have interest in)—whether personal or conceptual—require difference. Our first kind of systemic thinking restricts us to a machine world—or its (apparent) opposite, a world of oneness.¹⁹ Neither polar view can get us where we need to go.

Not surprisingly, it was with biological systems that attention to our second level of systemic understanding had its start. I've made reference to classical biology's inability to define life. Biology may be specifically the study of living things, but press a classical biologist not just to describe something that is alive, but to tell you what ultimately distinguishes a rock from a turtle, and he or she will only look confused, or perhaps refer you to a philosopher.²⁰ For the task of talking about living systems—at least in ways that appreciate that they are living—even the most sophisticated of mechanical, connect-the-dots thinking leaves us on the far shore. We can know everything about the anatomy and physiology of a cell and have only the faintest appreciation for what makes it life-sustaining. And we can describe the location and function of every cell in a creature's body and still have said almost nothing about what makes it a living, breathing organism.²¹

¹⁹ Such oneness, if mediated by a "final mover" reduces, in the end, to just another version of mechanical causality. We can say oneness is all there is, but then we are left with no real ability to think at all.

²⁰ Who unfortunately is unlikely to do much better. See Chapter Eight.

²¹ Biologist and systems theorist Gregory Bateson was famous for putting a live crab before his students and challenging them to tell him how they knew it was alive. Inevitably they would fail. Do we know because it moves?—tractors move. Do we know because it responds to stimuli?—so does your garage door opener. Do we know because it reproduces?—crystals reproduce.

Historically, if the puzzle was acknowledged at all, it was resolved by adding an invisible left hand to materiality's right (whether divine intent or a separate vitalistic force). Buoyed by how relativity and quantum mechanics had challenged classical models, biologists in the early part of the last century began to talk of life as a unique manifestation of the organism as a system.²² In the new picture, life, rather than being some separate force inside or outside an organism, became a property of the organism's entirety.²³

The question of what it means to be human—conscious, choiceful systems—throws us even further beyond the adequacy of our first kind of systemic explanation. Mechanical models are insufficient for fully representing most anything about us—our

²² The organicism of H.B.S. Haldane and E.S. Russel lead the way. Organicism confronted both of the prevailing schools of biological thought, mechanism (that made life a simple product of anatomy and physiology) and vitalism (that proposed a separate animating force). In the 1920's, the General Systems Theory of biologist Ludwig von Bertalanffy extended this effort at integrative understanding to living systems of all sorts and gave the new picture (or at least the new questions) more detailed conceptual description.

This conversation—and controversy—extended throughout the century (and continues). In the 1940's physicist Erwin Schrödinger, in his pivotal work, *What is Life?* articulated the significance of the life conundrum with particular eloquence. Bateson's work later in the century revolved specifically around that pivotal "what is life" question. His ultimate answer has direct parallels with how CST deals with the question of human life (and consciousness). Bateson transcended both dualism and reductionism by proposing that not only was life capable of cognition, cognition and life were one and the same. (Biologist Humberto Maturana, from a different direction, arrived at a similar conclusion.)

²³ Notice how this conclusion links with the topic of change. Life becomes a systemically "emergent" property (a term coined by philosopher C.D Broad). Emergent properties are new characteristics made manifest by leaps in systemic organization. Emergence theorists like to distinguish between weak emergence and strong emergence. With weak emergence the fresh property, while fundamentally new, is not causal with regard to the system as a whole. (A snowflake or an eddy in a stream make good example.) With strong emergence the new property of the whole directly affects the parts (as with life). Some theorists propose that conscious awareness might also best be thought of as an emergent property. Might perhaps even the fact of existence be thought of this way? The concept of emergence is controversial. At least in its strong form it is non-dualistic (neither those of more vitalistic/spiritual or more mechanistic/reductionistic bent are going to find it appealing.). Whether or not emergence is the right way to think about systemic reorganization, systems of our second sort do make structural leaps that result in radically new characteristics.

inner complexities, the complexities of human relationships, or the complexities of how we see our worlds. We need understanding that somehow takes into account not only that we are alive, but that we are alive in the particular sense that comes with awareness and will. In times past, our simplified models kept the greater conceptual and emotional demands presented by the needed more complete picture at bay. Any complete grasp of who we are requires a more dynamic and embracing kind of systemic understanding.

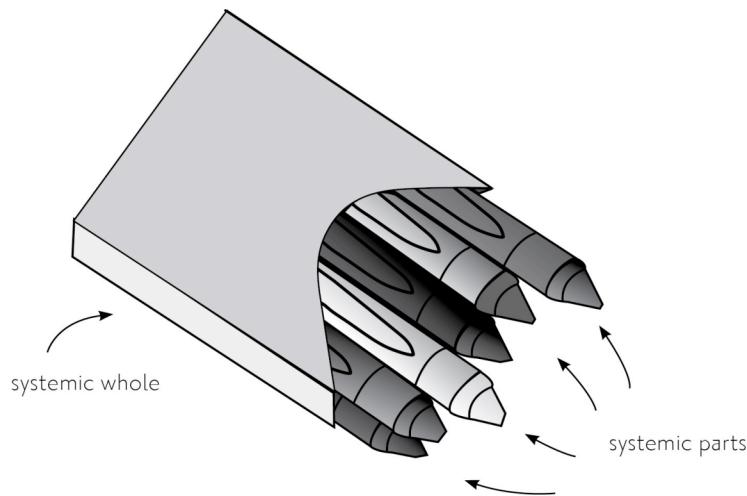
For our task, the essential recognition is that the important questions ahead require this second, more fundamentally new kind of systemic understanding. Our lead examples each illustrate this more sophisticated conceptual challenge. Evan recognized that rethinking progress required including ingredients before left out—and many not reducible to familiar measurement. And he realized also that just a tempering of purely economic measures with a glance to the environment or the underprivileged was not enough. Redefining progress would require all those diverse elements included in a fashion sufficiently detailed and integrative that what needs to be measured—human and planetary wellbeing—is what in fact gets measured. Similarly, Bonney saw that appreciating personality style differences meant acknowledging sensibilities and ways of thinking often before dismissed—and, more, often difficult to describe. She saw also that just being more inclusive was not enough. Any depth of personality style understanding means better appreciating what makes temperament differences different, and also how such different ways of being relate one to the other. In neither example do mechanical models suffice. Evan and Bonney were each addressing questions of life, and, more particularly, questions of human life and purpose.

The Issue of Language

The nature of new questions supports that our quarry is real. And our listing of complexity-related advances affirms this conclusion,. But we are left with the question of what to call systems of our second sort. What we call them is ultimately less significant than our ability to recognize them and get our arms around their implications. But language is important if our thinking is to be precise in the way we need it to be.

We don't have a perfect terminology. We could call them "dynamic" systems—but mechanical systems can be quite dynamic (for example, those of relativity and the

mathematics of complexity). We could call them "living" systems. (I sometimes refer to them this way with a major emphasis on the quotation marks.) But not all such systems are alive (quantum mechanical systems are integrative in this "bridging" sense), and differences in how this level of systemic reality manifests with conscious systems as opposed to biological systems more generally are clearly significant.²⁴ In a more general kind of way, we could speak in terms of the perspective we use to see them, refer to them as "maturely systemic" or "maturely integrative" (language I will sometimes apply here).



ALL-THE-CRAYONS-IN-THE-BOX
PERSPECTIVE

We can do somewhat better with images, though as I've noted, pictorial description of culturally mature concepts always requires some representational slight of hand. Our familiar box-of-crayons picture is particular helpful if our interest is human

²⁴ We hear the phrase "living systems" used with increasing frequency in more popular writings, particular writings on organizational theory. Often it hides conceptual traps. Later we will look at how the term's use frequently involves a what CST calls a collapsing of systemic layers (in this case, a collapsing of conscious systems into the merely biological). The result is ideas that purport to be maturely systemic, but at the least bias strongly toward left-hand conclusions. (Conclusions tend ultimately to be more liberal/humanist, philosophically romantic, or spiritual in conception than systemic in our second sense.)

systems. We've seen how an Integrative Meta-Perspective brings new awareness to systemic wholes—the box—and, simultaneously, new and deeper appreciation for the rich dynamism of parts—the crayons. Apply such all-the-crayons-in-the-box systemic perspective and we get the needed second kind of systemic understanding. When in any way a single crayon defines belief, we are left short.

As far as specific language, that word creative, if understood within in its fully integrative definition, may come as close as we can get. We don't need Creative Systems Theory's particular formulations to recognize this pertinence. We've seen how creative language is supported by the close relationship between new thinking that addresses complexity and new thinking about uncertainty and change (and at least with regard to ourselves who is doing the observing, responsibility as well). And I've described how polar relationships are ultimately creative in their workings.

If Creative Systems Theory's claim that than an Integrative Meta-perspective produces a specifically creative picture of cognition is accurate, then the argument for creative language becomes quite robust. Certainly this is so for human systems. I've described how our multiple intelligences can be thought of as structured specifically to support formative process. Framed creatively, systemic wholes become Creative Wholes. And thinking systemically—in our second sense—becomes thinking with the whole of our creative, tool-making complexity.

A look to concerns where culturally mature perspective is necessary provides explicit support for this use of creative language and also hints at an insight we will later draw on more theoretically—the close relationship of change and complexity in human systems. The multiple elements Evan considered in rethinking progress were not just static ingredients. They are what in the future will drive progress. And while we have not been conscious of it, they are in fact—in different permutations—what has always (meta-determinantly) driven progress. Similarly, the temperament differences that fascinated Bonney concerned more than just diversity. They were also about creative complementarity. We looked at how drawing on such diversity will be important to future innovation. And, however unconscious we may have been of personality diversity's past creative influence, I suspect that influence has always been huge.

We could place a third kind of systemic view "half-way" between simple machine models and our second more specifically new sort of systemic perspective. While some

formulations in this further group are formally systemic and some not, each adds an important piece to the historical picture—and, in the process, helps us bring a finer lens to the needed distinctions. Each of these contributions remain ultimately of the connect-the-dots sort, but some important modification creates, or at least implies, a more dynamic picture.

I would include “good enough” applications of classical models (where there is appreciation for how such models ultimately stop short).²⁵ I would also include views that while ultimately mechanistic, add particular twists to the connect-the-dots picture, such as Norbert Wiener's cybernetic models early in the last century that introduced the notion of feedback.²⁶ Cybernetic models add the twist that dots—or more precisely, information about dots²⁷—can loop back on themselves. More recently there are the mathematics of complexity and the study of complex adaptive systems. Their formulations add to the connect-the-dots picture both uncertainty (many formulations,

²⁵ An environmentalist may use connect-the-dots representation to remind us that a river is not just the water, but also the fish, and the trees beside the river that are too often cut, and the farmer's field that when it rains leaches fertilizer into the river, and so on. In a similar way, a business consultant may use such language to describe how a manufacturer is not just an output source for products, but also part of a complex set of relationships that includes customers, suppliers, competitors, advertisers, bankers, and more. At this simplified level of analysis, while the parts may be fundamentally different—a river and a fish, a manufacturer and his product—we treat them as if they are of the same general type. A river and fish are each aspects of the environment. A manufacturer and his product can each be located in the business pages of the phone book. And, we treat them (at least for working purposes) as if parts are objectively definable and their relationships objectivity delineatable (like balls on a billiard table). In fact, none of these things are true. But if we understand how they are not, and often even if lack such understanding, such simplification may not present great problems.

²⁶ A thermostat, by virtue of information feedback, can keep the temperature in your house stable in the face of dramatically changing circumstances. Homeostatic processes in the body work in crudely similar ways.

²⁷ Wiener's work stressed that it was information and pattern rather than structure that was systemically significant. Note how the body's cells manage to work well together in spite of being constantly replaced. What persists is not structure but pattern. The formulations of cybernetics were ultimately mechanistic, but Wiener was conscious of the limitations. In his words, "When I compare the living organism to the machine, I do not for a moment mean that the specific physical, chemical, and spiritual processes of life as we know it the same as these life-imitating machines."

while mechanistic, are not deterministic²⁸) and change (evolutionary processes are specifically about change²⁹).

Each kind of systems perspective has its place. Often a simple connect-the-dots frame serves us quite well. Indeed quite often it is the more practically useful. We draw on such thinking every day in planning and problem solving without difficulty. And more "half-way" formulations can similarly serve us well, and can often be quite provocative in what they reveal.

But for the tasks of our time, our second, "more complexly complex," more all-the-crayons-in-the-box kind of systemic complexity derives critical importance, and not just for understanding ourselves. The best of thinking about the biological and the physical suggests that this importance applies across the board (whether the explanation for what we observe is simply the lens with which we now see, or perhaps seeing with just a bit greater clarity). Life as something alive is necessarily systemic in our second sense. And the ideas of quantum mechanics suggest that the same conclusion may appropriately apply to existence at its most basic (there, too, mechanical interpretations fail).

Systemic Traps

One of the ways systemic perspective serves us is by helping us identify fallacies in our thinking. I've spoken of the traps we fall into when we identify with only one half of a polarity. There are also the more specific traps that come with making one crayon in systemic perspective's box last-word truth. We will examine each of these kinds of traps more closely.

For this discussion we usefully turn this utility back on systemic thinking itself. I've observed that systemic language not only presents traps, it is unusual in just how it

²⁸ Chaotic processes are "exquisitely sensitive to initial conditions." They involve "bifurcations" the outcomes of which are not predictable even with the most precise of measuring devices. Think of a drop of water at the peak of a roof. Which direction will it fall?

²⁹ We find a striking application in computers programmed to design their own software through evolution-like processes. In potential, they can produce much more complex programs than we humans can

does so. People apply systems concepts to argue with equal facility—and equal vehemence—for opposite and fundamentally contradictory beliefs. Systemic ideas can be used to justify worldviews that fall decidedly off of either side of the epistemological roadway. Understanding how this can be in another way gives complexity's new picture solidity.

Systems notions of the "connect-the-dots" variety (including ideas of the "half-way" sort) are often used to argue for extreme mechanistic points of view—for a narrow scientism.³⁰ Modern Age thought has traditionally dealt with more left-hand sensibilities by relegating them to a separate (and diminished) world of the mysterious and poetic. The more adamant of right-hand thinkers take this further and dismiss left-hand sensibilities altogether (or at best made them but pleasant illusions). Mechanistic systems notions can be easily distorted into an argument for such outright dismissal. Interpreting systems concepts in this way gives us nothing new, just another version of the now time-worn shell game of resolving the separate worlds conundrum by collapsing creation's left hand into the right.³¹ But doing so can be very attractive. For some people, the conviction that systems ideas eliminate the need for anything beyond the material and mechanistic is what gives such formulations their appeal.³²

design on our own (an outcome with fascinating implications not just for the world of computers, but for out thinking about evolutionary processes in general).

³⁰ The term “scientism” refers to the belief that reality's workings can be wholly reduced to the laws of mechanistic science. Few scientists see things this narrowly. Some scientists are deeply religious, and most leave at least some room for mystery and doubt. Given how fundamentally twentieth century scientific advances have challenged mechanistic formulations, the best of scientists have long since left behind scientism's simplistic conclusions.

But we still find a narrow scientism, today, particularly in popular writings. We see it in supposedly airtight “scientific” arguments for atheism. We see it also in purportedly scientific conclusions that any depth of life experience prove laughable. Some recent examples: the claim that dreams are nothing more than random neural excitation, and the conclusion that music has no evolutionary significance other than as inconsequential “ear candy.”

³¹ See "Separation Fallacies" in Chapter Six and "Post-Industrial/Information Age Scenarios" in Chapter Ten.

³² I suspect, for example, that the reason the sciences of complexity have found a wide popular audience is only in part their applicability. Likely, as much, the attention is a product of how these formulations mimic the future's needed more dynamic/creative picture while not violating the mechanistic

Just as readily, systems ideas can be used to justify a naive holism, a view that dismisses parts.³³ The more "organic" picture presented by systems ideas can be interpreted as an argument for a siding with nature (and against the technological or "artificial"), with the spiritual (and against the scientific), with feelings or sensations (and against the intellect), or with process or context (and against facts or content). Again nothing is new. Left-hand interpretations of systems thinking represent but one further variation on the eternal practice—found with romanticism and mysticism—of eclipsing creation's right hand by reducing the manifest to at best a faint reflection.

The importance of “bridging” the polar assumption of traditional thought helps refine the needed distinctions. Connect-the-dots systems perspectives don't “bridge” (in other than the most trivial sense).³⁴ And while more left-leaning formulations often specifically identify with transcending polarity, in the end, they do no better with the “bridging” task than their more mechanistic counterparts. In collapsing twoness into oneness (or at least biasing conclusions toward more softer sensibilities) they are ultimately just as polar. They just dismiss a different pole. The result is simplistic, if not dogmatic, thinking. Again, the task is not to understand less complexly, but more so.³⁵

Sir Arthur Eddington once remarked: "We often think that when we have completed our study of one we know all about two because two is 'one and one.' We forget that we still have to make a study of 'and.'" In mechanistic models "and"—the connecting principle—becomes the simple laws of material cause and effect (and is secondary to substance). With naive holism, "and" is mysterious, acausal, tautological

assumptions of a classical worldview. The Mandelbrot equation makes great illustration. It propels us into an infinitely layered, almost psychedelically kaleidoscopic landscape. Yet it is based on simple mathematical equations.

³³ See "Unity Fallacies" in Chapter Six and Transformational/New Paradigm Scenarios in Chapter Nine.

³⁴ They “bridge” only in the limited sense of connecting one part with another, not in the more essential sense that reclaims mythic projection and links opposing conceptual hands.

³⁵ The concept of “bridging” also helps us tease out another kind of systemic trap—the confusion of compromise with systemic thinking. “Bridging” is not at all about compromise. It produces not shades of grey, but full-spectrum, all-the-crayons-in-the-box perspective. It throws us into deep systemic complexity's more dynamic and multi-hued world of experience. See Compromise Fallacies in Chapter Six.

(and gets the last word). Neither picture is ultimately helpful when it comes to the critical tasks ahead.³⁶

Intelligence and its workings provide additional clarification. Mature systems understanding requires the engagement of intelligence's full multiplicity—the whole of ourselves as cognitive systems. Connect-the-dots systemic models, even of our more “half way” sort don't require such cognitive complexity. They can be delineated quite well limited to rationality and simple material measurement (if our intellects can follow all the twists and turns.) And naive holism does quite well without rationality at all. In contrast, the more dynamic, "living" picture even the simplest of deep systemic relationships present requires an Integrative Meta-Perspective's more creative manifestation of awareness and all of our intelligences—working together—to be at all adequately understood or depicted.

Connect-the-dots systems understanding stretches Enlightenment thinking's once-revolutionary clockworks picture of the universe a bit. Our "clocks" no longer have simple sequential mechanisms. But our second sort of systemic picture challenges it fundamentally. It requires that we set aside the whole notion that machine metaphors might be appropriate. And it requires, too, that we set aside history's array other-side-of-the-coin romantic and idealist interpretations, and also more contemporary unitary beliefs. Systems thinking of our second sort has its basis in mature awareness's more complete and creative, all-the-crayons-in-box picture.³⁷

Academia and the Systemic Imperative

³⁶ "Non-dual" concepts in general suffer this same double insult. Either hand of truth can claim non-duality. All it has to do is deny the existence of the offending hand. We commonly see this with concepts such as “self-organization” and “emergence.” Each can be used as evidence by people who are attracted to wholly right-hand truths. And each, similarly, can get used by more left-hand types, if not to explicitly argue for oneness, at least to justify a strong lean toward the process side of the process/product divide. Integrative "non-duality" is something very different. Cultural Maturity makes clear that we can't correct the uncomfortably awkward posture of a Cartesian split by cutting off one of the esteemed gentlemen's legs (as attractive as the resulting simple answers doing so provides might seem).

We can apply our second kind of systemic perspective to human systems of all scales. We can use it to tease apart beliefs within particular domains of inquiry—government, science, religion, art, architecture (and will). We can also use it for more encompassing reflection, such as here in addressing the future of progress or how temperament diversity helps us appreciate difference, relationship, and creative possibility within our communities. We can also use it to get at the underlying assumptions of particular institutions and reflect on how, going forward, those institutions might more effectively contribute.

Higher education makes a great example. Academia contributes to culture in immense ways, but when it comes to addressing the future it often offers much less substance than we might hope. A major reason for this is that academia often does very poorly when it comes to the breadth of systemic perspective required by today's new questions. Appreciating some of how and why helps further clarify systemic understanding's deeper implications and offers some free advice for education.

A couple pieces are key. The first piece—academia's historically ambivalent relationship to interdisciplinary inquiry and instruction—relates most obviously to systemic complexity. The second piece—the aspects of intelligence which academia traditionally associates with truth—for most people would seem less directly related to our topic. For readers of this book, its particularly fundamental implications should be apparent.

As far as interdisciplinary inquiry, few universities do very well at bridging between disciplines. Until very recently, the walls between departments have been just too well established, too impenetrable. That this might be so is understandable. The academic world came to full flower with the Age of Reason and its structures appropriately reflect that time's defining achievement—the delineation of clean and objective distinction on a palette of understanding whose colors had always before bled one into the other. Dramatic increases in sheer quantities of information in succeeding centuries have made it also the case that in most fields so much exists to be known that one must be not just a specialist, but a hyper-specialist, to claim real expertise. Within this finely segregated world, people who think more broadly have tended to be viewed as

superficial generalists—often appropriately—and given status well down the academic food chain.

Academia is a big ship to turn—but little by little, in this sense, it is turning. In part this is because we are better recognizing the pertinence of encompassing perspectives to today's important questions. Another reason follows from how systemic perspective, and in particular, systemic perspective of our second sort increases appreciation for both difference and connectedness. Those whose thinking tends to identify most with differences can have a difficult time seeing systemic thinking as more than conceptual imprecision.³⁸ Pioneering efforts at systemic understanding have demonstrated that interdisciplinary inquiry at its best is no threat to academic rigor. Far from risking a regressive blurring of colors, deep systemic inquiry expands our capacity for delineation, and more, it alters how we approach delineation so that our observations can better serve us. In the end it makes distinctions more precise.³⁹ Cultural Maturity argues that interdisciplinary inquiry—of this depth and complexity—is essential if we are to understand particulars with the contextual sophistication now required.⁴⁰

Evan's reflections on the need to include a greater diversity of elements in our understanding of progress—the natural world along with the man-made, the spiritual along with the scientific, the interests of the world's have-nots along with those of people who are more economically advantaged—revealed a much more inclusive picture of what the future will require. But what he saw concerned more than just the many factors needed to be considered and their interconnections. Any conversation that

³⁸ People who identify in a polar way with connectedness can also be found in academia—usually in the arts or humanities—and they can in their own way find systemic perspective problematical. But they have much less influence.

³⁹ This is not to diminish the importance of highly specialized inquiry, simply to note that such inquiry gains greatest significance when understood in its systemic contexts.

⁴¹ Reactions to systemic ideas are often more vehement than simple doubt or dismissal. Both hands of truth are equally vulnerable to polarizing off mature systemic conception. Debra Hammond (in *The Science of Synthesis*) describes how Michael Ghiselin, a biologist of more right-hand inclinations, referred to certain early academic proponents of a more systemic views as the "Harvard crypto-vitalists." True vitalists (who postulate a separate left-hand ordering force)—along with those professing more overtly spiritual beliefs—would be expected to (and did) reject such theorists as naive mechanists at best. Post-modern theorists, depending on their inclinations, can find objection on either count.

begins to successfully redefine progress at once, in subtle and not so subtle ways, will begin also to redefine nature and humanity, science and spirituality, what it means to "have" or not have, and every other dimension of the conversation. Bonney's thoughts about personality diversity brought our attention to possible complementarities, how differences, if we are ready for them, can expand what is possible. But just as much, her observations brought new detail to her appreciation of what makes each temperament unique.

There is also how understanding detail more dynamically in one sphere helps with successfully doing so in others. With think tank groups I convene to grapple with cultural issues, I most often include multiple disciplines. In part this is because most questions of interest require diverse expertise and perspective. But as much it is because I know how often multidisciplinary inquiry provides insights within specific disciplines difficult to reach in conversations with one's own kind. Watching integrative ideas from one discipline plant seeds in another is one of such work's great rewards.

Our second piece—the common assumption that intelligence and rationality are one and the same—while even more basic in its implications, is so close to what makes academia academia that we can easily miss its presence, much less the limits it presents. Again we are dealing with a limitation that has its roots in a powerful innovation—the Age of Reason's rationalist challenge to medieval superstition. But even more directly than academia's historical bias toward more specialized knowledge, it produces problems if our interest extends beyond connect-the-dots complexity. And questioning this assumption presents what is easily felt as an even more direct challenge.

In *A Brain for All Seasons*, neuroscientist William Calvin quipped that equating intelligence with rationality "sounds like academics trying to define themselves." With regard to the non-rational, academics tend either to apply rationality to it (literary criticism) or relegate it to a separate, and secondary, world (the music department). Traditional academia often engages in broadly humanistic learning that involves the arts along with more intellectual pursuits. But an Integrative Meta-Perspective requires more specifically systemic inquiry. Whatever the specific field of study, our thinking has to apply the whole of our cognitive complexity. The needed conceptual rigor is not otherwise possible.

If truth itself is changing—and in the ways Cultural Maturity claims—change of both of these sorts will be necessary if academia is to retain rightful claim as society's ultimate keeper and disseminator of knowledge. Interdisciplinary inquiry redefines questions for both truth as a whole and for all its pieces and, if done with sufficient force and sophistication, by itself it drives conversation into new territory. And the greater conceptual depth that comes with applying more of our cognitive systemic complexity will certainly be essential if academia is to provide leadership with regard to the questions of value that must necessarily guide good decision-making. Ultimately this applies to thought of any sort. As with successful interdisciplinary inquiry, when our full cognitive complexity is engaged deeply, that engagement by itself supports and drives culturally mature understanding.

Surprises

Culturally mature systemic perspective offers fascinating surprises. Some of its surprises we should find, by this point in our inquiry, not surprising at all—but historically we very much would have found them so. Certainly this is the case with how much gets included—and often helpfully explained—within a single overarching way of understanding. In times past, we would have treated questions that related to how we think, the values we hold, how we relate, and our concepts of God or nature, as separate concerns. Here we have engaged them as aspects of a more whole-ball-of-wax picture of how things work.

For many people, the greatest surprises concern the way mature systemic perspective offers that we might effectively address eternally baffling human quandaries. Culturally mature perspective suggests that many question we've assumed to be beyond us have been less so because they are baffling in any ultimate sense, than because we need mature systemic perspective to make useful sense of them.

The apparent contradiction between determinism and free will provides a good example. The way an Integrative Meta-Perspective reframes the workings of awareness and cognition provides the needed fresh vantage. In *The Open Universe: And Argument for Indeterminism*, Karl Popper posed the dilemma this way: "Common sense inclines, on the one hand, that *every* event is caused by some preceding events, so that every event

can be explained or predicted On the other hand,...common sense attributes to mature and sane human persons ... the ability to choose freely between alternative possibilities of acting."⁴¹ The notion of free will is tied to the idea of conscious awareness as a separate, animating force. Understand awareness as a critical part, but only a part, of our creative natures—and recognize, too, that choice happens always in the context of an infinity of contingencies—and the contradiction disappears. Neither is will so free nor determinism so predetermined as we've imagined. And as with all “bridgings,” each hand derives new life. Freedom may provide fewer options, but it gains new significance. And determination may not be so predictable, but it defines an ultimately more coherent and stable order. Within a mature systemic view of existence and change, choice and fate become generatively linked, partners in how possibility appears when viewed through the lens of our tool-making natures.

Another such puzzle concerns the even more basic quandary of what it means to say we are somebody. In talking of Whole-Person/Whole System relationships and identity, I've implied that something very basic is changing in how we best think of ourselves. Culturally mature perspective makes the eternal “who am I” question newly answerable. As we might expect, it also requires that we think in new ways that can seem contradictory limited to traditional assumptions.

A key twentieth-century debate in psychology and philosophy illustrates how much the needed larger understanding stretches us, and often stretches the best of thinkers. It had its origins mid-century, but it remains lively today. (And the resolution I will propose remains controversial). Here I refer to the battle over the nature of the "self"—behaviorists⁴² on one side and humanists and those of more analytical bent on the other. Behaviorists—at least of the more extreme right-hand sort—tend to dismiss the whole notion (make it all behavior). Those who put greater emphasis on inner reflection—particularly of the more extreme inclination—tend to wax poetically about the "authentic," "true," or "original" self (which therapeutic process is supposed to be about recovering).

Neither view holds up well to scrutiny. We find just why reflected in earlier thoughts about the inadequacy of past “crux” concepts. Any useful notion of the self must

41 Page xix. Popper went on to assert, "the reality of time and change is the crux of all realism."

42 Along with the more extreme of cognitive theorists.

“bridge” polarities. Make ourselves only behavior and we leave out not just inner experience, but any appreciation for meaning and coherence. But make identity an opposite to conditioning, belief, and the stuff of the material world, and we dismiss who we are as manifesting and manifest beings.

Our second kind of systemic perspective provides the needed larger picture. Authenticity is redefined to mean applying our complexities in the most effective ways—and with maturity, in consciously congruent ways. From this vantage, the notion of a self very much makes sense—indeed a specifically living/meaning-making sort of sense; behaviorism is fundamentally challenged. But self also becomes explicitly different from some essence; it includes all of our often-contradictory aspects and ways of seeing the world.⁴³ Certainly it is different from some original essence—self in any sense pertinent to meaning exists in time (it is not about original purity) and space (it ties in with every part of our life experience).

This explicitly systemic picture becomes obvious with at all deep clinical work. The methods applied by advocates of either apposing school of thought can be useful, but they are also each vulnerable to major traps from which they have no means of escape. In Chapter Eight we will examine a psychotherapeutic approach that not only draws on more all-the-crayons-in-the-box picture of the self, it is designed specifically to support the manifestation and development of self is this mature sense. I call it simply “parts work.” It draws on the notion that we can think of the various aspects of our psyches like characters in a play. Parts are placed around the room—in chairs, standing, sitting on the floor. The person enters into conversation with them, learning in the process both that each has something to contribute and that problems ensue (projection, mythologizing, loss of any deep sense of self) whenever any part gets the last word (ideology at the personal level prevails). Identity becomes the ability to sit solidly in the Whole-Person chair and to draw strongly and creatively on the whole of one’s multi-hued (in this case multi-charactered—again “we are large, we contain multitudes”) systemic complexity.

Other surprises come with mature systemic perspective. Some people can find surprising that the changes that produce this systemic picture relate not just how we think and who we are, but also to what we create. Certainly they apply to the institutions and

⁴³ More left- and right-hand equally. Or, more precisely, left-hand and right-hand equally within the particular kind of all-the-crayons-in-the-box organization our temperament prescribes.

social structures we create. But as we saw with the last chapter's comparative look at China and the West at the time of the Industrial revolution, it also pertains to invention.⁴⁴ This is not really a radical observation. It is only reasonable that what we invent would parallel not just what we understand, but how we are capable of understanding. But in our Modern Age, we've tended to look at invention differently, as something separate that drove cultural change.

Consistent with our emergent, more dynamic and systemic conceptual picture, machine age inventions, today, are giving way to innovations that reflects a more interlinked reality, and one that is increasing creative in its workings. The Internet provides the most immediate example. Its structure a highly decentralized and explicitly systemic. By itself the Internet is best thought of as "half way" systemic manifestation (it remains ultimately mechanistic). But if we add ourselves to the equation, modern information technology's increasingly dynamic and networked picture becomes systemic in our second sense. Future technologies will likely draw even more directly on this more kaleidoscopic picture—and likely must if they are to serve us in the ways we will need.

Systemic complexity's role with regard to Cultural Maturity goes both ways—this whether our new systemic complexities manifest in new understandings, new kinds of relationships, or new inventive paradigms. Culturally mature perspective helps us generate systems with the needed new complexity. And generating newly complex systems, in turn, supports needed changes in ourselves. Engaging systemic complexity makes us not just participants in our time's new story, but co-creators of its emerging narrative.

Creative Patterning in Space

That Creative Systems Theory is a systemic formulation and one that applies a creative frame is declared by its name.⁴⁵ For human systems, Creative Systems Theory

⁴⁴ Notice how today we confront a situation that is almost reversed from what Thurow described. China is just now hitting its industrial stride, while the U.S and the Western Europe are moving beyond the time when Industrial Age values provide the familiar unswerving material motivation.

⁴⁵ Describing Creative Systems ideas as systemic is only one way to think of them. Indeed, the author had only the most superficial knowledge of systems ideas when the theory was developed. Creative

provides an approach to addressing complexity that is explicitly systemic in our second sense.

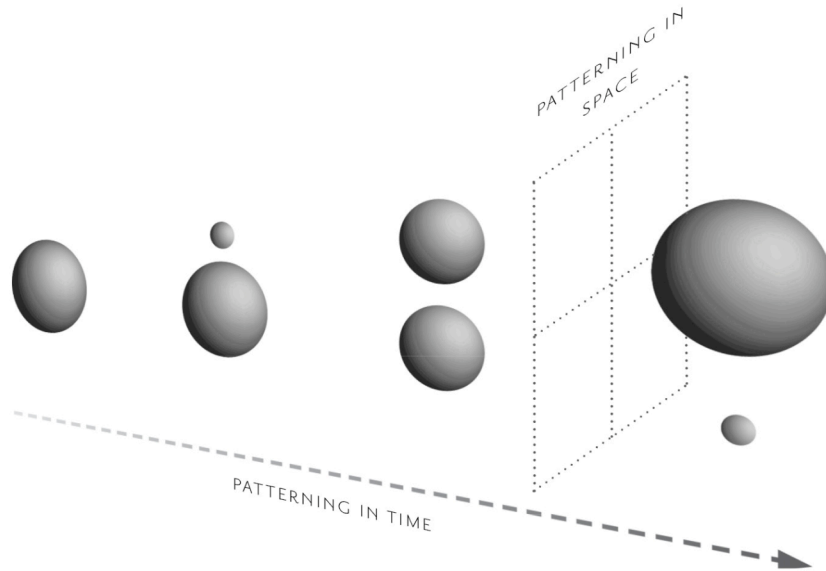
Creative Systems Theory's approach to teasing apart complexity is pertinent to both "crux" and "multiplicity" discernments. While we might think complexity to be only about multiplicity, we've seen how culturally mature crux discernments become "bridging" notions. Crux stops being some timeless essence and becomes instead the right and timely holding of systemic complexity. But we appropriately give the greater attention to the "multiplicity" side of things, how Creative Systems Theory helps us appreciate complexity's details. We've looked briefly at how Creative Systems Theory provides a "pattern language" for teasing apart temporal differences, what I've called Patterning in Times. It does something related for more here-and-now systemic distinctions, what is calls Patterning in Space.

An observation hinted at earlier is important to more directly note before we look specifically at how Creative Systems Theory addresses here-and-now complexity. Seen from a culturally mature perspective, time and place concerns are not as distinct as we have traditionally made them out to be. Addressed systemically, any moment is, in the end, about both change-related differences and here-and-now complexity. Certainly it is if we frame complexity in creative terms. Every Patterning in Time observation is about a systemic relationship—about how that relationship organizes at a particular point in time. And every Patterning in Space observation is similar about change—about both the change processes that produced it and the further changes that lie potential within it.

The Creative Function helps visualize how Patterning in Time and Patterning in Space discriminations relate. The Creative Function is most obviously about change, but in representing the realities that change takes us through as polar juxtapositions, it implies that those realities are in the end systemic. Take a cross section through the Creative Function at any point in formative process's differentiation phase and we encounter the pertinent time-specific polar relationships. Make our cross section beyond formative process's midpoint and get the more consciously, all-the-crayons-in-the-box systemic

Systems Theory was originally called the Theory of Creative Causality. Its relationship to other efforts at systemic conception was only recognized later.

picture that comes with creative integrative and awareness' now explicitly creative Meta-Perspective.



TRUTH AND THE CREATIVE FUNCTION

“Multiplicity” and the Creative Function

Creative Systems Theory proposes that not only are our two kinds of multiplicity distinctions not so distinct, we can use creative language to refine how we make here-and-now distinctions in a similar way to how we have used it to give detail to our thinking about change. We've glimpsed some of how this works in the way I've spoken of intelligence's multiple aspects. The fact that we have multiple intelligences is a here-and-now, Patterning-in-Space recognition. But at the same time, the way our multiples intelligences work together in any particular here and now is specifically generative. This observations provides the basis for a particularly compact and elegant conceptual approach. In Creative Systems Theory, "system" and "creative" become different ways of saying the same thing—and not just metaphorically. The theory

delineates how change and here-and-now differences each pattern in analogous ways. Indeed it uses the same basic nomenclature to speak of each.⁴⁶

A detailed look must wait for the Appendix, but we can draw on the last chapter's glimpse at the temporal side of Creative Systems Theory's approach for a general sense of things. There we looked at how we can think of change in human systems not just as creative, but creatively ordered. I described how we can use aspects of human intelligence/sensibility to map creative change (Patterning in Time). Creative Systems Theory does something related for here-and-now complexity. It proposes that systemic interrelationships also pattern in specifically creative ways. It describes how we can use our diverse intelligences—or more accurately the creative principles of which various combinations of intelligences at different times and places give expression—in a similar way to map human complexity as it exists at particular points in time (Patterning Space).

Observations I've made about creative polarity reflect the most basic level of such mapping. The recognition of polarity is a Patterning in Space observation. Creative Systems patterning concepts help delineate why in particular situations we see the polarities we do and the underlying gifts and partialities of any polar relationship. And an Integrative Meta-Perspective's all-the-crayons-in-the-box picture offers finer detail. We get Patterning in Space discernments that describe the particular crayons in play at any point in time, why it is we encounter those particular hues, and how each color relates to those around it.

We can apply creative Patterning in Space concepts to better understand here-and-now systemic complexity in any human scale—parts in our psyches, roles in a family, tasks in a community, aspects of an organization, and more. In Chapters ahead and the Appendix we will give particular attention to how they can assist us in understanding the underlying assumptions of particular domains of experience—science, religion, government, education, or art. And we will look closely at how personality styles represent Patterning in Space creative “crayons” within the larger human community. Because a creative frame links change and complexity, we can use Patterning in Space

⁴⁶ As far as I know, this systemic linking of change and interrelationship, and certainly this use of parallel language, is a unique contribution of Creative Systems Theory.

notions to extend our observations about how we understand complexity into the past and into the future.

This chapter's introductory dialogues each hint at this creative approach to her-and-now delineation. We can use the concept of multiple intelligences as a highly simplified Patterning-in-Space lens. Take a step back and we see how the diverse voices that we must consider in redefining progress relate to different parts of a cognitive map—voices such as economics and science coming from more rational parts, artistic voices and the voices of young children from more imaginal parts, the voice of nature more from the intelligence of the body, and so forth. In a similar way, the characteristics of the diverse personality styles that must interact in the work teams of the future link to specific permutations and balances of these sensibilities. Colloquially, we talk of "feeling types" and "intellectual types," "intuitive types" and more "physical types."⁴⁷

More formal Creative Systems Theory language gives us a concise nomenclature that we can draw on in later chapters and for the Appendix's more detailed elaboration of Creative Systems concepts. Creative Systems Theory calls the first half of formative process creation's Differentiation Phase, the midpoint between formative process's two halves Transition, and formative processes second half it Integration Phase. For more detailed distinction, it calls the incubation, inspiration, perspiration, and finishing and polishing stages of human formative process Pre-Axis, Early-Axis, Middle-Axis, and Late-Axis respectively.

That is Patterning in Time. Patterning in Space “multiplicity distinctions use the same nomenclature, but here to refer to here-and-now systemic aspects that preferentially link with particular sensibilities. Temperament provides the simplest illustration, but the basic approach applies more generally. Artists are commonly Earlies (thought not

⁴⁷ CST's approach to personality diversity (and complementarity) is particularly pertinent to the task of promoting and facilitating culturally mature perspective described in the introductory conversation. We can think of systemic understanding of our second sort as what we get when we engage—at a high level—all the various aspects of human creative contribution. This can be achieved by overlapping intelligences or through interdisciplinary inquiry. It can also be achieved through drawing on temperament diversity. Other kinds of diversity—gender, race, sexual orientation—can help in this regard. But CST proposes that personality diversity best gets at the full spectrum of creative aspects and does so most directly. (Again, see the Appendix.)

always⁴⁸)—their gifts an expression of the imaginal beginnings of things. Teachers, policemen and others who do the hard daily work of society tend to be Middles, their contribution more an expression of perspiration stage, heart-and-guts sensibilities. People in finance, academia, and the media tend to be Lates (though again there are important exceptions) their gifts a reflection of the more rational and detail-focused capacities that come with sensibilities of a more finishing and polishing sort.

A Creative Systems analyses often combines multiple Patterning in Space observations and also applies them in conjunction with related Patterning in Time distinctions. Such layering of observations could seem to make for an impossibly complicated picture. But from an Integrative Meta-Perspective, such complex teasing apart proves not that difficult. Because each kind of discrimination has a similar conceptual foundation, a creative framing of multi-layered complexity can produce a picture striking in its coherence, and even simplicity. And because that coherence mirrors that of our own cognitive coherence (at least as its multiplicity manifests at a particular time and place) we also come naturally equipped, given a little practice, with the necessary tools.

For our task, Creative Systems patterning concepts find some of their most important application in the recognition and delineation of conceptual traps. They help us tease apart ways ideas can stop short of Cultural Maturity's threshold and spot it when they do. Patterning in Time concepts provide a start. The observation that a cultural belief is basically medieval (derived from culture's Middle-Axis perspirations stage) or Cartesian (derived from culture's Late-Axis finishing and polishing stage) in its formulation tells a lot—at least in a general way—about how an idea can help us and how it cannot. We can also make Pattern in Time discriminations that reflect stages in individual development. When we say someone's conclusions are adolescent or childish, and are not just endeavoring to put someone down, at some level this is our reference.

Add Patterning in Space notions and we get a highly refined teasing-apart lens. At the most basic level we can talk as I have here of polar fallacies, assertions that fall short of Cultural Maturity's threshold by falling off the left side of the road, the right side of the road, or straddling the white line in the middle. Creative Systems Theory again

⁴⁸ Many are Late/Lowers and very few are Middles. The Appendix look at how this might be so and predicted differences.

provides language. It calls more left-hand fallacies, those that identify with connectedness and the archetypally feminine more generally Unity Fallacies. It calls more right-hand fallacies, those that identify with difference and the archetypally masculine more generally Separation Fallacies. And it calls assertions that confuse splitting the difference with Integrative Meta-Perspective Compromise Fallacies. Chapter Ten looks at three basic types of Creative Fallacy in detail.

Chapter Ten also looks at how we can tease apart more specific Patterning in Space traps, ones that involve confusing a single color in our creative box of crayons with final truth. It looks, too, at how, too, we can combine such her-and-now, “multiplicity” trap distinctions with our more basic notions of Polar Fallacies. We can identify Early-Axis Unity, Separation, and Compromise Fallacies; Middle-Axis Unity, Separation, and Compromise Fallacies; and Late-Axis Unity, Separation, and Compromise Fallacies. If we wish, we can go further still and note Upper, Lower, Inner, and Outer pole versions of each. Such detail might initially seem like overkill. But, again, such patterning distinctions, with a bit of experience, are not that difficult to make—based as they are on simple organizational principles. And they can make otherwise baffling assertions not just understandable, but predictable.

Complexity, Creativity, and the Task of (Grand Overarching) Story

One last surprise that comes with mature systemic perspective is worth mentioning in conclusion if for no other reason than that it is fun and provocative: An Integrative Meta-Perspective produces new appreciation for fully encompassing, grandly overarching ideas. Again, this should not really surprise. Systems thinking is about trying to get our understanding around everything that for a particular question might be pertinent. There is no reason that everything should not include *everything*.

While we might predict this, it is also the case that, in our time, thinking in such big picture terms is a rather foreign enterprise. Patterning in Time reflections helps make sense of why. Big picture narratives about how it all connects have always been central to our collective experience of meaning. And our contemporary story has been this in a sense. Certainly with the Modern Age we have come to appreciate technical complexities with a subtlety not before seen. But the story we have known has been a very limited

story when it comes to connectedness in any deep sense. The Modern Age has been an age of the individual. It has also been an age of specialization in which the observation of possible overlaps between the truths of difference spheres have been treated as at best of small concern, at worst as suspect (and often appropriately).

But if Cultural Maturity's conclusions about complexity and understanding are correct, more integrative views should find increasing respect, and not just perspectives that look at life's particulars more systemically, but really big, big-picture integrative views. We should also be becoming capable of a sophistication of big-picture understanding that has not before been an option.

New respect for the broadly encompassing is, in fact, something we see. It extends even into the hardest of sciences. Indeed it is there that we find, today, some of the greatest commitment to broadly inclusive conception. We witness this most visibly in physics' modern attempts to develop a "grand unified theory" (a view that integrates understanding of the physical world's four fundamental forces—gravity, electromagnetism, and the weak and strong nuclear forces). Formal systemic thinking is another effort in this direction that originated in the sciences. Such efforts have attempted to arrive at general principles of organization that address all aspects of existence. Creative Systems Theory represents such an overarching project for the human sphere.

While we are having fun with big-picture reflection, it is only appropriate that we address an ultimately encompassing eternal quandary. Early in this chapter, I proposed that connectedness and difference represent the most fundamental of organizing polarities. While ultimately accurate, traditionally, this is not how we would have spoken of this juxtaposition. Most commonly we would have referred to things spiritual on one hand, and things material on the other. Our eternal quandary asks: How do we best think about the spiritual and material realms, described through history in our various time- and place-specific religious forms and scientific beliefs? The question makes a particularly apt addition to this chapter's reflections as its answer draws simultaneously on Patterning in Time and Patterning in Space observations.

Not surprisingly, given how I've described the ultimate relationship of connectedness and difference, our creative frame provides a way in. Indeed it provides a direct answer if how I've spoken of connectedness and difference holds up. Mature systemic perspective helps us step back not just from the fact that we are creators, but

also from our natures as tellers of stories about creation more generally. We can think of religion and science as our two great “creation story,” story-telling traditions. How those traditions relate, in turn, tells us more with regard to what they are most fundamentally about.

Every culture has its tales about “how things came to be.” Our modern version starts with cosmological creation, our (perhaps) big-bang beginnings,⁴⁹ though it doesn’t stop there. We can also speak of the amazing and mysterious immergence of life. And there are also the immense new creative capacities that arrived with conscious awareness. To be human is to take part in creation becoming conscious of itself. In our time, we are becoming able to do so in fresh ways—to appreciate creation *as creation* (process as well as product) and with new depth and perspective.

We can think of all of history's great encompassing stories as versions of this story—told in ways appropriate to their time, place, and perspective. Our past stories have taken the forms they have in part because of each time's practical constraints (the telescope dramatically altered our picture), in part because of the developmentally specific sensibilities that at different times have ordered our worldviews (our early animistic and much later Enlightenment interpretations were different not just because of what we knew, but because of how we knew).

A creative perspective notes that they have also taken the forms they have because of the internal vantages from which they have been told. Science and religion become alternative, big-picture creative interpretations.

Religious/ spiritual traditions have observed creation's story from connectedness’s more “left-hand” creative vantages (and with the symbolic and sensory languages of our more germinal intelligences). Scientific and more materialist philosophical traditions have simultaneously observed creation's story from difference’s complementary more “right-hand” vantages (and with the more concrete and rational languages of our more manifest modes of knowing). An integrative evolutionary picture appreciates how, all along, they have observed a single story.

Later, we will see how the more integrative stance of culturally mature perspective doesn’t let either science or religion off easily. Certainly, it challenges both the mechanistic and objectivist underpinnings of classical science and the parental

⁴⁹ The “big bang” explanation is not universally accepted among even scientists.

assumptions of traditional faith. It similarly challenges simple, Cartesian, separate-worlds interpretation of this dual significance. Creative Systems Theory patterning concepts describe how history has followed a creatively predictable progression both in how we have defined the spiritual and material realms and how we've understood the relationship between them.⁵⁰ At this point, the important recognition is that with the concept of Cultural Maturity and the application of a more creative lens, a separate-worlds interpretation becomes unnecessary. Viewed from a Creative Meta-Perspective, the social juxtaposition of material and spiritual perspectives, manifest in institutions like science and religion, has been in the end, however often divisive, a conspiracy.

Given the conclusion that science and religion in complementary ways describe creation and its workings, we appropriately conclude these biggest of big picture complexity reflections with some additional pondering about a creative frame more generally. Our further question: Does a creative frame apply beyond human systems?

If we clearly distinguish what we are talking about from creativity that involves conscious awareness, as we have seen here, we can apply it beyond ourselves at least in a limited sense. We can use a creative frame (applying Creative Systems Patterning in Time concepts) to help us understand why through history we humans have understood the physical and the biological in the ways that we have. In the next chapter we will take the “grand theory of everything” project an additional step and look at how a creative frame can help us rethink the relationship between physical, biological, and conscious processes (another one of those quandaries that have traditional tied thinking in knots).

But extend this creative picture much further and we are necessarily walking on shaky ground. Does it make sense to frame systemic understanding in creative terms in

⁵⁰ The mechanism of creation in human systems requires that at various times we experience the relationship between creation's most essential polarity quite differently. Sometimes the mysterious and the manifest appear as obvious collaborators, sometimes as warring opponents, and sometimes as strangers who barely recognize each other's presence. (See the Appendix.) As the mechanisms of the first half of formative process would predict, over the course of history, we have moved from times in which more left-hand, "spiritual" sensibilities were dominant to times where more right-hand, "material," values and beliefs most often hold sway. Polar extremes have also become increasingly distinct. If the concept of Cultural Maturity is accurate, in times ahead good science and good religion will each derive more integrative formulations—formulations that better articulate the contributions of each, challenge limiting assumptions of past belief, and reach across this most basic of conceptual chasms.

some ultimate sense—for the non-human, or even ourselves, really? This may very well make sense. But, in the end, we have no way of knowing how much of a creative frame's usefulness is a reflection of how we are coming to think (a contemporary equivalent of the Age of Reason clockworks metaphor) and how much a product of how things "really" are. If nothing more, a grand-overarching creative picture is poetically evocative. Physicist Sir James Jeans proposed that in today's new view "the universe begins to look more like a great thought than a great machine." That it might be a specifically creative thought—does not seem an unreasonable addition.

Complexity and Hope

The way culturally mature perspective makes complexity more tolerable and understandable means that engaging today's new complexities in healthy manner is at least an option. If a more sophisticated relationship to complexity is inherent to Cultural Maturity's more general changes, it is also the case that the skills and capacities needed to engage complexity successfully may come more easily to us than we might suppose.

Indeed, we may be natively crafted for more whole-system ways of relating and thinking. Mature systemic understanding, as we've seen, can be tricky and obviously requires a stretch. But we've also seen how it ties directly to our tool-making natures, to a systemic picture of intelligence, to a more embracing picture of the self, and to big-picture understanding more generally. If all this is true, it need not be beyond us. The more steps we make into culturally mature territory, the more mature systemic perspective should seem self-evident. Thinking systemically in the needed fuller sense is ultimately about embodying ourselves with the same fullness we wish our understandings to achieve. When we are successful, not just how we think, but how we relate and the choices we make, come to reflect that fullness.

Such appreciation for complexity is complicated—but not impossible. Indeed, again, it intersects with simplicity.⁵¹ I'm reminded of the words of Virginia Woolf: "Examine for a moment an ordinary mind on an ordinary day. The mind receives a

⁵¹ I've proposed that polarity/mythologizing functions to protect us from complexity. Another way of saying the same thing is that it protects us from simplicity—from the unadorned immensity of direct experience.

myriad of impressions—trivial, fantastic, evanescent, or engraved with the sharpness of steel. From all sides they come, an incessant shower of innumerable atoms, and as they fall, they shape themselves into the life of Monday or Tuesday...."

Complexity in our second sense is about life's infinite, and infinitely demanding, intricacies. But at the same time, it is simply about Monday or Tuesday. It is about the day-to-day elegance with which life's diverse dimensions fit together to make us who we are.

The Price and the Prize

As with Cultural Maturity's previous themes, a mature relationship to complexity makes severe demands. It means deeply confronting our own, often contradictory, inner complexities. It involves learning to take into account all manner of ingredients that may seem not to fit together. It requires surrendering any belief, even (and especially) beliefs we've held most dear, that mythologize and idealize one part of a systemic whole (whether the part symbolically made "chosen" is a race, a country, a religion, a political party, a personality style, or a particular approach to knowing). It also requires stretching to see big-picture, sometimes really big-picture (while never forgetting the particular).

But fail at the tasks of mature systemic perspective and the price will be large. We will persist at applying simplistic, single factor analyses to social problems with complexly multiple causes (as we tend to see with modern "wars" against poverty, terrorism, or drug and alcohol addiction). We will continue to deny the magnitude of current environmental degradation with ever-more dire consequences. Lacking the greater tolerance for complexity mature relationships require, we will more and more often fail in our human connections (whether those of love, family, community, or more generally). We will make dangerously partial decisions in any situation requiring global perspective (whether our concerns relate primarily to economics, health care, climate change, or defense). We will also stop short of capitalizing on the profound opportunities potential in our increasingly decentralized and interactive informational worlds. Without sufficiently systemic perspective, even well-intended actions will result in outcomes that do harm, often outcomes exactly the opposite of those we might have intended.⁵²

⁵² At the least, we will become tired and cynical pursuing partial and inappropriate ends.

The rewards for achieving such maturity of perspective will be commensurably large. We will find ourselves much more resilient in the face of complexity's demands and also better able to understand and manage complexity. We will also find ourselves increasingly adept at recognizing pattern in complexity, at seeing underlying order, meaning, and even simplicity in what before might have seemed impossibly complicated, chaotic, or impenetrably mysterious.

As with each of maturity's other defining themes, in such creative taming (and freeing) of complexity lies an important piece of the antidote to modern humanity's crisis of purpose and hope. As we better understand complexity, we should find increasing wonder in our own internal complexities and increasing fascination with the intricacies of the world around us (even in the face of contradiction, paradox, and seeming incompatibility). We should also find the often-contradictory seeming pieces of what the future asks of us coming together to provide compelling, and even inspiring, pictures of what could be.

Weaving Threads

The short version:

The future will require a newly mature relationship to complexity. At the least, we must learn to better tolerate it. Life is becoming more complicated—and at multiple levels.

We must also learn to think more complexly, certainly about ourselves, but also about the world around us. In the end, we need to rethink complexity itself, apply newly subtle and sophisticated sorts of systemic understanding. Our ideas must better capture existence's dynamism, organic life's living nature, and conscious life's unique creative capabilities.

The good news. Cultural Maturity should make us more accepting and even embracing of complexity, increasing facile at thinking complexly, and more

capable of relating as conscious whole systems. These things should help give experience a new sense of coherence—and purpose.

Another way of describing culturally mature truth is that it is truth that recognizes limits and right proportion—the topic of the chapter ahead.

