

X6 – EXchanging Worldviews, 6: EXamining Organizational Principles for the Human System

Dear: My reason for wanting to consider, again, the Human System as a system follows from a concept that seems important enough and sufficiently validated to be called a general principle, namely: *you'll have a better chance of fixing something if you know how it's supposed to work!* As I'll try to show you (and as you probably know already), the Human System definitely needs some serious repair. Consequently, before trying to fix the Human System, it's a good idea to try to understand how it works. And whereas another way to try to understand how any system works (besides trying to figure out its goals and how it interacts with its environment) is to try to understand how it's organized, therefore in this chapter, I'll dig to try to understand the Human System's principal "organizational principles".

In **X4**, I showed you one way to try to understand various systems, namely, by examining their goals. Below is a repeat of my "colorful table", which I used to try to categorize various systems *via* system and subsystem goals.

<i>Type</i>	<i>Objectives & Subobjectives</i>	<i>Examples</i>
1	Systems with a sensible overall objective:	Any well designed system!
1a	A single prime objective for the system	Hospitals, highways...
1b	Multiple prime objectives for the system	An individual human
1c	Mutually supporting subobjectives	Any well functioning system
1d	Conflicting subobjectives	Any poorly operating system
2	Systems with a questionable overall goal:	Most systems run by humans!
2a	Systems with a self-defeating overall goal	Many governmental systems!
2b	Systems with a fake overall goal	All political parties & religions
2c	Systems with a stupid overall goal	All organized religions
2d	Systems with an unknown overall goal	The universe?
3	Systems with no overall goal:	Most natural systems
3a	Systems defined by near-neighbor rules	"Emerging systems"
3b	Subsystem goals usually nonconflicting	Humans in isolated groups
3c	Subsystem goals generally conflicting	Competing subgroups
3d	A subsystem's goal usurping the system	Theocracies, Monarchies...
3e	Subsystem goals generally cooperating	Within most democracies
3f	Subobjectives mutually supporting	Some hopeful signs...
3g	Subobjectives evolving into a prime goal	Humanity's future?

Although I think that the above scheme can be illuminating in many cases, yet when applied to the case of the Human System (also known as ‘humanity’), the scheme seems inadequate. Reasons include the following.

- 1) Although humanity is a Type 1 (Orange) System (i.e., as in the above Table, humanity does have a “sensible overall objective”, namely, to continue), yet humans haven’t agreed on what ‘continue’ means, e.g., most humans “believe” that they continue to live after they’re dead.
- 2) Whereas all scientific humanists reject the idea of continued existence after death (because no data support such speculation), therefore the Human System can also be classified as a Type 2 (Magenta) System (i.e., a system with a “questionable – or debatable – overall goal”).
- 3) Consequently, the Human System can also be classified as a Type 3 (Green) System (i.e., one with “no overall goal”, in particular, Type 3c: one with “subsystem goals generally conflicting” – although as I emphasized in **X4**, maybe we are evolving into a system with a prime goal (Type 3g), with that prime goal being to solve our many problems more intelligently.

It may therefore seem, from the above, that the attempt to classify the Human System according to goals and subgoals is not particularly helpful.

Yet, I hope you noticed what I consider to be an extremely important (and totally obvious) point, namely: people’s goals depend on their worldviews. For example, if your worldview is that this universe is organized and operated by some giant Jabberwock in the sky who will reward you with eternal bliss in paradise if you’re “good” (e.g., if you “go forth and multiply” or if you blow yourself up as a suicide bomber), then your goals follow. In turn, there’s another extremely important (and totally obvious) point, which I’ve described many times: people’s values depend on their goals. Thereby, worldviews that people adopt are critical – because crazy worldviews lead to crazy goals and values, and together crazy values, goals, and worldviews cause humanity a huge number of problems. As Voltaire said: “If we believe absurdities, we shall commit atrocities.” But I don’t want to get bogged down (again!) in detailing all problems that crazy worldviews cause humanity; so, to try to make progress, my plan for this chapter is to examine the Human System from still another perspective.

In **X5**, I tried to show you at least a little of another way to try to understand the Human System, namely, by examining how it interacts with its environment. Broadly speaking, the Human System (similar to any living system) operates by exploitation: we humans expropriate what we need (and, if we can get away with it, what we want) from wherever we can get it: men exploit women to satisfy their own sexual drives, a substantial fraction of women exploit men's sexual drives to satisfy their own needs (e.g., for security), leaders of fundamentalist religions exploit procreation to provide growing membership in their religion, and most seriously, a growing population is exploiting natural resources such as water, minerals, arable land, and sources of energy such as coal and petroleum.

As I also tried to show you in **X5**, however, the current and expanding rate of exploitation of Nature almost certainly isn't sustainable. Thereby, when the Human System is examined from an "operational viewpoint", it again seems to reveal fundamental flaws: there's "no way" that Nature will tolerate so much exploitation by so many people. Stated differently, unless humans wholeheartedly adopt "sustainable development" (which could be accomplished most readily if the human population were reduced by a factor of about ten), then within this century and with fairly high probability, humanity is headed for economic and environmental catastrophes.

The threat of impending catastrophes is, of course, not entirely derived from religious ignorance. Even without the ignorance of religious leaders urging their followers to "Go forth and multiply" and treating women as little more than as "breeding stock", humans (similar to all life forms) have an obvious desire to populate every available niche – and fill it with as many "goodies" as they can! Humans, however, supposedly excel in their ability to foresee the consequences of proposed actions. Obvious questions therefore include: 1) Are humans sufficiently intelligent to foresee the consequences of their actions? and 2) Is the Human System sufficiently well organized so that behaviours can be modified? Such questions then lead to the subject of this chapter: not to focus on the system's prime goal (as with ants building an ant hill, there may not be one!), not to focus on how the system interacts with its environment (which seems to be complicated, but as an overview, apparently the ants are ruining not only the picnic but also the landscape) but to try to understand the system's organizational principles.

The planned focus on the system's organizational principles is consistent with what I mentioned in **X4**: an alternative way to examine systems

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(besides *via* goals) is to classify systems according to their organizational principles; in turn, this is consistent with the dictionary definition that a system is “a combination of related elements organized into a complex whole.” The obvious question is then: If the “elements” of the system (people) are “organized” into a “complex whole”, how are they “organized”? And as I already wrote, if the system’s organization (or organizations) can be understood, then maybe methods for fixing the system might be clearer.

But although in theory the plan to identify the Human System’s organizational principles may seem “all well and good”, in practice, the plan encounters humongous problems: from first considerations, it may seem that the only organizational principle for humanity is the force of gravity! (And with the onset of space travel, even the confines of the Earth no longer provide an “organization principle” for humanity.) Additional considerations reveal additional complications: a huge amount of data supports the conclusion that human groups are capable of organizing themselves according to a large number of different principles; therefore, presumably, so could the entire Human System. Nonetheless, potential organizational principles for humanity might be identified by first shifting focus to the organizational principles used by different groups of people.

Doing so reveals that different societies (human subsystems) can be organized primarily according to various economic, governance, or even religious schemes. Thus, some societies are similar to natural ecosystems (especially “laissez faire” capitalist societies, e.g., before “social controls” on monopolies were enacted), with the only organizing principle being “survival of the fittest” (the fittest individual or the fittest subgroup within the society, such as an industrial company or, if the Nazis had their way, the fittest “race” – a meaningless concept). Other societies (especially those run by clerics of various persuasions) have a clear overall objective, such as to serve their god (or more accurately, the people are to serve the clerics); in such cases, however, if you dig beneath superficial claims of pursuing some “values” (claimed to be conveyed to the clerics by their gods), you’ll find that all people within their societies (including the clerics) are individually pursuing “just” their dual survival goals (including living in some land of “milk and honey”, either before or after they die).

As more specific examples, the USSR was primarily organized (at least in principle!) according to an economic scheme (communism), maybe the US and the UK can be said to be primarily organized according to governance

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schemes (which are different, but both include protection of private property rights, i.e., an economic principle), and currently Iran, Pakistan, and some other Muslim nations are primarily organized according to religious schemes (which includes economic and governance principles). But even for societies in which the organizing principle isn't advertised to have anything to do with economics (e.g., most theocracies), if you dig beneath the surface, you can usually find some critically important economic organizing principle. For example, I suspect that Saudi Arabia's monarchy and Iran's theocracy would quickly collapse if the leaders didn't have control over their countries' oil wealth.

Such cases additionally illustrate that economic organizing principles can strongly influence (if not dominate) what may appear to be (or what are advertised to be) political organizing principles. Obvious examples are all communist societies (whose prime governance goal, at least theoretically, is to govern the economy) and even "capitalist countries" such as ours. That is, even democracies (including representative democracies or republics, such as ours) can be seen to be primarily organized not by their scheme of governance but by economics. Thus, even in theory, democracies can be viewed as methods by which the people decide how to tax themselves to fund joint enterprises, but in practice, taxation and expenditure schemes in such countries commonly reflect not the desires of everyone in the society but only the desires of influential "factions" (such as groups of industries, some religious groups, and various other "special interest" groups).

As another example (besides governments), all organized religions can be viewed simply as economic enterprises: religious people pay tithes to religious organizations for "services rendered", which for most religions in our culture include people paying for participation in the day-dream of eternal life. Such activity is offensive to scientific humanists, because it's similar to various illegal con games – and perhaps such activity is especially offensive to us not only because we are forced to help pay for it (*via* its tax-free status) but also because the con-artist clerics claim "exalted status" for themselves and their operations. But regardless of those perspectives, it can be seen that all organized religions are subsystems organized economically.

Of course there are many different types of economic organizing principles, with different advantages and disadvantages. For example, the "constrained capitalism" in this country can efficiently produce relatively abundant goods and services, but similar to a natural ecosystem, its efficiency can brutalize

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its members. Moreover, as anyone painfully learns by being “marginalized” by the system (e.g., by being unemployed), the advantages of capitalism (bountiful goods and services) are diffuse and are normally taken for granted, while its disadvantages (e.g., unemployment) can be acute. In contrast, various types of communist systems usually provide individuals with advantages that are acute but disadvantages that are diffuse, e.g., they provide more economic protection (such as guaranteed employment), but the inefficiencies of such systems (resulting from individuals not needing to struggle to survive) have led to diffuse disadvantages (e.g., the lack of goods and services, not to dwell on the common disadvantage of constraining freedoms). As Winston Churchill said: “The inherent vice of capitalism is the unequal sharing of blessings; the inherent vice of socialism is the equal sharing of miseries.” In failing limits, in democratic capitalist societies individuals are free to starve to death, whereas in totalitarian communist societies individuals are constrained to starve to death in silence.

As suggested in earlier chapters, a huge problem in attempting to govern communist countries (to protect the economic system) is that relatively few bureaucrats manipulate the millions (or billions) of “economic levers” that control any large economy. In capitalist countries, in contrast, the decisions of how to operate similar “economic levers” are left to the people – who suffer the consequences of operating them poorly or benefit from operating them well. In capitalist countries, the associated freedoms of the people to choose which levers to try to operate (and how to operate them) is rightfully recognized as being fundamental to all their freedoms, but experience has shown that this economic freedom can easily lead to successful attempts to manipulate the government, causing serious problems for the society, constraining the freedom of other citizens. With the collapse of the Soviet Union and subsequent globalization, additional societies are adopting an economic organization principle that can be described as “constrained capitalism”, with people forcing their governments to constrain companies sufficiently so that some “social safety net” is available for the people.

Economics, however, certainly isn't the only organizing principle for human (and other) societies. For example, the dominant organizing principle for some societies has been (and is) not for economic protection but some type of “physical protection”. Such is certainly the case for many species: wolves form in packs and lions in prides to attack prey (an organizing principle based on a primitive type of economics), but their prey (such as sheep, deer, and antelope) organize into herds for protection. Similarly,

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from the time of the first human tribes to modern states and nations, the dominant organizing principle for many human societies has been and continues to be not based on economics but on protection against “predators”, be they man-eating tigers or other groups of humans.

It’s equally obvious that many human societies are organized under more than one principle, e.g., for both economic and physical protection. During most of my lifetime, for example, I lived through the fear of (and terrible waste of resources used to maintain) “Mutually Assured Destruction” (MAD), a madness maintained between the Soviet Union physically protecting its organizing principles and “the West” physically protecting its own. As I’ll show you in later chapters, I’m afraid that, during your lifetime, you may need to suffer through similar madness, with Christian and Muslim societies each defending their dreams of eternal life in their respective paradises.

Such cases illustrate the sad reality that the dominant organizing principle for many societies has been the hate from (and for) their enemies. Examples include the Jews during at least the past 2,000 years, Hitler’s Germany, and maybe even our society. Such animosities are consistent with what I wrote many chapters ago, dealing with the interconnectedness of opposites: “black supports white” and “every in-group needs its out-group”. Simultaneous with the hate, however, it’s common that there has been love of one’s compatriots, be they “fellow Jews”, “fellow Christians”, “fellow Muslims”, “fellow Mormons”, “fellow Nazis”, “fellow Americans”, “Comrades”, or whatever. That is, although it’s a vast improvement if the organizing principle of any society is love rather than hate (a principle that, to the credit of most religious organizations, is at least partially applied within their groups), this principle of “mutual help” within a group is commonly coupled with animosity toward people outside the group. Would that all “fellow whatevers” would replace the word ‘fellow’ with ‘fallow’ or ‘shallow’! In any event, given the diversity in organizational principles, perhaps it’s understandable why most people seem to shake their heads in confusion, mumble some jabberwocky about some giant Jabberwock in the sky working in mysterious ways, pay the clerics for running their protection rackets, and get on with pursuing their personal trio of survival goals.

Alternatively, rather than attempting to identify organization principles of existing societies, one can search to try to extract organization principles that humans have used in the past. Most anthropologists (and almost certainly all

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economists) would probably argue that economics provided (and still provides) the primary organizing principle of most societies, from individual families to families of nations. More significantly, data support such a suggestion. For example, data from one of the policies of the social welfare system in this country suggest that without an economic organizing principle, even the fundamental Human System, the family, has difficulty surviving. Closer to home, Dear, if your father were no longer employed and if no “social safety net” were available, then imagine how difficult it would be for your own family to stick together.

Almost certainly, “in the beginning” most prehistoric societies were organized first as families and then as extended families or tribes, in which the father and then tribal leaders simply dictated their desires. Illustrative cases include the well-advertised tribe of Abraham and the subsequent tribe of Israel, the tribe of Mormons under Joseph Smith and then Brigham Young, and even today, there are primitive tribal groups in many Islamic nations (including Saudi Arabia, Iraq, Iran, Afghanistan, and Pakistan). The organization principles in such “family tribes” was (and is) partly derived from economics, partly for physical security, and partly “simply” by force wielded by the tribal leader, punishing those who refused to obey.

Additional organization of societies (probably most *via* economics) no doubt continued when tribes of nomads (each, in turn, both an “extended family” and a single “economic unit”) met with neighboring tribes to barter: one tribe might have excess fish; the other might have excess venison. Over time, trade would commonly lead to tribes amalgamating into a single, larger, economic unit, commonly “governed” by a group of tribal elders or “chiefs”. Recently, similar has been occurring in the formation of the European Union (EU), organized economically and “governed” by leaders from participating nations. In the future, similar may occur in North America, as a consequence of the North American Free Trade Agreement (NAFTA), and throughout the world, as a consequence of “globalization” of economies guided by the World Trade Organization (WTO) – although certainly there are a huge number of problems that would need to be overcome before such systems could be established, which are topic that I’ll return to in later X-chapters.

Putting it together, evidence supports the assertion that, as a system, humanity doesn’t seem to be organized well. In fact, we’re so disorganized that it’s stretching the idea of ‘system’ to describe humanity as a “system”!

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And immediately I want to add: more power to us! Who wants to be organized like a bunch of ants?! Yet, data do support the claim that there are some important and valuable organizational principles that humans have always applied; principles that may yet permit humanity to avoid impending disasters. To identify these principles, however, it's necessary to try to extract some general principles from a humungous pile of confusing data.

Fortunately, however, the extraction not only can be done but also it yields what I trust you'll agree are totally obvious results. I'll show you more details below, but I expect that you can already appreciate some of these "totally obvious results". Thus, surely you agree that one organization principle of the Human System (maybe it's even the primary organization principle) is that, eventually, **humans learn** – albeit not without “kicking and screaming” by many, and unfortunately, a commitment to ignorance by many more.

What we learn is, of course, significant for our social evolution. Thus, although humans learned a lot of silly stuff (such as ideas about Zeus controlling thunder and lightning, or about some other god creating the universe), we have evolved because **humans have learned to “outsmart” their competitors** (including animals and the vagaries of Nature, which in turn include floods, droughts, fires, and ice ages). Further, to overcome some of the physical advantages of our animal competitors and the power of Nature's vagaries, **humans have learned to outsmart their competitors by capturing the benefits of cooperation with other humans** (again and unfortunately, not without objections and obstructions from many people).

Commonly, how we've “captured” the benefits of cooperation is to cooperatively punish those who refuse to cooperate. Many animals behave similarly. In particular, you might recall from Chapter **J3** (dealing with “Interpersonal Justice and Morality”) that I quoted another article by Sharon Begley, which was entitled “Animals Seem to Have an Inherent Sense of Fairness and Justice”. In that article, she reviewed recent scientific results showing, specifically, how chimps and monkeys reacted to “unfair” situations. As she wrote, “Cooperation requires a grasp of fairness. You need to be able to detect (and punish) freeloaders to keep a cooperative society running.”

In his article “The Co-operative Gene – On the Role of Synergy in Evolution”, Peter Corning summarized many examples of such “synergistic cooperation” within species (as well as between species):¹

As shown by the many field studies and laboratory experiments that were inspired by inclusive fitness theory and game theory, the social interactions in nature among members of the same species may be perturbed by free-riders, “defectors”, exploiters, conspecific “parasites”, etc., and yet the fact remains that within-species co-operative behaviors are fairly common and encompass a broad array of survival-related functions, including: (1) hunting and foraging collaboratively, which may serve to increase capture efficiency, the size of the prey that can be pursued, or the likelihood of finding food patches; (2) joint detection, avoidance of and defense against predators, the forms of which range from mobbing and other kinds of coordinated attacks to flocking, herding, communal nesting and synchronized reproduction; (3) shared protection of jointly acquired food caches, notably among many insects and some birds; (5) [mis-numbered] co-operative movement and migration, including the use of formations that increase aerodynamic or hydrodynamic efficiency and reduce individual energy costs and/or facilitate navigation; (6) co-operation in reproduction, which can include joint nest-building, joint feeding and joint protection of the young; and (7) shared environmental conditioning and thermo-regulation.

By ‘synergisms’ (derived from the Greek word *synergos* meaning “to work together”) is meant that “the whole is greater than the parts” – or as Corning wrote, “it would be more accurate to say that the effects produced by wholes are different from what the parts can produce alone.”

Humans are, of course, similar to other animals – but definitely “more complicated critters.” As with other animals, individually we compete against other individuals (e.g., for mates, in our studies, in a variety of sports against other individuals, to try to get jobs, to “climb in the ranks” at companies or to start our own company, etc.) but also we cooperate (e.g., as friends, in a variety of team sports, marriage, within “our team” at work, as fellow citizens, etc.). Thus, we “mix and match” competition and cooperation, as we see fit – for our own benefit and for the benefit of “our group” (which in turn we usually deem to be for our own benefit and/or the benefit of our “families”).

Most fortunately for all of us, not only are some cooperative activities beneficial to participants but also to the rest of us – and significantly, many

¹ Available at <http://www.complexsystems.org/publications/coopgene.html>.

cooperative acts are synergistic; that is, we accrue more benefit than we invest. Corning conclude his article as follows:

So, why are selfish genes so often co-operative? The answer, it has been suggested here, is that, because of the synergies that may result, co-operation represents an often advantageous survival strategy; it may be a way to compete more effectively. The paradox, however, is that by co-operating in the pursuit of their own interests, co-operative genes may also advance the interests of others. Moreover, invention has become the mother of necessity. Selfish genes have come to be dependent upon one another. And so, a complex organism or “superorganism” also represents a “collective survival enterprise,” a functional unit of survival and reproduction in which the corporate interest of the “whole” becomes a filter or screen that differentially affects the survival and reproduction of the parts.

Further and importantly, human social evolution has commonly been ratcheted forward by our utilizing what especially “specialists” have learned. For example, the family benefited when the mother learned how to make clothing from animal hides; the tribe benefited when the first fellow who made a spear showed the rest of the hunters how to do it, and so on, including the taming of fire, baking clay, and smelting; the village benefited when somehow learned how to plant seeds, irrigate crops, and so on, including the invention of the wheel and through all inventions that have ever been discovered, out to and including benefits from whoever first learned how to search the internet so efficiently! Thereby, the vast majority of humans has benefited from discoveries and their promotions by a few brilliant inventors, innovators, and entrepreneurs.

In sum, then, the social evolution of humans has depended on the organizational principle that **we learn how to outsmart our competitors, both by capturing the benefits of cooperation and by utilizing the discoveries of relatively few, brilliant innovators.** This organizational principle (which is used by all groups, corporations, and nations throughout the world) could be called “capitalistic communism”, “communistic capitalism”, or simply “winning teamwork”.

There has, however, been more to our social evolution than applying the organizational principles associated with winning teamwork. Thus, in small groups (e.g., families, tribes, and similar), benefits to individuals from cooperation were easily seen, cheaters were relatively easily punished, and innovators were normally rewarded. Generally, the larger the group, the greater the difficulties for an individual to see the benefits of cooperation,

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for the group to punish cheaters, and for innovators to be suitably rewarded. For all sizes of groups, therefore, **communications are critically important**. Thereby, not only has group size generally increased in unison with communication technology but also group leaders have always been leading communicators (and many have sought to control communications, as a primary method of controlling the people *via* propaganda).

I should also add that, as far as I and many others are concerned, the beauty – the enduring strength – of the capitalist economic system is not only that it already rewards cooperation for competition but also it already punishes lack of cooperative competition (and inefficiencies and unwise investments). But the ugliness of the capitalist system is that, unregulated, it has nonlinear instabilities, leading to monopolies (such as the “robber barons” of the 19th Century and the “oil cartel” OPEC, the Organization of Petroleum Exporting Countries, of the 20th Century) and to irreparable resource depletion and environmental damages, such as those that are now occurring. And as capitalism spreads throughout the world (especially, now, in China, India, and Russia), the need for regulations – for global management – become increasingly imperative.

In any event, to try to understand resulting organizational principles, considerations about communications and control require turning to the subject of politics. Unfortunately, though, the subject of politics is huge. It’s so huge that I want to tackle it just one “piece at a time”, as I’ll be doing in subsequent **X**-chapters. For this chapter, I want to examine just one (important) piece of politics – and the associated “organizational (or better, disorganizational) principle” – namely, the apparent propensity of humans to split into “factions”.

According to my dictionary, a ‘faction’ is a “smaller, organized, dissenting groups within a larger one.” The relative size of such groups (or subgroups) however, is not so significant as their different perspectives on what to do. Note that ‘faction’ is a word derived “in the late 15th Century *via* French from Latin *factio(n-)*, from *facere* meaning ‘do, make’.” Relative to the influence of (and importance of) various factions, Dear, if you haven’t read them already, I hope that you’ll soon take the time to read *The Federalist Papers*, which you can find on the internet (courtesy the wonderful “Project Gutenberg”, which has put so many important books and documents on the internet).

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The Federalist Papers, which collectively sum to about 400 pages of rather dense reading, were newspaper articles published between October 1787 and August 1788 by Alexander Hamilton, James Madison, and/or John Jay. Some articles have more than one author; for some articles, the author hasn't been discerned; all were written under the pseudonym "Publius"; John Jay was the first chief justice of the US, James Madison is generally regarded as "the father of the Constitution", and Alexander Hamilton is generally regarded as most responsible for building a strong Federal government. The purpose of their writings was to try to convince citizens of New York State to ratify the new "Constitution" (adopted by the September 1787 Constitutional Convention in Philadelphia), which was proposed to replace the 1781 "Articles of Confederation." *The Federalist Papers* are important, Dear, because from them you can gain some appreciation both for the wisdom of and the debate among the participants who crafted our Constitution, which was finally ratified in 1789.

How the proposed new government would attempt to overcome the problem of factions was addressed by James Madison (1751–1836) in *FEDERALIST No. 10*, entitled "The Union as a Safeguard Against Domestic Faction and Insurrection." It's quoted below, to which I've italicized some phrases to encourage your attention to them and added some notes in square brackets.

Among the numerous advantages promised by a well constructed Union, none deserves to be more accurately developed than its tendency *to break and control the violence of faction*. The friend of popular governments never finds himself so much alarmed for their character and fate, as when he contemplates their propensity to *this dangerous vice*. He will not fail, therefore, to set a due value on any plan which, without violating the principles to which he is attached, provides a proper cure for it. The instability, injustice, and confusion introduced into the public councils, have, in truth, been the mortal diseases under which popular governments have everywhere perished; as they continue to be the favorite and fruitful topics from which the adversaries to liberty derive their most specious declamations.

The valuable improvements made by the American constitutions on the popular models, both ancient and modern, cannot certainly be too much admired; *but it would be an unwarrantable partiality to contend that they have as effectually obviated the danger on this side, as was wished and expected*. Complaints are everywhere heard from our most considerate and virtuous citizens, equally the friends of public and private faith, and of public and personal liberty, that our governments are too unstable, that the public good is disregarded in the conflicts of rival parties, and that *measures are too often decided, not according to the rules of justice and the rights of the minor party, but by the superior force of an interested and overbearing majority*.

However anxiously we may wish that these complaints had no foundation, the evidence of known facts will not permit us to deny that they are in some degree true. It will be found, indeed, on a candid review of our situation, that some of the distresses under which we labor have been erroneously charged on the operation of our governments; but it will be found, at the same time, that other causes will not alone account for many of our heaviest misfortunes; and, particularly, for that prevailing and increasing distrust of public engagements, and alarm for private rights, which are echoed from one end of the continent to the other. These must be chiefly, if not wholly, *effects of the unsteadiness and injustice with which a factious spirit has tainted our public administrations.*

By a faction, I understand a number of citizens, whether amounting to a majority or a minority of the whole, who are united and actuated by some common impulse of passion, or of interest, adverse to the rights of other citizens, or to the permanent and aggregate interests of the community.

There are two methods of curing the mischiefs of faction: the one, by removing its causes; the other, by controlling its effects. There are again two methods of removing the causes of faction: the one, by destroying the liberty which is essential to its existence; the other, by giving to every citizen the same opinions, the same passions, and the same interests.

It could never be more truly said than of the first remedy, that it was worse than the disease. Liberty is to faction what air is to fire, an aliment without which it instantly expires. But it could not be less folly to abolish liberty, which is essential to political life, because it nourishes faction, than it would be to wish the annihilation of air, which is essential to animal life, because it imparts to fire its destructive agency. [Sorry for the interruption, Dear, but isn't that an amazing sentence!]

The second expedient is as impracticable as the first would be unwise. *As long as the reason of man continues fallible, and he is at liberty to exercise it, different opinions will be formed.* As long as the connection subsists between his reason and his self-love, his opinions and his passions will have a reciprocal influence on each other; and the former will be objects to which the latter will attach themselves.

The diversity in the faculties of men, from which the rights of property originate, is not less an insuperable obstacle to a uniformity of interests. The protection of these faculties is the first object of government. From the protection of different and unequal faculties of acquiring property, the possession of different degrees and kinds of property immediately results; and from the influence of these on the sentiments and views of the respective proprietors, ensues *a division of the society into different interests and parties.*

The latent causes of faction are thus sown in the nature of man; and we see them everywhere brought into different degrees of activity, according to the different circumstances of civil society. A zeal for different opinions concerning religion,

concerning government, and many other points, as well of speculation as of practice; an attachment to different leaders ambitiously contending for pre-eminence and power; or to persons of other descriptions whose fortunes have been interesting to the human passions, have, in turn, divided mankind into parties, inflamed them with mutual animosity, and rendered them much more disposed to vex and oppress each other than to co-operate for their common good. So strong is this propensity of mankind to fall into mutual animosities, that where no substantial occasion presents itself, the most frivolous and fanciful distinctions have been sufficient to kindle their unfriendly passions and excite their most violent conflicts.

[Sorry to interrupt you again, Dear, but please re-read that paragraph, since it provides a good summary of “the human predicament” from a “systems viewpoint”. Thus, a systems analyst would probably say: “Good! There’s an overall goal of the system, stated to be: “to co-operate for [the] common good.” Then, however, the analyst would need to ask: “Define ‘common good’.” Whereupon, the system would likely break into factions, each with its own definition of ‘common good’, and therefore, unable to cooperate!]

But the most common and durable source of factions has been the various and unequal distribution of property. Those who hold and those who are without property have ever formed distinct interests in society. Those who are creditors, and those who are debtors, fall under a like discrimination. A landed interest, a manufacturing interest, a mercantile interest, a moneyed interest, with many lesser interests, grow up of necessity in civilized nations, and divide them into different classes, actuated by different sentiments and views. The regulation of these various and interfering interests forms the principal task of modern legislation, and involves the spirit of party and faction in the necessary and ordinary operations of the government.

[Actually, Dear, in modern societies (with our various types of “social safety nets”), it may no longer be correct to say that “unequal distribution of property” is “the most common and durable source of factions” – although it may still dominate for the entire Human System (divided, as it now commonly is, into “developed” and “underdeveloped” nations). In the US, in particular, different factions of people seem to be primarily derived from differences in philosophies (or worldviews), while other factions (other “special interests”) develop not so much from unequal distribution of existing “property” as from perceived opportunities and hindrances to the economic vitality of the special interests, e.g., different industries, different labor groups, professional groups, etc.]

No man is allowed to be a judge in his own cause, because his interest would certainly bias his judgment, and, not improbably, corrupt his integrity. With equal, nay with greater reason, a body of men are unfit to be both judges and parties at the same time; *yet what are many of the most important acts of legislation, but so many judicial determinations, not indeed concerning the rights of single persons, but concerning the rights of large bodies of citizens? And what are the different classes of legislators but advocates and parties to the causes which they determine?* Is a law

proposed concerning private debts? It is a question to which the creditors are parties on one side and the debtors on the other. Justice ought to hold the balance between them. *Yet the parties are, and must be, themselves the judges; and the most numerous party, or, in other words, the most powerful faction must be expected to prevail.* Shall domestic manufactures be encouraged, and in what degree, by restrictions on foreign manufactures? are questions which would be differently decided by the landed and the manufacturing classes, and probably by neither with a sole regard to justice and the public good.

[So here again, Dear, root problems about goals and definitions arise. Madison's premiss is that the goals are "justice" and "public good", but definitions are again lacking. I'll return to the problem of social justice in later X-chapters (e.g., see X10). As for the concept of "public good", although it may seem obvious (as dictated by Nature) that "the good" is to survive, again humans have managed to "screw up" Nature's clear directive – with some humans concluding that the "really good" is to survive forever! And of course I'll return to this problem in later X-chapters, e.g., those dealing with education, in which the emphasis will be consistent with Socrates' summary: "There is only one good, knowledge (or willingness to learn) and one evil, ignorance (or, refusal to learn)."]

The apportionment of taxes on the various descriptions of property is an act which seems to require the most exact impartiality; yet there is, perhaps, no legislative act in which greater opportunity and temptation are given to a predominant party to trample on the rules of justice. *Every shilling with which they overburden the inferior number, is a shilling saved to their own pockets.* It is in vain to say that enlightened statesmen will be able to adjust these clashing interests, and render them all subservient to the public good. Enlightened statesmen will not always be at the helm. Nor, in many cases, can such an adjustment be made at all without taking into view indirect and remote considerations, which will rarely prevail over the immediate interest which one party may find in disregarding the rights of another or the good of the whole.

The inference to which we are brought is, that the CAUSES of faction cannot be removed, and that relief is only to be sought in the means of controlling its EFFECTS.

[And already from that observation, Dear, you might see evidence for an important generalization about a principal "organizational principle" of the current Human System: **Humanity is organized into subgroups of competing factions, with interfactional competition only partially constrained.** Later, I'll be showing you more evidence supporting that generalization, but if you think about it for a while, you may conclude that you already have found sufficient evidence on your own.]

If a faction consists of less than a majority, relief is supplied by the republican principle, which enables the majority to defeat [the minority's] sinister views by regular vote. It may clog the administration, it may convulse the society; but it will

be unable to execute and mask its violence under the forms of the Constitution. [And here, Dear, you can see a major difficulty – and bias in Madison’s writing: who is to say that the minority’s view is “sinister”?! And of course the answer is “the majority”, but is that the “correct” answer!]

When a majority is included in a faction, the form of popular government [democracy], on the other hand, enables it to sacrifice (to its ruling passion or interest) both the public good and the rights of other citizens. To secure the public good and private rights against the danger of such a faction, and at the same time to preserve the spirit and the form of popular government, is then the great object to which our inquiries are directed.

Let me add that it is the great desideratum by which this form of government can be rescued from the opprobrium under which it has so long labored, and be recommended to the esteem and adoption of mankind. *By what means is this object attainable? Evidently by one of two only. Either the existence of the same passion or interest in a majority at the same time must be prevented, or the majority, having such coexistent passion or interest, must be rendered, by their number and local situation, unable to concert and carry into effect schemes of oppression.*

[Well, Dear, if you think that Madison is here skating on thin ice, then I’d tend to agree with you – and so did many others, which is why a Bill of Rights was added to the Constitution, as its first Ten Amendments, ratified in 1791. But the problems were only partially solved with those Amendments, restricting the possibility of the majority “to defeat [the minority’s] sinister views”, e.g., on freedom of speech or assembly or...! Meanwhile, though, Madison’s premiss that there was some “common good” that the majority would thwart (as a “faction”!) again begs the question: what is this “common good” that the majority doesn’t recognize? Who defines the “common good”? What is it “good” for? What’s the objective? As you might conclude from what follows, Madison didn’t address such questions – and as you might conclude from your own experiences, such questions have never been adequately addressed. I’ll return to them in later X-chapters.]

If the impulse and the opportunity [of the majority] be suffered to coincide, we well know that *neither moral nor religious motives can be relied on as an adequate control*. They [moral or religious motives] are not found to be such [control] on the injustice and violence of individuals, and lose their efficacy in proportion to the number combined together, that is, in proportion as their efficacy becomes needful. [What I think he means is that a mob, even a religious “mob”, will behave like a mob.]

From this view of the subject it may be concluded that a pure democracy, by which I mean a society consisting of a small number of citizens, who assemble and administer the government in person, can admit of no cure for the mischiefs of faction. A common passion or interest will, in almost every case, be felt by a majority of the whole; a communication and concert result from the form of government itself; and

there is nothing to check the inducements to sacrifice the weaker party or an obnoxious individual. Hence it is that such democracies have ever been spectacles of turbulence and contention; have ever been found incompatible with personal security or the rights of property; and have in general been as short in their lives as they have been violent in their deaths. [In short, he seems to be saying that any “pure democracy”, such as that of Ancient Athens, will degenerate to mob rule.]

Theoretic politicians, who have patronized this species of government, have erroneously supposed that by reducing mankind to a perfect equality in their political rights, they would, at the same time, be perfectly equalized and assimilated in their possessions, their opinions, and their passions. *A republic, by which I mean a government in which the scheme of representation takes place, opens a different prospect, and promises the cure for which we are seeking.* [Well, I’ll add the snide remark that although a representative government (a “republic”) may hold the promise of “the cure”, another 200 years of experience with such governments has demonstrated that it doesn’t work – at least, not in any form currently existing!]

Let us examine the points in which it [a representative government] varies from pure democracy, and we shall comprehend both the nature of the cure and the efficacy which it must derive from the Union. The two great points of difference between a democracy and a republic are: first, the delegation of the government, in the latter, to a small number of citizens elected by the rest; secondly, the greater number of citizens, and greater sphere of country, over which the latter may be extended.

The effect of the first difference [a small number of elected citizens] is, on the one hand, to refine and enlarge the public views, by passing them through the medium of a chosen body of citizens, whose wisdom may best discern the true interest of their country, and whose patriotism and love of justice will be least likely to sacrifice it to temporary or partial considerations. [Would that it were so! Would that we elected only people who were “wise” and possessed a “love of justice” – rather than those who are most competent at hustling votes with shallow promises!] Under such a regulation, it may well happen that the public voice, pronounced by the representatives of the people, will be more consonant to the public good than if pronounced by the people themselves, convened for the purpose. [Assuming not only that they know what’s meant by “public good” but also that they’re really committed to it – rather than to their own re-election, for their own good!]

On the other hand, the effect may be inverted. Men of factious tempers, of local prejudices, or of sinister designs, may, by intrigue, by corruption, or by other means, first obtain the suffrages, and then betray the interests, of the people. [Thus, Madison was alert to what might happen – and has happened.] The question resulting is, whether small or extensive republics are more favorable to the election of proper guardians of the public weal; and it is clearly decided in favor of the latter [i.e., by “extensive republics”] by two obvious considerations[.]

In the first place, it is to be remarked that, however small the republic may be, the representatives must be raised to a certain number, in order to guard against the cabals of a few; and that, however large it may be, they must be limited to a certain number, in order to guard against the confusion of a multitude. Hence, the number of representatives in the two cases not being in proportion to that of the two constituents, and being proportionally greater in the small republic, it follows that, if the proportion of fit characters be not less in the large than in the small republic, the former will present a greater option, and consequently a greater probability of a fit choice.

[That analysis may have been appropriate for Madison's time period (in a time when communications throughout a large region were in such a rudimentary state (by letters, carried by "pony express"), but ever since the telegraph was invented (an invention stimulated by many people and widely deployed during the 1850s and 60s), and of course with our current communication systems, Madison's analysis is no longer valid: even the concepts of "small republic" vs. "large republic" have lost their meanings; across the republic, labor unions or industry groups (for example) can essentially instantaneously speak with unified, factional, voices.]

In the next place, as each representative will be chosen by a greater number of citizens in the large than in the small republic, it will be more difficult for unworthy candidates to practice with success the vicious arts by which elections are too often carried; and the suffrages of the people being more free, will be more likely to center in men who possess the most attractive merit and the most diffusive and established characters. [Would that it were so!]

It must be confessed that in this, as in most other cases, there is a mean, on both sides of which inconveniences will be found to lie. By enlarging too much the number of electors, you render the representatives too little acquainted with all their local circumstances and lesser interests; as by reducing it too much, you render him unduly attached to these, and too little fit to comprehend and pursue great and national objects. The federal Constitution forms a happy combination in this respect; the great and aggregate interests being referred to the national, the local and particular to the State legislatures.

The other point of difference is, the greater number of citizens and extent of territory which may be brought within the compass of republican than of democratic government; and it is this circumstance principally which renders factious combinations less to be dreaded in the former than in the latter. The smaller the society, the fewer probably will be the distinct parties and interests composing it; the fewer the distinct parties and interests, the more frequently will a majority be found of the same party; and the smaller the number of individuals composing a majority, and the smaller the compass within which they are placed, the more easily will they concert and execute their plans of oppression. Extend the sphere, and you take in a greater variety of parties and interests; you make it less probable that a majority of the whole will have a common motive to invade the rights of other citizens; or if such a common motive exists, it will be more difficult for all who feel it to discover their

own strength, and to act in unison with each other. [Again: an analysis invalidated by modern communications; witness the “invasion” by the “Christian Reich”.]

Besides other impediments, it may be remarked that, where there is a consciousness of unjust or dishonorable purposes, communication is always checked by distrust in proportion to the number whose concurrence is necessary. Hence, it clearly appears that the same advantage which a republic has over a democracy, in controlling the effects of faction, is enjoyed by a large over a small republic, is enjoyed by the Union over the States composing it.

Does the advantage consist in the substitution of representatives whose enlightened views and virtuous sentiments render them superior to local prejudices and schemes of injustice? It will not be denied that the representation of the Union will be most likely to possess these requisite endowments. Does it consist in the greater security afforded by a greater variety of parties, against the event of any one party being able to outnumber and oppress the rest? In an equal degree does the increased variety of parties comprised within the Union, increase this security. Does it, in fine, consist in the greater obstacles opposed to the concert and accomplishment of the secret wishes of an unjust and interested majority? Here, again, the extent of the Union gives it the most palpable advantage.

The influence of factious leaders may kindle a flame within their particular States, but will be unable to spread a general conflagration through the other States. A religious sect may degenerate into a political faction in a part of the Confederacy; but the variety of sects dispersed over the entire face of it must secure the national councils against any danger from that source. [Would that it were so!] A rage for paper money [!], for an abolition of debts, for an equal division of property, or for any other improper or wicked project, will be less apt to pervade the whole body of the Union than a particular member of it; in the same proportion as such a malady is more likely to taint a particular county or district, than an entire State.

In the extent and proper structure of the Union, therefore, we behold a republican remedy for the diseases most incident to republican government. And according to the degree of pleasure and pride we feel in being republicans, ought to be our zeal in cherishing the spirit and supporting the character of Federalists.

In short, Madison argued that there would be strength both in representation and in diversity, but I must admit that, for me, his argument (that such representation would be able to constrain “factions”) is not overwhelmingly persuasive—and as I’ll be showing you, the data suggest that his analysis was dated. But my criticism certainly isn’t meant to distract from Madison’s genius, for I expect that no one could have foreseen the skill (using modern communication tools) of manipulating public opinion by Public Relations firms, such as those that made Madison Avenue famous (or “notorious”).

Be that as it has become, additional generalizations about organizational (and “disorganizational”) principles for the Human System seem to be available. Thus, not only do we learn how to outsmart our competitors (both by capturing the benefits of cooperation and by utilizing the discoveries of relatively few, brilliant innovators), but humans form into a huge variety of subgroups or factions, each with specific goals, operations, and organizational principles.

The variety of goals is enormous, not only spanning such major topics as economics and security but also to promote (or hinder) a huge number of different ideas, from capitalism *vs.* communism to science *vs.* religion. Examples range from street gangs to the Mormons and from the Muslim Brotherhood to the International Geophysical Union. In former times, the extent of each faction was normally constrained by communications (and can still be inhibited by difference in languages), but with modern communication systems, their extent can be global (witness, Al Qaeda’s use of the internet to organize terrorists and their operations).

Many such factions compete, argue, and even go to war against other factions. Thereby, such “factionization” of humanity can destabilize the human system, but in other cases, it can promote growth and stability. Thus, on the one hand, the Human System is generally more stable if individuals belong to more than one faction (e.g., communists who are also ecological scientists and avid readers of Shakespeare or Muslims who are also capitalists and fans of rap “music”). And on the other hand, even confrontations between factions can promote growth, for example, an environmental faction can challenge some industrial faction (e.g., over the release of some environmentally damaging chemical) and the result can lead to not only a safer environment but also a new industry.

In fact, current confrontations between “environmentalists” and “industrialists” reveal still another organizational (or “disorganizational”) principle of the Human System, one that is currently almost as divisive and contentious as the one between terrorists and the rest of us, or between religious people and the rest of us. Its roots can be traced to what’s called “The Tragedy of the Commons” – and, Dear, if you haven’t already read the book with that title by Garrett Hardin (I’m fairly sure that your dad has my copy), then I encourage you to do so.

As I recall Hardin's description of the history of the tragedy of the commons, centuries ago the tragedy was identified in England when herders crazed their animals on common pastures (i.e., pastures belonging to everyone or to "the commons"). As a result, overgrazing occurred, and the tragedy was that, although no doubt all herders realized that the pastures were being overgrazed, there were no economic incentives for individual herders to limit their use of the commons – and instead, there were economic incentives to continue (since providing their herds with some pasture was better than providing them with none). Consequently, the commons continued to deteriorate.

Similarly, today, for industries throughout the world: if the industries are unregulated, they have economic incentives (including their very survival) to maximize the free use of any commons (such as the atmosphere for carrying away pollutants, water for cleansing and cooling their operations, land for burying wastes, as much raw material as possible at least possible costs, etc.). Stated differently, industries have economic incentives to pass off costs of the use of the commons to consumers as hidden costs (hidden in the costs associated with air, water, and land pollution, depletion of irreplaceable resources, damages to ecosystems, and so on). The tragedy, then, is that economic values of "the commons" are not appropriately included in the cost of production of goods and services.

To illustrate the resulting problems of inadequately accounting for environmental values (in part because of our incomplete understanding of the environment) and to fulfill a promise that I made in the previous chapter (to show you more of Donella Meadows writings), consider the following (long!) quotation. Recall that she was co-author of the two principal books describing major applications of MIT's model of the Human System. After spending most of her career in such efforts, she exchanged trying to simulate the system with trying to stimulate the system! She described her "conversion" as follows:²

IT WAS 1985. Ronald Reagan had just been elected to a second term. The environment had disappeared as a subject of public discourse; people who lived in poverty were all welfare cheats who refused to get an honest job; the rest of the world was the backyard to which America crowned its perpetual "Morning". I couldn't

² Dear: I copied this quotation from the internet; you can find it using its title "System Dynamics Meets the Press"; in reality, it's "an excerpt from the book *The Global Citizen* by Donella H. Meadows (pp. 1-12, Island Press, Washington, DC, 1991)."

stand it any more. I resigned my professorship in environmental studies at Dartmouth College to become a newspaper columnist.

I did it with no inside knowledge of the journalistic world. Until then I had met the press only as an object of reporting, and the meetings had been unsettling.

The press knew of me because the media find the field I work in – called system dynamics – fascinating. System dynamics is a set of techniques for thinking and computer modeling that helps its practitioners begin to understand complex systems – systems such as the human body or the national economy or the earth’s climate. Systems tools help us keep track of multiple interconnections; they help us see things whole. Because much of conventional wisdom comes from seeing things in parts and focusing on one small part at a time, system dynamicists tend to have surprising points of view. They generate a lot of controversy. Hence the fascination of the press.

In 1969 I watched Jay Forrester (my mentor at MIT, the founder of system dynamics) try to explain to a nation in the midst of urban crisis why cities would be better off if governments pulled down public housing instead of constructing it. As you might expect, that message infuriated city planners. The ensuing ruckus attracted the media like sharks to blood in the water.

By 1970 I was involved with a group at MIT making a system dynamics model of world population growth and economic growth. The press saw it as a global crystal ball, in which to foresee the future of everything. What an irresistible attraction! *Playboy*, of all publications, was the first to do an article about our work. There it was – an analysis of population growth, economic growth, pollution, resource depletion – right there among the naked ladies. A year or so later, when our book, *The Limits to Growth*, came out, we were given three whole minutes on the “Today” show to explain the growth, overshoot, and collapse of the world economy, just after a mouthwash commercial and just before a demonstration by the British dart-throwing champion. From then on I watched the media misinterpret our book, label it a prophecy of doom, batter it, and discredit it. That was a painful experience, but one that led me to think long and deep about the crucial role of information and information-purveyors in the modern world.

My experiences with the media continued, sometimes funny, sometimes frustrating, occasionally fruitful. I kept coming back to the press because I thought my field provided valuable insights about the world. I wanted those insights to be spread widely – I knew they *must* be spread widely. System dynamics makes clear the overarching power of deep, socially shared ideas about the nature of the world. Out of those ideas arise our systems – government systems, economic systems, technical systems, family systems, environmental systems.

...if we want to bring about the thoroughgoing restructuring of systems that is necessary to solve the world’s gravest problems – poverty, pollution, and war – the

first step is thinking *differently*. Everybody thinking differently. The whole society thinking differently. There is only one force in the modern world that can cause the entire public to think differently. That force is the mass media.

That was my reasoning when I set out to be a columnist. I was finding the state of the world and the feeble responses of policy makers intolerable. I didn't think that more writing for academics or preaching to the converted would help. I wanted to see a system-based, globally oriented, long-term viewpoint on the editorial pages of the newspapers. I kept waiting around for someone else to write it, but no one did. So I did.

I called the column "The Global Citizen" to emphasize the fact that my readers and I are part of an interconnected world system, whether we want to be or not. After five years of writing "The Global Citizen", I've learned a lot – about perceptions and paradigms, about the media, and about that wonderful public out there to whom we journalists try to speak. This book is a sample of what I've produced. This introduction is a summary of what I've learned.

THE PRESENT PARADIGM

A paradigm is not only an *assumption* about how things are; it is also a *commitment* to their being that way. There is an emotional investment in a paradigm because it defines one's world and oneself. A paradigm shapes language, thought, and perceptions – and systems. In social interactions, slogans, common sayings, the reigning paradigm of the society is repeated and reinforced over and over, many times a day. Whenever a speaker of an Indo-European language says a sentence, nouns and verbs reinforce the paradigmatic distinction between *things* and *processes* (in some other languages there are only processes). Every time you buy or sell something, you affirm a shared paradigm about the value of money. Every time the president rejoices when the gross national product (GNP) goes up, he strengthens the paradigm of economic growth as an unquestioned good.

Your paradigm is so intrinsic to your mental processes that you are hardly aware of its existence, until you try to communicate with someone with a different paradigm. Listen to an ecologist talk with an economist, a pro-lifer with a pro-choicer, a right-winger with a left-winger. In the difficulties of cross-paradigm discussion, both parties begin to be aware, often uncomfortably, of unspoken, fundamental assumptions they do not share. System dynamicists were raised in the general culture, of course, long before they learned about system dynamics, so they are not uncomfortable in the normal paradigm of everyday life. But their systems training makes them very aware of the many unsystematic assumptions that permeate societal talk, political thinking, and daily news reports.

Here are a few of the common assumptions of the current social paradigm that seem to me to be clearly unsystematic and problematic. These are the assumptions that disturbed me enough to want to write a newspaper column:

* Go to other chapters *via*

- One cause produces one effect. There must be a single cause, for example, of acid rain, or cancer, or the greenhouse effect. All we need to do is discover and remove it.
- All growth is good – and possible. There are no effective limits to growth.
- There is an “away” to throw things to. When you have thrown something “away”, it’s gone.
- Technology can solve any problem that comes up. There is no cost to technology, no delay in attaining it, no confusion about what kind of technology is needed. Improvements will come through better technology, not better humanity.
- The future is to be predicted, not chosen or created. It happens to us; we do not shape it.
- A problem does not exist or is not serious until it can be measured.
- If something is “economic”, it needs no further justification. E. F. Schumacher writes, “Call a thing immoral or ugly, soul-destroying or a degradation of man, a peril to the peace of the world or to the well-being of future generations; as long as you have not shown it to be ‘uneconomic’, you have not really questioned its right to exist, grow, and prosper.”
- Relationships are linear, nondelayed, and continuous; there are no critical thresholds; feedback is accurate and timely; systems are manageable through simple cause-effect thinking.
- Results can be measured by effort expended – if you have spent more for weapons, you have more security; if you use more electricity, you are better off; if you spend more for schools, your children will be better educated.
- Nations are disconnected from one another, people are disconnected from nature, economic sectors can be developed independently from one another, some parts of a system can thrive while other parts suffer.
- Choices are either/or, not both/and.
- Possession of *things* is the source of happiness.
- Individuals cannot make any difference.
- People are basically bad, greedy, and not to be trusted. Good people and good actions are rare exceptions.

- The rational powers of human beings are superior to their intuitive powers or their moral powers.
- Present systems are tolerable and will not get much worse; alternative systems cannot help but be worse than the ones we've got.
- We know what we are doing.

I submit that the above statements are partially or wholly false, that they are implicit or explicit in virtually all public discourse, that they give rise to much of the counterproductive behavior of individuals and institutions, and that the harm done by them is incalculable. The only way I know to throw them into question is to question them, over and over, with as much documentation, clarity, and persuasiveness as possible, in the most visible public forums.

As much as I agree with the principles Donella Meadows promoted (and as much as I am amazed at her contributions), it seems clear that much more is still needed: both more contributions by similarly amazing people and more principles to guide them, especially principles needed to improve global-scale governance and management.

To see what I mean, Dear, please consider the following quotation, taken from the summary of John Stewart's online book *Evolution's Arrow*.³ In this quotation, I've added some boldface type for emphasis [as well as a few notes in "square brackets"]. In the quotation, I would have you especially note his conclusion that a critical step is to improve management (or governance) of global-scale cooperation.

EVOLUTION'S ARROW – Summary

by John Stewart, January 2006

A major evolutionary transition is beginning to unfold on earth. Individuals are emerging who are choosing to dedicate their lives to consciously advancing the evolutionary process [e.g., Dana Meadows]. They see that their lives are an important part of the great evolutionary process that has produced the universe and the life within it. They realize that they have a significant role to play in evolution.

Redefining themselves within a wider evolutionary perspective is providing meaning and direction to their lives – they no longer see themselves as isolated, self-concerned individuals who live for a short time, then die irrelevantly in a meaningless universe.

³ Available at <http://users.tpg.com.au/users/jes999/EvVision.htm>.

They know that if evolution is to continue to fulfill its potential, it now must be driven consciously, and it is their responsibility and destiny to contribute to this.

“The most meaningful activity in which a human being can be engaged is one that is directly related to human evolution. This is true because human beings now play an active and critical role not only in the process of their own evolution but in the survival and evolution of all living beings. Awareness of this places upon human beings a responsibility for their participation in and contribution to the process of evolution. If humankind would accept and acknowledge this responsibility and become creatively engaged in the process of metabiological evolution consciously, as well as unconsciously, a new reality would emerge, and a new age would be born.” Jonas Salk

At the heart of this evolutionary awakening is the understanding that evolution is directional. Evolution is not an aimless and random process, it is headed somewhere. This is very important knowledge – once we understand the direction of evolution, we can identify where we are located along the evolutionary trajectory, discover what the next steps are, and see what they mean for us, as individuals and collectively.

Where is evolution headed? Contrary to earlier understandings of evolution, an unmistakable trend is towards greater interdependence and cooperation amongst living processes. **If humans are to advance the evolutionary process on this planet, a major task will be to find more cooperative ways of organizing ourselves.**

The trend towards increasing cooperation is well illustrated by a short history of the evolution of life on earth. For billions of years after the Big Bang, the universe expanded rapidly in scale and diversified into a multitude of galaxies, stars, planets and other forms of lifeless matter. The first life that eventually arose on earth was infinitesimal – it was comprised of a few molecular processes. But it did not remain on this tiny scale for long. **In the first major development, cooperative groups of molecular processes formed the first simple cells. Then, in a further significant advance, communities of these simple cells formed more complex cells of much greater scale.**

A further major evolutionary transition unfolded after many more millions of years. Evolution discovered [learned] how to organize cooperative groups of these complex cells into multi-celled organisms such as insects, fish, and eventually mammals. Again the scale of living processes had increased enormously. This trend continued with the emergence of cooperative societies of multi-celled organisms, including beehives, wolf packs, and baboon troops. The pattern was repeated with humans – families joined up to form bands, bands teamed up to form tribes, tribes joined to form agricultural communities, and so on. The largest-scale cooperative organizations of living processes on the planet are now human societies.

This unmistakable trend is the result of many repetitions of a process in which living entities team up to form larger scale cooperatives. Strikingly, the cooperative groups that arise at each step in this sequence become the entities that then team up to form the cooperative groups at the next step in the sequence.

It is easy to see what has driven this long sequence of directional evolution – at every level of organization, cooperative teams united by common goals will always have the potential to be more successful than isolated individuals. It will be the same wherever life arises in the universe. The details will differ, but the direction will be the same – towards unification and cooperation over greater and greater scales.

Life has come a long way on this planet. When it began, individual living processes could do little more than influence events at the scale of molecular processes. But as a result of the successive formation of larger and larger cooperatives, coordinated living processes are now managing and controlling events on the scale of continents. And life appears to be on the threshold of another major evolutionary transition – humanity has the potential to form a unified and inclusive global society in symbiotic relationship with our technologies and with the planet as a whole. In the process, “we” (the whole) will come to manage matter, energy and living processes on a planetary scale. When this global organization emerges, the scale of cooperative organization will have increased over a million, billion times since life began.

If humanity is to fulfill its potential in the evolution of life in the universe, this expansion of the scale of cooperative organization will continue. The global organization has the potential to expand out into the solar system and beyond. By managing matter, energy, and living processes over larger and larger scales, human organization could eventually achieve the capacity to influence events at the scale of the solar system and galaxy. And the human organization could repeat the great transitions of its evolutionary past by teaming up with any other societies of living processes that it encounters.

“We are the product of 4.5 billion years of fortuitous, slow biological evolution. There is no reason to think that the evolutionary process has stopped. Man is a transitional animal. He is not the climax of creation... We are set irrevocably, I believe, on a path that will take us to the stars –unless in some monstrous capitulation to stupidity and greed we destroy ourselves first.” Carl Sagan

The great potential of the evolutionary process is to eventually produce a unified cooperative organization of living processes that spans and manages the universe as a whole. The matter of the universe would be infused and organized by life. The universe itself would become a living organism that pursued its own goals and objectives, whatever they might be. In its long climb up from the scale of molecular processes, life will have unified the universe that was blown apart by the Big Bang.

As life increases in scale, a second major trend emerges – it gets better at evolving. Organisms that are more evolvable are better at discovering the adaptive behaviors that enable them to succeed in evolution. They are smarter at finding solutions to adaptive challenges and at finding better ways to achieve their goals.

Initially living processes discover better adaptations by trial and error [or “trial and success”]. They find out which behaviors are most effective by trying them out in practice. Initially this trial and error search occurs across the generations through mutation at the genetic level. An important advance occurs when this gene-based evolution discovers how to produce organisms with the capacity to learn by trial and error during their lives.

In a further major transition, organisms evolve the capacity to form mental representations of their environment and of the impact of alternative behaviors. This enables them to foresee how their environment will respond to their actions. Rather than try out alternative behaviors in practice, they can now test them mentally. They begin to understand how their world works, and how it can be manipulated consciously to achieve their adaptive goals.

Evolvability gets another significant boost when organisms develop the capacity to share the knowledge that they use to build their mental representations. Imitation, language, writing and printing are important examples of processes that transmit adaptive knowledge. These processes enable the rapid accumulation of knowledge across generations and the building of more complex mental models.

Eventually organisms with these capacities will develop a theory of evolution – they will acquire the knowledge to build mental models of the evolutionary processes that produced the living processes on their planet, including themselves. For the first time they will have a powerful, science-based story that explains where they have come from, and their place in the unfolding of the universe.

“Only after we had absorbed Darwin and recalculated the age of the universe, after the vision of static forms of life had been replaced by a vision of fluid processes flexing across vast tracts of time, only then could we dare to guess the immensity of the symphony we are part of.” Christopher Bache

“None of the scientists of the seventeenth, eighteenth, or nineteenth centuries knew the larger implications of what they were doing or the discoveries they were making. Yet each of the major figures was contributing something essential to a pattern of interpretation that would only become clear in the mid-twentieth century. Only now can we see with clarity that we live not so much in a cosmos as in a cosmogenesis, a cosmogenesis best presented in narrative; scientific in its data, mythic in its form.” Brian Swimme and Thomas Berry

On any planet where life emerges, the trend to increased evolvability is likely to eventually produce organisms who awaken to their evolutionary history and its future

possibilities. They will begin to understand the wider-scale evolutionary processes that have produced them and that will govern the future of life on their planet. The organisms will begin to see themselves as having reached a particular stage in an on-going and directional evolutionary process. They will know where evolution is headed, and what they must do if they are to advance evolution on their planet.

“The stories a culture tells itself – and which are told to it – have the capacity to shift mass consciousness profoundly and rapidly. We see this phenomenon in politics, PR, and mass media every day. This fact inspires some of us to work with the framework of the sacred Great Story of Evolution, to make it into a mainstream cultural narrative. It is, by its nature, a story that almost everyone can share and find meaning and inspiration in. We dream of a movement that spreads this story AND supports it in having its transformational impact by waking up millions of people on the edge of evolution, and helping them live into their own 14 billion year evolutionary story and grow into their evolutionary role with others in ways which have actual impact on the fate of humanity and the Earth.” Tom Atlee

On any planet which reaches this stage, some individuals will begin to undergo a critical shift in consciousness. Increasingly they will cease to experience themselves primarily as isolated and self-concerned individuals. Instead, they will begin to see and experience themselves as participants and actors in the great evolutionary process on their planet. The object of their self-reflection will change. When they think of themselves, they will tend to see themselves-as-part-of-the-evolutionary-process. Their conscious participation in evolution will increasingly become the source of value and meaning in their lives. Key realizations that will contribute to this shift in consciousness are:

- A life dedicated to the pursuit of narrow desires and pleasures cannot be worthwhile. They will see that their desires are evolution’s way of programming them to be adaptive and successful in past environments. In many cases their desires and pleasures no longer serve evolution’s interests – they often produce behavior that is now maladaptive, and motivate actions that will undermine rather than advance the evolutionary process;
- They have the opportunity to be conscious participants in the evolutionary processes that will shape the future of life on their planet. They can play an important role in the actualization of the next great steps in evolution;
- The successful future evolution of life on their planet depends on their conscious participation. Unlike past great evolutionary transformations, the steps to a unified and sustainable planetary society and beyond are too complex to be discovered by trial and error. They will be achieved only through the conscious efforts of organisms, and not otherwise. Conscious organisms will need to envision the planetary society and design strategies to get there. If it is left to

chance, it will not happen – in the past, chance took millions of years and many false starts to produce cooperative organizations such as complex cells;

- Their actions can have meaning and purpose insofar as they are relevant to the wider evolutionary process. To the extent that their actions can contribute positively to evolution, they are meaningful to a larger process outside themselves that has been unfolding long before they were born, and that will continue long after they die;
- The evolutionary perspective therefore provides them with an answer to the great existential question that confronts all conscious individuals: What should I do with my life?
- Their awakening to the evolutionary perspective and the awakening of others like them is itself a critically important evolutionary event on their planet.

The emergence of individuals who undergo this shift in consciousness is the evolutionary process on the planet becoming aware of itself. Through these individuals, the evolutionary process develops capacities for self-reflection, self-knowledge, and foresight. It will use these abilities to continually redesign itself to accelerate its own advancement.

“As a result of a thousand million years of evolution, the universe is becoming conscious of itself, able to understand something of its past history and its possible future. This cosmic self-awareness is being realized in one tiny fragment of the universe – in a few of us human beings. Perhaps it has been realized elsewhere too, through the evolution of conscious living creatures on the planets of other stars. But on this our planet, it has never happened before.” Julian Huxley

Individuals that embrace the evolutionary perspective will set out to align their personal goals with evolutionary objectives. They will attempt to free themselves from pre-existing motivations and needs that conflict with evolutionary goals. They know that this will be essential if their species is to continue to contribute to the advancement of the evolutionary process – the organisms that play a significant role in the future evolution of life in the universe will not be those that continue to stay on the planet on which they emerge, masturbating stone-age desires forever.

Freedom from pre-existing goals will not be achieved easily in the case of motivations and needs that have been deeply entrenched by their biological and cultural past. The individuals will seek techniques and practices – and join together in groups – that enable them to go beyond these pre-existing goals. From our current human perspective, they will attempt to develop the capacity to transcend their egos, grounding themselves increasingly in the realities and imperatives of evolution. Individuals who succeed in doing so will be able to direct consciousness to wherever it can be most effective in contributing to the advancement of the evolutionary

process. The enormous creativity of consciousness will no longer be wasted on the pursuit of self-centered desires and needs established by past evolution.

“From an evolutionary perspective, each of us is the result of a series of continuous living identities stretching back for at least three billion years. And cosmologists tell us that each of us has a story that actually extends all the way back to the beginning of the Universe. We can call the self seen from a personal perspective our “small self”, and our self seen from an Evolutionary Perspective our “large self.” These two views of ourselves, taken together as a pair, expand our sense of identity, of who we are. We are at once our personal selves limited to here and now. We are also life and matter in continuity for 13.7 billion years. The implications of this inclusive view are awesome. Our purpose is to explore these implications and how from this expanded sense of self, our truer selves, we can reframe our understanding of purpose and meaning, find a more lasting sense of happiness, and feel more connected to ourselves and others around us. We will also explore new modes of acting out of this new sense of identity.” Global MindShift Project

Individuals that develop the psychological capacity to transcend these motivations and needs will actualize a further major transition in evolvability. They will be self-evolving beings – organisms that have the ability to adapt in whatever directions are necessary to advance the evolutionary process, unrestricted by their biological and social past. Groups, organizations, communities, and societies will undergo similar transformations which enable them to transcend the constraints of their history and culture.

Individuals and groups that embrace the evolutionary perspective will also work to encourage all other groups within society to reframe their goals and mission statements to align them with evolutionary objectives. Social, political, governmental and economic organizations will begin to re-evaluate their activities and goals to ensure they are consistent with the advancement of the evolutionary process.

As more and more individuals and groups make this transition to an evolutionary perspective, a wave of evolutionary activism will emerge, directed at the unification of living processes on the planet to form a cooperative planetary society.

“The impetus for this will grow as the old social forms continue to poorly manage the accelerating stresses being placed upon them including the deterioration of the global ecosystem, overpopulation, chronic poverty, and racial and ethnic fears. When the old social forms start to crumble, the new forms need to be in place and working so they can enable a smooth evolutionary transition process.

We need to get more people inventing and succeeding with the social innovations of a consciously envisioned future. We need to sell this as the best game on the planet – nothing short of consciously reinventing the world and the future evolution of our species!” David Gershon

Humanity has reached this major evolutionary threshold. The next great step in social evolution on earth is the formation of a unified, sustainable and creative global society. On earth, individuals and groups are beginning to emerge who have decided to consciously contribute to the evolutionary process by doing what they can to actualize such a global society. They are energized by the realization that their evolutionary awakening and activism is part of a significant evolutionary transition on earth.

“It is as if man had been suddenly appointed managing director of the biggest business of all, the business of evolution – appointed without being asked if he wanted it, and without proper warning and preparation. What is more, he can’t refuse the job. Whether he wants to or not, whether he is conscious of what he is doing or not, he is in point of fact determining the future direction of evolution on this earth. That is his inescapable destiny, and the sooner he realizes it and starts believing in it, the better for all concerned.” Julian Huxley

Humanity will draw on its evolutionary history to see how to build a cooperative and unified global society. As we have noted, evolution has repeatedly organized self-interested entities into new cooperative wholes. Evolution shows us how cooperation can be organized without individuals having to submerge their own interests or to fundamentally change their natures. Humans will not have to become saintlike – a cooperative global society can be achieved without people having to sacrifice or suppress their self-interest.

Evolution produces cooperation by instituting forms of social organization that align the interests of individuals with the interests of the collective. Drawing on these evolutionary examples, humanity can institute forms of organization at the global scale that will align the interests of citizens, corporations, and nations with the interests of the global society.

Entities at all levels will feel the impact of their actions on others and on the collective – they will benefit whenever they benefit the global society, and they will be harmed whenever they harm the collective. Pollution and war will no longer pay. Pursuit of self interest alone will lead all participants in the global society to act cooperatively and in the interests of the global society. All participants will treat the other as self because any impact they have on the other will have a comparable impact on them.

In the past, the emergence of new cooperative organizations gave rise to an explosion of diversity and differentiation within the new organizations. This will be repeated at the global scale. The new forms of social organization will also enhance the evolvability of our existing forms of government. Government will be replaced with far more intelligent and adaptable processes that utilize the dynamism, creativity and energy of properly managed markets. Like effective markets, the new governance processes will harness a diversity of perspectives to solve adaptive challenges.

“... what we are after here is not a static ideal form of society. We want social systems that can change themselves – that can consciously evolve in healthy directions – over and over, in ongoing response to emerging understandings and new challenges. We want to nurture this capacity to consciously evolve together forever.” Tom Atlee

When larger-scale cooperatives of living processes have emerged previously in evolution, they have undergone a process of individuation. The unified global society can be expected to follow a similar evolutionary path. It will progressively develop internal processes that enable it to act, adapt and relate as a coherent whole – eventually the planet will be able to speak with one voice. For the first time, there will be an entity that other planetary societies could relate to and interact with. There will be an entity at the same level as other planetary societies. If earth is successful in reaching this level, a new universe of possibilities and experiences will open up to humankind.

“Man is in the making; but henceforth he must make himself. To that point Nature has led him, out of the primeval slime... Let him look no more to her for aid; for it is her will to create one who has the power to create himself. If he fails, she fails; back goes the metal to the pot; and the great process begins anew. If he succeeds, he succeeds alone. His fate is in his own hands...” G. Lowes Dickinson

I apologize for quoting so much, Dear (especially when you could have easily read it directly from Stewart’s website), but I wanted to try to increase the probability that you would read it (☺), since I think that what he is describing is so important for humanity’s future – assuming we have one! In the next chapter, I’ll show you what I meant by that “assuming we have [a future]”; meanwhile, why don’t you improve the possibility that you’ll have one – by getting some more exercise?!