Alternative futures at the Manoa School

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Abstract

This essay explains and illustrates how the Hawaii Research Center for Futures Studies of the Political Science Department of the University of Hawaii at Manoa conceives of and uses "alternative futures". The design and conduct of a "futures visioning process," of which experiencing "four generic alternative futures" (continuation, collapse, discipline, transformation) and envisioning preferred futures are essential parts, is described in some detail.

Keywords: alternative futures, envisioning, designing, inventing, experiencing futures, futures workshops, four generic images of the futures

Introduction

This essay explains and illustrates how the Hawaii Research Center for Futures Studies [www.futures.hawaii.edu] (and the "Manoa School" of futures studies more broadly [Christopher B. Jones, "The *Manoa School* of Futures Studies," *Futures Research Quarterly*, Winter, 1992, pp.19-25]) conceives of and uses "alternative futures" (sometimes called "scenarios"). Our use is not unique; it is similar to the way some other futures groups use scenarios. But it also contrasts significantly from most uses of scenarios, and especially from "scenario planning."[Peter Bishop, et al., "The current state of scenario development," *Foresight*, Vol. 9, No. 1, 2007, 5-25, and Timothy Chermack, et al., "A review of scenario planning literature," *Futures Research Quarterly*, Summer 2001, pp.7-31.] We notice considerable confusion within the futures field about the meaning of these terms, and hope that this essay will help make clear to others our use. We are not interested in "correcting" others' usage, or in establishing a uniform terminology so much as helping people understand the sometimes very different meanings of the same terms.

Our use of "alternative futures" (or "scenarios") is usually within the context of helping an organization or community plan for and move towards its preferred future. However, we often use them in "stand alone" academic or consulting situations as well, without moving on to a preferred futures visioning exercise.

I have chosen to explain our use of alternative futures as though I were telling an interested community or organization what the components of a futures visioning process are in our understanding and experience, and how to conduct the various parts of an overall futures visioning process.

Components of a Futures Visioning Process

The necessary components of a futures visioning process are these, and in this order:

1. Appreciating the past
First is a discussion of a common understanding of the history of the community or group involved, going back "to the beginning" of the community or group if possible and not just the immediately-remembered past. It is not possible to think usefully and creatively about the future of anything until you understand its rationale for coming into existence, the many different facets of its past.

2. Understanding the present
Second is a discussion of the problems and possibilities of the present. Until people are able to vent their concerns and/or satisfactions with the present, they will often be unwilling and unable to think usefully about the future. They may resist futures activities as "pie in the sky" avoidance of urgent problems of the present unless allowed to vent. They should also understand that sometimes solutions to present problems lie "just ahead" over the horizon--to see "the future" as a reservoir of solutions (and new challenges!), and thus that it would be a mistake to try to solve current problems without first engaging in a complete futures process.

3. Forecasting aspects of the futures
Third is a discussion of possible challenges and opportunities from the futures (using as a default a roughly 20-50 year time horizon). It is absolutely essential that everyone have some sense of what is likely to be "new" about the future, as well as what aspects from the past and the present might or should be brought forward into the futures. What are the major continuing trends, novel emerging issues, and significant continuities from the past that will result in "the present at a later time" (aka, "the future")? We often use the term "surfing tsunamis" to convey these interacting components of the future.

4. Experiencing alternative futures
Fourth, and the most crucial of all, is an experience in one or more of at least four alternative futures that are based upon different mixes of the trends, emerging issues, challenges and opportunities from the future, and also based upon different idea about how the world works. There is no single future "out there" to be predicted. There are many alternative futures to be anticipated and pre-experienced to some degree.

5. Envisioning the futures
Fifth is a futures visioning exercise in which participants now are better prepared to envision a preferred future for the community or group 20-50 years hence,

based on the past, present, and alternative futures discussed previously. Visioning a preferred future is the main purpose of this entire exercise. But visioning should take place only after participants have become aware of what is new and what is old, and what challenges and opportunities lie ahead, in order to create one or more preferred futures for the community or group.

6. Creating the futures

Sixth is a discussion and decision of what to do now and in what sequence in order to begin moving the community/group towards the preferred future. Futures visioning is not just about imagining a preferred future. It is about using that vision to decide what to do now in the present in order to move towards the preferred future.

7. Institutionalizing futures research

One conclusion of that discussion and decision is of the necessity of setting up some kind of an ongoing 'futures' unit which can keep the future-oriented process going. This should include some kind of a "scanning process" which continues to "look ahead" for emerging challenges and opportunities in the immediate and more distant futures, in order to inform the community/group (and its leaders) about them. A related aspect is either to agree on a time in the future when this entire process will be undertaken again (eg., to agree to repeat the process if five years), or a way in which the futures participative process can begin again if the original vision is felt to be insufficient in the light of experience and/or information about new challenges and opportunities from the futures.

Planning and Facilitating the Meetings

These components can be limited or expanded in time allotted and scope depending on the length of time available for meetings, and the needs of the participants. More time spent in these discussions tends to have better results, but the activities can be covered within any time frame from half a day up to many meetings spread over a several months.

Each component can be done very simply using whatever resources the community/group can bring to it on their own, or it can be more complex, involving experts or consultants from elsewhere to enrich and enable the process. The process can simply involve people talking to each other with no media involved (or nothing more then written material) or it can be very media-intensive, using edited videos, blogs, interactive games, live simulations, and the like. Or it can be something in between.

Some important considerations:
Do not omit any step in this process.

It is very important to have a discussion (and hopefully but not necessarily an agreement) about the past. People are often as unaware of the history of a community/group as they are of its possible futures. Similarly, members of a community/group are also likely to hold very different and often conflicting images of the past, just as they hold very different and often conflicting images of the futures. Different people

will also have different likes and dislikes about the present, and these all need to be aired and reconciled if possible (and if not reconciled, at least acknowledged).

Everyone who will be impacted by the "plan" that results from a futures process should be part of the futures process.

It is a huge mistake to try to limit participation in a futures process only to a small number of leaders or even to a broader number of identified "stakeholders". The process should be very broad.

Some years ago, Wendy Schultz devised the following diagram to illustrate the openness of the futures process, as well as its relation to long-range planning and day-to-day administration. (See Figure 1) This essay is mainly a discussion of the "futures" part of this overall process:
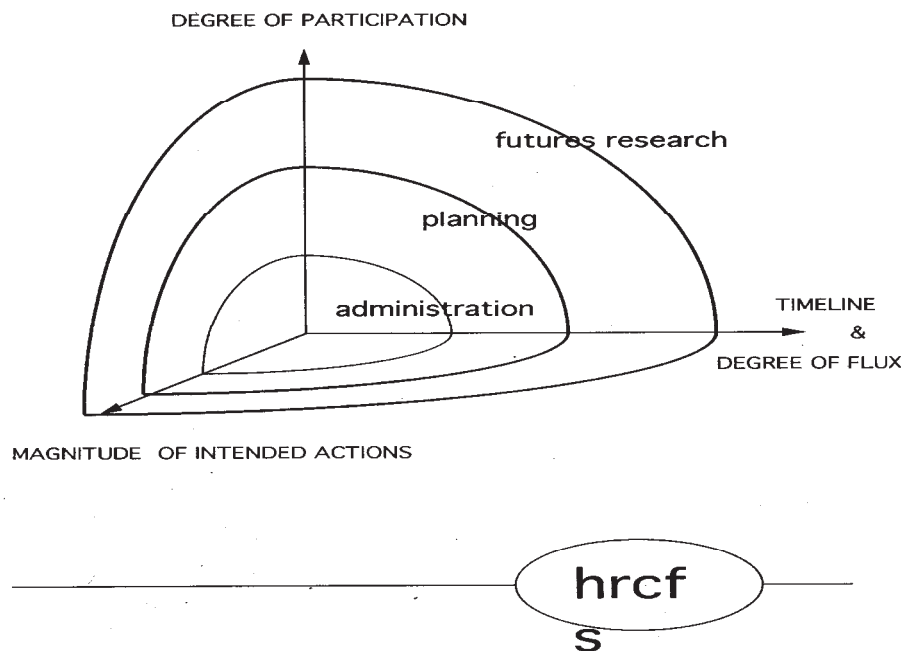

Figure 1. Relation of futures to planning to administration *(by Wendy Schultz)*

It is especially important that everyone experience the "alternative futures" component.

Most people assume there is a single future "out there" that can be accurately identified beforehand. That might have been a reasonable assumption a long time ago, but it is not a good bet now. Moreover, we know from years of working in the futures field that "the future" that most people have in mind when they are first asked to think about the future usually is that "whatever is happening now will continue." Thus if times are currently good, most folks believe they will remain good and will not want to think about or plan for "bad" things. If things are falling apart now, then many peo-

ple will feel that there is no way to put them back together–much less find a new way–and will ridicule attempts at envisioning a bright future. If "terrorism" dominates concerns now, "terrorism" will also fill the future. If we are worried about "energy" now, then "energy" will be our main worry in the future, most people will feel. But if "terrorism" and "energy" are not current concerns, it will be difficult to get people to imagine it might be important for them to think about them for the futures...and so on.

"Crackpot realism of the present" and the folly of fixed fools

This belief that "the future" is simply "whatever is happening now, extended and perhaps amplified" is a perfectly understandable initial reaction to thinking about the future. The assumption of "continuation" was a reasonable prediction in many situations for millennia before now (though it was often wrong even in the past). A "flat" image of the future–viewing past, present, and the future as essentially unchanged–is probably somehow "in our genes". But it may be dangerously misleading now, and for as long as we live in a world marked by as much dynamic change as we currently experience. While things might "settle down" eventually, they will remain unsettled for the foreseeable future until either catastrophe or vision and policies prevents further unsettling change.

Moreover, for many years, and still for many people, the future was believed to be unknowable in principle. It is in God's hands: *que sera, sera* "whatever will be, will be." Some people consider it blasphemous to even try to think about what lies ahead, much less for mere mortals to try to direct the future course of events.

That may of course be true! Belief in individual agency and "free will" may well be nothing but paranoid delusions, and they do underlie to some extent the presumptions of the exercises described here: namely, that images of the future, and actions taken on the basis of those images, do play an important role in influencing what becomes the actual "future".

To the contrary, it may be the case, as T. S. Eliot wrote, "only a fool, fixed in his folly, believes he turns the wheel on which he turns." Nonetheless, given the options, I remain to what I hope is a healthy extent such a fool. At the same time, I am not saying that there is a "correct" or "false" view of the future that we wish to infuse or defuse through this process. There is no attempt here to get people to think "correctly" about the future--just to think more clearly and deeply about whatever their beliefs and preferences might be (and what might be the consequences of acting on those beliefs), in comparison with the beliefs and preferences of others.

Experiencing alternative futures

I will omit a discussion of how to do the historical, present, and futures-forecasting parts of a comprehensive futures visioning exercise, and turn immediately to the alternative futures portion, which is the focus of this essay.

The four generic futures

Years ago, I, along with many other early futurists were trying to make sense of the many often conflicting images of the future that we encountered. Like many early futurists, I started out with a rather "scientific" and "positivistic" perspective, assum-

ing that there was one, true future "out there" that proper use of good data and scientifically-based models would allow me to predict.

I was soon disabused of that notion for many reasons. One pertinent here is the fact that I soon encountered many differing, often mutually-exclusive statements about how the future "would be", all of which somehow made sense if one accepted their initial premises, data, and projections.

Many of them were based on the assumption that society was moving from an "industrial society" to a "post-industrial society" with new technologies being a main reason for this change. These futures were often very positive. At the same time, there were equally convincing statements predicting a gloomy future based on concerns about overpopulation, energy and other resource exhaustion, and environmental pollution. Some statements ignored these issues entirely and were focused on space exploration and settlement, and there were also early optimistic studies of a fully automated world without work, perhaps with artificially-intelligent genetically engineered beings.

In complete contrast were futures focusing on "human" and cultural matters such as poverty, human and animal rights, ethnicity, and gender.

Some focused on globalization, others lauded local self-sufficiency.

And so on.

"Will the 'real future' please stand up?" I cried. Is it possible somehow to sort through these different images, rejecting false ones and reconciling differences among the true ones?

I came to realize that there is no way to make an accurate prediction of "the future" of any but the most narrowly-and near term-focused entities. Futures studies is not about correctly predicting The Future. It is about understanding the varieties and sources of different images of the future, and of coming to see that futures studies does not study "the future", but rather, among other things, studies "images of the future."

And so I turned my attention to collecting and analyzing as many images of the future as I could. I considered corporate and public long-range plans; statements about the future by politicians and the implication of laws and regulations; books and essays explicitly said to be about the future; the final paragraph in essays and the final chapter in books that often began, "and now, what about the future?" and proceeded to speculate. I analyzed images of the futures in science fiction in many modes, and statements about the future in public opinion polls, and, increasingly from my own students and from audiences I encountered worldwide.

I considered many ways of organizing the thousands–millions–billions–of images, and examined the organizational schemes used by other futurists.

But I eventually decide that all of the many images of the future that exist in the world can be grouped into one of four generic piles–four alternative futures. Sometimes the futures might seem to overlap between two or more piles, but most seemed to fall very naturally into one of the four–and no more (Note that I do except "flat" images of the future that once were dominant in societies experiencing essentially no or only slow social/environmental change, and the *que sera, sera* variety).

These four futures are "generic" in the sense that varieties of specific images characteristic of them all share common theoretical, methodological and data bases which distinguish them from the bases of the other three futures, and yet each generic form has a myriad of specific variations reflective of their common basis.

Also each of the alternatives has "good" and "bad" features. None should be considered as either a bad or a good future per se. There is no such thing as either a "best case scenario" or a "worse case scenario". Also, there is no such thing as a "most likely scenario". In the long run, all four generic forms have equal probabilities of happening, and thus all need to be considered in equal measure and sincerity. This last point is very important.

Note also that our use of "alternative futures" differs from that of people who may call high, medium, and low variations around a single set of variables "alternative futures". Similarly, some futurists may construct four, five, seven or even more "alternative futures" all of which are variations on the same set of variables. That is not our use–each of our four generic forms differ from each other fundamentally in cosmology, epistemology, and often deontology, and are not variations on a common set of themes. This is not a statement of criticism; just of distinction.

I use these generic forms both to think about the futures of anything and--and this is the point here–to help others think about and try to direct the futures of their organization or community.

How to run the "Four Futures Exercise".
The goals of the four futures exercise are:
1. To have people "experience" at least one future substantially different from the present in order to enable them to question the default assumption that "the future is simply the present extended and amplified."
2. To honor and have people experience images of the future actually held by some people today, and to determine how they might successfully thrive in such a future.
3. After having spent some time dealing with a specific future, to decide in what ways it is preferable and in what ways it is undesirable.
4. To the extent that future is desirable, to consider what needs to be done now to move towards such a future.
5. To the extent that future is undesirable, to consider what needs to be done now to prevent such a future from happening.
6. To encourage people to move beyond any of the presented alternative futures and to develop a collectively-preferred future of their own (or else to adopt as their preference, and to begin moving towards, one of the alternative futures).

Instructions for engaging the alternative futures
Here is an example of the instructions that might be given to people before they "experience" an alternative future.

Futures for XXX

Welcome to your future!

Whatever you may initially feel about the future into which you have been so suddenly placed, please suspend your disbelief! You have no more control over your being in this future than you had over when and where you were born. This is your life. Love it, because you can't leave it.

For the next few minutes, make the best of the future you find yourself in, just as you obviously do in the present. Don't argue over whether you think it will happen as described or not, or whether you like it or not. Please just accept it, and try to respond positively (according to whatever you think is "the best you can do") to the world in which you find yourself. Don't dwell on the "negative" aspects except to understand them, and to develop a "positive" response to them. It just doesn't get any better than this!

Your task is to determine *as a group* what life in XXX might be like if the future were to be as described in your scenario.

A. General discussion of your future
    What will most people be doing in such a world?
    What economic problems that worry people now will be gone, or relatively minor?
    What environmental problems that worry people now will be gone, or relatively minor?
    What other problems that worry people now will be gone, or relatively minor?
    What new (economic, environmental, social, health, energy or other) problems will people have to worry about that are absent or unimportant now?

B. How probable (likely to actually occur) is the future described in your scenario?

C. How preferable is the future described in your scenario? That is, how close is it to your own preferred future?

D. To the extent the future described in your scenario is judged preferable by your group, what five things need to be done now to move towards those desirable aspects of that future?

E. To the extent the future described in your scenario is judged undesirable by your group, what five things need to be done now to see that those undesirable aspects not occur?

Assumptions underlying the four generic alternative futures

Rationale for alternative future one
    "Continued growth" is the "official" view of the future of all modern governments, educational systems, and organizations. The purpose of government, education, and all aspects of life in the present and recent past, is to build a vibrant economy, and

to develop the people, institutions, and technologies to keep the economy growing and changing, forever.

Thus, one alternative future is termed, generically, "Continued Growth" (often, "Continued Economic Growth", or, if the economy is stagnating or declining, "Renewed Economic Growth").

This is by far the most common of the four alternative futures since almost all official statements about the future are based on Continued Growth, and usually Continued Economic Growth.

Rationale for alternative future two

But some people are concerned about social and/or environmental collapse. The economy cannot–possibly should not–keep growing in our finite world (and especially not on a set of finite and fragile islands), they maintain. There may be many and different reasons that people fear (or hope for?) collapse: economic, environmental, resource, moral, ideological, or a failure of will or imagination. Or collapse may come "from the outside" by invasion from foreigners–or even outer space (meteors, for example). Hurricanes, tsunamis, earthquakes, a new ice age or rapid global warming, new and renewed pandemics–all of these are growing fears that might cause our fragile, over-extended, and heavily interconnected globalized world to collapse, either to the extinction of all humans, or else to a globalized New Dark Ages, some people feel.

So a second alternative future is "Collapse" from some cause or another (or their combination) and either to extinction or to a "lower" stage of "development" than it currently is. And while the examples given above are global, "collapse and extinction" is always a possible future for any community or organization. In fact, communities, organizations, and cultures vanish every day as economic and social forces render once-valuable institutions and places unneeded or unviable now.

It should be emphasized here that the "collapse" future is not and should not be portrayed as a "worse case scenario". Many people welcome the end of the "economic rat-race" and yearn for a simpler lifestyle. Moreover, in every "disaster" there are "winners" as well as "losers". One point of this entire exercise is to consider how to "succeed" in and enjoy whatever future you find yourself, by anticipating, preparing for, and moving affirmatively toward it. Consider how many people earn very good livings now as a consequence of the disasters of other peoples' lives: lawyers, doctors, policemen, firemen, the military, and many more. None of these four futures is intended to be any better, or any worse, than any other. They are all "positive" to those who prefer them, and they should be presented positively.

I should also note that for most of my experience as a futurist, people have not wanted to consider "collapse" – especially for their organization or community. Even many futurists who use futures similar to the four here refrain from discussing collapse since most "clients" don't want to consider it – though of course they should!

But since the global economic collapse of 2008, and with the popularity of Diamond's book, Collapse has almost become the new "official" view of the future for some people! They might be right.

Rationale for alternative future three

The third alternative future is labeled generically "Discipline", or a "Disciplined Society". It often arises when people feel that "continued economic growth" is either undesirable or unsustainable. Some people feel that precious places, processes, and values are threatened or destroyed by allowing continuous economic growth. They wish to preserve or restore these places, processes, or values that they feel are far more important to humans than is the acquisition of endlessly new things and/or the kind of labor and use of time that is required to produce and acquire them.

Others feel that while continued economic growth might be good, or at least necessary given the extent of poverty in the world today, continued economic growth is unsustainable because we live on a finite planet/island with rapidly depleting resources and a generally burgeoning population. Even though new technologies have enabled us to thrive beyond the "natural" sustainability of our resources, "continued growth" may be coming to a halt whether we like it or not as we run out of cheap and easily available energy resources and/or because of the choking contamination of our planet by the wastes of our industrial processes.

Thus, these people argue, we need to refocus our economy and society on survival and fair distribution, and not on continued economic growth. These same people may also say that we should orient our lives around a set of fundamental values – natural, spiritual, religious, political, or cultural – and find a deeper purpose in life than the pursuit of endless wealth and consumerism. Life should be "disciplined" around these fundamental values of (for various examples) "aloha", "love of the land", "Christian charity", *Ummah, Juche*, or some other ideological/religious/cultural creed.

Rationale for alternative future four

The fourth alternative future focuses on the powerfully transforming power of technology – especially robotics and artificial intelligence, genetic engineering, nanotechnology, teleportation, space settlement, and the emergence of a "dream society" as the successor to the "information society". This fourth future is called "Transformation", or the "Transformational Society", because it anticipates and welcomes the transformation of all life, including humanity from its present form into a new "posthuman" form, on an entirely artificial Earth, as part of the extension of intelligent life from Earth into the solar system and eventually beyond.

Experiencing and Responding to an Alternative Future

If possible, there should be four rooms, each decorated to depict one of the four alternative futures. In them are artifacts from the future, decorations, moving or static pictures, sounds, smells, and actors exemplifying life in each future.

If it is not possible to decorate the rooms, then each room should have written copies of the one future that will be read and discussed.

Either after "experiencing" their future directly, and/or after silently reading the description of their future, participants will sit in groups of no more than 10 people each, and discuss and jointly answer the questions according to the instructions (such as in the example, above).

If it is not possible to have four separate rooms, then people should be assigned to small groups for each future within a common room, sufficiently separated from each other so that participants within each future can discuss their own future without hearing what others are saying.

Note: All four futures should not be distributed to the participants beforehand. Each participant should initially only know about the future she will "experience". Thus, organizers should hand out copies of only one future to each participant at each table. After the briefing session is completed, copies of all four futures should be made available to all participants.

Size of each group for discussion purposes

This exercise probably cannot be done satisfactorily with fewer than 12 people so that there are at least three people in each one of the four futures. However, there is no maximum size to the total number of participants. Simply provide space where small groups (no larger than ten people each) can discuss one future. So, for example, to perform this exercise with 500 people, divide the 500 people into four groups (representing each of the four alternative futures) of 125 people each, and then provide 25 areas where ten people can each answer the same questions about their alternative future.

Reporters and facilitators

One person from each group should serve as the reporter for the group. She should keep time and see that all questions on the instructions are answered and recorded. It is our experience that the process works better without specific "facilitators". Facilitators often come to assume too much control and influence over the process. Unless there is obvious, serious discord within a group, whoever is organizing the overall activity should let each group alone to manage itself with the help of the reporter, and not intervene or answer any questions about the process while it is ongoing.

Debriefing the experience

At the end of the process, the reporter from each of the four futures should report back to all participants the answers to the questions from their group. Before each reporter tells the entire audience her group's response to the questions, the overall manager should read aloud the relevant alternative future so everyone in the audience will learn for the first time what that future is, and can understand the group's responses to it.

If many groups experienced the same future, then several representatives from the same future should be called upon to report. It may not be possible or necessary to have reporters from every group speak. Time and patience may not permit it.

The responses of each group should be collected by the organizers from the reporters for subsequent analysis. It is very important to collect this written material. Indeed, it is recommended that each participant in each future write down her answers to each of the questions, and that these (anonymous) written answers be provided to

the organizers for analysis. Experience shows that reporters often omit important details that will be lost if one relies on the reporters notes only.

After representatives from all four futures have reported back to the group as a whole, the overall organizer should ask if there are any questions or comments, after which the entire process should then be discussed. The organizer should make comments about the intention of the process and the responses, especially noting, if it is the case, that all (or most) groups found a way to deal successfully with the future they were in, thus helping demonstrate that there is no such thing as a "worst case scenario" or a "best case scenario" – one should always find a way to live successfully in whatever happens. However, the point of the exercise overall is to envision, invent, and move towards a "preferred future". Indeed, the organizer should remind everyone that the four futures exercise is only a part of an overall futures visioning process, and tell them when and when the next steps in the process will be undertaken.

Specific Examples of the Four Alternative Futures

Members of the Hawaii Research Center for Futures Studies have used variations of the four futures exercise, as described, for many years in very many settings. What follows is an example has been used in my classes at the International Space University in Strasbourg, France, and thus focuses on the futures of space exploration and travel. The time for the exercise is very short, and uses very terse written versions of the alternative futures. Participants merely read and discuss the future scenarios, and do not "experience" them otherwise.

Note also that this example actually has five alternative futures. The first two are variations on the Continued Growth generic future. This is thus also an example of the fact that it is sometimes necessary to have more than four alternatives in order to capture the major concerns or hopes for the future dominant in the present. But there must always be at least one example of each of the four generic futures. It is not advisable to omit one of the generic forms.

Example One:

Futures for Space

The students are first divided randomly into five groups and are given instructions similar to the sample ("Futures for XXX") shown above. The content of the futures to which they are to respond as instructed is as follows:

Future one

The US is the undisputed global hegemon, focusing on its own internal security and the expansion of its global influence via military might.

Global neoliberalism, which envisioned a homogeneous world knit peacefully together by universal free trade, has been replaced by American (domestic and foreign) corporatism: the US abolishes all multi-lateral agreements in all areas and only trades or otherwise interacts with those nations that support its current interests. Alliances thus shift widely as its interests change.

Within the US, individual rights are severely restricted. Emphasis is placed on a set of common American values derived from the Bible. Property and corporate ownership in the US is restricted to a few loyal citizens only.

The European Community, China (and the East Asian Confucian sphere), India, and the Islamic Federation each respond accordingly, forming tight internal bonds against the US and each other. South America and Africa are basically isolated and marginalized from this global power struggle.

Future two

The nation-states of the 19th and 20th Centuries are gone. They have been replaced by huge regional entities which themselves are largely controlled by global transnational corporations which are, in many ways, the real "rulers" of this future.

Global wealth is considerable, and infrastructure (water, sewer, electricity, roads, transportation and public facilities in general) is extensive, high quality, reliable. Each region, and in effect, the world, is knit together by gigantic urban megalopolises of impressive scope and efficiency.

Never have so many people on Earth been so materially well-off as they are now. Never have so many people been multi-billionaires.

But at the same time, there is a gigantic underclass of marginally-employed, or unemployed, worldwide.

Future three

The world is in the midst of an extensive and prolonged depression brought on by the collapse in confidence, and repressive countermeasures, caused by terrorism and the "war on terrorism", on the one hand, and the necessity of finally dealing with the surge of problems caused by global environmental change, on the other – global warming, extreme climatic variations, sea level rise, scarcity of fresh water and food, soil erosion, pesticide contamination, energy insufficiency, and marauding hordes of environmental refugees and fanatic terrorists.

Enclaves of rich and super-rich exist in walled cities, electronically communicating with one another and moving from enclave to enclave by air, but seldom venturing out into the dangerous countryside.

Future four

Following a brief but intense "dark ages" of economic, environmental, and political collapse, the world now exists as a loosely-knit web of self-sufficient small communities. Some of these communities are formed on spiritual or religious beliefs. Others are formed on the basis of sexual preferences. Some are matriarchies, others patriarchies. Some practice one form of political ideology or another. Others are open, liberal communities which encourage great diversity of views and lifestyles. Some are rural, others are entirely urban.

All are largely economically self-sufficient, "trading" only for the purpose of maintaining harmony and good will among neighbors, and not for any economic purpose or advantage.

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Future five

Almost all "work" is done by artificially-intelligent, genetically-engineered beings. Humans are just one intelligence among many others, although humans are the only ones with "feelings" or a "soul". Humans thus stand out because they combine a marginal kind of "rationality" with maximum emotional and intuitive behavior.

Energy-, resource-, labor- and capital-intensive industrial (and agricultural) practices of the past are gone. They are replaced by the endless, effortless, efficient, self-governing "production" (growth?) of nanotechnologies.

All previous kinds of political and economic systems are gone as major forces in this world, although some old-fashioned human groups still try to keep them alive in remembrance of the past.

Example Two:

Hawaii 2050

The second example is a highly elaborate and relatively lengthy live simulation of alternative futures that were part of a kick off day for the Hawaii 2050 Sustainability Project in August 2006.

This was a vastly more complicated and immersive process, requiring many people working many days in preparation. Jake Dunagan and Stuart Candy were the main people behind it all, but many others were also involved. The alternative futures focused on Hawaii specifically. Four large rooms at a convention center were modified to "be" one of the four alternatives. An audience of over 500 citizens were divided into four groups and led, without any preparation, to one of the four rooms. Ambient sounds appropriate to each future filled each room. Each room was completely modified internally to reflect its future. There were numerous artifacts from the future. "Representatives from the future" led participants through a serious of activities for 45 minutes so that the participants could fully "feel" what it was like to be in such a future. At the end of the time in one future, participants then were escorted to a completely different future for another 45 minute experience. The participants were debriefed in groups afterwards. Scribes captured the participants' responses to specific questions which were later analyzed by the organizers to use as input for the next stages of the process.

For a short video depicting the simulated environment of each the four futures, visit <http://www.futures.hawaii.edu/2007/03/4-2050s.php>

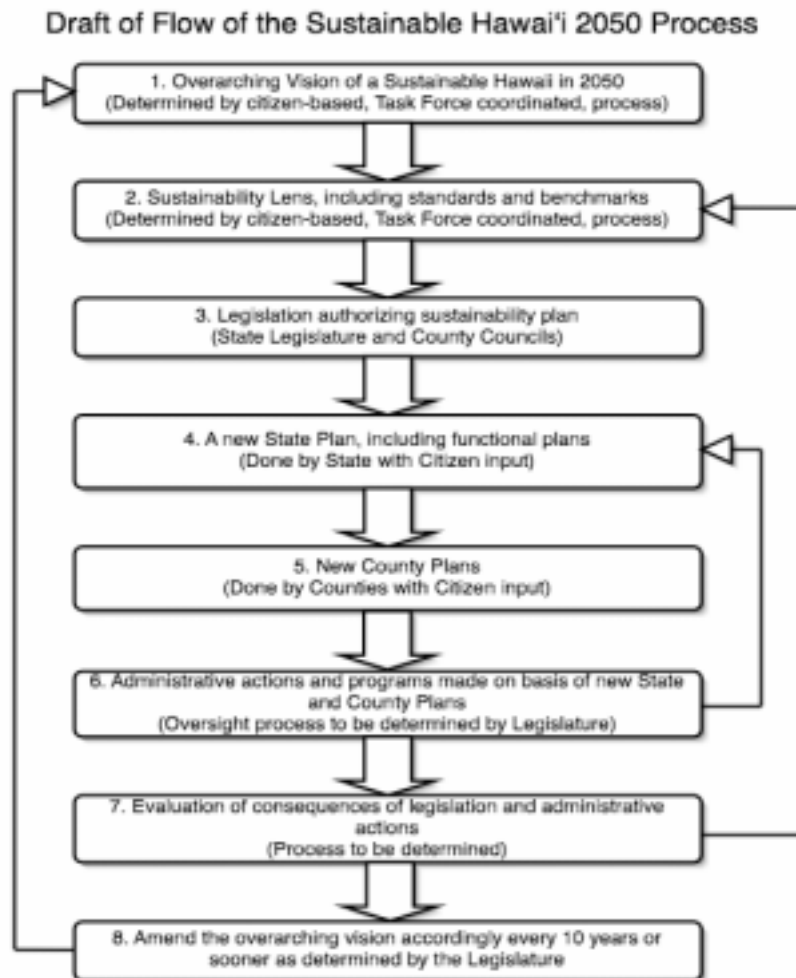## Concluding Comments on Four Generic Alternative Futures

As a reminder, the four futures exercise discussed above is intended to be part of an overall process that begins with examining the past and present of an organization or community, and is followed by a preferred futures visioning exercise which is itself followed by activities that use the alternative futures, and especially the preferred future, as the basis of a strategic planning process. Once the overall plan is completed, functional plans are devised, and offices, persons, and budgets are assigned in order to carry out the various tasks identified by the plan, based on the preferred future vision.

Finally, the entire futures exercise itself should be institutionalized by the creation of a continuing futures research capability within the institution/community that constantly scans the environment for trends and emerging issues, and feeds this information into some group or persons tasked with updating the vision and the plans and actions.

Then, at some point in time the entire process is started all over again for the benefit of new persons in the institution/community, changing concerns and priorities, and to address new opportunities and challenges facing the institution/community.

The entire process can be diagrammed as follows (See Figure 2):

Draft of Flow of the Sustainable Hawai'i 2050 Process

1. Overarching Vision of a Sustainable Hawaii in 2050
(Determined by citizen-based, Task Force coordinated, process)

2. Sustainability Lens, including standards and benchmarks
(Determined by citizen-based, Task Force coordinated, process)

3. Legislation authorizing sustainability plan
(State Legislature and County Councils)

4. A new State Plan, including functional plans
(Done by State with Citizen input)

5. New County Plans
(Done by Counties with Citizen input)

6. Administrative actions and programs made on basis of new State and County Plans
(Oversight process to be determined by Legislature)

7. Evaluation of consequences of legislation and administrative actions
(Process to be determined)

8. Amend the overarching vision accordingly every 10 years or sooner as determined by the Legislature

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Figure 2. Futures visioning as an ongoing process
(by Cyrus Camp for the Hawaii 2050 Project, and based on the process used by the Judiciary of the Commonwealth of Virginia, as developed by Kathy Mays)

Finally, as mentioned briefly before, we also use the four generic alternative futures as the basis for what we call "deductive forecasting" (others might call if "backcasting"). We can "deduce" possible futures of anything by using the template of the four generic alternative futures, augmented by information about the history and present of whatever the object of our forecast might be. We use such deductive forecasting frequently as the basis of our research, consultations and writing. Examples are in Appendix One.

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