

Four Futures for Hawaii 2050

Prepared by Stuart Candy, Jim Dator, Jake Dunagan



Introduction

Four Futures:

Future One: Orange Hawaii 2050

Future Two: Silver Hawaii 2050

Future Three: Maroon Hawaii 2050

Future Four: Blue Hawaii 2050

Sources of the Four Futures (A Bibliography)

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Introduction

The following four brief alternative futures of Hawaii were developed by the Hawaii Research Center for Futures Studies for use during the Hawaii 2050 Sustainability process. They were first utilized, each in a shorter version than you see them here, during the "Kickoff Summit" held at the Dole Cannery, Honolulu, on August 26, 2006.

The alternative futures are numbered simply "one, two, three and four" and color-coded "Orange", "Silver", "Maroon", and "Blue" in order to emphasize that each is an equally valid possibility, and none is designated or intended to be received as a wholly "desirable" or "undesirable" future. They are just four very different possibilities for Hawaii, used to start a discussion that will end up in Hawaii identifying a preferred future which may or may not even be close to any of these four.

While none of the four scenarios is much like the present, the seeds for each of them can be found in the present. There are people who may want or fear, or who simply expect, the future to unfold more or less according to one of these patterns. In short, these four alternative futures embody some of the various key assumptions about the future that exist in the present.

The scenarios are not meant to be "predictions" of what will actually happen. Neither are they intended to be "preferred futures". They are not the preferred futures of anyone involved in the

Hawaii Research Center for Futures Studies. However, all four are portrayed sympathetically--none is meant to be a "worse case" (or a best case) future. It is our hope that people who encounter them will use them to examine their own existing assumptions, and to deepen and clarify their own thinking about what the futures could, and should bring, in Hawaii. In this spirit, we ascribe no "most likely" status to any of these accounts. There is no such thing as a "most likely future" anymore, which is one reason why an "alternative futures" perspective is vital.

There is a brief bibliography of books and websites at the end that inspired each of the four alternative futures. You are encouraged to read these sources to get a better understanding of how and why people have such different ideas of what the future will, or should, or should not be, and to help you gain a better understanding of your own preferred future for Hawaii.

We hope you will use these four futures *before* you engage in futures visioning activities in your community, job, church, family, civic organization, and wherever you meet with other people to talk about what you want Hawaii to be like in the future, and what you intend to do to help Hawaii become as you and others want it to be. But their overall purpose is to encourage you to dream of and then start to create the Hawaii you want for yourself and especially your children, grandchildren, and all future generations.

Future One: Orange Hawaii 2050

Hawaii is an economic success story, but with some lingering problems and concerns.

Recognizing there are many different types of "tourism" and that tourism should be the main economic driver in Hawaii the following decisions were made so that:

Oahu is devoted entirely to mass tourism with hotels and resorts on all possible locations. Oahu's focus is on tourists from China, India, and Europe, brought in by supersized, super-efficient, supersonic jets made by China and India. All major tourist and tourist-related facilities are owned and operated by multinational corporations for the most part from China, India and Europe. Local jobs in the industry are plentiful but typically in the lower rungs of management and service sectors or in activities that support tourism.

Kauai, Molokai, and Niihau have successfully attracted high scale "ecotourism" and wealthy people looking for an authentic, laidback experience. No buildings "taller than a palm tree" are allowed. But the growth of ecotourism has led to a need for more accommodations and resources for tourists. In order to meet the building restrictions, sprawl is beginning to occur on these islands. The leaders of these islands are each now considering making "Waikiki"-type hotel/tourist zones, but sprawl is damaging the eco-friendly reputation that these islands have advertised. They are struggling to maintain their originality, but are afraid to curtail a booming tourist trade.

The two Maui's (separate islands, East and West Maui were created by sea-level rise) and Lanai are largely residential communities for rich telecommuters or retirees, or as second homes for rich outsiders, and are centers of very high-end tourism only. Mass tourism has been phased out entirely on East Maui. It is a high tech hub for software development and other information services, taking advantage of the vastly upgraded super computer facilities and wideband connections via biotronic cables.

The Big Island is the most diversified. Because of its increased persistent rain, Hilo is relatively undeveloped (the old dilapidated hotels are gone and there is abundant open space instead). Kona remains a mass tourism alternative to Oahu. A vibrant space-oriented community exists around the astronomy observatories in the northern highlands, and is connected via a maglev train to a joint NASA/JAXA/CNSA space launch site at South Point that has become a vital part of that consortium's Mars development plans.

Almost all learning for everyone at all ages and academic levels is provided through "just in time" "on-demand" online services, privately operated, augmented by personal tutors. There are no public schools of any kind. There are publicly-assisted but privately-owned and managed old-fashioned campus-based undergraduate colleges for some locals but mainly for rich students from around the world at Hilo, Kona, Manoa, and West Oahu. East Maui alone has a beautifully-appointed world-class research university that combines outstanding face-to-face graduate education with expensive high-level intellectual tourism. Kauai CC is focused on practical education appropriate for its eco-tourism industry though people do come to KCC to learn more about eco-tourism as well.

What is left of Kahoolawe after sea-level rise is a gambling casino resort owned by a local *bui*.

Oil is still the main source of energy for air transportation and also plays a continuing but diminishing role in ground transportation since it is so expensive. There are safe and efficient Advanced CANDU Reactor nuclear plants on Oahu, the Maui's, and the Big Island where geothermal and OTEC also play a part, while Kauai, Molokai, Lanai, and Niihau rely mainly on imported oil along with solar, wind and biomass.

While sufficient potable water is a challenge, the heat from the nuclear plants is used to desalinate ocean water on Oahu, the Maui's and the Big Island. Without that, there surely would be inadequate potable water for the local and tourist

population. Water is a challenge on Kauai, Lanai, Molokai and Niihau and even many parts of the Big Island, leading to many conflicts.

Hawaii is an even more vital part of the US military presence in the Pacific now that the US has withdrawn all of its bases from Japan and other Asian nations. Guam, the Northern Marianas, and the Freely-Associated Federated States of Micronesia along with Hawaii mark the western military perimeter of the US. There is a substantial military physical presence in Hawaii, and military-related money from the US accounts for whatever of Hawaii's income tourism does not provide. While "terrorism" continues to be a threat in many parts of the world, it is largely absent in Hawaii because of careful border control and domestic surveillance performed by the US military. The first sign of local discontent is silenced swiftly with troublemakers as well as criminals sent to re-education camps on the US mainland.

There is some agriculture and aquaculture on all islands aimed primarily at supplying exotic organic food for the tourists and wealthy residents but not as staples for the locals who continue to rely on food and all other goods being supplied from around the world, increasingly directly from Asia. All imported food is genetically engineered and brought in on nuclear-powered ships. It is too expensive to fly anything but humans, either in the huge mass tourism supercruisers or in luxury private jets.

Hawaii's population is four million. Oahu has increased to two million while most of the other growth is on the Maui especially and the Big Island. Kauai, Molokai, Lanai and Niihau experience slower growth as a result of clever tax and zoning laws that limit and control immigration and discourage high fertility.

The dominant age-cohort is that which was originally dubbed as "Millennial" by the researchers Strauss and Howe. Being "Civics", they combine the aspirations (and nearly the numbers) of the old Baby Boomers with the work ethic and "can do" spirit of the even older GIs. However, unlike either of these, they are very group-oriented and disciplined. They are far more willing than were previous generations to give up

individual freedoms for communal security. They tend to be very secular and practical, though curious and respectful of their elders, and some youth, who continue to exhibit religious or spiritual tendencies.

Population on all islands has significantly aged and the ethnic mix is drastically different. There has been a great increase in wealthy westerners and Asians, a sharp decline in Hawaiian and local Asians, and an increase in Micronesians and Filipinos who do the service work for tourists and wealthy residents. Most native Hawaiians live on the US mainland unless they are rich enough to buy homes on the Maui, Lanai, or one of the upscale Hawaiian communities on the Big Island.

Global warming and sea-level rise turned out to be a blessing for Hawaii, especially for the construction industry. Some effort was initially put into trying to protect shoreline developments with an impressive system of dykes. But wiser heads soon decided that it was vastly better to tear down the many obsolete and threatened hotels, condos, shops (and the old Convention Center on Oahu), and rebuild them in a bigger and better fashion farther inland, letting the sea form a new shoreline with humans providing the sand, palm trees, and many newly-designed water attractions thus creating wide beaches for the exclusive use of tourists almost everywhere. All in all, each island is a bit smaller, but much more upscale and stylish, greatly increasing Hawaii's appeal as a tourist destination.

Governance is in the hands of Commissioners made up of representatives from the multinational corporations who run the major industries. They operate on each island somewhat in the way the old "commission form" of urban government that was created after the Galveston Hurricane of 1900 was supposed to function. Each Commission serves as a "legislature" by making policy for its island (in accordance with dictates from the multinational corporations) and then also serves as the "administrators" of the policies. Each Commissioner is responsible for several administrative departments and runs them as a fair, efficient, transparent and publicly-responsive business is run. A Commission Governor is elected every four years by a simple majority

among the business members. There are no taxes; only user fees on tourists and locals alike.

Each Commission has two or three publicly-chosen advisory groups that bring complaints from residents (or tourists) to the Commission and advise the Commissioners on needed changes in their rules or regulations. There is an independent bank of mediators chosen from qualified local residents who mediate conflicts between residents involved in what used to be called civil and family matters. What used to be crimes and all other major legal issues are handled by the Commissions or by their appointing multinational corporations, with enforcement by the US military.

There was of course a challenge as to the constitutionality of this form of government. Since the commissioners are chosen by corporations and not citizens, it was said to violate Article IV, Section 4 of the US Constitution that states "The United States shall guarantee to every State in this Union a Republican Form of Government." However, following the reasoning in the 1886 case, *Santa Clara County v. Southern Pacific Railroad Company*, wherein the U.S. Supreme Court held that a private corporation is a person and entitled to the legal rights and protections the Constitution affords to any person, the

constitutionality of the Hawaiian commission form was upheld.

Following the privatization of social security and the end of Medicare and Medicaid, provision for health services is entirely up to each person in Hawaii. This has resulted in a diverse situation. Health care is very expensive but of excellent quality on the Maui and Lanai; it is satisfactory but generic on Oahu and the other islands. While much of the world has been ravaged by avian flu, and a particularly severe form of Asia flu, Hawaii avoided major catastrophe as a consequence of excellent preparedness and strict enforcement of quarantine and exile rules.

People in Hawaii still enjoy the advantages of abundant sun and rolling surf, though exposure to sun is strictly regulated. Life guards monitor the amount of time anyone can spend in the sun on the beach and in the surf, and pollution levels of the water require that people avoid contact with the ocean at all for many days each year.

The overall climate is much more humid than before with many fewer days of strong or even moderate tradewinds and many more days of clouds and torrential rain.

Nonetheless, compared to conditions in most of the rest of the world, Hawaii is paradise indeed!

Future Two: Silver Hawaii 2050

Hawaii isolated in the mid-Pacific, was affected profoundly by the collapse of global financial markets in the early 21st Century. In the aftermath of a worldwide currency and oil crisis, Hawaii suddenly fell back, heavily, on its own resources, as those people able to flee – typically the wealthiest inhabitants and property owners from Japan, North America and Europe - did so, both physically and financially, from an investment gone bad. The era between the mid twentieth to the first decades of twenty-first centuries had indeed been a Long Boom, but it was decisively supplanted by a “Big Bust”. Prolonged economic growth is over and a new era similar to the bleakest days of the European Dark Ages, has begun.

It has been fifteen years now since the world’s financial markets went into freefall. What was once the largest industry on the planet--tourism and hospitality--is now remembered with a rueful nostalgia--in some quarters as a golden era but with more than a little anger by others who see it as a temporary extravagance purchased by an earlier selfish generation at the expense of everyone now alive. In the wake of these events, there was a popular global legal movement that tried and executed some of the worst offenders of the old era (chairmen of oil and automobile companies and of the huge bloodsucking financial centers, along with their lackey politicians and economists) for "crimes against future generations". The International Criminal Court appropriated the assets of all such individuals while militia continue to search for many more who have used their extensive social networks to vanish from sight—many rumored to be on Maui and other Hawaiian islands.

Corporations as a legal technology have come to be judged, in the eyes of many, as at fault for much of the problem. Most economic activity in Hawaii is now based on small agricultural collectives, craft guilds, and extended family enterprises. Money and credit has vanished. People barter goods or labor instead. While some public corporations exist in some jurisdictions and for some purposes--such as building nuclear and

mass solar energy plants--they are far more closely regulated than before. Acquiring wealth is no longer an ethical way to live.

Hawaii’s population is about 300,000, less than two-thirds of what it was in 2000. Anyone over the age of twenty-five remembers where they were the day the dollar hit bottom. New building activity ground to a halt, investor confidence in more isolated markets unraveled. Prospects of reliable transportation of people and cargo to and from the islands began to disintegrate. Planes were grounded for two weeks. Oil prices skyrocketed and oil itself became almost impossible to find in the Islands. People couldn’t even give away their gas-powered cars which came to be vandalized as symbols of the destruction. Hotels lost their staff--no one could go anywhere, and commuting became virtually impossible. Those who can still afford to drive do so rarely, because gasoline itself is tightly rationed and not generally available and because anyone seen driving a car is likely to be set upon by a mob of angry people who will try to steal the gasoline and trash the automobile--even biodiesel and electric cars are seen as symbols of selfishness by most people.

After the flight of capital from the state, and with visitors staying away in droves in the midst of the global crisis, most air travel was neither psychologically nor logistically feasible. Thousands of people from the tourism industry found themselves instantly without work. For a time, as air travel prices spiraled out of reach, employees of the hotels were the principal occupants, together with tourists whose plane tickets had been cancelled or bought out by wealthier folks escaping the Islands. Waikiki became a kind of refugee camp, overflowing into Kapiolani Park. The sanitation of beaches as well as buildings quickly deteriorated as maintenance became impossible, and supplies of food were raided. Those who could, took their families to the mainland as they believed their options to be less constrained on a continent than in the Islands. Fortunately the climate remains largely temperate in Hawaii, although former office buildings are

used as refuge when the more frequent and intense hurricanes blow in.

Eventually, in response to popular demand that strong action be taken, the United States government ordered the the Pacific Command to impose martial law and it was given full ruling autonomy. There is a slight chance that the US may revive its claim over the islands at some future time, but for now they are governed by a structure that grew out of the United States military, and now has its own distinctive identity. Originally there was great tension between the military and local civilians, but as the military proved uniquely able to restore civil order, and manage and allocate essential resources while an infrastructure of self-sufficient agriculture was developed, their temporary eclipse of other governance mechanisms became permanent.

In order to quiet growing public unrest, the military designated a full-blooded Hawaiian as King and his family as the embodiment of the royal line. The monarchy was declared restored, under military protection. There was of course considerable initial dispute as to the whether this was rightful succession, but when new documentary evidence fortuitously came to light supporting the official appointment, and the most outspoken dissenters were invited to important advisory appointments with land grants, most concerns evaporated--along with any remaining dissenters. With his family and advisors amply provided for, the King is himself currently an important advisor to the military inner circle, with whom he is closely affiliated. This provides a tremendous source of pride and a sense of accomplishment to the many people who consider themselves authentic Pacificans, and who do not tolerate any suggestion that the King is an impostor and a fool, and the proposed system simply a puppet monarchy for a self-serving military dictatorship.

A kind of Hawaiian culture, and the broader "Pacifican" descendant of it, is strong. Pidgin is spoken by everyone. Religion is a private affair, although increasingly, with the restoration of the monarchy, public ceremonies have incorporated revived or modified versions of ancient Hawaiian practices. The sense of public solidarity this seems to impart has been invaluable to the rulers

who strive to keep order. A synthesis of Christianity and Pacific ideas is being closely elaborated by a few mendicant scholars at the former University of Hawaii campuses (which are now mostly used as training facilities for new arrivals and citizen-recruits). Food production is labor intensive and takes up so much time that little idle intellectual activity is possible. Those few older eccentrics capable of and interested in understanding turn-of-the-century "academic" English are watched closely by authorities and ridiculed even more than they once were by everyone else.

People from other islands in the Pacific occasionally appear on the shores of Hawaii because it is known to be the largest and most stably self-sufficient accessible location. Especially due to sea-level rise, before each hurricane season strikes, more of them brave the perilous canoe voyage rather than take their chances where they are. Such new Pacificans are welcomed to Hawaii – no passport or visa necessary – and promptly provided a place to stay, evaluated for their personal aptitudes, and placed in a suitable microgroup under the supervision of a small council of well-established citizens. Complete training in the agricultural practices and rules of the community is provided. Healthcare and food are guaranteed to all, thanks to the regimen of which all citizens are part.

The community also provides assistance in finding a mate for any adult without one, believing that people in a family relation are more stable and controllable than are isolated individuals. All children, while normally the responsibility of the birth parents and grandparents, technically belong to the community and can be placed in another microgroup if the military or community elders determine that this is preferable. There is a plan in place to move increasing numbers of people to higher ground, and into the taller buildings in downtown Honolulu, as sea-level rise will continue over the next fifty years even though fossil fuel consumptions has largely ended. Although hardly anyone burns oil these days, the bill for untrammelled past consumption keeps arriving every day!

Everyone understands the need to make sacrifices for the sake of the common good, and those slow

to catch on are subject to extreme social pressure to keep their objections to themselves. It's not that people don't remember how things used to be. Rather, individualism and selfishness are seen as a key part of what led to the Bust. Strong authority is accepted as necessary and desirable. The relatively greater presence of Pacificans and Asians has supported a flourishing of a community-oriented culture. The survivor mentality of those remaining here, regardless of ethnic origin, has left no room for racism: one's character and contribution to the community are far more important than skin color.

What used to be called "democratic government" is seen by most as wastefully time-consuming, ineffectual and pernicious, although there are always complaints and concerns when friends disappear. It is clear to virtually everyone that any unplanned or unregulated economic activity could only allow panic and chaos to spread. The nightmare of the early days of the Big Bust is invoked to remind people how lucky they are now.

There is free and comprehensive mind-and-body training--a combination of public education and what might once have been called a military draft--for all individuals in appropriate physical condition (there is no age or gender limitation). This is not compulsory, but it is a prerequisite for citizenship and eligibility for leadership roles, so almost everyone takes the training. As a consequence, most of the inhabitants of the Islands are officially part of the governance structure. In early 21st century parlance they might be described as military employees, although most of them have little or no actual combat experience. It is understood that this arrangement is far more participatory and fair than

old ideas of "democracy" because when everyone works for the community, there is no separation between the government and the people.

There is almost no prospect of any invasion since the nearest threats are also highly circumspect about using their resources. However, oil and other energy sources are strategically stockpiled should invasion occur. People are kept in a state of readiness should the old American conquerors and exploiters ever try to return. Of course, in an energy-poor world, Hawaii offers little in the way of strategic geopolitical advantage to any other country and so it is ignored.

Communication between the islands is legal only by special permission from the military, and generally people only know what is done on their own island--or indeed their own locality. The top brass, an exclusive and highly revered group of some 10,000 officers ("citizens") and their immediate families, rotate between each of the islands, keeping an eye on things, and identifying and removing any dissidents. They have large houses with ocean views to compensate for the tireless efforts to keep New Eden safe from the tyranny of liberal and corporatist ideas.

Elderly citizens, before they reach an age when they can no longer work (usually about 80 or so) are ceremoniously retired to the fabled community "Heaven on Earth" -- on the Big Island -- about which many stories circulate. It was once suggested that this elaborate ceremonial retirement is simply a ruse to get rid of non-contributing members of society, and that Heaven on Earth doesn't exist -- but to the majority of citizens this is clearly nonsense, and the prospect of going there to live out their days in luxury and delight keeps them working hard.

Future Three: Maroon Hawaii 2050

Uphaval following the end of cheap energy sources, significant global climate change, escalating global religious conflicts, and waves of global pandemics has lead to a wide-spread shift in human relations. Most of the world has returned to patterns of largely local self-sufficiency--often the revival of indigenous-based and traditional values--and the "less-is-more" "small is beautiful" mentality pioneered by E. F. Schumacher in the second half of the 20th Century.

Many of the changes were made out of necessity and for sheer survivability of the human race. Every area on the planet has been effected, but once enough people came to see that continued economic growth along the old lines was both environmentally unsustainable and socially unjust, most of them came to appreciate the advantage of living fulfilling lives focused on family, community, and essential, meaningful, and ecologically-sustainable work.

Nowhere has this change been more profound than in the Islands of Hawai'i. Life in the most geographically remote place on Earth is a mixture of traditional ways and advanced (and holistic) designs. The pace of life is considerably slower for most than it was in the late 20th/early 21st century. Physical traffic of goods and people to and from the Islands has slowed considerably, although information and communication with the rest of the world continues through carefully-maintained satellite uplinks.

Following the devolution of Canada, Mexico and the United States into what Joel Garreau long ago described as the "Nine nations of North America," each of the Hawaiian islands became self-governing, but in close association with each other. They share goods and services more in the tradition of mutual gift-giving than in the sense of commercial trading. Moreover, in order to be sure that "the rich cannot go on destroying the islands while the poor are forced to save them" (as Richard Tomkins put it), a strict system of rationing, widely accepted in conditions of wartime and thus accepted as fair and just now, has been adopted to be sure that access to scarce

but necessary or highly desired items is determined equitably and not merely by whoever has the most money.

Certainly rivalries exist between the islands, especially between the more populous and cosmopolitan islands (O'ahu and East and West Maui--sea-level rise having formed two islands where once there had been one) and the more rural and traditional islands (Hawai'i, Kaho'olawe, Lana'i, Moloka'i and Kaua'i). But, these are generally minor, and cooperation is the rule. The islands also interact with some of the various communities in the Pacific and along the Pacific Rim, especially Ecotopia to the east, and the various small states in China and Japan to the northwest.

Governance differs on each island. O'ahu and the two Mau'is have representational systems built around a hybrid of parliamentary government and traditional Hawaiian dispute resolution techniques. Hawai'i, Kaho'olawe, Lana'i, Moloka'i and Kaua'i are governed by family councils using ho'oponopono. Each island sends proportional representatives to O'ahu for inter-island negotiation and decision-making about regional issues.

There are no standing armies representing the Islands as a whole. Rather, each island has its own militia for internal order and external protection. Threats from outside communities are rare, but the islands have protection treaties with Ecotopia as well as the Chinas and Japans.

The islands have avoided much of the terrorism and guerilla warfare that has gripped the world over the last decades. Security is important, but since there are infrequent physical interactions with the rest of the world, and then only by sailing ships or voyaging canoes, ports and immigration are well controlled. There has not been the need for the draconian bio-security and bio-metrics that many communities have resorted to in order to control terrorist activity. Killing violence and the theft or destruction of property has been greatly reduced. Social networks are strong, basic goods

are widely available, and hard drug use is non-existent.

While it is well known that Hawai'i supported one million people at the time of first contact with westerners towards the end of the 18th Century, and thus could do so now, a firm decision was made to reduce fertility and limit in-migration so that the environment could provide more easily and life could be more relaxed and leisurely. Thus the population on all the islands totals around 500,000. Many immigrants from the former and now submerged islands of the Pacific have made the Hawaiian Islands their home. The governors of Moloka'i, Lana'i, Kaho'olawe, and Kaua'i have capped immigration in order to maintain a sustainable and self-sufficient system. About one-fourth of the inhabitants of the islands can be considered *kanaka maoli* and another one-fourth are of Asian heritage. Of the remaining 50%, about one-third are from Micronesia and Polynesia, another one-third are white/european, and the rest are a broad mix of various ethnic groups.

O'ahu remains the most diversified in economy, demographics, and culture, and (along with only West Mau'i) recognizes English as an official language along with Hawaiian. Because of high population density, these two islands import much of their food and supplies from the 'outer' islands and from Ecotopia to support its combined 250,000 person population.

Of course, mass tourism is totally gone because of the scarcity and extremely high price of fuel for any purpose. However, Hawai'i is still a very attractive place and so all the islands have resorts catering to a few extremely wealthy clients who arrive on high-tech computer-controlled sailing vessels from North American and Asia. These tourists typically spend several months on the islands, pumping needed outside cash into the economy, but tourism is very far from being the giant engine of the economy it once was. O'ahu is still the main magnet for tourism because of the popularity of exotic "underwater city" tours in Waikiki, which was inundated during the period of rapid ocean-level rise. Many of the other islands cater to those coming for long stays in the "healing" islands, and other health and spirituality-based travelers.

All islands have returned to variations of the *ahupua'a* land use system, and most people are engaged in various forms of farming and aquaculture. Because so much of the land on the islands in the early 21st Century was held by the former State and US Governments, or by the large plantations and estates, it was comparatively easy for Hawaii to make all land publicly-owned when the economic and environmental crunch came.

Outside economic enterprises are few in numbers and do not wield much influence over local politics and culture. There are some people who make a profit from trade and exchange, but almost all economic gain goes back into the local and regional communities. Moreover the system of rationing assures that the gap between the richest and the poorest is very small--especially compared to the huge and growing gap that existed in the early 21st Century.

There are a few public buses, trucks and cars on the road, but most people use electric and solar powered personal transportation for longer distances and generally walk or bike otherwise.

Solar, wind, waves, OTEC, and geothermal energy are the most common sources and are decentralized and networked throughout the islands. These sources provide adequate energy for most necessary uses, but "excessive" energy use is forbidden and most night-time activities are curtailed in large measure because metal and other materials must be imported to the islands and recycled at great expense (and expenditure of energy as well).

New buildings are required to leave a zero-energy footprint, and all old buildings that are environmentally negative have been abandoned, destroyed and their material recycled. Resilience and evolvability are key factors in design. People work within the parameters and flow of the natural environment. With increased hurricane activity and a volatile natural climate, new homes and buildings are not allowed to destroy marsh and mangrove forests which protect the coast from further erosion.

Good design practices are utilized to meet social, material and energy needs. These include traditional land use patterns that emerge from the

ahupua'a system, but also advances in green and environmentally-friendly designs.

Modern adaptations of traditional Hawaiian values govern all personal behavior and social interaction. These values are carefully taught and reinforced by constant reminders of their importance and sanctity by elders who oversee all activities and discipline younger people as necessary. Reverence for the land and a disdain for self-centeredness and greed is widely taught and exhibited. Individual desires are made subservient to communal goals and needs.

The arts are flourishing and are for local instruction or entertainment only. Painting, dance, and storytelling are the most popular, always reinforcing one or more fundamental values. Canoe races are very popular since canoes are so vital to local interaction and to Hawaii's contact with the rest of the world. Ball sports have decreased in importance, though a modified form of football is still played. Surfing is almost extinct because of the dangerous waters and shifting coasts. Frequent attempts to revive the tradition have failed because of shark attacks, deaths and lack of consistent waves.

Obesity is not a public health problem, and most people are active and healthy. Traditional healing practices prevail on all islands, although rare and difficult cases are sometimes handled in Asia or Ecotopia. Most people cannot afford the long and slow trip, or afford private care locally. This has become a source of tension for some in the communities. Most augmentations such as

eyeglasses and drugs such as insulin are difficult to get and are very expensive.

The environment and climate are highly unstable. Ocean levels continue to rise, and large hurricanes are common. Total inhabitable landmass on the islands has been reduced by 20%, and most people live in *mauka* areas. Water is widely available from mountain streams, but water-treatment is not generally available so every effort is made to keep water supply and wastes as clean as possible.

Most people work multiple part-time jobs across disparate fields. For example, a person might tend crops in the morning, unload supply ships during the afternoon, and cook dinner for guests at the local resort in the evening. Everyone has a host of skills and people take turns at doing various jobs from day-to-day.

Education centers on learning the *pono* way to do the many practical things necessary for survival and enjoyment: malama 'aina, farming, sustainability, spirituality, local history, art, navigation, engineering, and construction. Students can link into a satellite education network to learn more esoteric subjects—like advanced math, English, western philosophy, or futures studies. All but a few lose interest in these nonessential subjects at an early age, and most families do not expect their children to spend much time on these trivial matters.

All in all, life in Hawai'i is very good--disciplined, meaningful, social, and sufficient.

Future Four: Blue Hawaii 2050

It was said that if the human race could survive the 21st Century, then it could reach infinite heights in the 22nd. At this point, the outlook for the survival of humanity is good, even though the character and definition of what is "human" has changed profoundly, and would be almost unrecognizable to early humans. Nowadays, we speak more about "personhood" than we do "humanity". Living with various species of non-human intelligences, post-humans, cyborgs, and augmented animals has redefined all existence and altered the course of evolution. This course is now governed by intelligent beings and largely subject to their decisions.

The shift that occurred in the first few decades of the 21st century was less a political or social revolution, and more a design and technological revolution. It impacted all our behaviors and social relations. Quantum processors, harnessed nanotechnology, ubiquitous communication technologies, artificial intelligence and artificial life, cyborg augmentations for the brain and body and other biological modifications, advanced technologies to stabilize and optimize the global environment, and increasing space migration and settlement all extended the boundaries of what was possible for intelligent life on Earth, and gave intelligent beings choices and opportunities where none had existed before.

Homo sapiens sapiens (as we used to call humanity) once appeared destined for a terrible end and ultimate extinction due to brutal fundamentalists' wars, extensive environmental destruction, and grossly unjust social and economic institutions. Many humans themselves welcomed this extinction of humanity in the name of a higher justice. As it turned out, this fate was avoided. Historians have debated when the tipping point actually occurred, but sometime in the early 21st century a critical mass of humans, in the words of Arnold Toynbee, "dared to think of the welfare of the whole human race as a practical objective." Leaders arose to proclaim that the past is not wholly determinate of the future and, in the words of Walter Truett Anderson that "evolution must

be governed as best as we can." A more extreme version of this idea was "we have become as gods, so we had better get good at it."

Change has been accelerating ever more rapidly, creating uncertainty and unpredictable new transformations along the way. However, not being bound by narrowly *human* notions of truth and order, new intelligent life is comfortable with its continuing evolution. There are still some old-fashioned humans who think back to the 20th century with nostalgia for a simpler time. However, almost no one, save for the few aging radical fundamentalists, would suggest that the wars, injustice, and oppression of the time were worth the price of this simplicity.

The islands of Hawaii are fully a part of this exciting and wondrous time. The old spaceship launch pad at South Point, Hawaii, has become a major teleportation distribution center, organizing and teleporting goods across the globe and to settlements on the Moon and Mars. Oahu and especially East Maui (there are two Maui islands now, after sea-level rise) support many of the super-servers that keep the planetary and interplanetary bio-electronic networks operating. The Big Island also is a center of astronomical observation and communication with off-Earth settlements.

But, "Hawaii" as a place and culture really has little significance any more. Physical place just does not have the meaning it did in the old days. Teleportation and virtual reality have redefined location and "being there." New technologies emerging from India, China, and Africa at first reflected their specific cultural history, but technological acceleration and integration soon blurred and obliterated the old distinctions between cultures. "Culture," as a concept linked to certain human groups, no longer makes sense. Certainly considerable variations in daily life still exist, but with the wide range of intelligent beings in existence and the increasingly rapid pace of change, these variations are much too complex and fluid to be understood in terms of the old "culture" concept. Other long-held ideas like

"individual," "self," and "nation" also have been rendered obsolete.

The "natural" Earth (in its common meaning of "untouched by human action") no longer exists. Earth has become one big garden--a bio-electronic system that must be carefully designed, managed and continuously upgraded. And, because the global environment is now consciously designed and maintained, it manifests a much greater harmony than it did 100 years ago when the ravages of endless wars and industrial processes nearly brought nature and humanity both to extinction.

Spatial and geographically-based governance systems have been replaced by bio-electronic networks that link together virtual affiliations across time and space. These non-geographically bounded systems are linked to an interplanetary decision-making "hive-mind" forum that sets policy for Earth, Moon and Mars, resolves disputes, and adjusts the "intelligent governance" biochips that are embedded into all physical environments. This "hive-mind" forum evolved from the early 21st century internet phenomenon known as *wikipedia*, that showed plainly that "all of us are smarter than any of us."

As was forecast by Alvin Toffler and others, nanotechnological manufacturing has created a world of material abundance. The former institutions of scarcity-based capitalism have been dismantled. Basic needs, energy, and material resources are distributed evenly and freely, as desired. Several bio-electronic networks exist to coordinate distribution and services between groups, but they follow the guidance set out by the forum.

With no reason for human labor or management, most intelligent beings pursue arts, games, spirituality, and intellectual pursuits. Intelligent beings have developed a system of exchange for creative goods, new mental and spiritual software, and a multitude of exotic "services." The intelligent, embedded governance chips do not allow entities to build or consume in ways that are net destructive, however.

Population and demographic features are difficult to characterize. Many beings have become permanently linked or uploaded into the bio-electronic networks. Some travel from physical platform to physical platform, often from a biological body to a mechanical form. Copies of intelligent beings are cloned as back-ups in case of an accident in transfer. Ray Kurzweil long ago captured this shift in perspective in his book *The Singularity is Near*. In noting the transience of our material borders, he said, "I am rather like the pattern that water makes in a stream as it rushes past the rocks in its path...I am a pattern of matter and energy that persists over time."

However, not everyone has become a cyborg or lives in virtual worlds. On the islands of Hawaii alone, there are 100,000 "unaugmented" *Homo sapiens* (now called *Homo Ludditus*), especially on Kauai, Niihau, and parts of the Big Island, though even many of them quietly use sensory implants, artificial hearts, and other "acceptable" appliances. The average life expectancy of these humans is around 130 years. As with everyone else, their material needs are provided by the distribution of nano-produced goods. The rest of us who have accepted augmentation and transformation essentially live forever--and anywhere across the real or virtual inner solar system we choose.

Four Futures for Hawaii 2050

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