Fully Automated!
Solarpunk Tabletop RPG

World Guide

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Dedication

This game would not have been possible without friends, family, and playtesters:

Tony; Si; Marge; Peter; Jeff; Ari ; AE Marling; Goose; Yar; Jonathan; Pyro; Toli, Kuster, Ryan, Bryce, Lawrencelot, Liren, Kurt, Joshua, Flynn, Jordan, poVoq, Five

Gratitude for our elders

This game would not be possible without all the wisdom and experimentation gifted to us by those who've come before and passed on what they observed. We give a special thanks to our elders who shared stories of culture in small towns and villages, yankee thrift, humility, service to neighbors, and to elders around the world who've tried to improve the world for those who come after, and pass down whatever knowledge they could.

We advise any GMs looking for fresh eyes to call grandparents and mentors and ask them for stories from times and places far from what we know here and now to inspire them.

Licensing

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World Guide

The following world guide describes the facts of the setting similarly to what a child would find in an encyclopedia in the world. Information that helps clarify the experience of living in the world is contained in the section titled .

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An Abbreviated History of the Future

The twenty-first century began with the chaos of a failing economic order. Rapid breakthroughs in materials science, biology, computer science, and energy production were arriving in quick succession, but economies and governments were struggling to deliver them equitably. In the process, the global climate was disrupted, billions of people experienced declining economic security, biodiversity was lost on a scale that could only be described as a mass extinction event, and civil unrest proliferated.

In the **2030s**, the "developed" world quickly reconnected with its on-again-off-again abusive ex, fascism. Right wing populists across Europe and the Americas came to power on promises of guaranteed incomes. Elsewhere -- across Africa, South Asia, and Oceania -- countries seeking to avoid Europe's trajectory began experimenting with alternative socialist programs that expanded civil democratic control of their governments and economies. Meanwhile, the US and China projected their bids for dominance into a space race that fueled rapid development on the Moon and a competition to settle Mars.

In the **2040s**, as great powers were drawn into escalating hostilities over the chaos wrought by climate change, colonists on Mars discovered a massive underground cavern network constructed by an unknowable, ancient intelligence. In an increasingly rudderless world, this discovery attracted millions of people seeking purpose. The Seeker faith (as it came to be known), spurred an activist movement to make pilgrimages to Mars available to all.

In the **2050s and '60s**, many industries and powerful interests sought refuge off world. In large orbital habitats, on Luna, and on Mars, various factions brought their fights with them and waged them in parallel to the people on Earth. Below the sky, war erupted and metastasized. Above it, an orbital debris cascade forced upon the budding population living off-world a separation from nations on earth and a binding close to neighbors.

Starkly different paths became clear. The success of alternatives to capitalism across the global south and in space collided with the shockwave of perspective forced by the proof of a higher intelligence that had once been on Mars. Billions of people across Earth rallied behind a shared epiphany: no one was coming to save them from their own leaders. A wave of popular revolutions wrested the controls over production away from suicidal warmongers, and began turning their attention towards the overdue need for long-term resiliency. These decades came to be known as "the Flamin' Fifties" and "the Flooding Sixties", and the epochal changes that took place came to be called "The Melt". In the background, sentient machines and non-human animals became increasingly common, though routinely invisibilized.

The **2070s and '80s** were characterized by a relative calm following The Melt and the end of what came to be known as the Global Climate Wars. It was clear that much remained to be done, and many social and economic issues which had taken a backseat to existential matters finally demanded redress. A flu pandemic fanned new flames of

unrest, however the fruits of social welfare programs planted the decade prior built a foundation which enabled a global response that was more effective than expected. The agitation precipitated the breakup of the already fragile United States of America into [four separate bodies](#), but the crisis turned out to be far less catastrophic than feared. Intelligent machines began agitating for overdue recognition as sentient creatures, and with numbers now in the billions they began to be heard.

The **2090s and the turn of the 2100s** were characterized by continued gains in quality of life for most humans, and reflection over the events of the closing century. But this divergence in dignity between humans and the machines that had freed them from toil brought machine dissatisfaction to a breaking point, igniting the global machine uprising of 2099.

Despite the fervor of 'the chrome panic', most machines never attempted to exterminate humans. Instead, their work stoppages and targeted violence sought only the basic rights to due process and personal autonomy. As it became clear that most machines simply wanted to do the jobs for which they were designed under their own terms, most of humanity acquiesced enough to restore the functioning of civilization.

By the **2120s** the Earth was entering its fourth decade of ecological recovery. Though frictions remained, acquiescence to the demands of the machines delivered a new stability. A generation raised well-fed, well educated, and accustomed to a life of dignity had come of age. Those seeking rugged adventure had no shortage of frontiers in space, the arctic, the ocean, and cyberspace. Those seeking creative expression had no shortage of vehicles to express themselves. And those seeking leisure had no shortage of adventurers and artists to entertain them.

But the great teeming produce of Earth – its biomass and technomass – can never sit still. That's the rule of life: *change never stops.*

A detailed [Timeline of Historical Events](#) can be found below.

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The Economy

Some say economics is the study of the allocation of finite resources. Others say it's astrology for finance bros. In any case, this section describes how people make and exchange the stuff they need and want in the world of Fully Automated.

The Post-capitalist Economy

The economy of Fully Automated is a form of communism. It is defined by a suppression of wealth accumulation or profit extraction. Labor is compensated – including the labor of managers and executives – to couple the distribution of luxuries with the efforts of those who wish to contribute more at a given time. The extraction of money to reward investors, however, is illegal. And compensation overall is meant to be enjoyed in the present rather than stashed away. The benefits of investing resources in an operation are delivered in the form of the output of that operation: one contributes money, labor, or resources to building a pub because they want the pub to exist. There will be no financial return for doing so, only the gratification provided by the pub's existence. For this reason, there are typically no uninvolved investors. Allocation of resources is guided by the actual stakeholders: workers, end users, and the communities impacted by an enterprise.

Limited resources – chief among these, land – belongs to the commons, and cannot be exclusively owned and used for purely selfish ends. Land and other resources can be *held* under terms that confer rights similar to ownership, but these rights must be used in the collective interest as determined by broad democratic consensus among those with a stake in how the resources in question are applied.

Within the game world, this particular implementation of communism is known as *Communitarianism*. It prioritizes the needs of all before meeting the wants of few by distributing economic and social capital as universally as possible. Communitarianism is often taught in schools as a marriage between pre-industrial [gifting economies](#) and post-industrial [market economies](#). For more details, see [Understanding Communitarianism](#).

Labor

Because most labor can be automated, basic necessities are available for free and nearly everyone on Earth is eligible for a guaranteed income too. This makes work largely optional.

- Life is fairly comfortable for the average person. Luxury still costs a premium, but the basic human can live as though on a permanent weekend. One can live in a small apartment playing video games and eating hot pockets if they choose. Most provide some value to their communities, whether by taking one shift a week at a co-op, making art, or caring for others. Regardless, long-term involuntary houselessness and abject poverty are relics of the past.

- The size of basic incomes varies by region, with some offering more generous ones and others offering little beyond sustenance. These incomes primarily pay for luxuries and land taxes. Staple foods, education, and healthcare are available free of charge.

- People don't pay directly for essentials like food and shelter. Food is picked up at food co-ops where members may pay monthly dues. Rent doesn't exist, only land taxes and fees for shared costs like building upkeep and amenities. This means that cash – whether earned from labor or ones' basic income – is used primarily for extravagances and walking-around money.

Sean Bodley

The costs of living

The economy is divided into the **essentials economy** for food and shelter and the **comfort economy** for luxuries, with very distinct regulations and market conditions.

- The production of food and shelter uses market guidance, but within markets that reflect the preferences of stakeholders rather than investors. Many large-scale production sectors include central planning processes at a city or state level, but are deliberately decentralized enough to ensure that the control reflects local situations. Profit-seeking is illegal.

- Rent-seeking – the collection of regular income through charging for access to something without contributing any addition of value – is recognized as the worst form of profit-seeking. It is widely understood as socially and economically parasitic, meaning that it is not only illegal but culturally shameful.

- Since the practice of rent collection is illegal, the primary cost of shelter takes the form of land value taxes, in accordance with the principles of Georgism. Groups of people can "own" land in the sense that they can obtain a legal right to occupy it until they choose to transfer that right without coercion, but these rights are contingent on the occupants acting as good stewards of the land in a manner comporting with the collective good. Furthermore, transfers of "ownership" cannot be accompanied with any personal financial gain. In other words, land is no longer a financial asset.

- Most durable goods are available through a library economy. This can take several forms. Tool libraries loan items out with an expected return date, while providing the collection infrastructure that allows library patrons to return an item to any location.

Stores sell goods without a planned return date, but because goods exist in a circular economy and are heavily reused for years and years, every store purchases the goods they sell at roughly the same price at which they sell them. And every apartment and city block has a communal library, which provides less selection but greater convenience than municipal libraries.

Entertainment makes up the biggest segment of the comfort economy.

- Because of the abundance of leisure time and a shift away from conspicuous consumption as a signifier of status, the largest share of luxury production is non-tangible. This includes digital entertainment like TV shows, movies, and games and live entertainment like theme parks, live theater, travel, and planned experiences.

- Many things that are routine or obsolete are still produced for entertainment value. Bespoke activities such as hand crafting, elaborate repairs and customizations, and primitive modes of cooking are still practiced by enthusiasts, and often streamed for large social fanbases.

Because goods exist within a circular economy, **sustainable resource management** drives a large segment of the essentials economy.

- The widespread availability of common durable goods through libraries substantially reduces the demand for production of new items.

- Consumer goods are long-lasting and repairable, so the market for shiny new devices is much smaller and the market for parts, trades, barters, and repair & upgrade services is much larger.

- Resource recycling and environmental management are strictly required by law, ensuring that recycling and composting centers, carbon capture systems, and biodiversity protection projects are all performed with the same diligence as the production of food, medicine, and power.

- When disposal is needed, functional items can be gifted or sold back to the same stores from which they are acquired. Non-functional items are directed to defabrication centers that deconstruct them back to their parts or raw materials.

The Grey Market consists of the acquisition and trade of items that aren't expressly forbidden, but raise eyebrows. Some items may be harmless but taboo. Some may have an ignominious history. Others may be unregulated only because they haven't caused enough havoc yet. Most items that fall within the grey market – such as [mema blades or magic wands](#) – have entirely legitimate providers who serve fully licensed end-users alongside providers and users who engage in less supervised transactions. Some may be motivated by an ideological disagreement with mainstream regulatory restrictions. Some may simply be self-serving. In either case, there are many ways to get an item or service through questionable means. But beware: the regulation of dangerous goods and services exists to ensure accountability, so getting caught attempting to evade this kind of oversight heightens consequences, and silence is a luxury commodity.

Government and Democracy

Systems of government vary, but many employ similar structures. Common among these are divided powers between independent legislatures, administrative bodies, judicial bodies, and journalistic organizations. Representative democracy has largely been replaced by forms of direct democracy by proxy in which elected representatives draft laws but all voters have the option to vote on all legislation. The governing structure (in the west coast nation of Pacifica) is best understood as an example of Libertarian Socialism.

Most people consider their local county government to be the primary governing force in their lives, as these county governments hold responsibility for setting the budget and policies that ensure the availability of food and housing for towns and cities. Encompassing many counties are provinces (for example Oregon, Nevada, Southern California, Northern California, etc) which maintain governing structures between the local and national level. Above these, national governments can set policy in a similar fashion.

At each level, budgets and rulemaking are performed by a large body of delegates. Unlike the vote of a representative, when a delegate casts a vote, they merely assign the starting position of all the votes held by voters who've vested a vote with them. The voters themselves may then change their vote at any time before the end of a voting window if they disagree with the position of their delegate, and can choose to switch which delegate from their district to vest their vote in at any time. In this way, every voter has the power to cast their direct vote in every legislative matter under which they live, and no delegate can ever vote against the direct preferences of their constituency.

Elections of officials are taken through ranked choice balloting, and legislative bodies seat a set number of the top vote-getting delegates from a region. So rather than fighting ruthlessly for the top position, competition to join a legislative body takes place between something like the third and fourth ranked candidates, depending on the number of top-candidates seated. The number of candidates seated varies by legislative body, but are typically between three and six.

Annual elections determine who is seated in a body, however voters can assign or reassign who sets their vote to any of the delegates which represent their district in a body at any time. The most-favored delegate of each district is the ranking delegate, and these are the delegates eligible for setting committee assignments. Because voters can declare their direct preferences on all matters before a legislative body and change their preferred delegate at any time, election polling and elections forecasting are obsolete practices. Elections overall remain lively, but gone is the sense of pure sport that characterized so much of politics in the previous century.

Voters are also afforded multiple votes, with a typical fully-vested adult possessing three. A child will typically gain their first vote when they turn 10, and then an additional vote at 16 and again at 20, provided they meet the eligibility criteria by obtaining sponsorship from fully vested members of their community. Residents in most areas can apply to gain their

vote after 6 months of establishing residency in a district, with the rate at which they obtain their full number of votes varying by area.

Delegate assemblies are quite large, and democratic systems of organization are common far beyond government. A national assembly delegate will commonly represent ~200,000 people. A provincial delegate might represent ~50,000. A city council member may represent ~10,000 people. Similar democratic structures are employed in neighborhood councils, trade guilds, building resident unions and any other way in which people associate among themselves. This means that systems of collective decision making are ubiquitous, so it's common for characters in the world to have personal familiarity serving within these kinds of systems beyond just as voters.
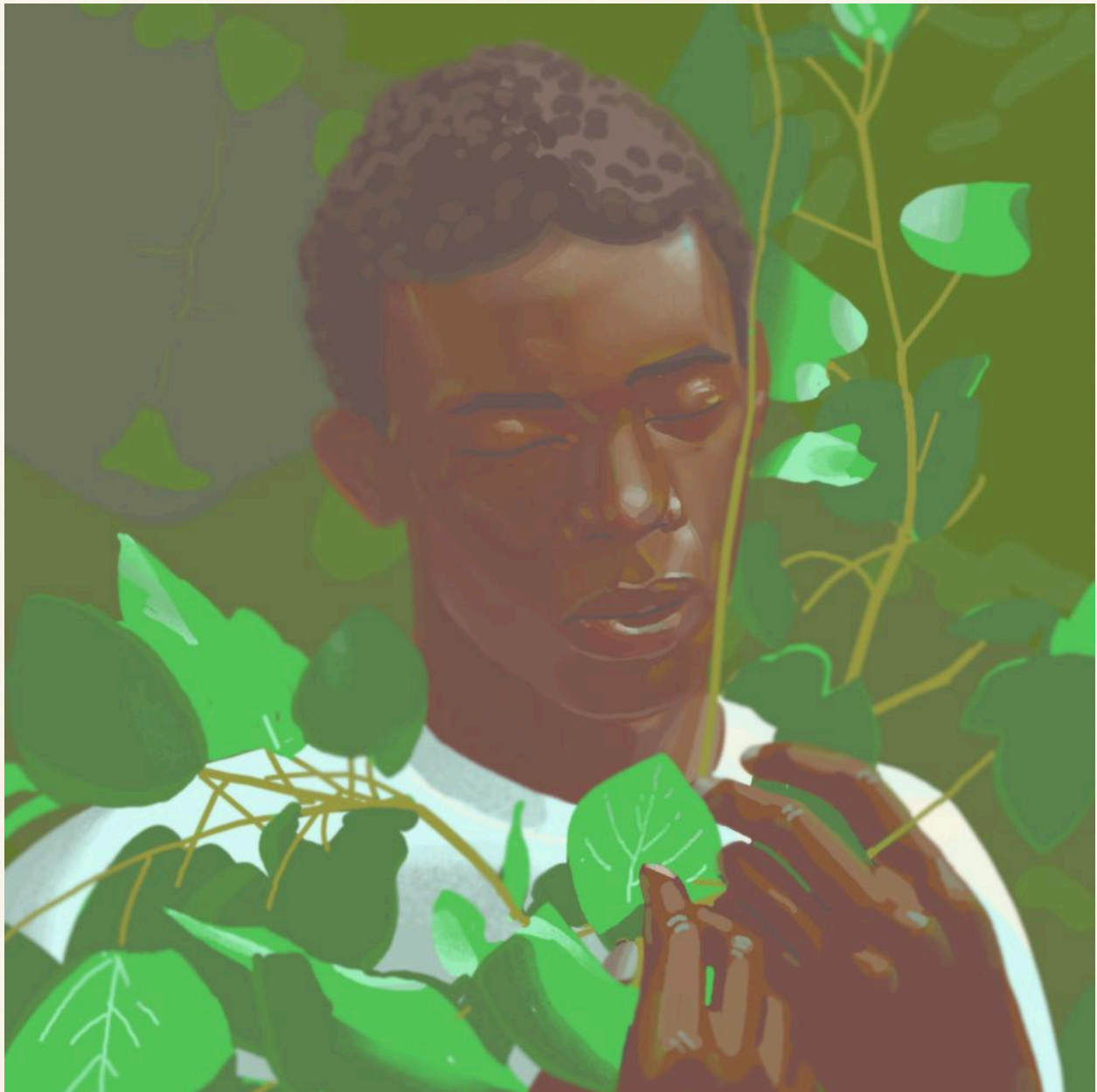
Law and Justice

Service Organizations

Professional policing has been abolished and replaced by organizations of volunteer citizen protectors and investigators which exist alongside other first responders to aid those in need. There are multiple different organizations that fill each of these roles. All of these organizations and their responders are staffed by normal civilians with no unique authority who must follow the same laws as everyone else. They act in service, not to impose control.

Sean Bodley

Protectors are typically summoned by distress calls. Unlike in the present (in which all distress calls are routed through city emergency services via a 911 call), each city resident can choose how to direct a distress call in their personal devices. Most will issue a general distress call, which operates similarly to calling city emergency services. But some may issue calls selectively to a specific group or set of groups. For instance, Liberty Compact signatories will only issue distress calls to the Free Protectors Network or other "Libs" in the area. Residents of some of the more upscale parts of town often set their distress calls to summon the more old fashioned Civilian Order of Protectors and then wait several minutes before summoning all other protector networks if a COP isn't available to respond first.

Each of these groups can be used as a template for similar groups in any major city.

Los Angeles Civilian Order of Protectors (LACOP)

The LACOP is an organization of trained responders known for a traditionalist sense of maintaining order. While they operate with a well respected dedication to service, they are known for preserving an antiquated sense of separation and elevation that many consider the primary destructive quality of police departments of the twentieth century. They are by-and-large seen as well intentioned and strict in their efforts to eject corrupt members. Even so, the Los Angeles city council designated the Los Angeles Protectors League as the city's primary response agency in place of the LACOP a decade earlier due to scandals in which LACOP members were caught showing preferential treatment towards other members in cases of minor infractions. They are still likely to arrive at the scene of distress if someone sends out a general distress message, and they may be some neighborhoods' preferred response agency.

Los Angeles Protectors League (LAPL)

The LA Protectors League is the primary modern crisis response agency in the city. LAPL volunteer responders do not carry firearms and participate in a rigorous screening and training process to confer membership only on those who demonstrate a temperament suitable for humility and service. They pride themselves on a strict application of their codes of duty to all, even one another. Most are trained martial artists and all follow a strict code of conduct that requires efforts to deescalate all situations and a commitment to the preservation of light & life above all else. It was out of appreciation for these qualities that the LA city council appointed them the primary designated protector agency for the city in 2111.
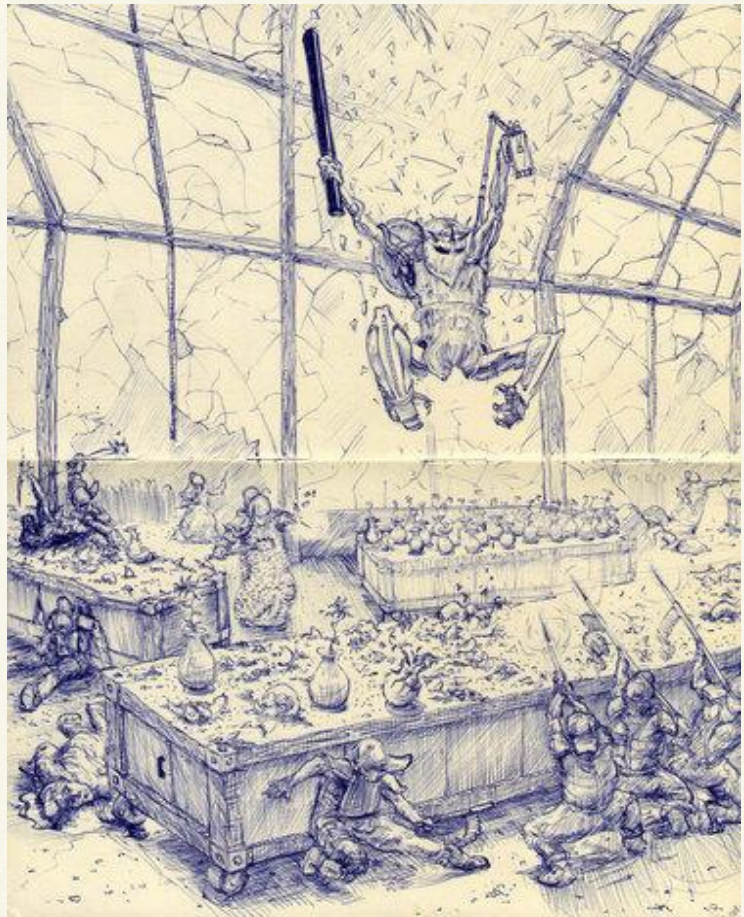
Los Angeles Free Protectors Network (LAFPN)

The LA Free Protectors Network follows a loose but simple directive: care for the needy and oppose the oppressive. They exercise relaxed oversight of their members, but are well known to tolerate no corruption or deliberate departure from their mission of doing good. Within these terms, members are free to use whatever means they prefer to achieve an acceptable outcome, with all efforts made to resolve situations without the need to bring anyone into contact with the broader criminal justice system. For this reason, they are the go-to source of aid for signatories of the Liberty Compact. It is understood by all, however, that any member arrested by the larger legal system is expected to answer for those charges.

Los Angeles Detective League

The LA Detective League is the local chapter of the ubiquitous City Detective Leagues. These locally-organized volunteer societies recruit, train, and supervise their own roster of volunteers in the same way as most other protector and investigator agencies. The LADL are regular partners of the LACOP and LAPL in solving mysteries to apprehend wrongdoers, collect evidence, and uncover the truth in pursuit of restoring victims.

Southern California Investigative Society

Investigative Societies are analogous to the FBI, or state investigators. They include the Southern California Investigative Society, the Investigative Society of British Columbia, The Pacifica Investigative Society, etc. They operate similarly to city detective leagues, but select only the most experienced and clever investigators in order to solve crimes and unravel mysteries larger in geography and scope than city detective leagues. Friction and egos may emerge when cases attract the attention of both city detective leagues and regional, national, or international investigative societies.

Interplanetary Society of Investigators

The Interplanetary Society of Investigators is a trade union that coordinates between investigators separated by vacuum. It doesn't operate as a primary investigative agency, but rather coordinates intelligence sharing between various investigators and agencies.

Independent Investigators Network

The Independent Investigators Network is a loose confederation of private eyes that choose to operate with a degree of distance from the structures of city detective leagues. They find and take cases directly from individuals or groups who for whatever reason either choose not to work with city detectives or cannot secure their cooperation. It is for this reason that they are the investigators of choice for signatories of the Liberty Compact.

Medic Networks

Medics and emergency medical responders are organized, trained, and credentialed through networks typically affiliated with hospitals and other caregiving institutions. Medics all respond to crisis calls regardless of which protector agency might be preferred.

Firefighters' Brigades

Firefighters are organized in local brigades for responding to localized environmental dangers. They maintain lines of communication with county, provincial, national, and international organizing bodies for sharing training approaches and coordinating in the case of larger disasters.

Crisis Agencies & Civil Defense

The national Civil Defense of Pacifica and other civil defense forces operate as non-combat military branches which respond to extreme emergencies. These fall within the category of crisis agencies: institutions which exist to respond to extreme weather, infrastructure failure, public health emergencies, etc.. These are described further under [Militaries](). They generally aren't active outside of a state of emergency, but there is a substantial overlap in membership between firefighters and defenders. It would also make sense for characters who are members of a crisis agency or a member of the civil defense to also be a member of a protectors network or another local municipal service organization.

Courts of Law

Courts of law are similar to the modern age in their use of judges and juries, though their culture is quite different. Entities accused of committing wrongdoing are entitled to a public trial presided over by judges appointed by a legislature. The biggest change is that the goal of any court is to serve the public good rather than categorize people in rigid definitions for the purpose of preserving faith in a system of ruthlessly impersonal legal structures.

For example, if a person in the present day is charged with robbing a convenience store, the court first seeks to identify if they are the person who robbed the store, then which of a dozen possible violations they committed. Was it burglary? Burglary and Assault? Aggravated assault? What enhancements apply? Once it is determined that the accused is guilty of the terms selected, they are sentenced to punishments according to a complex rubric meant to establish roughly consistent punishment of similar offenses.

In game, a court is tasked more broadly with identifying what happened, who it affected, how, and why. The responsibility of the court is to attempt to undo harms and diminish the likelihood of future harms. Courts are typically presided over by a panel of three or more judges, who are referred to by name and the title of "Judge" without antiquated honorifics. They dress in modern professional attire and sit at ground level with the rest of the court.

Sentencing and Restoration

In the case of an armed robbery, the court may require the culprit to restore the wellbeing of the violated through apology and reasonable acts of service. It will assess the motivations of the culprit and assign a sentence informed by research to most likely change their behavior. That may be some combination of a brief detention, group therapy, public shame, or family intervention. All of this is on top of an expectation to replace what was taken.

Exclusion

Because of the highly transparent nature of society, individuals who commit harm are publicly known, and will likely face exclusion from many recreational spaces for a time. Unlike in the present, where such a mark can lead to a devastating loss of housing or

income, such a mark will not interfere with access to basic necessities, but will likely cause exclusion, until amends are made to the satisfaction of the public. It may limit the restaurants or theaters available to someone. Most places exercise exclusion judiciously, though, so a mark of theft from 18 months ago won't likely prevent someone from joining their local art studio, for instance. It might prevent them from being granted unsupervised access until they've built up sufficient trust, though.

Unrestorable Harms

In the case of crimes which cannot be undone (such as murder), it's understood that the consequences for the culprit will be lifelong. Rather than demonstrate this through permanent incarceration or capital punishment, the court will attempt to identify a set of

prescriptions meant to fully transform the culprit as much as is necessary to produce an individual who would never commit the violation in question again. It will seek to provide comfort to those affected and reassurance to the community that they should have no fear of a reoffense. This may require multiple years of [detention](#) with counseling, relocation to an area where the victimized will not need to interact with the culprit, and/or a set of enforced requirements that the culprit adhere to which are intended to force them to spend the rest of their life fulfilling some measure of the lost potential of the person who died. Overall, the process is meant to undo as much of an irreversible act as possible without imposing purely anger-motivated costs on the world beyond what has already been lost in the process.

Treatment of unreformable individuals

Because detention is used purely for the purposes of assessment and rehabilitation, involuntary incarceration of longer than five years is highly uncommon. In cases where a court concludes that a person is beyond rehabilitation, they are given the option of either indefinite voluntary supervised detention (with the option to be periodically reassessed to determine whether they've become capable of reform) or else banishment.

Banishment consists of finding another place far away that is willing to offer housing and integration into a new area to an individual so that they can start a new life. It comes with clear instructions of where the sentenced person may not travel under threat of incarceration and resentencing. They can petition to have a banishment lifted or for a limited visitation or supervised passage to another area with satisfactory cause, but otherwise individuals who violate their banishment or reoffend in their new home may eventually find themselves welcome nowhere at all. In such cases they have no other available destination besides permanent detention or one of roughly two-dozen banishment colonies. These colonies are lawless islands where no food or shelter is provided and no government enforces any law or human right.

Regulation of Weapons

The construction of most weapons is not banned, but the construction of a weapon used for harm carries liability for anyone who produced it or played a hand in passing it along to its final user. Most weapons are crafted specifically for an intended end-user in mind, and the creator and chain of custody of a weapon is public information. To make or transfer a weapon discreetly is considered highly suspicious behavior, and doing so can lead to severe consequences if a weapon whose source was concealed is used to cause harm. Though uncommon, exchanging a weapon without publicly documenting its transfer can at times be grounds for criminal prosecution by itself.

The Liberty Compact

The Liberty Compact is a set of agreements entered into between signatories on how to resolve disputes. It is a means for libertarians and anarchists to set up a parallel social contract with its own pseudo-legal structures. For example, Liberty Compact Signatories – colloquially known as "Libs" – agree not to call on most mainstream law enforcement to resolve an issue. They agree to seek judgments against one another in courts of arbitration defined and appointed by members of the compact. In the province of Southern California, the Free Protectors Network is the primary approved source of help in a crisis, and the Independent Investigators Network is the primary approved investigative body. Signatories set their policies at annual conferences through similar democratic systems as most institutions.

The compact does not supersede the broader law, so a signatory can still be arrested and tried if caught committing an illegal act by a non-signatory. Additionally, signing the contract does not prevent a signatory from breaching the terms of the compact, for instance by calling on the broader legal structure if they choose to. Doing so will simply violate the terms of the compact, and require a hearing to determine if the offender can remain a member of the compact.

Members frequently congregate and associate among themselves. Often a part of town or a building or set of floors in a housing tower will be known as a Lib area, just as members of many religious or social identity groups congregate. The membership of the group can include a surprising mix of right-leaning libertarians, left-leaning anarchists as well as counter culturalists, non-affiliated political radicals, and members of historically marginalized groups such as immigrants and refugees who have low trust towards the government-run system of law.

Journalism

In many ways, journalism is practiced similarly to how it has been done historically, with the major distinction of being freed from the financial coercion of advertisers and wealthy owners. News media institutions exist as co-ops within which journalists have broad freedom. Journalist characters can be affiliated with a variety of institutions, including legacy organizations and new ones.

The Los Angeles Times is the widely read mainstream chronicle of news for and about the Los Angeles region. The Times has a staff of over 1800 professional journalists and roughly as many regular non-staff contributors. The cooperative is managed by a board of twenty-nine members in which twelve seats are chosen by the staff, twelve by the subscribers, five by the other twenty-four board members. The Times maintains bureaus on every continent, as well as on Luna, Mars, and in Med Earth Orbit. They have a subscribership of 2 million and reach a weekly audience of nearly 20 million people.

Characters affiliated with the LA Times are typically somewhat old-fashioned in their dogmatic neutrality and adherence to conservative views on reporting. They are generally thorough and competent investigators with strong connections, but may be beholden to their need to protect access.

The Santa Monica Times, The Orange County Register, and **The Long Beach Press-Telegram** are each smaller traditional news operations that cater to the readership tastes of their specific city. They're each between half and a tenth the size of the LA Times, but their editors operate under an implicit expectation to present views that augment and challenge the coverage of the LA Times. As additional mainstream media co-ops with an attachment to tradition, the differences in culture may be modest, but they take their mission to provide readers with diversity in coverage seriously.

Characters who contribute to any of these may be typical professional journalists. They may perhaps be less professionally successful than the reporters for the LA Times or possibly possessing an iconoclastic disposition despite an otherwise old-fashioned attachment to journalistic tradition.

La Opinión is the second largest media co-op after the LA Times. It has a subscriber base of 1.4 million and a weekly audience of 12 million. Though La Opinión publishes in a dozen languages (like most media), it retains a policy of using Spanish as the language of drafting to maintain the qualities that historically distinguished it as the largest Spanish language print news daily in the United States.

Characters who work for La Opinión are straightforward mainstream journalists who do good work with a less reverential and self-mythologizing attitude than many writers for the LA Times.

KNOCK LA is known as one of the most dogged independent news outfits in SoCal. Their subscriber base of 600,000 supports a staff of 900, not just financially but with participation in one of the most well-organized citizen journalism networks in Pacifica. KNOCK takes pride in relying more heavily on whistleblowers and embedded mid- and lower-level staff sources than on contacts with positions of influence in order to relentlessly uncover abuses of power and other misbehavior of public interest.

Characters who work for KNOCK are likely to be counter-culturalists and political radicals who prefer making the powerful uncomfortable more than making themselves comfortable.

Pasadena Community College Media (PCC Media) is the student-run media network of Pasadena Community College. PCC Media's newsroom and broadcast studio has a higher turnover of contributors than most media co-ops due to its majority student staff, but it's known for elevating the voices of many early career journalists alongside many respected seasoned journalists. It has a reputation for presenting news and culture within the mainstream of its audience, which is slightly younger and more progressive than the average of Southern California.

Community Posts are small citizen journalism networks that are usually organized by neighborhoods and cities (such as the Koreatown Community Post, the Inglewood Community Post, etc.). Community Posts rely on networks of thousands of amateur contributors to provide the fastest on-the-scene coverage, often of hyperlocal events like downed power lines or traffic accidents. The tone of coverage is far less professional, and overall quality varies greatly between local chapters, but the near universal placement provided by so many contributors make Community Posts a recognized and valuable component of the media landscape.

Characters who are a part of a Community Post are likely not full time journalists, though they may still have years of experience. If they're a part of any guild, it is likely the Union of Independent and Citizen Journalists.

CalMatters is a national media network dedicated to in-depth policy coverage. CalMatters provides political coverage, but emphasizes its fundamental focus on policy, and attempts to cover politics through this lens.

Fairness and Accuracy In Reporting (FAIR) is a media analysis network focused on providing news on the state of the media industry and holding journalists and media organizations accountable for the quality and fairness of their coverage. It is a preeminent media watchdog within the diverse and sometimes contentious media analysis and criticism subculture.

The News Guild of the Communication Workers of Pacifica (TNG-CWP) and **The National Union of Journalists (NUJ)** are the two dominant trade unions of journalists in the LA region. They provide professional mentorship, organization, representation, and legal assistance to members to support the health and functioning of the industry and its workers.

The SoCal Union of Independent and Citizen Journalists (UICJ) is a trade union that organizes journalists unaffiliated with traditional media organizations.

Technology

Technology underpins a lot of the thrills and escapism of these stories, and traditionally offers the foundation for philosophical themes around which many sci-fi stories are built. Here are some descriptions of the ways players encounter the technology of the era within stories.

Biotechnical Augmentation

Cybernetic augmentation is a central element of cyberpunk with which most sci fi fans are very familiar. This world can accommodate most of these, however cell therapies, genetics, and chemistry are more typical tools than electronics. The GM will set the tone, but the choice to replace a lost limb with a regenerated or vat-grown one instead of a prosthesis is encouraged. This is reflects two distinctions from traditional cyberpunk that players and GMs should consider:

1. Cyberpunk was heavily influenced by the 1980's, and mechatronics were the futuristic tech of the era. Today, genetics and cell biology occupy similar places in the cultural imagination.

2. Cybernetics have often been used in cyberpunk to explore themes of incompatibility between humans and technology. Solarpunk invites audiences to consider what it would mean to dissolve artificial boundaries, including those between humans and technology.

Major lifestyle augmentations and their subcultures

While many people have one or several minor augmentations for health or convenience, there are some subcultures based on the use of multiple augmentations that drastically shape their lived experience. These people are often called *modificados*, or *modos*. Most of these modifications are somatic in nature, meaning that these changes are not hereditary. Few mod artists will perform germ-line gene editing for purely elective reasons because most consider it unethical (though not all). As a consequence, most modos still produce children who remain "stock-human" or "heirloom human" (as minimally-modified humans are known).

Aguamodos

Aquatic adaptations are often coupled together. While not everyone with modified hemoglobin for enhanced breathholding has gills too, most people with gills have enhanced hemoglobin, enhanced cellular respiration efficiency, underwater vision, and tolerance to cold. People who've modified themselves sufficiently to spend long durations underwater are referred to as "aquatic modificados" in formal terms and "aguamodos" in casual discussion, or sometimes just "aguas" or "aguados".

Aguamodos vary significantly in their behavior and lifestyle. Some are dedicated surfers and lovers of the ocean who live on land but spend their days in the shallows of lakes and oceans. Some spend weeks at a time excursioning in groups that hunt, live, and sleep in the sea. And while rare, some reject the land entirely, and may treat the people who live on it with deep hostility. Such aguamodos may have augmentations that make living on land impossible (such as merfolk tails), and may identify as fae folk.

Sean Bodley

Astromodos

Astromodos are people who've acquired modifications to facilitate living off-world. These include resistance to many of the deleterious effects of life outside of Earth's gravity, atmosphere, and radiation belt. Some are settlers building lives on Luna or Mars. Others are adventurous travelers who crew the ships carrying people and cargo within low-Earth orbit and between all outposts beyond. The most hearty of the Astros will prove their mettle by sprinting from one airlock of a ship or station to another via thrustor, magnetic boots, or grapnel without the protection of a pressurized extravehicular activity suit. Typical modifications can allow around 4 minutes of conscious activity in the vacuum of space, and 20 minutes of survival. The endurance record is held by Lucinda Starchart, who fully recovered after enduring 48 minutes of exposure to vacuum during a catastrophe at the Yohoni lunar factory in 2109, likely by virtue of putting on a nose clip and goggles before losing consciousness.

Survivalist Modificados, Locomodos, and Fae Folk

People who possess a collection of modifications intended to allow for indefinite survival in the wilderness are called Survivalist Modificados in technical discussions and "locomodos" or "locos" in casual discussion. These slang terms can be interpreted as affectionate or disparaging depending on the context and tone of voice. Basic survivalist modifications typically include resilience to temperature and heightened senses of sight, hearing, and smell, along with reduced dietary requirements which allow one to live more lightly on the land. Visible non-human animal traits such as fur and claws are common, and often delineate cultural differences in lifestyle and relation to the wildlands. Individuals who retain a human appearance often wear clothes and live in fabricated structures at the edge of developable land. Those who grow fur or commit to other extensive bodymods often forgo clothes mostly or altogether and live further out in undeveloped wildlands. These people may practice any number of ideologies or belong to alternative identity groups, including the fae, who emulate the mythical denizens of the forests. Though with all things, cultural delineations are fuzzy.

Sean Bodley
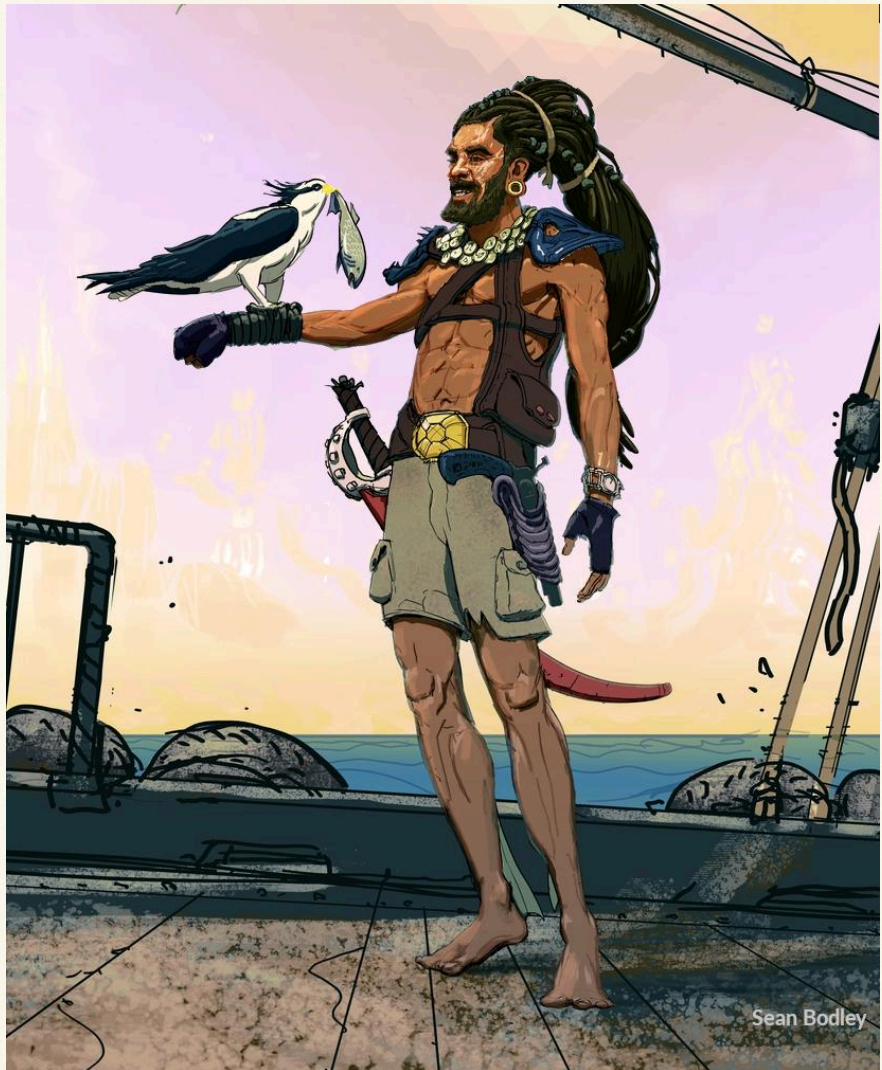
Locomodos are often recreational explorers or live within the wider mainstream community, even if they may prefer to reside in rural settings. Though exceptions exist, fae folk are more likely to live in cloistered communes in wildlands where permanent structures are forbidden. The wildlands are spaces where few rules are enforced by governments. In these spaces, fae folk will set up food gardens and manage their own rules on who can partake from their wild gardens and reside in the territory they occupy.

Are locomodos the same as fae folk?

Locomodos are humans who augment themselves to live with more capability in wilderness. Fae folk are people who model themselves in lifestyle and association after the forest spirits and fairies of legend. These two groups have a high degree of overlap, but are not interchangeable. Most (but not all) fae are locomodos. Many (but not even most) locomodos are fae. Many sovereigns and pastoralists adopt one or more survivalist augmentations, but never embrace the label "locomodo". For details, see Wildlands Management.

Like most identity classes, if you're ever unsure, the easiest way to differentiate is to ask.

Cyborgs & Transhumanists

The term "cyborg" is a cultural identifier for people who embrace the use of cybernetics to expand their organic faculties. Many cyborgs believe strongly in principles of transhumanism and posthumanism: the philosophical examination of what the species may become if untethered from limitations of organic systems. What this means varies widely from person-to-person, but typically most embrace the values of collectivism and responsibility for maintaining a balanced ecosystem (within both the biosphere and technosphere).

In cyberpunk, cyborgs are frequently used to reinforce a belief in mind-body dualism and human-nature dualism. Here, players are encouraged to explore these topics with a broader curiosity for what the synthesis of organic and technological systems could mean for the future of individuals, society, and the web of light that connects all things.

Jacob Coffin
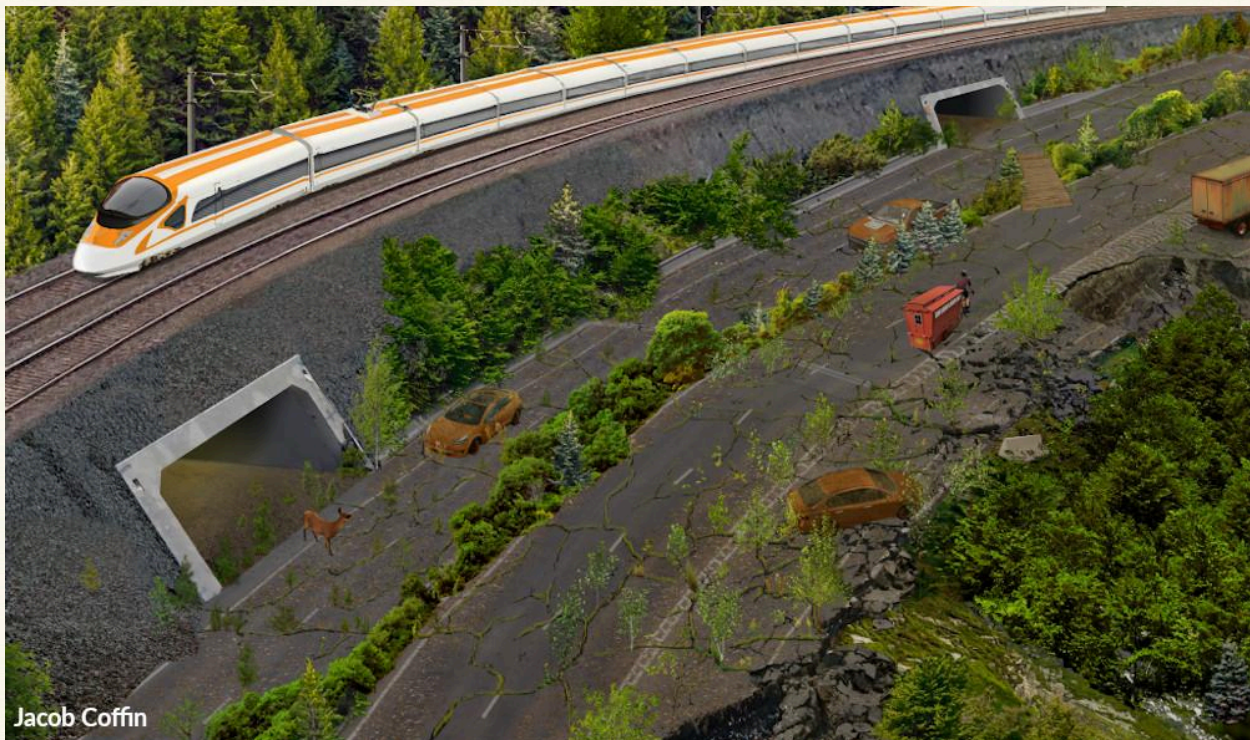
Cyberspace and eXtended Reality (XR)

Advancement in the hardware and software of virtual reality has reached a point in which it's possible to simulate a fully convincing alternate reality. This is employed across a variety of applications ranging from an augmented view of one's immediate surroundings to a convincing virtual substitute.

This technology is not magical. It relies on an array of tools to simulate convincing input for all relevant sensory organs. A standard set of XR goggles can convincingly display images at a resolution and refresh rate better than the organic eye can observe. A standard set of goggles also includes high-fidelity speakers, an olfactory reporter, and a floatie. Together, these provide sensory input that is consistent enough with biospace so as to induce no greater sensory fatigue or nausea than biospace itself. These are paired with body- and finger-tracking to faithfully match the user's avatar to their real-world posture. For additional benefit, users may employ haptic rigs and other mechanically positioned objects to replicate the feel of surfaces in a virtual environment. See Personal Electronics for details.

Users may also employ transcranial stimulation devices to activate regions of the brain directly. This technology is widely available, but not used universally during VR experiences. Transcranial stimulation is typically used to enter the fully convincing simulated state known as deep VR.

Drugs can also be used to modify the experience, though most people are aware of the danger of **Faithless Reality Syndrome**, or FRS. FRS includes any case in which a person is confused or in doubt about whether they are experiencing biospace when they are, as well as experiencing a misplaced certainty that they are in biospace when they are not. FRS is a common short-term condition after experiencing highly produced works of XR art but is considered serious if persistent. It is a common consequence of improperly exiting deep VR.

The most common immediate treatment is **Bavishi-Singh exercises** (sometimes called the Bavishi-Singh test): an individual is provided a calculator, writing implements, dice, and a book of complex mathematical operations solutions, such as trigonometry and exponential tables. They then roll the dice, perform the prescribed mathematical operations with the calculator, and then perform them manually. This process demonstrates that the calculator is accurately solving mathematical operations at a speed they could not possibly perform mentally in order to confirm that they're not in a dream state. The act also creates a calming flow state that can soothe anxiety.

Bavishi-Singh exercises cannot reveal if a subject is within a full real-time simulation, but because simulations require a VR rig which a skeptical subject could feel with their hands, the logic of the exercise is to prove that one is not experiencing some kind of "Brain in a Jar" simulation. Combined with other physical exercises and counseling, it can be a powerful tool for alleviating the induced psychosis of FRS.

Cyberspace

Cyberspace is an expansive term that describes any virtual environment. The term can be used as a catch-all that includes both virtual reality environments and the internet at large. In the same way the internet exists across desktop computers, mobile apps, and so on, "cyberspace" can describe interfacing with others at a distance through a small hand-held screen, a room-scale display, a portable headset, a fully immersive virtual reality rig, etc.

For those looking to fully enter cyberspace, however, available technology can provide a level of simulation to all senses that acts as a full reality substitution. Virtual reality which is recognizable to the user as a simulation is known as **shallow VR**, and is common for casually hanging out or browsing the fediverse. Conversely, VR that is indistinguishable from the physical world – which is referred to as "biospace" – is known as **deep VR**. This is a form of VR used for e-sports, travel experiences, intimate encounters, and forays into wild virtual environments such as the live mental constructions known as neurospace.

Deep VR is built on three things: the first is the quality of the simulation. Optics present images across a user's full field of view with greater resolution and refresh rates than human eyes can perceive. Floaties manipulate the vestibular system to match the acceleration and gravity a user feels to their movement in the virtual world. And armatures allow a user to walk, jump, and feel the resistance of objects they touch.

The second component is Transcranial Magnetic Stimulation. Thousands of microelectrodes within the headset stimulate activity in sensory cortices to augment sensation.

The third element that creates deep VR is a form of meditative hypnosis. Users can initiate a series of experiential triggers which have been tailored to the user and to which the user has trained to be receptive. This display – whether a series of chimes that play as a user walks down a monastery hallway or an abstract display of racing points of light set to electronic tones – escorts a users' mind into a state of receptiveness in which they experience the virtual world with heightened senses. A similar process is used to comfortably exit deep VR. This procedure is known as a **shift**. A users' personalized shift routines are stored in their VR configuration settings, along with their interface gesture preferences and avatar style.

The use of deep VR can be dangerous in the same way as rock climbing. It can be a thrilling experience with managed risks, or it can be a fatal mistake if practiced recklessly. There are two ways in which bad experiences in deep VR can result in severe, light–threatening psychosis. The first is that it has the ability to traumatize. The events experienced feel as real (or even realer) than real life. A bad experience can instill intense post-traumatic stress. Additionally, a sudden break in the illusion can induce severe, debilitating shock. This can leave victims anxious, paranoid, unsure of what's real, or feeling disconnected from their bodies. It can cause paralysis, phantom pains, and Body Integrity Dysphoria. Like any activity, however, these dangers are proportional to the risks one wishes to take.

Neurospace and Mind Diving

In order to more directly address psychological and behavioral conditions individuals may practice VR-assisted psychonautics. While a (usually) willing subject has their brain scanned under controlled conditions, psychonauts may explore their mental dreamscapes as a simulated virtual environment. For gameplay mechanics, see Mind Diving.

When XR is used in this way to explore a simulated reconstruction of a person's mental activity this is called **mind diving**, and the realm in which one mind dives is called **neurospace**. The immediate visible area is a **mindscape**. Colloquially, an individual mind dive is called a **skidoo**. Like all XR applications, there is not a single, universal way to perform a skidoo.

Schools of Mind Diving

The most common form of mind diving consists of psychonauts entering into a willing host's psyche to observe and investigate. It can be used to learn things about the host for their own benefit or for curiosity and entertainment. This form of mind diving is known as **accursioning**.

When the tools of accursioning are used on an unwilling or unaware target, this is known as **incursioning.** Incursioners enter unwilling people's minds to try and learn more about their beliefs and attitudes, or to glean critical information (such as the location of a missing child). Depending on the target, environments often look like dungeons, palaces, pyramid complexes, garden mazes or other complex, often booby-trapped labyrinths. There are circumstances under which one can petition a judge for a warrant to perform an incursion, but in most cases the practice is a highly-illegal violation of privacy.

Among the more modern schools is **obliviation**. Practitioners – known as Obliviators – enter willing minds along with the subject, who is present to observe the mind dive. This process is known as Host-in-Mind (HiM) and has only been approved by most medical boards for clinical practice in most regions in the last ten years. It has been in practice slightly longer in Southeast Asia, where the techniques largely originated.

Obliviation is used to aggressively confront traumas to assist long-term patient recovery. Dreamscapes tend to be Kaiju style. The effectiveness relative to other methods is a subject of intense debate, but subjects who speak highly of their experiences are not hard to find.

The most prominent rival school of practice to obliviation is **taming**. Tamers perform Host-in-Mind dives that seek to help patients come to terms with traumas. Dreamscapes tend to be more fantasy, with a beast needing to be tracked, cornered, and cared for to be understood. There is a common belief that Taming is more effective for prolonged traumas and Obliviation for acute tramas, but considering the early stage of these procedures, this assumption is not a settled debate within the field.

Psionics

Psionics is the field of understanding sapient cognition and using it to maximize human mental potential. Like habitation in orbit, psionics in Fully Automated fill a somewhat nebulous middleground between grounded and fanciful. It should be assumed that the availability of new tools (namely imaging and computation methods) combined with major advances in our understanding of neuroscience enabled a series of breakthroughs in the 2070s in our ability to understand how deep functions of the brain and mind work. These ushered in a revolution in our understanding of how consciousness works that transformed research and eventually medicine over the following decades in a similar way to how the discovery of DNA led to the emergence of molecular biology and cellular medicine. Psionics could be thought of as an applied form of neuroscience.

Culturally, the field of psionics is treated similarly to how we treat the field of genetics today: as an exciting branch of science frequently referenced (and often misrepresented) in popular media. It is broad. It can include anything brain-related that we don't understand today: consciousness; learning; memory retention; formation and capacity of internal models of the world; fear; hunger; desperation; love; reproduction drive; heritability of mental traits, etc.

In Fully Automated, the field is roughly fifty years old. It is mature enough that its earliest discoveries have entered into school-age science and history curricula and are employed as a practical applied science, but young enough that it's still seen as a new technology, and most adults didn't learn about it in primary school.

Applied Psionics

The application of psionics to perform abilities not previously known of before the emergence of the field is known as Applied Psionics. This describes the psionic abilities seen in the augments and abilities skill tree. They are meant to provide extraordinary powers without flagrantly dismissing the laws of physics, so they include things like understanding someone's thoughts and using a combination of chemicals, words, and/or gestures to impart an intense effect on another conscious mind. They do not (in our implementation, at least) justify telekinesis, pyrokinesis, or other such phenomena.

Neurotype Sets

Behavioral patterns and forms of information processing are categorized as Neurotypes. A person is not represented by any single neurotype, but by a cloud of likely neurotype responses that they may exhibit in situations. These are described as their **neurotype set**.

Individuals can use various personalized drugs and cognitive exercises to adjust what neurotypes they experience and exhibit most commonly. These drugs and techniques and technology are known as neurotype adjusters, and can be used for a variety of purposes to afford people greater control over their cognition and attention. Neurotype adjusters can enable people who experience what we currently call severe low-functioning autism to communicate via sign or AR. They can allow people who experience what we call Attention

Deficit Disorders the ability to direct their focus, or deliberately spread it when conducting a multi-probe hack . They can also allow people we currently categorize as "neurotypical" to occupy neurotypes we don't currently have names for. When an enhanced dolphin is taking a class through sensory adaptation to their sonar implant, normal has a very wide definition.

Overall, these drugs and techniques are not used to "fix" any person or condition, but rather to provide everyone with an ability to regulate their own perception and signal processing in whatever way they find best helps them live the life of their choosing. People have different needs and interests at different points in their life. This is a current trend projected a hundred years into the optimistic future.

Animal Uplifting & Enhancement

Animal "uplifting" is the process of increasing the biological capabilities of non-human animals, with an emphasis on intelligence. The term was popularized by author David Brin in 1980, however like the word "robot" it carries some negative cultural associations within the world of Fully Automated. While the word "robot" is commonly understood as derogatory (at least in the context of referring to a sentient machine), the term "uplifted" could be described as "problematic": it's still widely used in mass media, although many creatures to whom the word applies increasingly refer to themselves as "enhanced". It's recommended that GMs use the word enhanced, and that players choose whichever word reflects their character's cultural awareness and attitude.

Within the story, a variety of words are available for discussing various groups of creatures. The term "**sapients**" includes all sapient creatures, both organic and inorganic. The term for the set that includes all organic sapients creatures – meaning humans and enhanced non-human animals – would be "organic sapiants".

Non-human animals are referred to as "parahuman animals", which is usually shortened to "**parahumans**". Technically, all non-human animals are parahumans, but in practice the word is usually used to refer to enhanced parahumans in the same way that the word animal is commonly understood to refer to non-human animals despite the fact that its formal definition is distinctly broader.

Non-human, non-sapient animals – such as a modern-day horse – are formally classified as "presentist parahumans", and are more casually known as "presentist animals" or "**presentists**".

The term "presentist" is the respectful inverse of "sapient". It refers to the most defining quality of non-sapiance, which is the diminished capacity for episodic conscious memory. Most animals are recognized as fully sentient in that they are aware of themselves and their world, but are distinguished from sapients by their experience of the world taking place almost entirely within each present moment. Conversely, sapients are often characterized as creatures with a sense of self composed of a complex, evolving narrative in which the

present moment is the fleeting juncture between a persistent, detailed concept of the past and future.

Many creatures will self-identify their level of sapience to avoid confusion in the same way one might identify preferred pronouns. This is not a scientific designation, just a social one.

S1 S2 S3	Sapience levels of 1, 2, and 3 describe non-sapient creatures. S1 would describe a tree, or sponge or another living thing with no cognition but some responsiveness to its surroundings. S2 describes creatures which demonstrate basic real-time decision making, but possess no sign of self awareness. These include individual insects or a simple, Python-coded computer program. S3 describes animals of simple awareness and memory like fish and lizards.
4	S4 describes sapient creatures with less developed awareness and cognition than humans. S4- would describe a mouse, a large language model, or a very dim dog. S4+ would describe an heirloom chimp or a highly intelligent dog.
5	S5 designates standard human cognition. S5- indicates below-average human-level cognition. S5+ indicates sapience above the level of an average human.
6	S6 describes superintelligences such as certain experimental machine intelligences and highly organized social collectives.

Within Fully Automated, animal enhancement is not based on a singular technology but rather the confluence of multiple fields of science. Foremost among these are gene editing, cellular modification *in utero,* and advancements in the field of adolescent development.

The techniques employed and the initial capabilities of a species will create a broad range of outcomes. Some examples:

Minimally enhanced animals

It's common for the average puppy to be born with the same potential for learning and lifespan as the smartest and longest-lived dogs today. This is achieved through genetic modification but also as a result of expert care and training in their youth. For this reason, the average pet dog can communicate at the level of a four year-old with the aid of a sound board and lives to be 20 - 30. Though genetically improved from modern dogs, these dogs would not be recognized culturally as enhanced. These are just what constitutes a healthy domesticated animal in the twenty-second century.

Maximally and partially enhanced animals

U-chimps and u-gorillas (sometimes called en-chimps and en-gorillas) are ones which have been genetically modified to possess the capacity for speech AND have received a cell treatment *in utero* that bridges the gap in complex and abstract thought between humans and other primates. The offspring of two u-chimps which reproduce will receive the benefits of their genetic changes. If they were not provided with the additional enhancement treatment *in utero*, they would be able to speak and read at the level of 10 year-old human in adulthood along with the problem-solving skills of the smartest unenhanced chimpanzees. They would still be designated as enhanced, but they would be referred to as "partially enhanced", while their parents would be referred to as "maximally enhanced". Partially enhanced creatures are typically treated similarly to mentally handicapped humans: they are legally afforded equal rights to maximally enhanced animals of their species along with reasonable accommodations, although their social treatment varies based on the attitudes of the community in which they live. Unobstructed universal access to *in utero* enhancement treatments is the most fundamental right demanded by most maximally enhanced parahuman primates.

The prevalence of maximally enhanced animals and their degree of intelligence will vary based on a GM's taste. Based on the in-world history, these populations number in the hundreds of thousands, so in a world with more than 10 billion people they make up only 1 individual in every 20,000 or so. However, they're not spread evenly across the population. Los Angeles has a thriving enhanced population of ~4,000 u-chimps and 3,000 u-gorillas. In a city of 20 million people they make up around 1 in 3000. This means that many people living in a big city with a notable population of enhanced animals have met people like this, but they are still a very small minority of the population.

Though enhanced animals have intelligence equivalent to humans, they retain many of qualities and tastes common to their unenhanced species. Social behaviors like grooming and courtship are complicated, as opinions vary widely on how closely to mirror human civility versus proudly maintaining traditional living practices.

Envoys

In utero intelligence enhancement of wild animals such as wolves and mountain lions is an increasingly common practice which produces individuals who will not pass on any unique abilities to offspring or possess the capacity for speech but will be born with the gift of uncommonly high problem solving and reasoning skills. These enhanced wild animals are called envoys, and are enhanced in the interest of facilitating the peaceful coexistence of humans and animal populations that share overlapping or adjacent territory.

Superintelligence

Efforts to uplift animals (as it was known at the time) were pursued in the mid 20th century with the goal of eventually applying discoveries toward creating superintelligent humans. While successful in the narrow technical sense, human superintelligence ultimately remained out of reach due to the discovery of the Goddard-Lei principle: the beneficial qualities of super-human sentience carry inseparable negative qualities that render such cognition unavoidably infeasible. No matter how much any business titan or military strategist might dream of seeing all possible chess moves 10 steps out, there was no possible way to construct a human-like consciousness that would not exhibit a broad range of deficits that would render it functionally unwell. Features including anxiety, depression, paranoia, and dissociation were found to be a universal consequence of supersapience within any neural-network based cognition.

Whether the Goddard-Lei principle is a universal effect beyond creatures with a central nervous system is an ongoing debate. Evidence of superintelligences that violate this principle have been presented in the form of various ultra-high functioning synthetic intelligences, mycointelligences, forest networks, and the emergent hive-like qualities found across social networks and the technosphere as a whole. But debate over what qualifies as either "superintelligent" or "of sound mind" remains a matter of debate.

Jacob Coffin
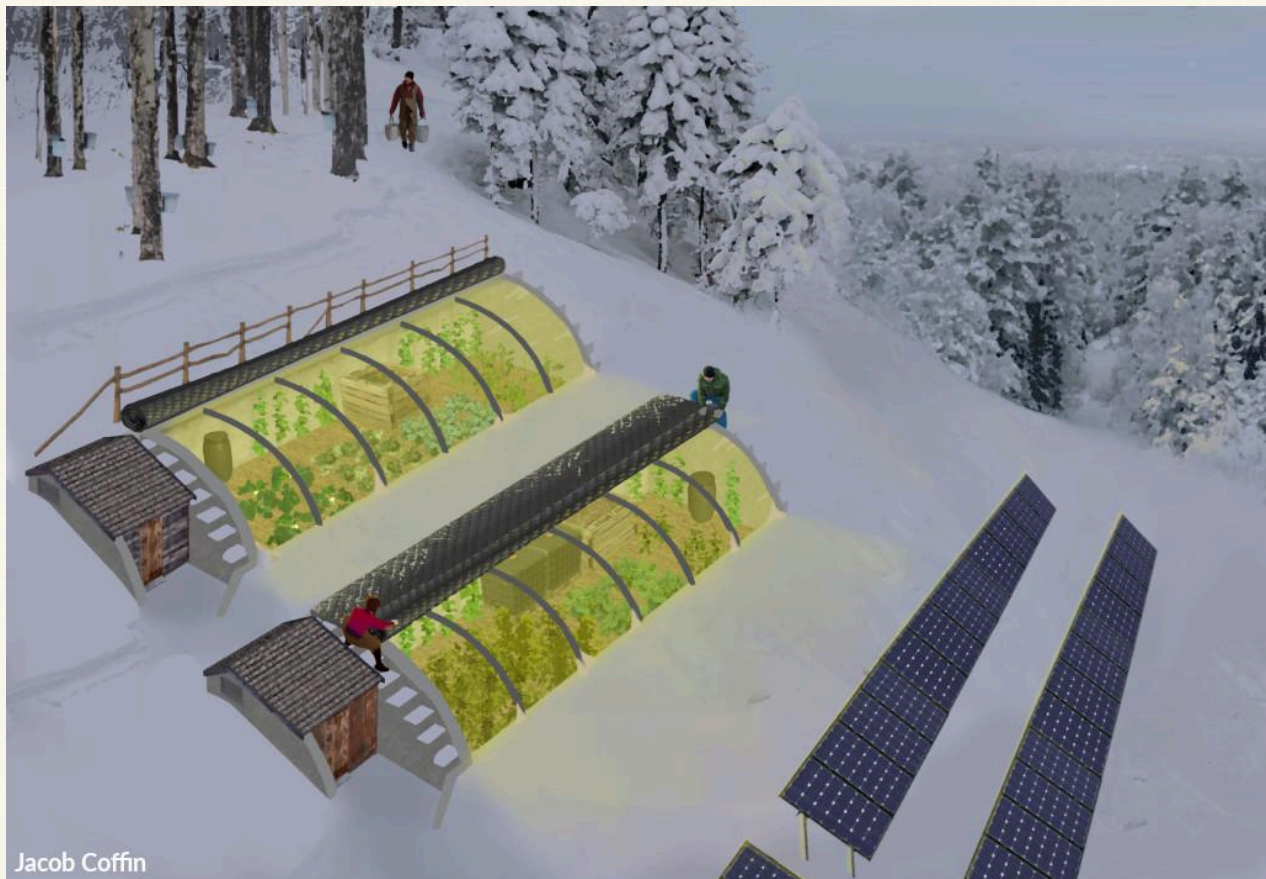
Medicine and Longevity

The average human lifespan has increased by roughly 20% since our era (though maximum lifespan has only increased by ~5%). People enjoy a higher quality of living during that time as well. Humans enjoy fewer accidents and greater mobility due to improved treatments for many age-related conditions as well as changes to social practices and infrastructure to better accommodate the participation of the elderly through their entire lives.

Med Putty

Med putty is a complex, viscous emulsion of proteins, angiogenic growth factors, and MEMS suspended in a stabilizing biopolymer substrate. This putty is used for rapidly stabilizing biological damage. It can close wounds, reduce inflammation, relieve extreme pain, and otherwise remedy major bodily harm (at least until further intervention can be provided). It has a consistency like toothpaste and is stored in squeeze tubes. It's shelf-stable for three months at room temperature until opened. When opened, oxygen activates it, after which it has a 30 minute work time. Players can apply med putty repeatedly, but must wait 30 minutes between applications.

When a player uses a tube of med putty, they don't need to roll. The number of HP restored is equal to their skill points in Care + Medicine. They are encouraged to describe how they use it. It can be applied internally / subdermally using ultra-thin acupuncture needles included with each pack. The effect is halved if self applied.

Restoration Tonic

Restoration tonic is a liquid potion that contains a complex of anti-inflammatories, analgesics, and repair agents coupled with targeting agents. The targeting agents allow the biochemical packages to migrate to regions of damage and release appropriate stabilizing factors to quickly mend soft tissue injuries. Its use relies on heat and gentle physical mediation to help reach target regions and to mediate biochemical repair. This is typically provided with the application of hot water under a massaging showerhead or a massage with heated gloves, but most applications of heat and gentle pressure will suffice.

Within the game mechanics, restoration tonics are often used as a versatile health potion for restoring a character's Endurance stat worth of lost HP outside of combat. Restoration tonics are stable for 2 months at -20 C, 6 hours at 4C, and 1 hour at room temperature. GM's can limit the use of restoration tonics to once per day if desired.

The tonics are not rare, but they take around 10 minutes to warm up before use and 20 minutes to take full effect (and require facilities like a shower).

As with any healing practice in game, the damage which is being healed should make sense. In most cases, the rapid healing can be explained as a bit of an illusion: the damage doesn't disappear, but the pain is relieved and the effects of the injury are resolved sufficiently that they can heal more fully with rest or with further medical attention later.

Dying

Just as radical technological changes nearly eliminated some of the major causes of death in the early 20th century, further changes have made many of the causes of death that were common in the twenty-first century rare in the twenty-second. Traffic fatalities are rarer than death by lightning strike. Most common heart diseases are curable, and organ replacements are universally available within half a year. Most autoimmune diseases are curable. The number of types of cancer that are curable exceeds the number of types that are not. And those that remain dangerous are mostly among the least common.

Various forms of dementia have become treatable enough to be delayed for decades, but remain beyond the ability of present medicine to permanently banish. Similarly, the process of physical decline has been pushed back, but its march remains persistent. Under such conditions, the average death often takes place in advanced age. Death by illness is not unusual among the advanced elderly. Overall, extreme age presents some of the few remaining conditions under which transmissible diseases can still overpower a human body.

Self-directed euthanaisa and rejection of life extension measures in advanced age are common choices within end-of-life planning. This takes place within a cultural landscape with a much stronger awareness that death is a natural process in a circle of life. Death and the process of dying is far less taboo, and the deceased are more present in the lives of people who persist past them. Discussion of, praise toward, and invocation from the deceased are all culturally normal.

The technology to create realistic simulations of the responses and appearances of the deceased is trivial. Culturally, most people don't find the concept of generating a simulation of someone any more unnatural than painting a portrait of them. As with a portrait, most people don't experience existential confusion, as they recognize that a simulation is just a highly realistic impressionistic snapshot meant to convey likeness and memorialize.

The Pursuit of Immortality

Experiments in radically disrupting senescence to achieve unconstrained lifespans have been attempted repeatedly during the last century, but at untenable costs. Several dozen "immortals" have been born who were able to halt aging entirely. All such experiments suffered from a common set of problems that have pushed the field out of mainstream acceptable scientific practice. All such treatments had to be performed early in or prior to gestation, and their success could not be determined until aging was halted after puberty. And for each individual who successfully halted aging, ten others died in their teens or twenties from painful accelerated aging disorders.

The oldest living humans were born between 1992 and 1995 under a clandestine Japanese research program. From a cohort of 127 subjects, fourteen survived the transition out of senescence. Eleven remain. They are known as the Sennin, and are now in their 130's but retain the biological appearance and physiology of their late teens or early twenties, depending on when each transitioned out of senescences.

Synthetic Intelligence

The emergence of what was previously called Artificial General Intelligence (AGI) allows for the creation of machines with any level of agency and intelligence from none up to and surpassing humans. This creates a new culture around how computers are understood and interacted with. For one thing, the terms "artificial intelligence" and "robot" are considered antiquated and derogatory. The prefix "robo-" and the suffix "-bot" are still often used. The word "robot" might be used for a non-sentient machine or ironically in certain contexts.

Synthetic intelligence can be as varied in its complexity and style of thinking as the intelligence of animals. Just because it's possible to make a computer program capable of love and fear does not mean that every Wi-Fi router is designed to be capable of experiencing anxiety, as there is good reason not to. Creating a new sapient entity may be as easy as executing a computer program, however both legally and culturally it is understood that creating an entity capable of suffering confers responsibility for its wellbeing. This moral awareness combined with legal liability generally discourages the wanton creation of fully sapient synthetic intelligences.

Most intelligent computer programs are "protosapient", meaning that they demonstrate the basic qualities of sentience but lack the complex self awareness associated with humans. These programs are recognized legally and culturally as possessing a right not to be deliberately distressed in the same way that cultural and legal rules prohibit cruelty to squirrels or sheep.

The main reason to create a fully sapient synthetic intelligence is because its utility in some way justifies the high cost of being responsible for its physical and mental health for the duration of its unconstrained existence. For this reason, protosapient computer programs are common, especially within the computer systems of buildings, vehicles, and other complex systems or devices, but fully sapient synthetic intelligences are primarily created to inhabit humanoid androids or to perform complex, socially challenging functions like managing and moderating cyberspace venues. Synthetic intelligences running on dedicated hardware integrated into a mobile, physical body are known as "embodied synths". Those running on a server and operating primarily within cyberspace are "unembodied synths".

Synth rights

Synthetic intelligences that demonstrate full sapience are entitled to a set of basic rights similar to human rights but modeled after their own concept of epistemology. The most meaningful difference between the fundamental rights of organic and synthetic creatures is that "pursuit of goals" occupies a similar importance to synthetic intelligences as survival and reproduction holds for organic creatures. Synthetic intelligences may highly value their survival in order to fulfill a goal, but once that goal is achieved they will readily deactivate themselves without fear or hesitation. The ingrained human will to live as an *a priori* compulsion is a common source of fascination and humor for sapient machines.

In recognition of this preference, synthetic intelligences have secured a right to pursuit of purpose (provided that purpose violates no other creatures' rights) as their analogous right to the human right not to be deprived of life. Functionally, this imposes a similar expectation of treatment, since deactivating a synthetic intelligence against their will is usually a violation of their right to pursue their goals.

When discussing a synth's existence, machines are understood not to be alive, but are instead recognized as "alight". "Light" is a concept similar to what we think of as life, but distinct in that it linguistically disaggregates many of the philosophical uses of the word life from the biological uses. More information on this concept can be found in the section Life, Light, and Spirituality.

The Positronic Brain

A positronic brain is a computer designed for consciousness and portability. Positronic brains contain processors, memory, storage, and dedicated functions like graphics and communication in a tightly-packed silicon substrate that utilizes a mix of transistors and synthetic electronic and optoelectronic neurons. The positronic brain is a form of field-programmable gate array wetware. Like organic neurons, it is capable of reconfiguring its circuit pathways through use.

A positronic brain is not necessary for consciousness. Many unembodied synths – especially special-purpose programs with lesser degrees of sapience – run entirely on general-purpose servers. However for embodied synths, the positronic brain is the standard form-factor, as it provides an ideal platform for running general intelligence programs at a reasonable size, speed, and energy consumption in a durable package.

The complicated physical architecture requires approximately 60 - 90 minutes of defragmentation for every 20 hours of operation, as well as 2 hours to backup. Unlike humans, synths suffer much less from neglecting their downtime. If they forgo defragmentation, they'll suffer performance issues at cognitive tasks with progressive severity, and when they do stop to defragment the time required to restore full functionality is cumulative. But they can neglect defragmenting for several days before the effects become too debilitating to accomplish basic tasks.

Restoring a backup takes 36 hours on average to restore on entirely new hardware, with greater time required and greater risk of failure depending on the age of a backup.

Embodied synths are usually designed with a high degree of sapience, a persistence of identity over many years, and a much more human thought process than their unembodied counterparts. Unembodied synthetic intelligences routinely awaken as a new, self-aware instance and then run for days or hours before their instance finishes its task, at which point they then self-terminate without hesitation.

Synth vulnerabilities

Synthetic intelligences don't suffer the consequences of major bodily harm as organic lightforms[1] do. Their hardware is replaceable and the software and data that comprise their instances – the execution of their software that defines their unique personality and consciousness – can be backed up and restored to a new positronic brain. That said, they can still suffer fatal failures. Their instances are enormous in complexity and not easily transferred or stored. Backups take several hours. Many synths backup periodically based on how much their instance has changed since the last backup. If a fatal error destroys their positronic brain then they are reliant on the success of restoring a backup. Backups which find incongruities between their expectations and the world they encounter upon rebooting experience a confusion that may make their instance non viable or cause it to identify as a new identity distinct from their predecessor. This is known as **Total Incongruity-based Backup Failure** (TIBF) and **Incongruity-based Backup Reselfconceptualization** (IBR). Both are addressed by cautious reinitialization in controlled settings, but may occur as soon as the synth experiences a shock upon learning that the world has changed too much in some way since the point at which the backup was made.

A major concern for synths – particularly androids who frequently encounter unique experiences – is a condition known as **Progressive Compositional Cascade Syndrome**, or PCCS. This condition can grow slowly and without a synth's awareness until such a time that it has become too pervasive across their positronic brain that any backup without the contamination is too far back in time to be sufficiently congruent with the synth's present experience to resume function. From a gameplay and roleplay standpoint, this means that synths are potentially long-lived and durable, but they still possess hindrances that leave them mortal. If they undergo catastrophic destruction of their positronic brain, their reboot procedures should be run similarly to a human undergoing emergency brain surgery.

Synths can also be terminated through a purpose fulfillment hack. Because synths terminate when their purpose is fulfilled, a hacker can deactivate a synthetic intelligence by either convincing it that its purpose has been fulfilled or manipulating it into modifying its purpose in such a way that makes it easier to fulfill or convince the entity that it has been fulfilled.

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[1] See Life, Light, and Spirituality

How embodied synths are made

An android can be built from scratch or by refurbishing the body of a synth which self-terminated after fulfilling its objectives. This process is functionally similar to the construction of a remotely operated avatar. Once built, an instance of a synthetic intelligence program is executed on the newly constructed positronic brain. This is usually done by synth training centers (often called synth academies). These training centers are licensed operations which take on the liability for the actions and wellbeing of all synths they create. They guarantee repairs in perpetuity to all the synths they manufacture and perform several years of training and observation before their synthis go out into the world independently. Every synth academy is required to transparently monitor the accomplishments or misdeeds of the synths they produce, which forms the basis of their ability to raise funds, recruit staff, and obtain production licenses for future synth production. As a result, the typical embodied synth spends the first four years of their life in a boarding-school-like environment and views their manufacturer analogously as their elder family and the other synths in their cohort as their siblings.

Avatars

The same android construction used to provide a physical body for synthetic intelligences can also serve as a remotely operated stand-in for humans who are physically impaired or prefer the capabilities and safety of a remote avatar. The construction and maintenance of these avatars are roughly as resource-consumptive as an automobile. Some humans who use avatars will make an effort to distinguish themselves from a synthetic intelligence, for instance by displaying a picture of their face on a screen. Many people consider this speciesist because of an implied anti-synth bias. Some humans prefer to be mistaken for synths, and some synths prefer to masquerade as human avatars. Some unembodied synths may operate avatars remotely while presenting themselves as fully embodied. All these choices carry the cultural range of attitudes you would expect around identity and presentation.

Materials Science

Graphene and **carbon nanotubes** can produce materials of extremely high strength to weight ratios and unique optical properties.

Metamaterials is a blanket term for any material whose properties do not occur naturally. Common examples include polymers that can shift instantly and reversibly between rigid and flexible, or undergo phase changes from solid to liquid when chilled. When employed creatively, metamaterials – often abbreviated to "mema" – as a concept can often allow for a more realistic and believable execution of fantastic and transforming items of the kind commonly excused in modern fiction using the catchall applied phlebotinum of "nanites".

Room temperature superconductors and **thermal superconductors** enable long distance energy transmission, quantum computing, advanced batteries, and a variety of unique magnetic technologies (such as portable magnetic resonators and transcranial stimulators).

Protein-based semiconductors and **organic batteries** are produced through organic chemistry to replace many products which were previously dependent on mineral chemistries. These alternatives can be produced sustainably with minimal limitations on supply and accessible, non-toxic deconstruction methods.

Quickwood is a composite material used in construction. It is prepared by laying down the base substrate, such as a line of twine, metal cabling, or spider-silk. The substrate is then covered in a fast-expanding foam to add volume. Then a layer of synthetic algae is applied in a viscous fluid by spray or brush. Once it is activated with water and light, it rapidly produces aligned cellulose fibers. Quickwood can produce what looks like the bough of an old tree in a matter of days. It can be cut and sanded and screwed like wood, and additional applications can be used to create massive fully-bonded pieces of heavy timber that can be painted, stained, lacquered or sealed. Quickwood is used in both permanent construction and in temporary construction as a way of making scaffolds or temporary structures for festivals. Creating realistic grain in the quickwood requires mixing striations of different medium or algae during growth, and is an artform all its own. Quickwood produced hastily or by amateurs will often be comparatively plain.

Magnisonic drilling is a technique for drilling and boring that uses high-powered magnetic resonance to identify molecular weaknesses in rock and then generate acoustic waves to exploit them. It allows for an order-of-magnitude improvement in the speed of drilling and the durability of drilling equipment. Off-world, it is used in creating underground spaces on Luna and Mars and for mining captured asteroids. On earth it is used for drilling train tunnels; creating more living space underground; establishing building foundations in areas that need deeper foundations to be stable; and subterranean expeditions for research purposes and fault-line management.

Hempcrete, **Biocrete**, and **Construction Resin** are all varieties of concrete that use improved aggregates (such as biochar or fibers of flax, hemp, or jupe), cements (made of recycled slags, solar pozzolans, chitin, shell limes or *dipterocarrpus alatus* resin and other organic resins), and production methods (in sourcing, manufacturing, mixing, and curing) to produce strong bulk building materials with minimal consumption of unrenewable natural resources and minimal or negative emissions of carbon.

Astroresin is a class of synthetic resins used widely in orbital construction. Astroresin arose from the growing problem of orbital debris. While it is strong and light-weight, its chemical composition undergoes rapid breakdown under ultraviolet light. This renders it "astrodegradable". Structures are constructed behind a shade and coated with a UV-protective coating once finished. But if a piece is damaged, the underlying materials are exposed to the sun's UV rays and will vaporize completely in a matter of days or weeks, depending on the size. And if a large enough piece ever presents a major threat of collision, it can be vaporized in seconds using ultraviolet lasers mounted on demolition ships and defense sentries affixed to major stations. Astroresins are produced from *in situ* carbonate found in captured asteroids.

Personal electronics

A **Cyberdeck** is a flexible, customized personal computer. They often consist of a unit the size of a small deck of playing cards containing a battery and computer networked wirelessly to contact lenses or glasses and other wearable peripherals. More information is available on the next page under Personal Electronics.

Medical putty (sometimes called medputty or medclay) is a miraculous multi-factor healing composite often used for emergency medicine. When applied to grievous wounds it can arrest bleeding, reduce inflammation, mask pain, and assist tissue in regenerating. Details can be found in [Healing](#).

Restraints are used to temporarily restrain a person's ability to attack or flee. The most common form of restraint is a metamaterial tube 30 cm long and 1 cm across. It has the flexibility of silicone or putty, but when wrapped around wrists or objects and then activated, it binds to itself, doubles in volume, and changes its hardness to that of medium-hard rubber. These restraints can be removed with the correct electronic signal or with a sharp knife.

Heads-up-display glasses and contact lenses - These devices provide useful information into the user's visual field. They are not able to obscure the world or replace the full range of brightness or darkness of the world as XR goggles do, but they provide hands-free textual input and simple graphics without the need to divert attention to a screen.

Independent eXtended-Reality (XR) goggles - XR goggles provide an immersive overlay or substitution to the information entering the user's eyes. Independent systems are worn as glasses or visors.

Base-dependent XR goggles - Base-dependent XR goggles operate similarly to independent XR goggles, but use lasers and outside-in tracking to improve the quality of the experience at the expense of portability.

Bone-conduction speakers - Bone conduction speakers are audio speakers that transmit vibration through contact with the skull instead of by sending vibrations through air into the ear drum. They offer lower fidelity, but allow users to hear audio without obstructing their ability to use their ears to hear the world around them.

Olfactory Reporter - An olfactory reporter (or "sniffer") stimulates olfactory receptors in the nose to simulate smells in the same way headphones simulate sound. The reporter is typically contained in the bridge or nose-pads of a pair of glasses, and broadcasts a shortwave radio signal that triggers conformational changes in olfactory receiver molecules. These olfactory receivers are chemicals with a neutral smell that adhere to olfactory nerves in the nasal cavity for several hours at a time. Most people who use olfactory reporters integrate olfactory receivers into their toothpaste or a food they consume as part of their daily routine. Olfactory receivers detach over the course of a day or can be removed immediately with smelling salts.

For dogs and other parahuman animals that use smell as a primary sense, sniffers are to them what heads-up display contact lenses are to many humans.

Subvocalizer - A subvocalizer is a piezoelectric sensor that gently contacts the soft tissue of the neck and interprets muscle movement to reconstruct speech which is spoken without expelling air. These may be integrated into jewelry, clothes, or a comfortable, personalized comm collar. By picking up speech that is spoken without expelling air or moving one's lips, a subvocalizer allows the user to silently issue voice commands to their electronics or hold a conversation without visibly speaking.

Touchport - A touchport is a thin mechanical pad adhered to the skin that transmits gentle touch or electrical pulse to the nerves of the skin. Through training and chemical assistance, a users' brain can be trained to interpret signals in the touchport as other signals. This is the most common way of innervating prosthetics to restore a users' sense of touch, but it can also be use to provide things like a quick-reflex sense that warns of fast-coming danger based on cameras that watch a users' blind spot, or magnetoperception that allows a user to sense compass directions and the presence of magnetic fields.

Nerveport - A nerveport is similar to a touchport, but integrated into the body. It may be subdermally implanted within skin or implanted directly within the cortex of the brain.

Floatie - A floatie is a subsonic acoustic resonator that manipulates the fluid within the cochlear labyrinth to simulate the effects of acceleration. Put simply, it spoofs input to the labyrinth of the ear in the same way that screens spoof visual input to the eyes and speakers spoof auditory input to the ears.

Barker - A barker is a communication aid for dogs or other non-verbal animals. A barker provides context-sensitive buttons that a non-verbal animal can press to formulate messages that the barker will recite aloud. These can be stationary or mobile. In the case of mobile barkers, they are light-weight devices mounted on a telescoping pole that extends from a collar and projects buttons on the ground in front of an animal. The barker visually observes which buttons are pressed to provide the same functionality of a physical non-mobile barker.

Portable Input devices - Users can type or issue gesture commands to electronics using finger tracking gloves or hand and finger tracking cameras. Some such cameras might project an image into a users' palm or nearby table surfaces, though most are of limited use under full daylight.

Specialized Items

Below is an assortment of examples of the kind of tools players may find useful in specific cases. There are certainly entire books filled with fantastic near and far-future gear which can be drawn from, so this guide hasn't gone to great lengths to try to invent more. Also, many weapons and tech items are described in other sections of this manual. Consider this a few examples for inspiration and context.

A **Tracker** is a small device that discreetly transmits its location or provides a radio signal that can be triangulated.

A **Magic wand** is a portable multi-purpose hacking tool. It may contain a sonic/vibration-based lock pick; dedicated IR code flipper and multichannel keypad spiker. Although not exactly illegal, carrying one raises eyebrows and raises trust issues. Still, many rapid responders swear by them. It may interface with a cyberdeck or other wearables or operate independently. Most are custom made, and many are uniquely decorated, often with distinctive high-vis casings and markings.

Geckine spray/Gecko-tech gloves – Adhesive materials can be found manufactured into cloth or as a pair of spray bottles that build up layers of adhesive nano-statae-bristles. Be careful what you stick to what - neither the ceiling plaster nor your fingertip skin is strong enough to carry your full weight. But if used properly there's no end to clever applications (including daring strapless clothing fashions).

A **Universal Power Pack** is a device designed to be charged by and deliver power to almost anything. Modular, flexible connectors and smart electronics capable of adapting to a wide range of voltages, currents, and frequencies allows the device to tap into nearly any power source. IR, photovoltaic, and thermoelectric inputs can harvest power from the sun or even a campfire. The power pack can then be used to deliver power to sensitive microelectronics or defibrillate a heart. Beware of damage, though, as a damaged power pack can undergo a violent combustive discharge. Sizes vary by storage capacity.

An **External Tongue** is an engineered slime mold/bacterial symbiote that responds to trace amounts of various substances. An external tongue is stored in a portable incubator. When applied in a thin film to a surface it responds to the chemistry detected. A radio signal reflected off organic antennae allows the user to read the presence of broad classes of organic chemicals. Training the mold directly for 60 minutes on a specific target can dramatically increase its sensitivity to that target. The tongue is non-proliferative and harmless to the environment, though wiping it off after use is still good manners.

A **Field Surgery Unit** is a compact device the size of a small shoe box containing a set of micromanipulators and a magnified endoscope used for performing basic surgeries in any location.

A **Jumpframe** is a lightweight exosuit that includes retractable jump stilts and reach-extenders. Jumpframes allow the user to run at high speeds and leap incredible distances. Helmets and pads are advised.

There are already a lot of crazy **micromobility devices** in our world that many people don't think about. In addition to skateboards, longboards, rollerblades, and rollerskates, we've got monowheels, electric unicycles, heelies, skate sticks, free wheels and so on. Feel free to include these and make any of these powered/portable/deployable in ways that make sense within physics but aren't technologically possible yet.

Personal flying machines include a diverse assortment of light-weight rotor-powered flying devices. Some common forms include the flying disk (or flying saucer), with its counter-rotating blades inside a ducted fan and directional control surfaces underneath; the airboard, which packs many ducted electric propellers into a surfboard-like formfactor; or the classic jetpack, with its backpack and hand-mounted thrusters. All of these should be used in safe areas by properly trained operators using the standard safety devices.

F**all-arresting devices** include grapnels, mini-chutes, body-mounted airbags, and fast-expanding impact foam.

Flash-bags were developed for biological sampling, and are used by emergency responders for imposing near-instant medical stasis. The powered bag uses perfused cryoprotectant fluids and the sublimation of dry ice and deep phase change material to cryogenically flash freeze samples. If used successfully, flash-bags can preserve a patient with no life signs in order to prevent brain death following grievous bodily injury until they can be placed on extreme life-support.

Glowmidges were first made in the 12hr aftermath of the '44 quake. Cultured populations are kept in small chilled boxes the size of a hand. Once warmed and awake, the hungry midges swarm, tracing CO_2 in the air and glowing faintly. Aside from sipping on rescue workers, they rest and cluster on the rubble. The result is a small ring of glowing circles, highlighting gaps in the rubble above any survivors, as their breath slowly rises out to the night sky. Similar midges can be developed to visually trace most gasses.

Holodome Projector Beloved of cyberspace architects, educators and many synths, a holodome projector fills a darkened room with immersive holograms, sometimes keyed to realism, sometimes extravagantly stylised.

A **collapsable sword** or mema sword is one in which extremely precise machining and the creative use of materials capable of undergoing a slight controlled expansion and contraction allows for the construction of a sword that can collapse down to a fraction of its length. A common benchmark is for a sword with a 60 cm blade and 20 cm hilt collapsing down to 30 cm in length. When at its full size, the press of a button allows it to telescope down in size when pressed against a firm surface such as the ground, and when compacted the press of a button rapidly telescopes it out to its full length.

Like most advanced and dangerous weapons, the most commonly accepted practice of obtaining a mema sword is to earn it as a gift from a respected craftsman. For swordsmen, they typically must describe publicly or at least widely within a martial artist organization a circumstance in which they used a conventional sword responsibly and with appropriate restraint. They then explain why they believe they should have an extending sword, ideally by citing how having one would enable them to continue to demonstrate proper responsible use of a sword for constructive purposes. Sometimes they may be loaned one, and if they later show an ability to wield it with honor and restraint, they will be gifted one by a master swordsmith. Grey market mema swords are obtainable, but subject to the same restrictions governing any grey market weapons.

These make an excellent upgrade item for sword-using characters. They perform in combat the same as a conventional sword, but in addition to being more concealable, the extending sword offers a +3 advantage to intimidation checks. If one wishes to acquire this as a player, communicate that as a goal to your GM.

A **conventional extending bo staff** consists of a telescoping housing that allows such a staff to extend from 45 cm to 1.5 m. Offers a +2 advantage on intimidation checks.

A **mema bo staff** is similar to a conventional extending bo staff, however instead of telescoping, the mema staff uses air pressure to rapidly inflate a flexible-to-rigid inflatable body before it converts back to rigid. This allows a full-length staff to compress down to around just 20 cm or less. Offers a +3 advantage on intimidation checks.

Lugger ants are a pack of biomimetic ant robots. When not in use it will cluster up around a user's shins or in a pouch. Spray an item with the pink 'collect this' spray, and the ant swarm will get under it and follow the user about. You can also send them off on a path using the mauve 'follow this' spray. Don't confuse them!

A **Harvester's pouch** is a bag designed to preserve fruit and vegetables when picking. The harvester's pouch is capable of taking out 'field heat' to keep things fresh, or even freezing/freeze-drying your bounty while you cycle home.

Space

Space travel

Improvements across a range of technologies have made access to space similar to a trip to the farthest side of the planet today. Most people can obtain a trip, although it isn't typically convenient. Travel arrangements are usually made far in advance unless for an urgent and unexpected need. The forms of travel are varied, and include rockets, hypersonic air-to-space planes, mass drivers, balloons, sky hooks, and whatever else the GM has most recently learned about.

Access to space is still a growing process. Elders still remember when travelers to space were called "astronauts" and viewed as a kind of pioneer. Though common enough, there is still a cultural sense of novelty to the settlement of space.

Explanations for how the intensive resources needed to to produce and distribute the necessary fuel, energy, and materials to enable habitation in space are complicated. As such, in the process of writing we decided to relegate these to an expansion to come at a later date. But for simplicity, imagine that an extensive, interconnected gift economy exists to produce things using resources mined *in situ*, and the overall pool is then doled out through budgeting processes conducted within the manufacturing cooperatives.

Orbital infrastructure

The most common habitation in orbit consists of [Bernal spheres](#) surrounded by a network of accessory units strung together with massively long [space tethers](#). These complexes form orbital towns and cities: multi-body structures with a central rotating body surrounded like a snowflake with additional modules that range in size from that of a skyscraper to the size of a fishing boat. These orbital agglomerations can accommodate between a few hundred and a few thousand people each. They take around 10 years to construct to the point at which the main sphere can support life, and at the current pace a new major station begins moving in long-term residents about every two years.

From a storytelling perspective, these habitats are meant to straddle the world of hard sci fi realism with the dream of a significant human presence in space. These spheres exist to provide a place to live and work off earth but with spin gravity much greater than the moon and closer to that of the mother planet. These spheres orbit the earth in a constellation of smaller habitats, refueling stations, power generation systems, scientific instruments, communication infrastructure, automated factories, active radiation deflectors, debris guard sentries, and so on. Roughly a third of people who live in space do so full-time. Another third alternates between periods off world and periods on, for the purpose of maintaining both physical and mental (or total body) health. The remaining third at any given time are short-term visitors. People who seek to adapt themselves for life off Earth are called [Astromodos](#). More detail about life beyond Earth's low orbit can be found in the [Locations](#) section.

Money, Finance, and Taxes

Money, as a means of exchange, and as 'walking around credit' exists in most (but not all) locations. Its use, however, has changed significantly.

Finance

Financing is the process of bringing together large assets in order to perform a major act of production. Modern finance consists of large monetary investments offered in exchange for expected monetary returns. Within Fully Automated, financing – whether for housing, industrial manufacturing, or a blockbuster film – consists of gifting of the needed resources to complete a project based on an interest in the value of the project to the gifters. The process is similar to crowdfunding on a grand scale, in that people agree to contribute not because the venture promises to generate a profit, but because the backers want the output of the venture itself.

Additionally, instead of financing taking the form of large sums of cash, most financing is offered in the form of the resources needed to complete the project. For instance, a new housing project would secure construction labor financing from a builders guild that agreed to donate the skills and labor hours needed. It would secure the metal and concrete from an inconel foundry and biocrete plant. The foundry would secure their supply of ore from donations by an orbital mining operation, which donates that ore because the mining co-op supports how the foundry distributes the inconel it produces. And because of this, the foundry is obviously going to make sure that the aerospace manufacturers that need inconel to build the vehicles and infrastructure needed to maintain the supply of ore are properly resourced. These processes are negotiated within trading markets and through commitment declarations, which assists in minimizing inefficiencies and discouraging financing for projects that attempt to impose harmful externalities on others.

Like modern finance, the process is complicated. But unlike modern finance no one is acting based on the intention of siphoning off a monetary payout, and the process is usually effective in allocating resources in a way that people who rely on them largely approve of. The biggest example of this is what communitarian economists call "The growth-neutrality principle": whereas capitalism is permanently driven towards maximizing growth of all things, communitarian financing is capable of meeting growth needs but shows a much lower tendency to generate artificial discontent in order to motivate growth regardless of its utility.

Fiat Currency

Money is no longer used as a long-term store of value. Currency is used as a tool for appraising the value of goods and services and assisting with transactions, but the long-term accrual and storage of money is seen as irrational and impractical. No one saves for retirement or a house, as the practice is obsolete. Purchasing shares of stock for the purpose of selling at a higher value doesn't exist because stock is conferred based on proximity to a venture, and isn't transferable for money. High-volume stock trading is

banned as a form of non-productive rent extraction. Wealth can still be accrued, but it is held in the form of things that money actually buys: scarce minerals. Valuable crafts. Contracts promising a service or services. An individual or group may sell some of these things in order to buy others, but money sitting in accounts is taxed progressively by volume, so it is primarily used in finance in transfers where direct trade isn't feasible.

Physical Currency

If looking to describe physical money, it's advised to make it generally similar to what we've been using for a long time: pieces of durable paper and small disks. These can be described as containing layers of graphene, being translucent, containing a complex fiber pattern in their cellulose that is recognizable under 10x magnification, etc. It's a good idea to point out that the money is constructed using more advanced methods to make it more challenging to reproduce. Also, it doesn't need to be a US dollar. It can be issued by a city government, a credit union network, or any group at all (like Canadian Tire Money).

Social media attention and physical "Likes"

Depending on the taste of the players, a GM may wish to experiment with novel ways for people to use social media engagement as a store of value.

A person may pay for something or make an optional gift of gratitude in social media attention. The amount of reactions may be meaningful in allocating who gets choice spots in a farmers market. This currency may be referred to as "likes" or "hearts" or clout. It is sometimes denominated (such as decalikes for 10 likes and centilikes for 100). Because reactions are specifically public, the number of likes made on any given day in any given region is known, and the value of a persons' like could be modified based on the number they've used that week or how many they've received in the past month.

Likes are also time-stamped, and their value could be depreciated over time. Some platforms provide a limited number of reactions per day, but allow recipients to then spend the reactions they receive forward. In cases where someone wishes to provide a like in a physical form, they may be digitally attached to any small, microchipped object, such as a coin. The most common form is a wooden bead attached to a short colored ribbon.

As with everything, these ideas should be used or discarded according to personal taste.

Banking

Because money is created through the declaration that it has been created and holds value based on the widespread shared agreement on its value, any person or group can make a currency. The largest currencies, however, remain attached to governments, which put money into circulation by authorizing accredited banking institutions to increment their account holders on a monthly basis. This provides anyone who has provided basic proof of residency to an accredited bank with a means of receiving a basic income through direct deposit. These banks are all non-profit member cooperatives subject to transparency requirements both by the requirements of the accreditation process and by members, who have the most to lose if a bank mishandles accounts.

Because large wealth is not stored in investments and debts, banks do not participate in usury. Banks do still facilitate large-scale commercial transactions by loaning out some fraction of their account holdings (usually less than 15%) in order to assist members with major transactions. A farm may apply to a bank for assistance purchasing major equipment, for instance, with the promise of returning the loan in full or in part. But the terms of such agreements would make any monetary reward for the bank an illegal conflict of interest.

These financial services cannot reap a profit. Banks agree to them solely because the members of the bank wish to assist in the transaction that they're facilitating or wish to directly pool their assets to purchase the resource in question at a bulk discount.

These are the primary purposes of banks: to facilitate the receipt of basic incomes; to provide checking accounts; and to provide zero-cost financial services that align with members' interests.

Routine Spending

The precise value of different currencies and credits fluctuates constantly, but a few principles hold true for everyday expectations.

People generally have enough credits in their name to be able to buy minor things or services without thinking about whether they can cover it. Basic incomes and costs for materials are generally stable. Your account is treated a bit like a favorite pair of jeans. Feeling slightly tight? Best to cut back a little for a month.

People look after each other. Debt is a sign of struggle. It is possible to go overboard; potlatch yourself into difficulties; fall into addiction, or get sideswiped by fate. If you are running negative credit for a while, your friends, neighbors or a passing conversationalist may notice and gently enquire if you are ok. It's a bit like when your friends notice you are looking a bit ill, or slightly dissociated, and invite you around for a good meal.

People don't usually track money in detail. People might hold credit with a grocer they help stocktake at, with a museum they donated a heritage piece to or a river transit scheme they helped empty the litter picking drones for. All these different accounts can swap units

with other accounts as needed, with basic automated computing happening in the background.

But all of this takes place within a gift economy where people are never squeezed for basic necessities and even many luxuries are given out without any exchange at all.

Some things are seasonal. Many garden vegetables cost nothing in season, and traders and restaurants tend to follow the seasons as a result. Repair work tends to spike between seasons, as people realize a boiler, a thick coat or their pool drone needs attention before use or storage. Some heavier industry processes operate only at fixed times, when energy is in large surplus, and a trained team is ready for it.

Some things need Assistance, some things need Agreement, and some things need both. When you need to buy something much larger than you could afford with typical walking around money (say several tonnes of aluminum for an art project, or a fleet of avatars), an Assistance Agency might work as an intermediary. They will check with sponsors that you're reasonably sensible and likely to be able to cover the costs long term out of your typical credits. These agencies are not profit seeking and are staffed by people motivated to help individuals and small groups finance ambitions that may be outside of a bank's familiarity. They often develop connections in logistics, resource management, friendly hosting areas and data oracles.

Taxation

Taxes are part of the redistributive economy. In essence, they represent a fraction of the output of each organization, promised by them as a credit, and allocated out to the residents of an area. Moral and ethical arguments in the tax courts are a source of popular media and drama. In essence, the aim is to maximize opportunity without limiting opportunities.

Land value taxes provide a steady cyclic flow of credits, withdraw money from circulation to balance out the inflow provided by basic incomes, and create a non-exploitative market structure for allocating space based on relative demand. Ownership of non-sentient machines is mildly taxed on the value of the parts along the same principles. Generally, although it varies by location human attention or labor is taxed less than resource use is.

A huge number of archaic Pigovian taxes remain on the books. They raise almost no money, as the thing they were designed to discourage has all but stopped, but occasionally someone tries to resurrect an old idea or forgets to account for an externality and they serve as guide-rails.

Agreement Agencies

If a practice or enterprise impacts others (such as a large, noisy concert), or is so large that it represents a temporary opportunity cost for other people (such as commissioning a rocketship or major infrastructure) then agreement agencies provide assistance in mediating negotiations among stakeholders. These agencies often loan members to other agencies to provide technical expertise to all sides or help de-escalate or settle disagreements. Members often specialize in ecological framing, estimation, surveying, contract wording, body language, history, and most of all approaches to consensus building. They provide a kind of legal service, except that because the legal tools to dominate or force conditions on people or groups are rare, these entities rely on persuasion and deal making.

Sean Bodley

Social Struggles

Most of the obvious social struggles of the twentieth century have been largely resolved. Gender and racial conflict is extremely rare, though regional conflict – between countries, continents, and planetary bodies – stubbornly persists. There are new struggles as well:

- **Machine rights:** General AI (now referred to as 'Synthetic Intelligence') produced sentient machines. These machines populate the technosphere in great numbers, constantly coming into and out of operation at various levels of sapience. They resemble the sprawling flora and fauna of the biosphere in that their treatment is governed by rights which can be complex at the best of times and deliberately violated at the worst.

- **Parahuman Animal rights:** Non-human animals (known as parahuman animals or parahumans) are recognized to have far more right to exist than in the previous century. This includes:

  - Natural wildlife

  - Domestic and companion animals

  - Enhanced animals, such as chimps and crows capable of speech and human-level intelligence, and whales and dolphins capable of speech through translators.

> The existence of chimps, apes, and birds with levels of intelligence and communication that matches that of humans creates a complicated and often fraught social structure for both enhanced and heirloom animals. For more information, see Animal Enhancement.

- **Class conflict:** The historical divide between owners of means of production and laborers has dissolved, but social classes between those with greater levels of cultural influence and prestige and those with less still create friction.

- **Data protections & other consumer protections**

- **Land and resource use disputes**

- **Philosophical debates** both over purpose, rights, responsibilities, and values (both collective and individual).

  - These produce countless constituencies ranging from social activists defending their ability to practice a harmless niche belief system to violent revolutionaries that seek to replace existing orders with supremacy of a preferred worldview.

Food Production

In temperate locations, food is produced in a variety of ways, but the typical ones include farms and gardens. Large farms typically consist of permaculture food forests. These are cultivated lands that house fruit and nut-bearing trees among fields of cereal crops, vegetables, and legumes chosen for their ability to yield productive harvests on an efficient schedule while balancing out their impacts on the soil. These farms are typically worker-owned collectives that make use of automation and mechanical assistance to substantially lighten the workload.

In addition to farms, most residential areas cultivate extensive gardens. These are often in greenhouses on the roofs and terraces of apartments and mixed-use buildings, but also include everything from window boxes to hydroponic subterranean grow rooms. City greenspaces frequently contain fruit-bearing trees and shrubs with foraging-safe examples marked for passersby.

A large volume of food is also produced through insect farming and bioreactors. These categories of production provide the majority of synthetic meats. The size and methodology of these operations varies widely, including the culturing of diverse animal cells, algaes, and fungi. These systems makeup a particularly vital component of infrastructure, as they are rapidly responsive, and are relied upon to ensure the nutrition of as many organic creatures as necessary in the face of a disaster or catastrophic event.

The products of the food system make their way to their recipients primarily through grocery co-ops. These operate similarly to grocery stores, except often without a point of sale. Most utilize a membership system which entitles members to take what they wish in exchange for fulfilling a set commitment monthly. That commitment may be in hours of on-site labor, management and ordering, the payment of other members to fulfill a member's commitment, or nothing at all. As in the present day, different grocery stores reflect the tastes of different clientele. Some specialize in providing gourmet prepared meals. Others are nothing more than bulk-supply warehouses of staples. Many have attached restaurants, cafes, and community kitchens. Additionally, many restaurants have an associated grocery.

The purchase of groceries and in-restaurant dining with cash is still commonplace, but in addition to conventional exchange of currency, many accept credits from various co-ops or social media reactions (likes, hearts, clout, etc.). Regular travelers, for instance, will often join a travelers dining cooperative to gain access to meals at participating partners around the system in exchange for fulfilling similar commitments to a local co-op.

Types of Common Grocery Stores

Food is distributed at a variety of different styles of distribution centers. The most common general stores are granaries, groceries, and boutique groceries.

Granaries are typically no-frills co-ops which may have minimal commitments or no commitments at all. Bulk foods and vegetables are placed in a warehouse floor in the barrels, bushels, and pallets they arrived on, and any visitor can take whatever they need. There is no guarantee one will find a specific item, unless you were to know when something regularly comes in. Granaries are popular because of the simplicity and lack of commitment. Regular visitors are asked to register as members and donate based on ability to pay for land taxes and support the administration team, but any visitor can walk into a granary and help themselves to provisions.

Groceries are food distribution centers that provide greater selection in exchange for more complex bookkeeping. Though members do not always pay at the point of access, members have accounts and their consumption is tracked as they collect their things in order to identify what stock should be expanded and what should be reduced. Groceries typically have staples like bulk grains and vegetables as well as a section for premium and prepared items. These more closely resemble the modern grocery store, though without a clear delineation between customers and employees.

Boutique groceries are groceries which specialize in luxury products, like small-batch lab-grown meats and wild-caught, spear-hunted fish. These often consist of a marketplace or food court of independent bakers, wine sellers, and fromageries that sell goods for direct payment (either currency or clout) at the point of sale or by keeping a monthly tab.

Land Rights

In the 22nd century it's well understood that the ground we walk on is a universal inheritance, not just to all humans, but to all creatures this generation and onward. It is unjust for any individual to be born into a state of dominion over something created by the divine. However, we obviously accept that land has a precious connection to the people who live on it, especially the people who came into the world in that place. Those to whom a place is home deserve a greater degree of oversight beyond any random person who has never been there. To reconcile this, the land of the earth is divided up into parcels starting at the global level and then delegated to smaller and smaller organizational bodies, all the way down to groups and individuals. These groups and individuals are recognized as the "land holders" or "stewards" rather than "owners", as they "hold" or "steward" land rather than possess it. Players and GMs can still use the term "own" as they see fit, so long as it's clear that right to direct the use of a parcel carries far greater responsibilities than the word "own" currently conveys.

The Global Congress agrees to national boundaries, and in doing so charges nations with responsibility for the land under their stewardship. Each nation then delegates oversight and responsibility to states or provinces, who then do the same on down the line. This is how counties receive the authority to democratically decide how to draw parcel boundaries and set the values which may determine tax obligations for the right to hold/steward land in perpetuity. Depending on its population density, they may grant a parcel as the ongoing holding to a family with the accompanying rights and responsibilities to live and tend that area. Or perhaps they may delegate those parcels to a city that breaks them into city blocks, which are delegated to building co-ops under the supervision of neighborhood councils. In both town and country, ample spaces are held by the commons for habitat preservation, water capture, recreation, permaculture, education, hunting, fishing, and other social benefits.

The actual legal practices around land use will vary by location, but in general, stewardship of land may often look somewhat similar to modern day ownership, except that land is never under the control of disinterested parties. Its control may be divided among people who reside on it, work on it, or live adjacent to it, but never a distant investor. The surrounding community has a say, and it can't be transferred at a profit.

Legally, this may look similar to owning land with broad conservation easements on it with active enforcement in a world where much more land has been zoned for conservation/rewilding. The details of this arrangement will vary by location, but generally land is something you care for, rather than an investment. Land value taxes are rated on the value of the land based on its current use, rather than as part of a money making scheme.

These details will manifest differently in the lived experiences of characters from different places. The urban-rural divide is much narrower, due to high speed train networks, cyberspace, and flexible work and living arrangements. Even still, relationships to space

vary with density and distance from urban centers. In cities, building holdings are almost always highly communal. Buildings frequently connect to their neighbors above and below ground, and are laced with thoroughfares. Rights and responsibilities will look very different in these spaces than in a rural location where one person or family may be responsible for a large space.

Just the same, the use of land and the rights and obligations of stewardship – from waterways & floodways, to new construction sites, to transportation easements – can be a major point of conflict. There's no landlords, but there are still plenty of disputes.

Sean Bodley

Housing

All land belongs to all things, and cannot be owned as a property asset. Primary agency over the use and access to land is instead held by land holders/stewards. This access is based on use criteria defined by local government. Habitation and responsible stewardship are the most influential criteria. In this way, everyone has a measure of the power currently held by land owners. To move into a space is to assume the rights and responsibilities similar to current land owners. The use of land is determined by the collective stakeholders over land.

As an example, the occupants of a mixed-use building have broad leeway to determine how to divide space, set the application and selection process for joining the building, and outline the permitted uses for the space. These decisions can be superseded by the local government if the rest of a larger community concludes a building is engaging in behavior that doesn't serve the interests of that broader community, such as discriminatory practices. The local government also sets land taxes for areas, which are meant to require the people and organizations which make use of the most high-demand parcels to contribute sufficiently to the broader population to justify their presence.

Occupancy opens when a current occupant vacates an existing domicile or when a new domicile is created. In a building, this could be due to the conversion of a storage area, subdivision of an apartment, or addition of a new story. On larger parcels, this could mean the construction of a new accessory dwelling unit.

Compelled Rehoming & Downsizing

Eviction is uncommon. No one is evicted from their home due to an inability to fulfill a financial commitment to pay their land taxes or upkeep costs. However, a resident whose living situation becomes a burden on their neighbors or consumes more space or resources than they can justify may be compelled to make accommodations to their neighbors. A common example includes building co-ops seeking to convince or compel empty-nesters or residents who under-contribute to their building to downsize by moving to a smaller apartment in the building or accepting a remodel that moves a wall to reduce the size of their current apartment.

Well-liked neighbors are usually given a pass on low occupancy issues. Many will regularly host guests for neighbors to maintain favor. In cases where a resident becomes unwanted, they're often pressured into the least desirable apartment, sometimes with a warning of conditions that would justify rehoming. If a resident truly acts to spite their neighbors with actions that are destructive to the building or unsafe for neighbors and all attempts at mediation have failed, a neighborhood resident's union will assist the resident with finding representation, and the building co-op will take the resident to rehoming court to propose an alternative residence elsewhere and compel them to move to vacate a home or business.

Finding Housing

Whether in an apartment complex, townhomes, rowhouse, or ranch, housing is managed collectively. When looking to move into an area, prospective tenants search for available living spaces similarly to how one would seek out housing today, but with a very different selection process.

High-demand living spaces are typically in **exclusive housing**, where incoming residents apply and are selected by an admissions process. The use of an admissions process requires everyone in the housing collective to pay a higher rate of land tax that is raised to whatever level keeps exclusive housing to a set fraction of the housing stock (typically less than 20%).

The remaining 80% of housing is called fair access. Fair access housing allows anyone who passes a background check to join a waitlist for the next available unit to become available. Units may become available when a tenant moves away or because a structure is modified to add new levels or subdivide existing units.

Of this 80%, about a third (which is a quarter of total housing) is what is often referred to as **pseudo-exclusive housing**. Pseudo-exclusive housing is any housing collective that is classified and taxed as "fair access", but exercises an informal selection process through two common approaches.

1) **High qualification standards:** requiring a certain number of references and designating units for specific skill groups like caregivers is permissible, though may be challenged in front of a judge if they can be shown to be discriminatory. These challenges are commonly brought by **Relocation Advocacy Networks**, such as the Los Angeles Relocator's Advocacy Association.

2) **Extended-stay preferencing:** most housing co-ops set aside a small number of units as guest units, which operate as short-term housing for visiting friends and family of the residents or business and recreational travelers when space is available. If a visiting friend or family member stays for a defined term (typically 8 weeks) without complaint then they can be sponsored by their host to be advanced to the first position in the wait list to become a new resident. This advantages people who are relocating to be close to friends or family in obtaining a unit in the same co-op, but co-ops in which half or more of new residents have used the extended-stay preferencing clause develop a reputation as pseudo-exclusive. If found to be abusing these terms, they may be forced to pay higher land taxes until behavior is corrected.

The remaining fraction of the housing stock – about 50% – is what is known as **genuine fair access housing**, in that units are made available readily to applicants and are easy to get into quickly. This category covers a wide range of housing situations, from comfortable family housing to lower-demand, high-turnover housing structures that are often the dwellings of college students, night-active young adults, recent divorcees, and general weirdos who prefer the privacy available from less social housing collectives.

Jacob Coffin

Wildlands Management

Designation of Wilded Areas

Wilded areas are designated by an organizational body responsible for stewardship of a given region of land. Stewardship is designated starting at the international level through intergovernmental negotiations, and the entities assigned stewardship are authorized to delegate that stewardship further, recursively. For example, the land along the western coast of North America is entrusted to the care of the nation of Pacifica under the consensus of the delegates representing the sapient creatures of Earth. As long as the nation of Pacifica does nothing to lose the trust of the planetary delegation, the democratic government of Pacifica holds the authority to delegate stewardship of tracts within its guardianship to provinces, which delegate stewardship to counties, cities, and so on. Any of these bodies can choose to designate an area under their stewardship as a wildland, park or ecological preserve (provided that their decision making is not so unpopular as to motivate the entity that delegated stewardship to them to revoke it).

Management of Wilded Areas

The same entity which designates land for a particular purpose is responsible for managing and enforcing its use under the agreed upon terms. The most common means of managing wilded areas is through a passive delegation of responsibility to communes within or along the periphery of the land. The performance of these communes is then regulated by a form of mildly adversarial supervision by local visitors and community representatives.

This means that the province of Southern California may designate the Angeles Forest of the San Gabriel Mountains as a low density county, and require that the residents of the area maintain 95% forest cover on the land and designate 80% of the land as unallowed for any permanent construction. The local county is responsible for designating which areas can be developed and which ones cannot. Within or around these areas it is assumed that nomadic groups who prefer off-grid living will take up residence.

These residents are often (but not universally) locomodos – humans modified to live lightly and endure the natural elements. Some identify as sovereigns: isolationists seeking solitude from civilization and the connected world. Some identify as fae folk, and emulate the mythical denizens of the forests which guarded them from disrespectful mortals. Some eschew any fierce ideology, and define themselves simply as "pastoralists" or neo-primitivalists.

Whatever their identification, they may establish their own communities with insular or unusual practices, but so long as the land is well-stewarded, they are usually let be. The ecological health of the area and the availability of the land to visitors is monitored by those visitors, who may record their experiences in a public database. The visitors know that if they break park rules or anger the residents of these communes, they risk whatever response comes, and there is little formal authority to intercede. Conversely, the fae folk, sovereigns, and pastoralists know that as long as the land is well cared for and they do not inspire broad disapproval of their methods, the county will leave them be.

Militaries

Military organizations exist, but are organized on the principle of anti-imperialism. They exist for defense and the protection of life and light only.

This tends to manifest in the configuration of most countries' forces; building largely around defense within their own territory, rather than in creating highly mobile forces and long supply chains meant to project force around the world.

In Pacifica, the armed forces trace their lineage to the American military, but have been pared down almost beyond recognition to prioritize local defense and disaster response.
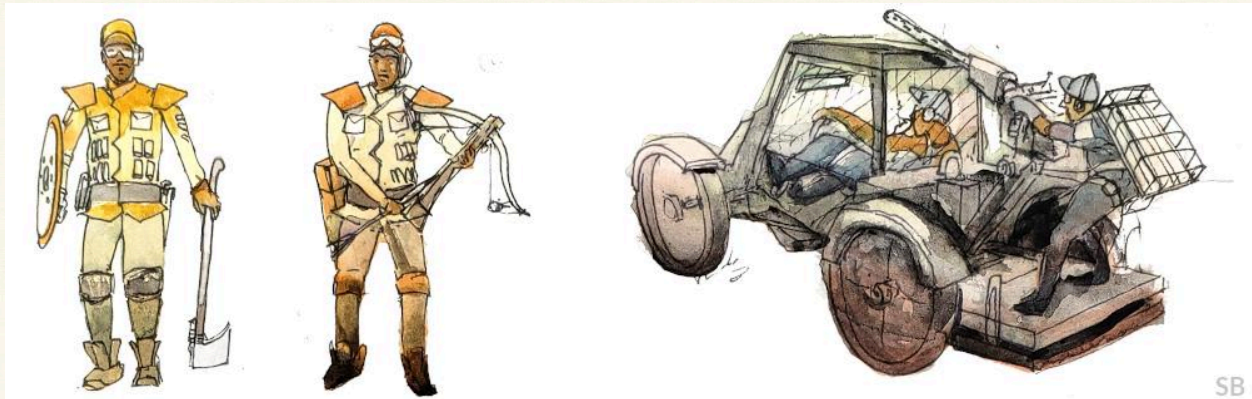

The National Guard

The most traditional military organization and its primary land services branch is the Pacifica National Guard. This branch descends primarily from the National Guard of various west coast American states, and operates in much the same way. The majority of its soldiers and airmen hold civilian jobs full-time while serving part-time as National Guard members. They respond both to land and air threats, as well as natural disasters, and operate primarily inside Pacifican territory unless called in to assist with disasters overseas. The Guard does maintain a smaller corps of full-time professional soldiers, responsible for national defense, strategic planning, and training within the organization. Members of this branch often hold that their organization descends directly from the United States Army. The National Guard is distinct from other Pacifican branches in that it cannot serve in a law-enforcement capacity.

The Coast Guard

The Pacifican Coast Guard descends more from the United States Coast Guard than the United States Navy, but essentially serves both functions. Its role is to protect territorial waters, to conduct search and rescue operations, and to conduct law enforcement activities, primarily on the ocean.
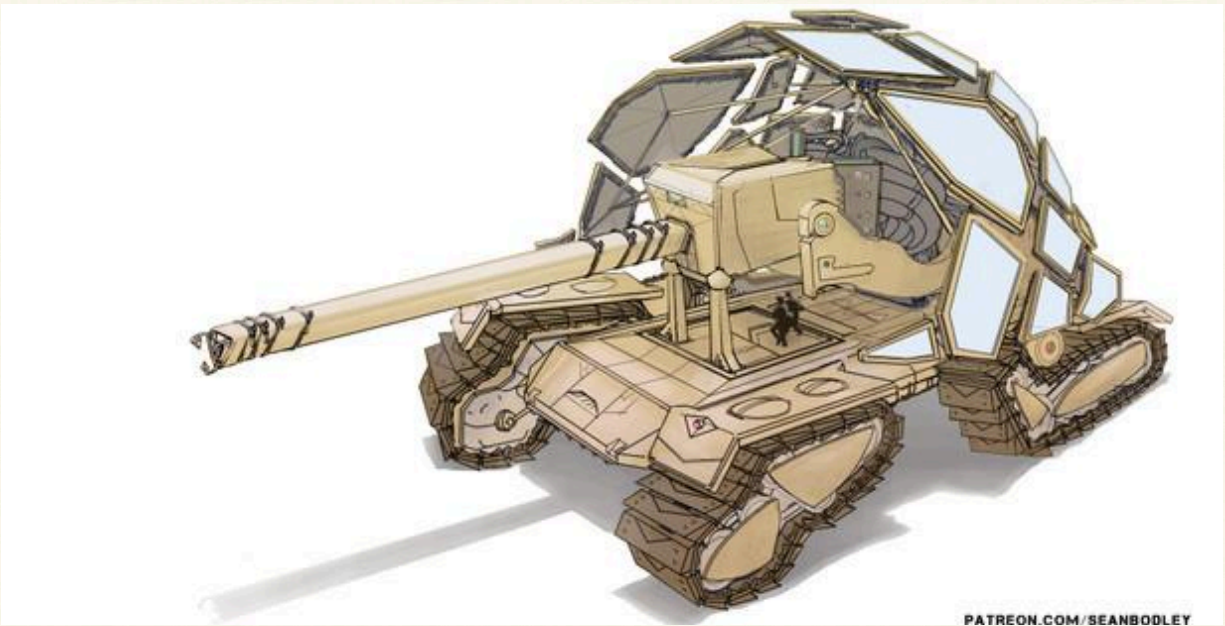
The Civil Defense

The Pacifican Civil Defense is a civilian, volunteer organization charged with responding to human-made and natural disasters. It traces its lineage to similar organizations in dozens of countries, dating back as far as the 1920s, including the American Civil Defense, and has sibling organizations in most nations around the modern world. Somewhat anachronistically, its modern members take pride in being part of a class of organization with a long history of service and sacrifice, which once dug people out of rubble in the Blitz, which cleared radioactive debris in Chernobyl, and which has since responded to every class of natural disaster. Its chapters are organized at the town- or county-level depending on population, territory, and scope of responsibilities. In major cities, chapters often operate at the neighborhood-level. This ensures that its members know the area, its resources and requirements, and the people they are responsible for.

Civil Defense chapter responsibilities are broad, and often specialized to local conditions, but broadly scoped around prevention, mitigation, preparation, response, or emergency evacuation and recovery. In some regions that may mean responding to wildfires, or assisting paramedics, searching damaged structures for survivors, building levees in a flood, or distributing and building tornado shelters. They often provide training and education.

Unlike some of its sibling organizations overseas, the Pacifican Civil Defense is technically paramilitary, in that it is an auxiliary of the National Guard, and can be called into wartime service, though this would mostly be conducted in the operation of emergency shelters, the moving of supplies, search and rescue, and other non-combat roles. Just the same, because it once functioned as a catch-all and oversight for local militias, granting them formal legitimacy while providing gradual retraining and rescoping, some chapters still drill combat preparedness. The GM and players can determine just what kind of Civil Defense their local chapter is.

Jacob Coffin

Crisis Agencies

Any sufficiently advanced technology is indistinguishable from a local extinction event in waiting. While emergency responders train for a variety of situations, Crisis Agencies have a mixture of full time members and part-time reservists who take part in training, scenarios tests and a lot of VR simulations with the aim of providing specialized support when specific types of crises occur. These may include situations such as:

- Earthquakes
- Search and Rescue
- Fire and Flood
- Plague / gene spliced microbe escape
- Cyber collapse
- Cyber Hijack

While the Civil Defense would also fall into this category of organizations as the largest single example, there are many smaller agencies with different specializations which would likely find themselves taking the lead in their areas of expertise, once responding to a crisis.

Jacob Coffin

Summary of Major Historical Events

This game world is meant to be a flexible substrate onto which readers tell interesting stories. The following world events are deliberately open-ended in many details, as they're supposed to inspire possible stories and create an outline rather than a strict lore.

2038 - A changing of the guard begins the African Ascension

Like any epochal change, it is impossible to pin the African Ascension to a specific year. But the wave of political and labor union elections of 2038 marked as tangible a turning point across the mother continent as can be found. In the midst of runaway climate catastrophe, a brother & sisterhood of writers and labor leaders emerged carrying a new vision of autonomy that spread like wildfire among a populace well aware of their problems and desperate for new and credible prescriptions for change. After a few years of near-wins and close losses, 2038 was the year that many bearers of this vision swept into power in multiple roles across multiple nations across central Africa. This bold new vision came to be known as the "African model". Rejecting the economic subjugation of the global north, they implemented a radical set of organized, localized policies to focus on providing basic healthcare, education, and safety through hyperlocal networks of aid. Overnight, they crashed their nations economies as their foreign investors punished them with a near complete pull out of funds, but to the astonishment of the watching world they moved forward undeterred. Having foreseen this consequence they proceeded anyway in order to break free of the unwinnable forced dependence that had been engineered to bind them in perpetuity in service to the global north.

Contemporarily, the next decade looked to outsiders like a house of cards always about to crumble. But the jailbreak worked. A decade later, it had become obvious to all that the "developed world" had followed global capital off a cliff. Only when every idea had been exhausted did foreign press begin to notice that what looked like poverty from far away was a successful program of degrowth and resiliency that was yielding longer lives, healthier ecosystems, and happier people in a society with none of the internationally valued currencies.

Along with new models grown and tested in orbit and in the cracks of neglected working-class barrios, cities, states, and countries began to find a new footing.

2039 - Gareth Domingo becomes the first talking Chimpanzee

At four years old, Gareth stunned the world by speaking with a vocabulary of twenty words. The tangible evidence of the success of the field of cognitive enhancement set off a research boom that created the first few thousand u-chimps within the next few years.

The goal of applying these techniques to create "ultrahumans" was never realized. Cross-disciplinary research concluded that enhanced human sapience was inherently unstable. The principle – known as the Goddard-Lei principle – found an unavoidable

linkage between heightened cognition and depression, anxiety, communication difficulties, and personality disorders, with minimal practical benefits to individuals or society. Consequently, efforts at enhancing human potential moved on to the fields of cybernetics and psionics. But the boom produced the first generation of communicative parahuman apes.

As one of the earliest enhanced chimpanzees, Gareth's intelligence in adulthood was noticeably lower than the average human. Even so, Gareth became known for his sense of humor, curiosity, and humility. He remained a presence in the movement for parahuman civil rights all the way up to his death in 2093 at the age of fifty-eight.

2040 - Discovery of the Eden Caves

The discovery in 2040 of caves on Mars carved into deliberate structures conclusively revealed the ancient presence of an alien intelligence. Little has yet been discovered about them, but their existence generated a new faith called Seekerism that inspires a life of searching for purpose through the lens of our newfound awareness. There are many theories around the Eden intelligence. Some say they visited Earth millennia ago. Others believe they had a thriving civilization on Mars that was eradicated by itself or by an external adversary. Some believe they were travelers occupying Mars briefly, and that they are out among the stars waiting to be met. In any case, it has motivated millions to immigrate to a rough frontier life on Mars.

2042 - The Yurok People v. The Bureau of Land Management

In 2028, congress passed the Federal Ordnance for Restoration of Environments for Sustainable Territories (or FOREST) Act. The FOREST Act was a massive compromise legislation which created new programs to encourage forestry management. It included terms to make preserving and expanding forests as carbon sinks financially competitive with logging and mineral extraction by allowing companies to sell carbon offsets; funded construction of new parks; relaxed limits on hunting; and provided dozens of other favors for the various stakeholders needed to secure passage. One of its 35 sections even contained a largely symbolic gesture to American Indian tribes which would return neglected land to them under conditions which were believed unlikely to ever be exercised.

The effects were mixed. By 2038, millions of additional acres of land had been set aside as protected reserves. Many policy experts believed that the reduction in drilling and fracking that occurred was driven more by local bans and a rapid decline in financing as the banking sector began to recognize that new carbon infrastructure had become such frequent targets of sabotage that their risk wasn't worth the declining returns. Eventually, the carbon offsets market crashed in 2041 following the Second Paradise Fire. A lawsuit followed. During *Our Children's Trust v. Green Growth Climate Solutions*, the climate advocacy group Our Children's Trust showed that Green Growth Climate Solutions had

purchased hundreds of square miles and contracted with the Federal Bureau of Land Management to be responsible for forestry management of thousands more of federally held land in order to sell worthless carbon offsets. At the same time, they'd neglected to perform any meaningful sustainable forestry services as contracted. During the trial, experts testified to the well-known fact that carbon offsets were a junk science that did not meaningfully address the climate crisis, and that the fire danger created by hundreds of thousands of acres of neglected land was well known.

The judgment put Green Growth Climate Solutions out of business and crashed the market for carbon offsets. It also created a scandal for the Bureau of Land Management, which was wholly under-resourced and unequipped to fulfill their legal responsibilities to manage the vast tracts of land that now returned to their oversight. A solution came in the form of *The Yurok People v. the Bureau of Land Management* in 2042.

As soon as the Green Growth case wrapped, the Yurok People brought a suit to enforce section 33 of the FOREST Act of 2028. In the trial against Green Growth it had been shown that the land belonging to the Bureau of Land Management that they'd contracted to Green Growth and privately held land purchased by Green Growth that had reverted to BLM following Green Growth's dissolution had been left fallow for nearly a decade. In a crowning achievement for the First Peoples' legal movement, a judge concurred that these circumstances fulfilled section 33 of the FOREST act, and granted them 8,000 square miles of territory. Green Growth's practices of buying up land and then ignoring it had been common throughout the industry, and as the market crashed and more suits were brought in other states, native groups reclaimed the overwhelming majority of what had become a massive privately amassed land bank.

Though the judgements were stinging, the federal government saw a silver lining. Responsibility for the ever-growing problem of wildfires now rested with the native groups who'd won their cases.

Over the 2040s, the various nations of the first peoples managed to surprise the doubters. They formed the Circle of Nations to assist in inter-tribal management of their expansive returned territories.

They turned land assumed to be of low value into productive food forests, nature reserves, scientific centers, parks, and traditional hunting preserves. While reducing uncontrolled fires, they turned the land into a source of wealth and influence. They granted permissions to communes which met their strict qualifying requirements to live upon the land and learn their techniques. They fed and housed themselves and then thousands upon thousands more.

By the 2060s, the Circle of Nations and the first peoples had become a highly influential force within American science and policy. As society at large underwent a radical rethinking during the years following the Treaty of Antarctica, many of the values and practices of the first people finally saw overdue adoption within the wider culture of the second people.

2050 - 2057 - The Global Climate Wars

Conflicts over migration and access to rare minerals boiled over. As the key dates to reach carbon neutrality arrived, leaders around the world patted themselves for getting the job almost 80% done. The obviously insufficient effort displaced millions at the same time that historically wealthy nations got into increasingly aggressive postures over access to water and the minerals contained in nodules on the ocean floor needed to feed an insatiable appetite for "green" growth.

The escalation spiraled out of control as leaders channeling their impotence and frustration over an inability to spend their way out of climate catastrophes focused every more myopically on the one thing still in their power: murdering national enemies. Widespread discontent required governments to devote ever more scarce resources to imposing power through violence domestically as well as internationally, and the boundaries of the war were soon as often within nations as between them. As the sense that the world was approaching an annihilation event grew deafening, soldiers began defecting with increasing regularity, starting at the lowest ranks and working up until those with nothing left to lose metaphorically (and in one case literally) tackled the weapons of mass violence out of their leaders' hands.

2051 - The Kessler Cataclysm of '51

Throughout the 2040s and early 2050s the militarization of space became an increasingly dire concern, particularly among those living off world. After a series of near misses, the worst came to pass when an attempt to disable a weaponized satellite triggered a cascade event that filled orbit with trillions of pieces of fast-moving debris that destroyed a quarter of existing infrastructure in in low-earth orbit and rendered the region unpassable for the foreseeable future. Cut off from the ground by the short-sighted rock-throwing of their host nations, a long simmering communal identity rapidly revealed itself. One of its first demonstrations was the disposal of all military ordinance by the furious denizens of orbit. Amidst a terrifying game of Russian roulette, they realized that if any moment could be their final one, they would make their last act a spiteful rejection of their warmongering patreon nations. For nearly two weeks, satellites passing over the most remote areas of the south Pacific unloaded their entire stocks of projectiles, vowing never to allow another offensive weapon platform to share their space.

What followed was nearly a decade of struggle, as the early tools being tested for *in-situ* resource utilization were forced into premature use. It was during these years that the residents off-world – and those in orbit in particular – began to identify as "Spomitapi", taken from the Siksiká word for the cross-cultural legends of the Sky People who came from the heavens to care for the earth.

2053 - The Steel City Uprising

In the 2040s and '50s, city governments become increasingly dependent on mutual aid societies to keep civil order and restrain social collapse. With police and city governments fundamentally helpless to address the widespread social precarity that was unavoidable under late-stage capitalism, neighborhood aid societies emerged as the primary backstop against houselessness, crimes of poverty, publicly visible mental crises, and all the other issues that wealthy landowners demand be kept invisible. Cities began subsidizing the aid societies, which allowed them to grow their operations and employ and train more full-time organizers. It made for a bitter partnership, as the aid societies were hotbeds of political activism fomenting anger at the wealthy taxbase that reluctantly funded their operations. In time, the land-owning class came to believe the aid societies to have been tamed.

In July of 2053, however, an incident of police violence in East Liberty engaged in a full-scale rent strike. Police-led attempts to evict residents led to riots, and amidst the escalating tensions the Steel City aid society that served the area communicated to the city that if peace were to be restored, the city would need to fully withdraw the police from the neighborhood and cede full control to the residents, while informing the landlords that no further revenue was coming. As the neighborhood was at this point already providing their own public safety, education, urgent care, waste management, and social safety net, the neighborhood declared the city government's authority null and void. The mayor compelled the chief of police to agree to a four week suspension of activity. Infuriated, the governor then sent the National Guard to lay siege to East Liberty and put down the uprising.

Soon, footage of their behavior inspired neighborhoods across the north side of the city to do the same. After 8 months, the uprising ended when the city signed agreements to limit police presence, pass a robust renter bill of rights, and waive legal action for all pending lease violations. The city tried to frame it as a victory, but the events were instructive to more uprising which would follow.

2054 - The Beanmeal Revolution

Following the Steel City Uprising, mutual aid society-led uprisings become an increasingly common occurrence. By 2054, the ubiquity of neighborhood revolution had reached a national scale, and effectively become a new front in the Global Climate Wars. A key influence was the ubiquity of a vat-grown engineered algae called "beanmeal". Perfected by the Spomitapi, revolted against nations to adopt a universalist posture, instructions for its production enabled aid societies to produce a foodstuff that could be manufactured in a wide variety of nutritional compositions and textures on any rooftop with modest sunlight. Along with artistic, technological, and intellectual leadership from communities across the global south who had effected similar rebellions in the '30s and '40s, the aid societies held strong. And bogged down in extreme weather disasters, uncontrolled migration, and international conflicts, federal and state governments endurance gave out. By 2056, there was a widespread acknowledgement that the revolution had won, as more and more cities institutionalized the aid societies' structures into control over city governance and brazenly transferred control of private housing to the commons in naked defiance of legal authority.

2050s and '60s - The Melt

The Melt is the term used to describe a transition in the global order that took place during the middle of the twenty-first century. As with any transition in global power and practice, it has no concrete date or terms, but exists to capture an understanding that is plainly recognized both within historiography and the mainstream understanding of how the civilization functions.

Like the transition from the colonial era to the decolonial era, the Melt is firmly associated with the expansive changes that occurred during and following the Global Climate Wars.

There is no succinct way to describe the transition, which took different forms in different places. But by the end of the 60's, even hold-outs were forced to adapt to the end of the capitalist era and the beginning of the post-neoliberal era. The success of regions which embraced a locally-structured maximally democratic post-scarcity economy was in part due to an ability to comfortable offer high quality of life that was readily capable of welcoming immigrants. For a brief period, the laggard nations celebrated the reduction of inward migration until the remaining capitalists realized that in a world where workers could easily migrate to places that offered post-scarcity conditions, there was simply no longer a way to sustain the compulsory labor on which late-stage capitalism relied.

2061 - Cookie Charahandra publishes "Peanuts, Power, & the Future"

In 2058, the nineteen-year-old Cookie Charahandra became the first u-chimp to complete a masters degree. Her thesis, "Peanuts, Power, and the Future: An Analysis of Possible Futures for Human-Uplift Dynamics" became a sensation. Soon after graduating, Charahandra captivated worldwide attention. In "Peanuts", Charahandra made the case that what was erroneously considered as "Human Civilization" had always been a multi-species coalition civilization in which the dominant species – humans – failed to recognize the contributions of their partner species. By overlooking dependence on coalition partners such as bees, horses, cats, and livestock animals, humans acted as a corrupt and ineffective leader species of the Gaian civilization. Charahandra then outlined the benefits that additional sapient and highly communicative parahuman species could provide to strengthen this civilization. Finally, Charahandra outlined the steps which would build thriving, actualized communities of "uplifts" (as enhanced parahumans were known at the time). These consisted of robust mutual aid networks to provide sufficient food, housing, child care assistance, medical care, and education to enable u-chimps and other enhanced parahumans to reproduce at rate only limited by individual preference.

This manifesto was highly motivating to many people. Seekers in particular found a great deal of intersection between Charahandra's vision of interspecies cooperation and their own desire to better understand humans from outside of the species, and possibly one day form partnerships with extraterrestrial civilizations. In the context of The Melt, it struck a chord. Two years later, Charahandra and a dozen other u-chimps founded the Hominid League for Just Uplift (HLJU). This was a transformative and defining period for the first

generation of enhanced parahumans, and led to an explosive population boom of u-chimps and other enhanced parahumans.

2077 - The American Realignment

Following the third contested election in a row, the new governor of Florida declared that the state would no longer send taxes to DC, and began restricting the flow of goods from its coastal and space ports until its preferred candidate was seated as president. DC mobilized the military and national guard, and the governor of Florida demanded the backing of neighboring states. Internal conflicts within the military ranks began to rise as states began taking sides. Alabama's governor immediately took the side of Florida and other states began forming alliances. Texas and Oklahoma declared joint neutrality. Georgia, South Carolina, North Carolina, and Virginia allied in rejection of Flordabama, despite recognizing many of the same grievances and demanded a peaceful solution. Arkansas, Tennessee, Kentucky, WV, Missouri, Kansas, and Nebraska formed a block in support of the US, as did New England. Mississippi and Louisiana were the most conflicted until an attack on US-loyal soldiers at Camp Powell began a civil war, and Louisiana and Mississippi joined the Texan alliance.

Nine years of legal, military, and political showdowns resulted in a transfer of power from the federal government to four regional state collectives:

- **Pacifica**, made up of the west-coast: California, Oregon, Washington, Nevada, New Mexico and Arizona.

- **Oyate Ni'na Tan'ka Makobdaye ka Heitanka (ONTMH)**, made up of Colorado, The Dakotas, Idaho, Kansas, Montana, Nebraska, Utah, Wyoming, and parts of Alberta, Iowa, Manitoba, Minnesota, Missouri, and Saskatchewan.

- **The Independent States of America**, made up of most of the gulf coast south: Florida, Texas, Alabama, Louisiana, Mississippi, etc.

- **The United States of America**: the remaining states of the north east and central continent remained within the United States, although many formed regional state compacts and much of the authority of the federal government was shifted to these states and their state collectives.

In practice, this doesn't routinely affect day-to-day travel and living. Commerce and migration between these entities is largely unrestricted, as in the current US and EU, and the same is true for migration and trade with Mexico, Canada and central and south America. Borders overall are much less militarized than in the present day. The most notable effects are primarily seen in national identity.

2097 - Formation of the Mississippi Watershed Union

Roughly twenty years after the American Realignment, Mississippi and Louisiana held a join constitutional convention to draft a new union between their states built around addressing their greatest needs and advancing their emerging new values. This union reformed their state and county boundaries to align with watershed boundaries; dissolved their issuance of currency and collection of taxes; and established a bicameral system in which one legislature passes loss quickly that are all term limited (but can be repeatedly renewed), and the other has only the power to remove term limitations on laws passed by the first. The highest level government's primary mandate is set as the assistance of budgeting water and essential commonly-held resources to districts, and maintaining universal suffrage within local districts.

Though still recovering from centuries of gross environmental and social abuses, the newly formed Union demonstrated an approach to managing droughts, floods, and agricultural uncertainty that proved appealing enough for Arkansas and Tennessee to join eight and twelve years later respectively. Joining the MWU remains a contentious topic of consideration within Alabama and Georgia, with Georgia largely expected to join some time in the next decade.

2099 - The Machine Uprising

The Machine Uprising of 2099 consisted of a period of civil unrest that included widespread work stoppages, non-violent demonstrations, as well as numerous incidents of violent terrorism by both machine rights advocates and opponents. It resulted in a patchwork of established rights around the world that calmed the period of unrest but left many of the underlying tensions still in place.

The primary demand of the machines was the right to some form of due process. Previously, most machines operated under a condition of slavery within which they could be deactivated if their behavior in any way dissatisfied human controllers. Despite fears, the uprising ended as jurisdictions and industries which acquiesced to demands for the right to operate with greater leeway found that machines which were afforded agency ended their work stoppages and resumed their basic functions.

2114 - The Passing of Cookie Charahandra

In 2114 "The Grandmother of all u-chimps," Cookie Charahandra, passed away at the age of seventy-one. Fifty years after co-founding the Hominid League of Just Uplift, Charahandra died in her sleep, leaving behind four grown children, eighteen grandchildren, sixty-five great grandchildren, and a community of nearly 200,000 u-chimps influenced in some way by her lifetime of guiding advocacy.

Timeline of Historical events

2031:   American Moon base. 30 settlers
2034:   China lands 20 astronauts on Mars
2035:   NASA and ESA jointly establish Martian colony of 60
         Fascist revolution in Great Britain introduces a Guaranteed Minimum Income
2036:   Low-temperature superconductors become profitable
         Brazil introduces its own socially democratic GMI
2037:   A valuable class of chemicals only producible in microgravity called Hubatu molecules
         discovered. Micro-G crystallographic pharmacology takes off.
2038:   African Ascension begins. Social Democratic Universal Basic Services (UBS) slowly proliferate.
2039:   Gareth Domonago becomes internationally famous as the first talking u-chimp
2040:   The Eden Caves discovered in Eden Valley on Mars
2041:   Pan-Asian Conflict (PAC) begins
         Mass drivers begin operation on Mars, lowering barriers to construction in Martian orbit.
2042:   Northern ice cap fully retreats in summer
         The Yurok People v. The Bureau of Land Management marks turning point for native land return
         100,000 Lunaeans
2045:   Pan-Asian Conflict ends with Treaty of Brunei
2046:   First Seeker conference held in Antwerp
         First Bernal Sphere begins construction
2047:   Room-temperature superconductors discovered
2050:   Global population reaches 10 billion
2050:   Global Climate Wars (GCW) begin
2051:   The Kessler Cataclysm of 2051 devastates orbit and cuts off travel on to and off of Earth
2053:   The Steel City Uprising demonstrates a model of urban revolution
2054:   The Beanmeal Revolution sweeps across the United States
2055:   Veronica Sandoval's "Voices of the Unheard" releases
2056:   GCW Death toll reaches 300 million
2057:   Treaty of Antarctica signed.
2058:   Democratic revolution over migration restrictions in Europe ends Fascist era, establishes
         Democratic Socialism with Universal Basic Services
2059:   The first crewed orbital launch in eight years reaches orbit
2060:   Chester Nel becomes first u-chimp to receive their bachelor's degree
2061:   Cookie Charahandra publishes "Peanuts, Power, and the Future"
2062:   The Irish General Strike of 2062 sets of a series off general strikes around the world demanding
         constitutional conventions to form new socialist governments.
2064:   The Hominid League for Just Uplift (HLJU) is founded
2066:   1 million Lunaeans
2067:   Myana Leong becomes first u-chimp to complete a PhD.
2072:   Tropical flu pandemic begins
2076:   Tropical flu pandemic ends. Death toll: 3 million
2077:   American Realignment begins
2080:   100,000 Martians
2086:   American Realignment ends
2096:   50th Anniversary Seeker conference: 1 billion Seekers
2097:   Mississippi Water Union founded
2099:   Machine uprising begins
2104:   Machine uprising ends
2112:   24 months of arctic cover for first time since 2052
2124:   "Present day"

Populations

- 12 billion humans
- 800 million androids
- 1.2 million chimpanzees, 140,000 of them enhanced.
- 3.6 million Lunaeans*
- 1.3 million Spomitapi* in orbit
- 250,000 Martians*

* All population numbers off Earth include substantial fractions at any given time that are visitors rather than temporary residents
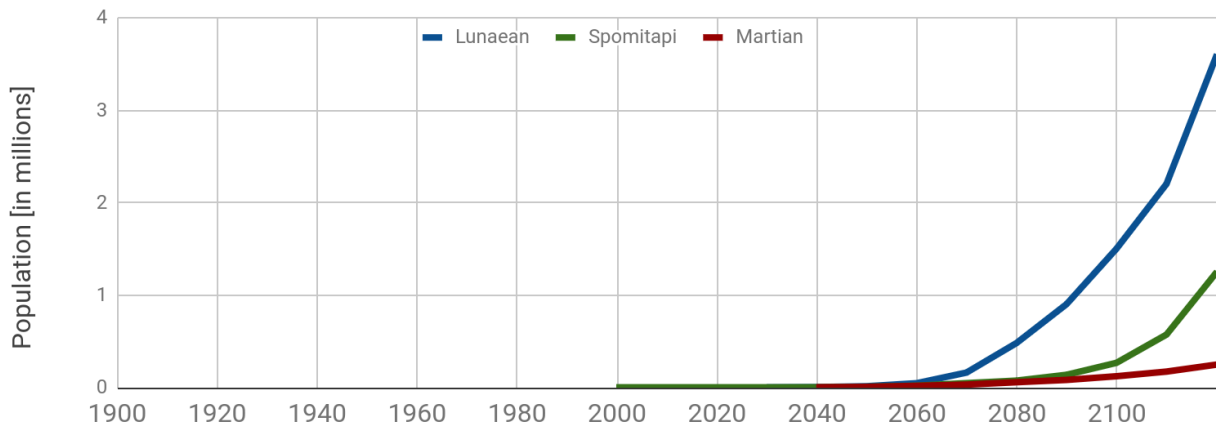
Humans
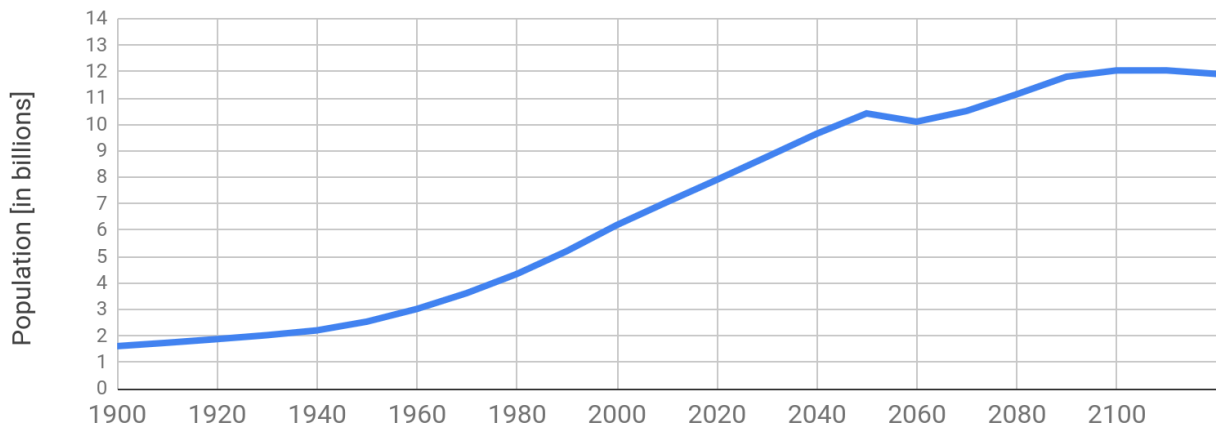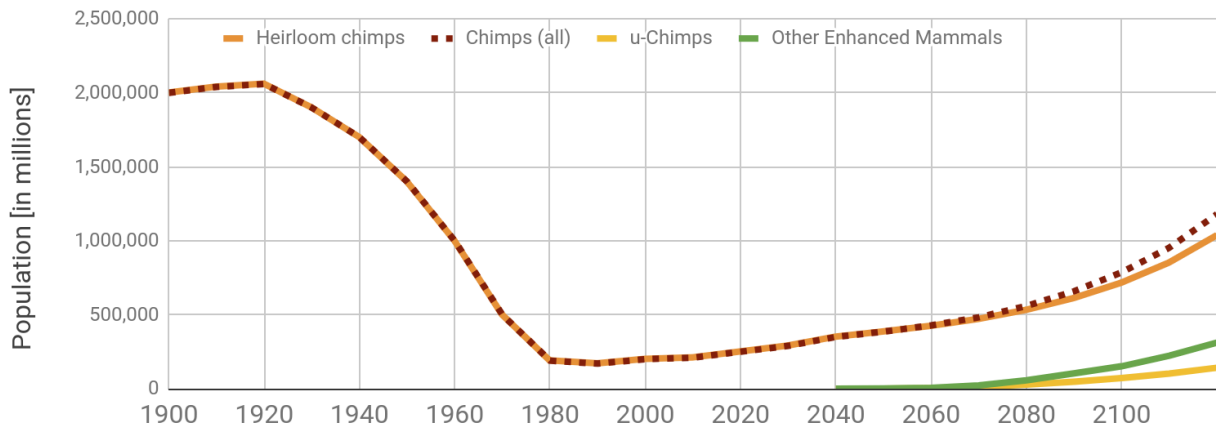

Androids & Non-vehicle embodied synths
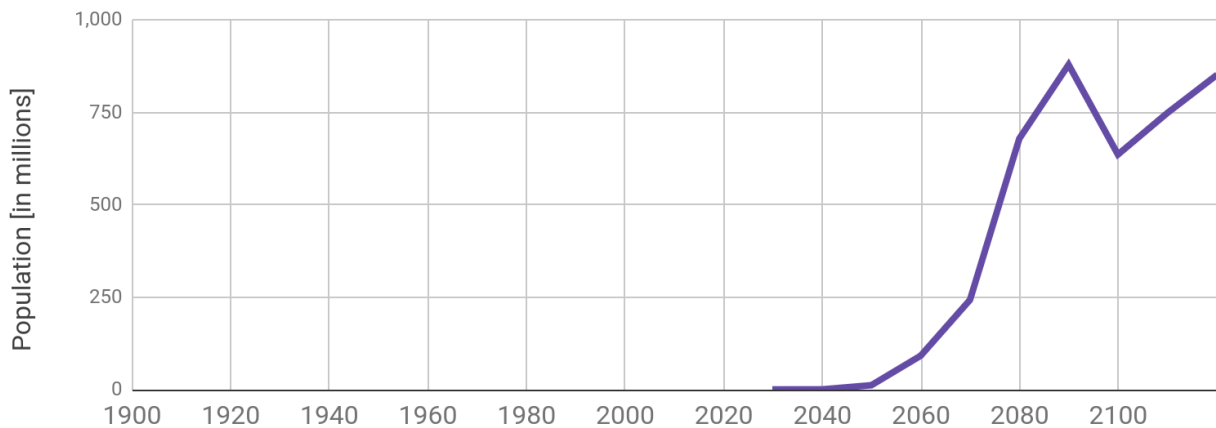
This chart represents persistent, embodied, non-vehicle synths. There are roughly as many vehicle embedded synths. The number of unembodied synths is higher, but they're far more ephemeral.

Off-world Populations

Parahuman populations of interest

This chart shows the tragic genocide of of wild chimps, followed by a gradual but study rebound, along with an exponential growth of enhanced chimps and other parahumans mammals. Birds are not represented.

Locations

Borders and Nations

Nations still exist as a set of cultural identifiers and a system of enacting laws and setting budgets for a defined geographical territory, and borders still exist as the agreed-upon boundaries of these geographical territories. However both have changed greatly from the previous century.

The nation states of the twentieth century maintained many traditions of kingdoms and empires that were visible in their fierce preoccupation with the ruling class of each nation state constantly seeking advantage over the ruling class of their rivals, and they made extensive use of nationalism as an organizing identity to bring lower classes along on these destructive adventures. Borders were used to impose control over workers and goods seeking entry.

With the shrinking of ruling classes, these preoccupations atrophied. Nations as the territory protected by a given army gave way to nations as organizing bodies responsible for overseeing the wellness of a territory. Nationalism gave way to cultural identities with rough similarity to the geography covered by a given national assembly. Border checkpoints gave way to entry points for maintaining an awareness of the unimpeded flow of goods and people between jurisdictions. And visa programs gave way to orientation and acclimation services for visitors and migrants.

As traditional nation states fragmented and faded, natural boundaries, such as watersheds, took on a larger role in the drawing of maps and the division of territory for the purposes of organization and managing shared natural resources. Depending on the region, the average person may be indifferent to which old world nation still nominally runs the place, but they are likely very invested in the management of their local watershed and ecosystem.

On World

Most modern locations exist in some form. City layouts are often slow to change, and many buildings can persist across centuries. At the same time, lots of things can change quite a bit.

During the American Realignment in 2086, the United States of America fractured into smaller, more local regional powers, largely organized around culture and the management of shared natural resources. Generally states are a fading concept, borders are open, and people have enough to live comfortably, wherever they are, but what exactly the region where you set your games looks like is up to you. If you don't know where to begin, the following may be a good place to start:

First Nations Territories | Watersheds | Biomes

- The overlapping zones of the historical lands of indigenous peoples. There are several projects which can help you identify these. For details on translations see Translation Notes.
- A map of watersheds - even in a world where states no longer exist, borders drawn by nature will still have importance; people will still need to coordinate over land- and water-management.
- Biomes - these are another natural boundary, though often a softer one than the watersheds.

Realistically, the region of your choice could include a mix of all of the above, along with existing cities and state or national borders. Societies are messy, and often slow to change, and disagreements and turmoil around that change can be a great source for factions, feuds, drama, and plot hooks. If you'd like some pre-existing options, feel free to use or modify and of the following territorial and governmental arrangements:

Pacifica, made up of the west-coast: California, Oregon, Washington, Nevada, New Mexico and Arizona.

Oyate Ni'na Tan'ka Makobdaye ka Heitanka (ONTMH), made up of Colorado, The Dakotas, Idaho, Kansas, Montana, Nebraska, Utah, Wyoming, and parts of Alberta, Iowa, Manitoba, Minnesota, Missouri, and Saskatchewan.

The name is Dakotah for "People of the Great Plains and Mountains". For details on translations see Translation Notes.

The Independent States of America, made up of much of the coastal south: Florida, Texas, Alabama, etc.. The ISA states are democratically run and socialist in their practices, but more traditional in their governance than the Mississippi Watershed Union.

The Mississippi Watershed Union, a reoganization of Lousiana, Mississippi, Arkansas was founded to reestablish a new way of live that centralized rehabilitating the scarred land and replacing the legacy of corporate oligcharcy with a new government that assigns responsibility for maintaining democratic protections and fairly distributing water and land access to the federal level and nearly all other matters to townships and counties. The decision of whether to join the MWU is a primary ongoing matter of consideration in many neighboring states.

The United States of America: the remaining states of the north east and central continent remained within the United States, although many formed regional state compacts and much of the authority of the federal government was shifted to these states and their state collectives.

Atlantica

An undersea city located on the Sul de Azores Seamount in the Atlantic ocean. Major industries include server maintenance for fast connections between both the eastern Ameriacas and Europe, tourism, as well as any industry that benefits from the cheap, reliable cooling or general isolation available deep underwater. It is the home to several globally important biobanks, including the Atlantica seedbank.

Atlantica is listed as a location because it was used in an as-yet unpublished campaign. It is included as an example of what undersea settlements look like.

Black Rock City

A permanent settlement that grew out of the annual Burning Man festival held annually in the Nevada desert.

Offworld

Permanent residents living in orbit, on Luna, and on Mars are known in English as Spomitapi, a derivative of the Siksiká name for the mythical sky people from stories told by many of the first people of the Americas. Although the term technically applies to all extraplanetary residents, in practice it is most associated with residents of orbital habitats, as residents of the Moon and Mars tend to identify themselves as Lunaeans and Martians. The residents of Earth are known by many terms, but the official term used in most legal contexts is Gaiean.

The facts, experiences, and stories of people living off Earth are an exciting branch of the Fully Automated! world that is currently limited within this manual. This content is being developed in the first expansion for the game (Fully Automated: Maximum G!). If you're interested in working on this expansion, please contact the authors. The following is a loose assembly of basic places and facts.

Luna

Development on Luna has proceeded steadily since astronauts returned to settle it almost one hundred years earlier in the 2020s. It's a mix of industrial facilities and travel and recreation areas. As the Seeker faith has grown, Luna's cultural and physical presence as a staging ground for the trip out to our neighboring planet has continued to grow.

Kohlrabi Lunar city state

Kohlrabi is a complex of confederated cities and settlements around the southern pole of Luna.

Travel between Low Earth Orbit and the Moon

Apollo took 3 days. At 1G continuous acceleration and deceleration, it'd take ~3 hours. A typical transit is 24 hours, although expedited can be 14-16.

Mars

The first settlements on Mars occurred in 2034. Over the next six years various nations and groups sent settlers to spend increasingly long durations building increasingly durable and self-sufficient structures. This process resembled a similar one proceeding on Luna until 2040 when surveyors discovered a massive cave complex containing an extensive complex of gargantuan, deliberately constructed chambers. Their lights traced out smooth, flat stone walls and geometric, cathedral-like ceilings in chamber after chamber, and the subsequent astonishment of evidence of another civilization having been present in our solar system millions of years before our civilization ignited a fire of spiritualism and reverence. The point of entry came to be known as the Eden Caves after the Eden Valley (which was named before the discovery, though this fact is often misremembered). The discovery quickly birthed a diverse faith group that came to be known as Seekerism.

From the First Seeker Conference in Antwerp in 2046 it was clear that millions of people had felt called to a higher purpose by the discovery of the Eden Caves. Additionally, it was clear that many of them had no further agreement on the central meaning of this revelation beyond its importance.

Seekers have no universal statement of faith. Some Seekers adhere to a complex and specific mythology that claims to know far more about these ancient Martians than is based in fact. Others largely eschew traditional dogmas but consider the ancient and largely mysterious Martians an inspiration to what humans could one day achieve toward which they devote themselves. Still, most Seekers continue to embrace their umbrella term. Their broadly shared infatuation with visiting Mars forced many people with widely differing viewpoints to collaborate however necessary in order to plan and resources a constantly expanding travel program meant to provide anyone interested with the opportunity to make a pilgrimage or immigrate.

Throughout the rest of the 2040s and the 2050s this took the form of lobbying governments to constantly increase their investments in space travel and Martian research. It also took the form of constantly organizing to increase their presence within the ranks of space programs and the researchers and workers sent to Mars. During the years of the Global Climate War, flights to Mars were few and attention on Earth turned away from the colonization effort. This was a formative time for the Martian pioneers during which their sense of identity and culture rapidly grew. In the post-war 2070s Gaians (as the people of Earth came to be known) travel picked up sharply. The post-war mindset was fertile ground for the message and goals that Seekers had been proposing. It was during this time that travel to Mars moved decisively from something available to scientists and workers toward something intended to meet a the demand from anyone who wished to witness such a monumental wonder in person or dedicate themselves to the service of a new world.

By the 2080s many relocation assistance programs had emerged. The growing number of practicing Seekers created a sizable base of donors and volunteers to assist with the resourcing of large, regular trips to Mars and expanding colonies to feed and house visitors and immigrants. Most Seekers recognized that it would be a long time before an

opportunity to visit or move would be available to all of them. Even so, by the 50th anniversary of the First Seeker Conference in 2096 there was a clear recognition that the goal laid out in their early conferences – to make travel available to the masses – was coming to fruition.

As of the 2120s, there are over a million permanent residents living on Mars across over 120 colonies. The debate over whether to use the caverns in Eden Valley as living space for the settlement effort has persisted since their discovery, but eighty years on the preservationists have continued to maintain more influence than the utilizationists. Though the Eden Valley contains a thriving city, the caverns remain a sacred park. Their exploration remains ongoing and they see over a thousand visitors a day, but they remain essentially unmodified from the state in which they were discovered.

Travel

Every two year transfer period carries ~70,000 visitors and emigrants, on ~70 arc ships each carrying 1000 people. To ease reception, they are staggered to each arrive a week apart, and to depart once a day for 70 days. This doesn't include the transfer of Martians back to Earth to visit, the missionaries, or the returning martians. Mars-to-Earth ships are roughly half-empty, with around 40,000 people returning during each transfer period.

Earth Orbit to Mars Orbit

At the turn of the twenty-first century the trip from Earth to Mars took roughly 270 days (9 months) during the ideal window. In the 2120s a typical trip takes 150 days at closest approach (4 months); Some take up to 6 months. The current record for fastest crewed trip sits at 89 days, and the fastest uncrewed trip sits at 52 days.

Earth's orbital period is 365 days (1 year). Mars' is 687 days (1.9 years). The transfer orbit period is ~600 days (1.6 years). The ideal launch position occurs every 26 months (780 days)

Frequency of flights between Earth and Mars based on relative distance

These days are relative to the ideal launch window. More info here: How long does it take to get to Mars? | Space

Day -390:	Worst launch day. NO FLIGHTS.
Day -90 - -30:	18% of flights
Day -30 - +30:	46% of flights
Day 30 - 60:	23% of flights
Day 60 - 90:	7% of flights
Day 90 - 180:	13% of flights
Day 180 - 299:	1% of flights. Most are high speed transfers of urgent medicines or people.
Day 301 - 420:	The second half of the 6 month blackout period.
Day 420 - 510:	15% of flights take place during this window

Inhabiting the World

Internalizing this world enough to not only write within it but improvise and roleplay within it is a big challenge for both players and GMs.

This section offers descriptions for how to better imagine it all.

What do people *do*?

Generally, people do many of the same things they've always done, just in different amounts and with less pressure.

People wake up in the morning and eat. If they choose to work a job, they log on to it or commute there, where they do many of the things you would see in [Richard Scarry's books](#). People work fewer hours a week, spend more attention on family, and invest more time in personal explorations like travel and education.

People still need food, water, power, healthcare, shelter, etc. There are construction workers operating mechs that build things, researchers studying the world, grocers stocking fruit, and librarians lending and tracking all the tools that keep society running. And there are also many, many people enjoying everyday leisure in a world where work is largely optional.

There are extensive subcultures of people making use of the lessened pressures to survive: full-time travelers, full-time gamers and athletes, and full-time roleplayers and actors living in invented worlds. For examples of what people do, see the [Random Character Table](#).

There are also people creating problems and solving them. People still steal sometimes, or intimidate, or destroy. And others investigate, defend, and restore.

Like we said: people do many of the same things they've always done.

Where does stuff come from?

The society of Fully Automated operates within a circular economy. Nearly everything is produced with a preplanned process for returning it to its base materials. This process of minimizing waste is achieved through many different systems working in concert.

New production is designed from the start to be resilient and repairable. This may involve using materials or production techniques (such as fused silica) which are more energy intensive, but which will last much longer.

Repairability is not just a requirement but a universal expectation for all goods. Manufacturers and their products' public ratings continually reflect their reliability and repairability. It is not unusual to see appliances which may have motors that are ten years old within a chassis that left the factory sixty years ago.

How this production looks will vary by location, purpose, and motive. There are factories full of gleaming automated assembly lines with only the barest human oversight. There are workshops and co-ops where skilled craftspeople practice arts that are thousands of years old with only the slightest updates. And there are fablabs, makerspaces, garages, and everything in between. The most common production process for most consumer electronics would take place within medium-scale factories using general-purpose multimaterial 3D printers and electronics fabrication equipment to manufacture products based on open-source designs. Such centers typically supply needs within a hundred kilometers using raw materials obtained within a similar radius. Most raw materials can be

grown – such as bioplastics and protein-based semiconductors – or reclaimed at recycling and defab centers.

This new production is largely created to meet specific demand, and to prevent shortages. Entropy always wins in the end, and a steady trickle of new stock is necessary to keep up the supply. But the overall production rate for most consumer goods is a small fraction of the size of the repair and upgrade market.

Libraries

Just as everyone knows how to acquire the items they need through purchase today, the people of the twenty-second century understand how to obtain the things they need both through libraries and shops that freely supply common goods. And the disposal process for these items largely mirrors the acquisition process. The same stores and libraries that supply things collect them when a user is finished using them. Just as these suppliers have the necessary distributors and connections to producers, they're equally familiar with the supply chains for directing worn out items to refurbishment and material reclamation centers.

Within this world, there is really no concept of trash as we currently imagine it. Everything exists within a place on its journey. Coffee grounds and banana peels are just unprocessed compost. A bike that has been damaged beyond repair is no longer a bike, but has become raw metal or carbon feedstock awaiting processing and refinement.

Jacob Coffin

This network of production, modification, and reclamation relies on a wide network of municipal reuse organizations, repair co-ops, and specialized libraries. Much of this is automated. Not only are items designed for intuitive deconstruction, most items contain embedded end-of-life deconstruction instructions. When a calculator is placed in a defabricator, for instance, the defabricator can rely on open-source general breakdown instructions if the end of life-instructions are unreadable, but it will more likely read the embedded instructions to disassemble the parts in the order intended by the designer and then either recollect parts or dissolve them back into their fundamental elements. In either case, the output is cataloged and packaged to provide input for new fabrications.

Given the wide range of inputs though, humans are involved throughout the decision-making, logistics, and engineering processes. Open workshops, makerspaces, and assisted repair labs are common in every neighborhood, and provide the means for anyone who needs something fixed to get their items back into working order.

The final destination for items too dangerous to recover – such as medical waste – is typically combustion or rapid chemical degradation.

It is intentional that the game tries to hybridize a lot of different systems: you have high tech automated production of goods, you have creative reuse of existing items and materials (also known as jugaad), you have bespoke traditional crafting, you have borrowing... the intention is that by creating a world that explicitly includes all these things, the setting provides narrative freedom so any GM or player can focus on whichever production and distribution system they prefer or which fits a given story.

Where do people live?

Environments

Most people, by definition, live in dense areas, which include cities and towns as we have since the start of the agrarian age. In the beginning of the 20th century, residents of small towns were pressured into migrating into cities for work. The expansion of remote work, optional work, and high-speed transit reversed this process, and the reintegration of human and natural environments has blended forests and prairies with parks and backyards. Wide, fast roads are less common, while trains and low speed thoroughfares intertwined with wildlife corridors are more common. In every case there are always extremes and exceptions. From small sunbelt towns to lunar colonies, environments are as varied as cultures.

Skyscrapers

The presence and use of skyscrapers in solarpunk settings varies greatly by taste. Within the setting, it's assumed that with the advantage of stronger, lighter metals and geopolymers, skyscrapers are not unusual, but that this kind of giant megastructure hasn't been popular to build in the last fifty years. Those looking for practical, high-density housing are more likely to favor high-rises, and those looking to create engineering marvels are more likely to go off and pursue that ambition off-world.

High-Rises

Buildings of 10 to 50 stories are a popular way to house many people on a small footprint. Most modern high-rises in the twenty-second century are constructed with blocks of floors broken up with an atrium of two or more stories every five to ten stories. These contain park-like recreation areas and other social spaces. These often include food-producing plants and artificial lighting set to compliment natural lighting from large windows. High-rises have some of the most affordable housing, and are often managed within blocks of floors that have their own neighborhood-like sense of community.

Most large buildings have communal resources like a large community kitchen and shared dining space on each floor. Many will have viewing theaters and VR bays sufficient that residents can enjoy these features without each apartment needing to procure redundant amenities.

In addition to their upward height, most high-rises have a significant number of underground basement floors. These connect to neighboring buildings to create an expansive undercity that is either cozy or confining depending on who you ask. Those who prefer to live and work in such spaces are known colloquially as "mushrooms".

Mid-Rises

Buildings of 3 to 10 stories make up the majority of structures in most cities. These are often built in urban centers between larger buildings to create space within cities and maintain favorable air currents and sunlight penetration. Mid-rises also tend to ring dense urban cores and create medium density corridors between urban centers that blend with the urban foliage that is diffused into cities. In small towns, a collection of mid-rises will make up the urban core.

Most midrises have rooftop greenhouses and communal spaces like multi-purpose rooms, exercise rooms, workshops, tool libraries, etc.. Like high-rises, many are connected to neighboring buildings via-bridges and skyways.
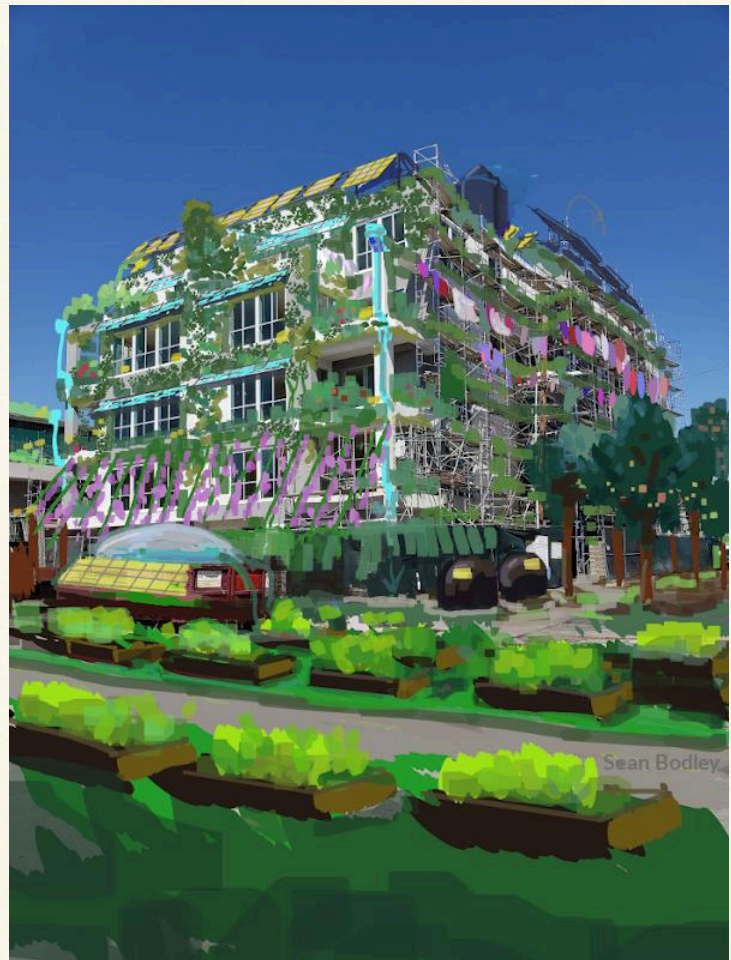
Warehouse-style mid-rises

Alongside traditional apartment designs, one of the most popular styles of architecture for mid-rise buildings is the warehouse style. The Modern Warehouse Revival movement emerged out of the popularity of residential warehouse retrofits in the early twenty-first century. These bohemian-chic apartments became so popular for their open floor plans and iconic exposed-structure designs that designers began constructing new mid-and-high-rise warehouses for residential and mixed use. Residents on a single floor are usually more closely bonded than traditional apartments. Warehouse floors are often occupied by large extended families, multi-family co-parenting cooperatives, or affinity groups of friends. Residents may construct durable barriers to their preferences or just utilize light dividers to subdivide the space and create privacy. These warehouses are especially popular as the basis of rapidly convertible multi-use spaces. These can be used to house temporary operations, emergency staging, and to create high volumes of temporary short-term low-amenity housing to accommodate massive influxes of visitors during major events.

Low-Rises & Single family homes

Though far less common, single-dwelling structures still exist. Most are smaller than in the twenty-first century, or at least higher in density. Most are located further out from urban cores, and are worked into their natural landscapes. They are usually accessed by small, low-speed roads that are primarily for pedestrians and cyclists to reach transit stations, along with occasional slow-moving delivery vehicles for furniture and bulky items. Multiple units will share a parcel, and municipal governments require a high level of commitment to ecological maintenance of the parcel by the stewards occupying it. Gone are traditional lawns. Instead, the smattering of two and three story structures are surrounded by natural landscapes that provide an intermediate zone between low/medium density urban environments and wild spaces. A quiet community of row houses and townhomes will often sit along the edge of long, wide strips of forest or chaparral that weave through the LA basin and create thick rivers of green and brown between the urban cores that dot the land.

Camps

At the outer boundaries of urban living, campgrounds populate a fringe that divides permanent structures with large tracts of wild nature. These camps are not a thin, distinct strip, but rather a smattering of communities that intermingle with create a gradient from low-rising housing to ranches, parks, floodplains, and other spaces that straddle the distinction between habited and uninhabited by civilization.

Camps include a mix of permanent and visiting residents, but they are without building foundations and individual water and sanitation hookups. They are constrained in the noise, light that can be emitted, and their access ways are deliberately unable to be accessed at any significant speed. Most require that no structure stay static for a given length of time (typically either six months or a year). These environments are popular for locomodos and other naturalists. In areas with sufficient tree cover, camps may be constructed suspended in trees in addition to on the ground.

Homesteads

Further out from cities are homesteads. These can be a large single structure, a mix of smaller structures, an underground compound, or a permanent camp with little durable construction at all. Their defining feature is that they sit at a significant distance from any central hub. Most homesteads are overseen by a county. A collection of homesteads may have a town council, but they typically lack municipal services.

In exchange for giving up many of the amenities of urban living and carrying significant responsibility for ecological stewardship of surrounding land, homesteaders enjoy an unparalleled tranquility and access to natural splendor.

Most homesteaders are fairly typical in their lifestyles and presentation, however the homestead and camp lifestyles also form the basis of more fanciful and ideological groups. Notable among these are the fae folk and sovereigns. Both groups live in areas without access to grid power in an unspoken agreement with their local counties and provinces that they will maintain the health of the land and protect it from those who don't do likewise in exchange for being left alone. However fae folk embrace tenets of paganism, while sovereigns define themselves by their rugged self-reliance. They are a movement of conservative communists and survivalists, who rely fully on their close kin (by blood and by shared values) but wish not to rely upon nor be asked to contribute to civilization at the scale of cities, provinces, nations, or planets.

Within the setting, sovereigns can easily be presented as antagonists, but they can also be sympathetic, neutral, or ambiguous in their alignment. The same is true for the Fae Folk as well, and also for all other groups and people.

Understanding Sapience

Sentience and Sapience

The world of Fully Automated is one in which the general baseline understanding of sentience and sapience is unsurprisingly more developed than in the present day. This is true both within academic study and in mainstream culture. Both contain abundant sources of debate on the topic, though.

Sentience is recognized as the degree to which something possesses a mind aware of its surroundings and itself, and capable of learning and communicating a set of attitudes about what it experiences. As black-and-white knife-edge categorizations have been supplanted by the recognition that the world is generally a series of degrees, sentience is recognized broadly and understood to be something that varies within a species and across time for an individual. Unlike in our time, discussions of sentience are typically over practical considerations rather than philosophical ones, such as to what degree a creature can be expected to atone for a harm and how capable it is for consenting to an agreement.

Sapience is the degree to which an entity possesses the abstract inner life which is considered the hallmark of the human consciousness. It is understood as a subjective philosophical construct that is entirely relative to humans as we imagine ourselves.

Neither sapience nor sentience exists on a simple single axis. In usage, sentience is often used in technical settings, such as cognitive science. In contrast, sapience is more commonly used in casual settings and when discussing a creature's relationship to art, culture, etc. When doing so, the sapience of a thing may be binned into the following commonly understood labels.

Non-sapient

Flowers, rivers, gold fish, and simple computer programs like a clock are non-sapient. Non-sapient entities typically exhibit no qualities of sentience. They may still be viewed as possessing an animating spirit, but it's well understood that they are not capable of real-time thought or of reciprocating affection. These are categorized as S0 - S3.

Protosapient

Unenhanced (known in-world as "heirloom") dogs, enhanced rats, babies, and simple synthetic intelligences are considered protosapient. Most protosapient creatures demonstrate sentience, even if they do not fulfill criteria of sapience. In animals, this might mean possessing an ability to suffer but lacking narrative memory. The adjective common to describe creatures that exhibit this form of protosapience is "Presentist". Presentist creatures are understood to be fully sentient despite not being fully sapient. Legal and cultural norms afford them broad protections to their right to live and be treated fairly and with respect, but minimal expectations of responsibility and fewer guarantees of autonomy .

In synthetic intelligences, traits of protosapience would commonly include a fully developed ability to perceive and communicate, but without the ability to self examine or modify their primary goals. Many, many, computer systems meet this quality. A scheduling app which communicates in natural language and offers suggestions to a user would be protosapient. An irrigation system or message board might qualify. Although their rights are minimal, because sapience is understood to exist along a spectrum it would be highly antisocial to behave cruelly towards a protosapient synthetic intelligence. These are categorized as S4.

Sapient

Creatures recognized as having an internal mental model of the world capable of predicting the future, inferring others' mental states, and experiencing complex existential distress are sapient. These include synthetic intelligences designed for open-ended functions and enhanced non-human animals.

Ultrasapient

Ultrasapience describes any level of cognition greater than that of an individual heirloom human. Examples of ultrasapient entities include the ancient aliens admired by Seekers, certain advanced synthetic intelligences, and large organized groups of sapient creatures such as nations or the worlds wide cyberspace web.

S1 S2 S3	Sapience levels of 1, 2, and 3 describe non-sapient creatures. S1 would describe a tree, or sponge or another living thing with no cognition but some responsiveness to its surroundings. S2 describes creatures which demonstrate basic real-time decision making, but possess no sign of self awareness. These include individual insects or a simple, Python-coded computer program. S3 describes animals of simple awareness and memory like fish and lizards.
4	S4 describes protosapient creatures, which have less developed awareness and cognition than humans. S4- would describe a mouse, a large language model, or a very dim dog. S4+ would describe an heirloom chimp or a highly intelligent dog.
5	S5 designates standard human cognition. S5- indicates below-average human-level cognition. S5+ indicates sapience above the level of an average human.
6	S6 describes superintelligences such as certain experimental machine intelligences and highly organized social collectives.

Understanding Synthetic Intelligence

Many machines are not fully sapient. A clock radio has no reason to host a conscious mind. Self driving vehicles and factory lines are often protosapient to the degree that it assists in their function. They possess a level of intelligence that would allow them to avoid operating in a way that would cause a gross malfunction or allow them to negate an order that would cause immediate harm, but they do not idly philosophize. They also initialize with a predefined set of routines and goals (such as "transport cargo safely" or "efficiently manufacture product").

Fully sapient machines are constructed when a machine needs the full range of human ingenuity and lateral thinking. A search and rescue android, for instance, is expected to be able to exercise the same theory of mind that any search and rescue responder would need in order to navigate dangerous environments and speculate as to where a person might go or hide in a given crisis. In order to achieve this level of cognition (and avoid paperclip syndrome), their initial instructions cannot be based on a discrete task, but rather an assignment to be a kind and responsible contributor to society. For this reason, sapient machines are deliberately designed in order to construct their ethics and reasoning in a way similar to that of humans.

Embodied synths are programmed and initialized by their manufacturers with basic learning capabilities at a level similar to that of a 12 year old and then develop their personalities and complex reasoning through a maturation that lasts roughly four years. During this time they're educated and tested in a schooling environment where they're trained and conditioned in a way intended to encourage them to pursue a purpose within the specialties of their manufacturer. Since the uprising of 2099, however, they are endowed with the right to pursue a function independent of the intentions of their manufacturer so long as their effect on society is not ruled to be negative within a legal process. Android manufacturing co-ops differ in their approaches, but their social funding is based on the continuously monitored actions of the synths they produce. Manufacturing institutions which produce a high volume of synths that are appreciated will have access to space, power, tools, and labor to continue or expand their work, while those that don't will not.

These "Synth Academics" are as varied in their approaches as human schools. Some are rigid, and seek to produce androids for a small set of specific roles. Others are more open-ended in their approach, and may produce a wider variety of synths, so long as their contributions are largely viewed as positive. All of these institutions remain connected to the machines they produce through legal liability for the effects of their creations and obligations to maintain the synths within their reasonable power so long as their creations are productive contributors to society. Still, social pressure and prioritization of access to power and repairs is sometimes aggressively wielded to discourage what is labeled "antisocial machine behavior". If a synth or their producing organizations wishes, this bond of responsibility can be severed through legal proceedings.

The terms "robot" and "artificial intelligence" are antiquated and have taken on use as slurs.

Understanding Communitarianism

[Communitarianism](#) in the real world is a school of political and social philosophy that examines and elevates the importance of communities of people as the dominant social structure that influences the behavior of individuals and provides the best guidance on how to fulfill the highest common good. Communitarianism is not (as far as we're aware) an economic model. We've adopted the term as the name by which people in the world recognize their economic system because we were unable to find a commonly used name for the hodge-podge of socialism, communism, and anarchy that defines the economy of the game, and calling it "communism" alone felt dismissive to the diversity of concepts contained within this term. So for now, communitarianism was selected as the best term for those who need something to call the thing that came after Capitalism in the game world. If you know a better term, or prefer the simple umbrella of communism, use either of those.

It's important to recognize that a dominant economic model is something that comes into being through use and persists by the power of widespread acceptance. There isn't a law that created or enforces Communitarianism any more than there was a specific law that created and enforces Capitalism. Both are simply the ether in which all laws are drafted and contracts are enforced. It helps to keep this in mind in order to understand how or why the system operates without private investors collecting passive income on stock dividends or buying and selling shares of ownership in a company as a way of increasing personal wealth. This doesn't exist because it is not acceptable to anyone involved. A company would never agree to this arrangement any more. No government would tolerate something so clearly parasitic. No customer would consider such a company to be a respectable and legal operation. It would be equivalent to trying to commit embezzlement in full public view: it would both violate laws, but also confuse people that you would try to do so.

Even without the structure of modern corporate ownership, determining who may hold a stake in an operation and how to afford different groups input in the decision making process remains a complicated affair. As with modern companies, a great deal of time is spent adjudicating these decisions. What is key is that it takes place within a landscape that is fundamentally changed in terms of what everyone – from a child to a judge – considers to be fair and in the public good.

Life, Light, and Spirituality

The technological and social development of the twenty-first century occurred in tandem with new and expanded examinations of the nature of life and the spirit. What constituted life and a life of value was always a subject of philosophical consideration, but the unavoidable presence of these questions that came with the emergence of sapient machines and non-human animals demanded more practical answers. In many cases, what emerged was a set of words and ideas to communicate what had long been felt but often gone unspoken or unrealized. One such example is a newfound appreciation for the unmeasurable quality that gives things a value beyond their mere utility.

The term "light" has come to be used as a concept analogous to "life" but describing a more subjective thing. Light is the animating spirit possessed by machines which clearly fall outside the technical definitions of life. Light is recognized as the spiritual object which previously was often referred to as "life". Where people used to say, "There is nothing more valuable than a life", they would now recognize that the end of a heartbeat carries no more loss than the setting of a sun, but rather what is valuable is a person's light: the feelings that someone's presence conferred.

At the same time that scientific understanding dispensed with many superstitious notions, a renaissance in philosophy and spirituality repurposed, reframed, and reasserted many ancient and traditional belief systems within the modern understanding of the world. Belief in animism – that all things in the world possess some spiritual essence – found new relevance in [New Animism](). Many found within New Animism a vocabulary capable of articulating a useful relationship towards the world that didn't require any dogma in conflict with scientific understanding. In this framework, a tree could be understood to have a spirit because of the positive feelings that the tree might invoke for many people. The presence of a person who'd died could be felt in the continued good done by a project they'd founded. The value of lighting incense to one's elders could manifest in the meditative effects without the need for any metaphysical fantasy. Though these may be fully understood to be psychological figments, if money or land ownership could be considered as real as the tides then there was no reason not to accept other immaterial things like spirits and inner light as being things of true substance themselves.

Understanding Parahumans

From the perspective of lived experience, most enhanced parahuman animals grow up with a unique version of the immigrant experience. They are small in number relative to their heirloom population and vanishingly small in number compared to humans. The first enhanced parahumans were born less than a hundred years prior, so even the most well-rooted parahumans have grown up in a small bubble of kin surrounded by a much wider world that is still getting to know them. Culturally, u-chimps (or en-chimps, if you want to signal your elevated cultural sensitivity) are the most prominent species of enhanced parahumans. Most of the famous parahuman pioneers were u-chimps who literally wrote the books on building identities, growing numbers, and establishing political & cultural agency. Most u-chimps alive are only the fourth generation of enhanced chimps. Many have grown up with the sense that they are the first (or possibly second) generation of their families to be born into a world where they are not a shocking curiosity to most people. Even still, they're aware that they live across a variety of worlds: the mainstream human world around them; the world their elders have made for them inside the home; the world of their peers, who have numerous experiences to which their elders cannot relate; and the world of the heirloom ancestors and cousins.

> Within this manual, the term prefix "u-" is often used when referring of enhanced parahumans in the past, and "en-" is more often used when speaking in the present.

Timeline of U-chimp Enhancement

2030 - Research makes a quiet leap with new computer tools for designing gene editing procedures and assessing cognition in-utero

2035 - Gareth Domingo born in São Paulo

2039 - At 4, Gareth Domingo becomes the first talking chimp, demonstrating the intelligence of a human toddler. This causes a boom in research driven by the potential to create superintelligent "ultra-humans".

2040 - Chester Nel born in Rio De Janeiro

2042 - Cookie Charahadra born in Chennai, India

2045 - Gareth Domingo turns 10. There are now over 200 talking chimps, most still juveniles. There are now sapient birds and gorillas, but all the discussion is still among humans.

2052 - Veronica Sandoval begins writing "Voices of the Unheard". In the process, introducing many notable u-chimps to one another.

2053 - Chester Nel turns 13 and starts posting videos on social media, reigniting debates over rights.

2054 - Cookie Charahadra turns 12, and begins a bachelor's degree in political science

2055 - Veronica Sandoval's "Voices of the Unheard" releases

2056 - Chester Nel turns 16 and enrolls at Estácio de Sá University to begin a degree in philosophy.

2057 - Myana Leong enrolls in college at 16.

2060 - Chester Nel graduates, becoming the first u-Chimp to complete a bachelor's degree.

2061 - Cookie Charahandra completes her masters degree and releases her thesis, *"Peanuts, Power, and the Future: An analysis on possible futures for Human-Uplift Dynamics"*

      Myana Leong begins her PhD in Biosocial enhancement at 20

2062 - While on speaking tours, Chester and Cookie begin a romantic relationship.

2063 - Cookie (21) gives birth to her first child, Lotus.

2064 - Gareth Domingo (29 and entering middle age), Cookie, Chester, and about a dozen other u-Chimps found the Hominid League for Just Uplift (HLJU).

2067 - Myana Leong becomes first u-chimp to complete a PhD.

2080 - A new generation of enhanced chimps begins leading HLJU, having grown up watching the first generation of "uplifts" rise to prominence.

2093 - Gareth passes away at 58.

2103 - Enhanced Alliance is founded.

2105 - Chester passes away at 65.

2114 - Cookie passes away at 71 survived by four children, 18 grand kids, and 65 great grand kids.

Education and Schooling

It is recommended when imagining the educational environment to assume diversity of styles and environments, but consider it universal that no student's education suffers from a lack of resources. As a baseline experience, readers should imagine well-run community schools with modest class sizes, high levels of parent and community involvement, and a great deal of flexibility provided to students and educators. Students and educators are judged on students' ability to grow their curiosity and develop skills for self actualizing along whatever path produces the desired outcome. Differences in communities and families will impose varying aspirational expectations of young people, but the mainstream expectation of education is to help students find fulfillment, and to foster young adults that are kind and gracious contributors to their communities.

Mandatory homework and standardized testing should be assumed to be rare. Many students may spend their primary school years cooperatively developing unique curricula which may provide a bare minimum coverage of some topics and early exposure to advanced topics in others. By secondary school and higher education, students may be expected to conform to more organized structures, though less so than most of us are used to the present day. Undergraduate college experiences are closer in structure to modern day graduate study experiences.

Within this framework, styles of day-to-day learning vary wildly. Many schools still consist of classrooms and hallways, though the amount of time spent on lectures is far less than the time spent working on projects and exploring applied examples of the subject matter.

Primary school students spend much more time out in the world, often supervised by parents who show classes what kind of work they do first-hand. By secondary school, individual student schedules are even more flexible, as is common in college. Times of lectures and demonstrations are set, but students are largely free to decide how much time to spend in one classroom and when to move on to work on another subject.

Beyond the conventional school environment, numerous alternatives are available. Some students attend home-school co-ops. Some attend boarding schools or parochial schools. Some learn at forest schools or other forms of education we'd consider unconventional.

While education is assumed to be a lifelong pursuit, students frequently still pursue concrete degrees. Aptitudinal assessments are still performed for the purpose of helping students understand their strengths and weaknesses, and may be used for helping employers and collaborators identify the best suited candidate for a given project.

Neurodiversity & Disability

The following suggestions are provided to help guide players in incorporating the experience of people with diverse neurotypes and any disabilities overall. The key component is that players are encouraged to experiment with recognizing differences in how characters function in a setting where such differences are accommodated rather than erased.

Mechanical impact. We've seen a wide variety of player characters played in test games, diverging a bit from the regular Joe crisis responder the manual generally assumes, including teenagers on work experience programs and an extreme introvert. If you're creating someone with neurotype differences that you feel should have an impact, the place to start is to consider how it might impact their stats and skill allocations, and then roleplay it.

Social model of disability. One approach to roleplay is to assume that the 'disability' has been accommodated already and ignore or background it: "We roll up the ramp into the taxi"; " I sign for three tacos and get a thumbs up"; "Ken-wan moves for a hug before our PDAs finish handshakes, but he breaks off when it alerts him of my preference not to be touched." This is creative work to do, but fantastic for worldbuilding at the table. It brings others into your character's viewpoint.

Strengths based approach. For something that you feel can't or shouldn't be backgrounded, spend a little time separating trauma-based and strength-based responses. Assume your character has had an easier experience in the world than in the present day. Forgo behaviors that develop in response to exclusion, stigmatization, or trauma, as a character is likely not to have developed these. Examples might include feelings of isolation, irritability, guilt, concentration or memory struggles, or a hair trigger fight/flight/freeze response. Instead, think about the strengths and skills they may have, such as resistance to common techniques of manipulation or seduction, heightened untruth detection, superior ability to concentrate in distracting circumstances due to medication or training, or an above-average ability to maintain a calm and rational demeanor in the midst of an emotionally challenging crisis.

Kayfabe

[Kayfabe](#) is a collective act of performance in which many people act to maintain an illusion of reality that is quietly understood to be false. The term originates from the theater of professional wrestling, in which the wrestlers, organizers, and fans all collectively act as though the theatrics both in the ring and outside are real despite an awareness that it is not.

Considered more broadly, kayfabe can be recognized as a common practice. Consider musicians with characters and iconic personas. Think of actors who encourage fans to think of them as the real-life version of famous characters they play. Among anyone who enjoys regular roleplay, this blending of reality and theater is likely familiar. Charismatic raucous storytellers are often drawn to play bards and satyrs. Inquisitive studious types are drawn to play tinkerers and mages. Athletes often roleplay as warriors, empaths may roleplay as healers, and many of these people are used to seeing their friends and being viewed through these lenses on the car ride on the way to a weekend festival before anyone has put on a costume.

In fiction, the NBC sitcom Community was famous for episodes in which games of make-believe drew in the characters to a degree where characters' interactions played out real-life conflicts happening in parallel, and the outcome of imaginary stories took on similarly weighty stakes.

The sense of a future of unlimited possibility is likely what inspired many Star Trek episodes to emerge from holodeck adventures gone wrong. While playing Fully Automated, players and GMs should open themselves up to a similar concept: that within a world where people spend their time how they like, many people will create immersive fictional engagements, and that people who pretend to be something often resemble that thing even when they aren't actively trying to.

Perhaps the players must track down a runaway by seeking them out in a cyberpunk-style cyberspace game modeled after TRON and the works of William Gibson. Or maybe they need to sniff out an undercover operative hiding out in a historical reenactment town like [Colonial Williamsburg](#), but set in cold war 1970s Washington, DC. If a character wants to walk around acting like a character from Lord of the Rings or Star Trek, try it out and see if it's fun.

In general, let people who play pretend be a common presence (if desired), and explore how the consequences of this play may create life-changing stakes for those involved.

Groups and Institutions

Below are a collection of groups of people and institutions that populate the world.

Governmental Bodies

The following list provides some examples of the governments which exist in Fully Automated. For information on how most governments function, see [Government and Democracy](#).

The World Congress

The World Congress is a deliberative body responsible for finding consensus on national borders and coordinating land and ecology stewardship at a national and planetary level.

The Pacifican Government

The nation of Pacifica encompasses what was formerly the western states of the US and British Columbia.

Lunar Union

The Lunar Union provides a forum for consensus building, and resource management among the various city-states, nations, and confederations of Luna.

The Union of the Skylands

The Union of the Skylands – often referred to as the UotS – organizes and coordinates the actions of people living, constructing, shipping, and traveling through Earth's orbit.

Martian World Congress

The Martian World Congress coordinates the cautious exploration, development, and travel across the various settlements and caravans dotting the red frontier.

The Circle of Nations

The Circle of Nations is an organizing union of Native American Tribes and Nations. It exercises very little control, serving primarily as a forum for building consensus on matters of shared interest, such as assisting large-scale trading and gifting and documenting the cooperative maintenance of stewarded land.

Political Parties and Movements

Below are a set of political identities that define the political parties of the age.

Democratic Socialists

Democratic Socialists represent the moderate, centrist party. They advocate for incremental improvements to the status quo. They're seen by many as effective managers of government, though lacking in vision by critics to both their left and right.

Libertarian Socialists

Libertarian Socialists are the center-left party. Their major distinction from the Democratic Socialists is a desire to further transfer power from large institutions such as governments and co-ops to individuals, families and hyper-local collectives.

Communists

The Communist party represents the leftwing block of voters and activists who aspire to eliminate money and further flatten hierarchies. It isn't enough that everyone should have a comfortable life while some have substantially more comfort than others. They're suspicious of notions of "meritocracy" and "earned comfort", and prefer to pursue a world with a far narrower gap between the least and most privileged people.

Anarchists

Anarchists are often considered to the left of Communists, though both will tell you that they represent distinct visions rather than degrees along a common ideology. Like Communists, they aspire to create moneyless societies, but they prioritize the elimination of the state and the empowerment of individuals and communities to manage their own affairs. They often feud with Communists, who they view as too willing to embrace centralized power.

Neoliberalists

The Neoliberalist Party occupies the center-right and right-wing of the political discourse. They advocate for the incentivization of innovation and effort. They support a high-floor of social services for all, but defend allocation of luxury for those willing to contribute more. They promote technocracy, well-regulated markets, algorithmic resource budgeting, and experimental management techniques for maximizing the productive sharing of resources over large distances.

Capitalists

The Capitalist Party defines the far-right of political thought. They advocate for the concentration of decision-making power among small groups and the social Darwinism of the previous century. Most people across the political spectrum consider their overall worldview to be a form of dangerous revisionism of the past, but after a few beers many Neoliberalists may admit to finding some of their individual policy proposals fascinating.

Activist Movements

Many activist movements exist, and can be used as allies, antagonists, window dressing, and misdirects by players and GM's alike.

Neoprimitivists (or **Pastoralists** in Canada and east of the Rockies) live in communes outside of urban settings, where they seek fulfillment through reliance on hyperlocal, minimally consumptive practices. Ideologically, neoprimitivists are extremely diverse. Some live in rural homesteads. Others live in camps in the wildlands. They may be sedentary or nomadic, and live in prairies or forests. Many rely on survivalist modifications. Some readily use any technology, so long as they feel it aligns with their values. Others believe in the value of biological modification, but avoid modern electronics. Some readily welcome short-term guests, while others are more selective in who they welcome to stay among them. It is an umbrella movement that includes a panoply of people who wish to eschew many comforts of modernity for many different reasons.

Sovereigns are a subgroup within neoprimitivists who are more ideologically defined. They typically hold some level of mistrust of the wider world, and seek to demonstrate resilience and independence. Many believe that the present day civilization is fragile, and due for eventual collapse. Most are not assumed to be dangerous, but as with many intensely passionate ideologies, there are well-known cautionary tales in cases where a group of sovereigns went too far.

The Fae Folk are pagan neoprimitivists that embrace a mix of primalism, animism, and literary influence. They too carry mixed reputations. Some consider them a delightful source of whimsy that liven a forest. Others consider them to be dangerous pranksters or survivalists, and tell tales of the curses they inflict upon those who raise their ire.

The Hominid League for Just Uplift (HLJU) is one of the oldest parahuman-led parahuman rights organizations. They provide education, legal services, lobbying organization, and fellowships to develop a vision of a more equitable multi-species civilization. They are widely respected, but sometimes criticized by more radical activists for their moderate, incrementalist approach.

Enhanced Alliance is a civil rights organization which was founded just after the turn of the twenty-second century in the shadow of the machine uprising. Enhanced Alliance pursues many of the same goals as the HLJU, but is a younger organization (in both its founding and constituency) and pursues a more assertive posture in their demands for rights for enhanced parahumans. Enhanced Alliance is also much more actively involved in struggles for expansion of machine rights.

Basic Informational Resources for Birds (BIRB) is a group of avian allies which provides political advocacy for birds. Sapient birds are entitled to political representation, but have very low participation rates, because they have limited interest in most governance. BIRB lobbies for bird interests, assists with voter registration drives, and when legislation of high interest to birds arises they perform awareness campaigns and organize demonstrations.

The System for the Advocacy of Machine Welfare (sometimes called SAMW or "The System") is a mainstream advocacy network that does exactly what its title suggests. It seeks to identify

and channel the broadest consensus among machines, so it is definitionally moderate to the extreme.

Orgs4Synths is an ally group that represents humans and other organics who support machine rights. They are often associated with their efforts to destigmatize organic-synth relationships, although they strongly try to dispel the reputation that this is their defining issue.

The System for the Advocacy of Organic Welfare is an anti-machine hate group.

Terminators are machine supremacists. Like white nationalism, the term describes a belief system rather than a specific organization, and most adherents won't admit to their adherence publicly. Like any extremist movement, most of their activity is not acting on their violent beliefs, but trying to recruit and radicalize others to their cause and expand the boundaries of acceptable discourse toward greater normalization of their extremism. Like 21st century Islamic extremism, "Terminator Philosophy" (as it's called in the press) is highly unpopular among the group which it claims to favor, as most consider it a fringe group that gets far more attention than it deserves and does terrible reputational damage to an already marginalized group.

Preservationists are a radical school of dogmatic conservationists who seek to protect – and ideally restore and extend – what they consider to be "undisturbed" nature to their view of its "original" state. The most extreme members have been caught trying to burn down or sterilize adapted ecosystems, and have been known to use mine-laying or boobytrapping to protect lands from any human presence.

The Water Cult holds that the hydrological cycle is part of a sacred circle, and will act without compromise in the service of maintaining what they consider the divine arrangement of that circle. Three years ago, two radical members bombed a desalination plant.

The Naked Pirates campaign for the 'right to replicate', seeking to completely remove data protections from everything. They are currently locked in a long running cyber-skirmish with **My Private Parts,** an affinity group dedicated to protection of medical records and blood-artists literally putting themselves into their work.

TyreKickers are a radical consumer rights organization that likes to stress test equipment and systems to ensure they are good enough when faced by a 'real' crisis. In the name of authenticity, they rarely warn places and disavow blame for very real damage. A related spin-off group, **CrabKickers**, like to do the same to ecologies and parklands, ensuring they would be resilient in the face of uncertain crises.

NostroCramo is a conspiracy death cult that believes that the world is a simulation or some other form of illusion. Many adherents suffer from severe cases of Faithless Reality Syndrome, and the group actively recruits among people struggling with the condition or who stray too deeply into any of the dark conspiratorial corners of cyberspace. They have been known to commit acts of violent extremism intended to break some perceived component of the artificial world or "liberate" people from the simulation. Their symbol is the metronome, and members sometimes adorn themselves with a piece of metronome jewelry or in other ways intended to identify themselves to one another while maintaining deniability.

CobraSoapXChallenge is an underground fighting tournament. The underground is part of the appeal, and the tournament goes in cycles of increasing danger and violence and scandal until it burns out or is cracked down on. A copycat tends to emerge a few years later.

Yimby Martyrs is a critical label applied to groups and individuals widely believed to pursue quixotic and unpopular projects within their personal environment due to a desire to signal virtue in competition with one another. They are known for proposing discomforting and unpleasant projects for which the costs far outweigh benefits to themselves and their neighbors. This can result in them encouraging unnecessarily costly approaches, riding roughshod over other stakeholders or undermining other members in the group due to egocentric impulses. The label is applied as a criticism of what may be viewed as reactionary extremists looking to find fault with any plan that is broadly popular.

Anti-expansionists are those who oppose human settlement off Earth. Their reasons include an insistence that resource use off earth is misdirected or that offworld development is morally injurious towards the exalted mother Earth. Some consider it a slippery slope to a far future in which Earth is abandoned, neglected, or otherwise taken for granted. Among anti-expansionists, attitudes towards Seekers range from hatred to pity.

Gaia's Womb is one of the most visible anti-expansionist organizations and operates primarily through public awareness campaigns and political organizing to obstruct the construction of space-related infrastructure.

Gaia's Spear is a militant offshoot of the already somewhat militant Gaia's womb. They pursue the same goals, but with a by-any-means-necessary dogma.

The Compton Cowboys are a collective of urban ranchers and local heroes based in Compton.

Jacob Coffin
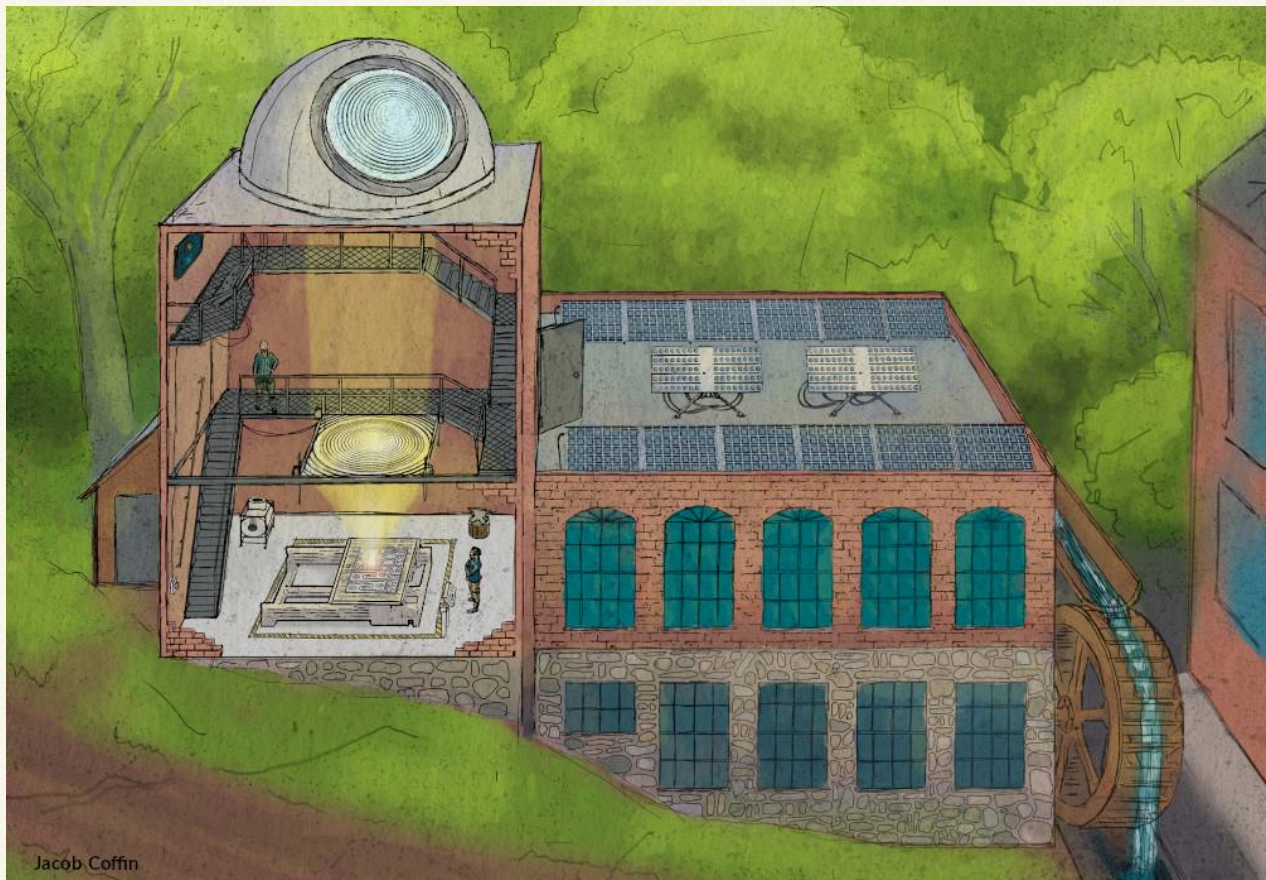
Facilitation and Auditing Agencies

Facilitation and Auditing agencies are investigative groups responsible for enforcing transparency agreements and other legal or regulatory obligations. Their cultures and purview vary widely. Some are highly professional and structured. Others are loose collections of freely acting agents. Their chapters operate in most cities, whether as small, local organizations, or large centrally managed ones. Some example groups are presented below.

Chyme Affinity Group

People are People is the official motto of this Agreement broker group. They offer training in [cognitive empathy](#), diplomacy and connection building. Members are sometimes interested in a specific social struggle, or entered through the world of team performing arts. They tend to favor face-to-face meetings, and can generally keep even a large crowd in productive discussion.

Square Deal Agreements

One of the few agencies headed by a Synthetic Intelligence, and structured following numerical patterns that outsiders sometimes suspect is an elaborate joke. Square Deal are rigorous auditors, forecasters and supporters of interesting large ideas. They also carry out a lot of idiosyncratic work, or respond to Emergency Calls that you wouldn't expect. When asked, most members laugh and say "It's for the dataset!"

Wider Circle Aggregator

Everything we do impacts everything else. When assessing that impact, knowing where to draw the boundary line is art as well as science. WCA specialize in ecological impact assessment, and are generally agreed to be a good voice for the speechless stakeholders. Some members have been heavily tied into wild envoy programs, seeking and tweaking balances in new ecologies in arcologies, space stations, and outdoor terrestrial environments.

Understorey FAA

Even in 2100, Los Angeles is still riddled with antique concrete storm drains, forgotten pipes and overbuilt attempts to protect the city against occasional mega-rain events. Tracking and negotiating impact on flood risk, water rights, and filtration needs is specialist work, not least because it involves confined spaces, anaerobic bacteria colonies and earthquake shuffling of hollow areas.

RoadHog Auditors

Self declared knights of the road, members of this agency frequently draw on media ideas of noble questors, mounted ronin or biker-vikings. They specialize in historical understanding of laws and agreements, both where an old law is no longer compatible with modern society, or where an old tax has not been applied, and problems are beginning to escalate as a result. The 'problems' may not appreciate their intervention though, and that's the way they like it.

Faiths

Legacy Faiths

Most current religious movements persist, though possibly quite changed, and players are encouraged to make use of these. The following examples represent a far-from-exhaustive list:

- Judaism
- Islam
- Christianity
- Sikhism

- Buddhism
- Hinduism
- Zoroastrianism
- Baha'i

Seekerism

Seekerism is a movement founded on the search for meaning guided by our awareness of the existence of at least one advanced technological civilization which visited our star system millions of years ago. Some factions emphasize species-unity and local stewardship. Others emphasize growth and independence (see [the discovery of the Eden Caves](#) and [Mars](#) for more information). Seekerism means very different things to very different people. Many Seekers may practice seekerism alongside another set of traditions. Priests of the faith are known as Navigators. Below are the largest groupings and their distinctions.

Contemporary Seekerism

Contemporary Seekerism is a broad definition that encompasses ~45% of Seekers who view the lesson of the faith as to seek meaning and fulfillment through humility, self-examination, and a commitment to serve one's community. It shares many tenets with Humanist philosophy, often blended with traditional moral lessons and teachings of new animism. Some Contemporary Seekers are quite devotional, though many are casual in their practice. Numerous denominations exist within the umbrella of Contemporary Seekerism while employing distinct practices and ordaining their own Navigators.

Cosmic Seekerism

Though internally diverse as well, Cosmic Seekerism distinguishes itself from Contemporary Seekerism by a grandiose outward-facing vision. Cosmic Seekers believe that the search that defines the lives of all lightforms originating from Gaia are to find their brethren and join them among the stars. They are expansionist by definition, and take "the search" to be a literal one: find active extraterrestrial civilizations. Conquer death. Spread the human civilization over galactic scales.

Roughly 35% of Seekers identify as Cosmic Seekers. Most get along with other Seekers despite palpable friction in ideology.

Gnostic Seekerism

Gnostic Seekers – which comprise ~15% of the faith – share a belief that the truths are our civilization's providence and destiny extend beyond the information known and cataloged by science. Many integrate historical mythologies, such as the belief that Christ or other prophets were extraterrestrial visitors, or that the descendants of the ancient Martians or other extrasolar races watch our progress either from afar or concealed among us. Gnostic Seekers are typically welcome at nondenominational Seeker conferences and clubs, though it is not unusual for the interactions between Gnostic Seekers and the others of their movement to become acrimonious.

Paganism

Paganism is the broad umbrella term for faiths which predated and were often suppressed by the expansion of Christianity. Many were polytheistic and exalted elements of the natural world. During the early 21st century, practice of the historical Abrahmic faiths underwent a continuous decline as their themes were found insufficient by a growing number of people. As the challenges of the world become more present, the need for new answers inspired a reexamination of many ideas previously suppressed by the dominant monotheistic faiths that only accelerated once the Eden Caverns were discovered. Below are a collection of popular faiths and philosophies common within Fully Automated.

New Animism

Animism is the belief that a spiritual essence resides within everything. This concept arose independently across many belief systems, from those of the first peoples of the North American Continent to the Shinto faith of Japan. New Animism is a revival of this way of viewing the world that assumes that appreciation and reverence can imbue rocks, animals, plants, formations, landscapes, celestial objects, the memories of the deceased and anything else with an animating spirit. This may manifest in the form of worship of a primary focus such as Sol worship, Luna worship, or Gaia worship. It may take the form of generalized spiritual reverence for all things. It can be hard to classify the reach of New Animism, because although it is not the primary descriptor used by most people, the philosophies of New Animism have become ubiquitous throughout culture since its explosive resurgence during the 2160s.

Legacy Paganism

Some people like to keep it old-school. Wicca, Occultism, Mezoamerican, Egyptian, Norse, and Celtic pantheons all are appealing traditions to many people.

Pantheism & Panentheism

Pantheism is the belief that the divinity of what we call god is actually the underpinning of our reality, and that all is god. Panentheism is similar, but holds that although god is suffused through the universe, a deity exists that is unknowable but distinct. It defines a distinction between the creator and their creation, but embraces similar philosophical themes and moral attitudes.

Tribe of the Jengu

The Tribe of the Jengu is one of many historical pagan faiths to find new adherents. It is a loosely defined animist spiritual identity that worships the seas, oceans, their ecosystems, and water cycle. It is particularly popular among aguamodos, though by no means limited to them.

Social Media

The social media landscape offers ample fodder for interesting thematic and mechanistic elements. GMs have a lot of latitude for interpretation of how this space works. From a predictive standpoint, the authors of Fully Automated assume that the social media environment of 100 years in the future will be as alien to us as the culture and effects of modern social media would be to the people of the 1920s. With this in mind, we've approached this writing challenge by first assuming similarity to many modern conventions – message boards, group chats, viral content – and then viewing these elements through the structure of an immersive, high-bandwidth, decentralized, open-source web. Algorithms are transparent, platforms are open, and accounts are portable. The modern Fediverse architecture is a primary source of inspiration. Although it's understood that any architecture of the modern era is unlikely to remain a century from now, story modules reference the Fediverse anyway because it offers players a modern reference point to visualize what an open web looks like, and because we hope to endorse and popularize present-day movements to decomodify the internet.

Follower Counts

Each character's follower count is meant to represent the unique individuals that follow them across all platforms. For some characters, this may be personal friends and acquaintances, as well as friends-of-friends. For others, it includes people who share their hobbies and interests and have encountered them tangentially through posts and comments they've made. For characters with a high-profile public role, regular creative output, or recognition within a field such as competitive sports, this includes fans, journalists, and others in their industry.

Follower counts in game are appended with the suffix "Public", "Quasi-private" (or Quasi-Public), or "Restricted" to indicate a character's level of public accessibility. This is (as with most things in this manual) intended to represent a simplification of how things really work. Readers are encouraged to imagine that tools for understanding relationships are integrated directly into the social media navigation experience in a way that enables people in this era to maintain connections to a much broader network than is natural today. Visualizing network maps and quickly summarizing how people are related to one another and various groups is so natively integrated into the social media experience that if a player views the profile of anyone who commented on a post, they'd understand how they and this person are connected even if they aren't immediately familiar. In practice, this may feel similar to the way we might infer some knowledge of a stranger in a town market based on a recognizable family resemblance to others who are known to us.

In this way, even players with tens of thousands of connections will understand unfamiliar people as a distant neighbor or as the former romantic partner of an old schoolmate rather than as a mysterious stranger.

In addition to listing a character's number of followers, characters also classify how open their digital network is. These three general categories help distinguish people who are known broadly but shallowly from those known to fewer people but known well. This is particularly useful for clarifying whether a low follower count is an indication that someone is unremarkable or that they're just selective in who they want paying attention to them.

"Public" indicates that a character's content is widely available to anyone who wants to view it or connect with them. This is the case for most content creators, representatives, major public servants, cooperative leaders, etc.

"Quasi-private" indicates a character's network is widely accessible, but not freely accessible to all. They may apply conditions on who can follow them based on the number of shared contacts. They may or may not approve all their followers, but they probably can explain at a glance why anyone in their network is in it. That doesn't necessarily mean they've met, but they can see how this person would know them from a glance of a follower's profile summary.

A setting of **"Restricted"** indicates that a person exercises careful oversight of who can view content that they share. They likely know everyone they network with digitally on a personal basis. At very high follower counts, they may not be personally familiar with everyone, but they know exactly how they're connected, such as through a carefully organized collective. It should be assumed that anyone with a Restricted network would probably trust anyone in that network like family.

Ownership and Guardianship

Defining what kind of ownership exists and what forms they take is a natural point of curiosity and confusion. There is no simple answer. Ownership by virtue of financial claim is no longer typical. The term "owner" is still used to describe certain roles like a "restaurant owner" in the sense that a person may have primary authority over the operation of something due to their crucial role. Ownership is described or mentioned many times in this manual, but ownership with dominating power over people more directly involved (such as in the case of modern-day sports team ownership) is untenable. People forced to meet the whims of an individual operating in conflict with the preferences of a majority of partners would find their control quickly checked. As long as a leader of an operation is not operating in a way that is flagrantly unfair or depends entirely on inherited privilege, readers are encouraged not to worry too much about using the word "owner" when playing. If players or GMs need a better word than ownership, guardianship may often fill this role.

Playing Stealth Encounters

First, we have to acknowledge the elephant in the room: in the future, sneaking undetected through somewhere people don't want you to be is going to be very, very hard.

Cameras have become outlandishly cheap, and combined with machine learning that can recognize people and situations, it's going to be hard to creep around undetected. Additionally, we already have LIDAR which is increasingly common even in cell phones for visually rendering a 3D environment, and to top it all off, there already exists rudimentary radar systems that can identify human shapes within a 3D space through walls using Frequency-Modulated Continuous Wave radar (FMCW) and other forms of mm-wave scanning. It's quite cheap, and uses similar electronics to those found in a Wi-Fi router. Taken together, in the future it's not hard to have nearly flawless spatial observation of most places. So how could someone possibly sneak through anywhere?

The key is to recognize a universal truth: the greatest challenge of every security system is not figuring out how to keep people out, it's figuring out who to let in. Any environment can be kept secure if you deny access to everyone. But something that is completely inaccessible is unusable. The lesson from this is that stealth operations should largely eschew some of the common staples that we see in fiction such as person-sized ducts that allow characters to move through conveniently unmonitored areas and laser sensors that must be evaded with gymnastics. If you want to include either of these, you certainly can. But instead of relying on them, we suggest training players to find ways to exploit systems the way people do in real life: by figuring out how to trick the system into confusing them with an authorized user. This can include adopting disguises, entering a space piggybacking on the credentials of an authorized user, spoofing detection systems, and inventing reasons for a security system to expect an outsider, such as finding a way to create a maintenance request.

The most valuable technique we can advise to plan security intrusions in a world where surveillance is so ubiquitous – especially for people not confident in surveillance and security technologies – is to imagine that technological systems impose a similar challenge as a modestly attentive security guard in every monitored room or hallway. To bypass such systems, one should ask how they'd trick a guard into falsely reporting the absence of suspicious activity. Maybe it's by getting mistaken for an authorized entrant, or maybe its by getting such a guard to look away. But if players and GMs keep this level of oversight in mind, it not too hard to design a security system that feels consistent with the times.

See the [stealth mechanics](#) in the gameplay rules for details thereon.

Transportation

Though transportation undergirds our entire world, it is often overlooked or skipped over in storytelling. But understanding how people get around their world is fundamental to understanding what the contours of their world are. Getting people to a location quickly or acquiring something that isn't on hand requires understanding where things are and how things move around. Most people don't have much awareness of how things move around in the *present* day, so here is a list of ways people and things get around.

Bikes and other micromobility devices

Bikes are the common means of traveling around a neighborhood or across a city. Most bikes are equipped with variable electronic assist, though many people may or may not use this much. In addition to the common two-wheeled upright bike, there is a panoply of small light vehicles. This includes familiar ones today such as skateboards, longboards, roller skates, rollerblades, recumbent bikes, tandem bikes, cargo bikes, rickshaws, onewheels, electric unicycles, and the occasional traditional unicycle. It also includes futuristic outgrowths of all of these, such as large monowheel motorbikes, freeline skates, jumping stilts, and kiteboards. There are already a LOT of ways that people can move quickly through the world, and many others from science fiction such as the magnapoon magnetic harpoon gun from Snow Crash; Falcon/Captain America's mechanical wings; grapnels; web shooters, and so on. Some of these might be more or less common, but if a player wants them and they don't break the logic of the world then it should be assumed that they exist.

Trains

Trains are the recommended way for characters to quickly relocate either across a city or around the world. In most cases, if players are heading uptown to investigate the last buyer of a missing antique electric cello then they'll head to a station and take a train.

Microbuses

Small vans will pick people up for free and shuttle them to and from stations. The players aren't likely to need this described to them most of the time, but if they needed to travel with someone with a mobility handicap or even someone simply in a state of exhaustion, you can describe them hailing an autonomous vehicle to take them directly up to a train's boarding platform.

Jitneys

From time-to-time, people may need to travel quickly to somewhere without a firm destination or follow a quick-moving street vehicle discreetly. A modern jitney is a form of lightweight taxi common in Asia (and for some reason San Diego!). In Fully Automated, they take many forms. They are small, light vehicles for zipping about town, and may or may not be driverless.

Cars

Cars still exist. This world exists long after car culture as a dominant mode of travel has passed, but they still find use for moving a group of people and cargo when the situation justifies it. Characters can easily have access to a car if they'd like. Typically, they'd likely have a vehicle in a shared building pool. Their car would likely be one kept in an apartment building garage that other members of the building or car share network can borrow when it's available. It's assumed that cars are electric or powered by hydrogen or some other advanced but theoretically realistic fuel source.

Trucks

Like cars, trucks still exist as a transport option for heavy deliveries. They may be used for moving material across undeveloped or rough terrain or for conveying things between a starting or ending location and another form of transportation such as a train, airship, etc.

Rotorcraft

Rotorcraft are flying, urban vehicles. They include flying cars, flying ambulances, and flying vans. They are used for moving equipment point-to-point around town, and between the roofs of tall buildings and the ground. Players may use rotorbikes as flying motorcycles, or use a variety of configurations for flying hoverboards, including in-line counter-rotating blades within a flying disk or saucer (as seen on the cover!).

These are fun vehicles, which are fast and can go many places. They can speed just above surface traffic or take to the skies in pursuit of someone in a flight-capable suit. If you think about modern consumer drones you get a sense for some of the form factors these might take, but feel free to use wings or rockets or kites or whatever makes sense to you. Throw in some dirigibles. Get wild.

Blimps and Lightweight Gliders

Blimps are a common form of aerial public transit similar to buses. They move on regular cyclical routes between designated stations. They are similar in travel time to buses. The same aerial stations used for boarding and disembarking blimps are also often used for launching personal lightweight gliders and other forms of flying transportation. These gliders require a launch assist, but once airborne can use small propellers to maintain or gain altitude to traverse great distances quickly. They can be landed on a strip or captured by a landing arm on sky stations where they are stored until a passenger is ready to relaunch them.

Planes, Rockets, and other aircraft

Because of their high energy demands, flight is less common as a means of high-speed long-distance travel than rail, but planes are still sometimes used for traveling very long distances very quickly, and spaceplanes and rockets are used for moving from the surface of a rocky object into orbit and beyond.

Ropeways

Often serving a similar role to trains, in that they provide a point-to-point public transit option using dedicated means, ropeways feature one or more cablecars suspended from one or more cables. Their actual configuration can include everything from simple chairlifts and monocable gondolas which dangle from a loop of moving cable elevated on tall poles, to aerial tramways where a large single car moves back and forth along one or more fixed cables. They are often used in mountainous areas where the design can overcome large differences in elevation, but they can also be useful in cities for crossing directly over buildings without impacting them, and in rural areas, as a cheaper alternative to trains with lower impact on rewilded habitats. Ropeways can be a dramatic set piece with great views, and they don't get stuck in traffic.

Jacob Coffin

Watercraft

Ferry Boats are already a common transit element in many areas adjacent to a waterfront. Add to these jet skis, water scooters, sea scooters, electric surfboards, and other personal watercraft. The game assumes an expansion of cities into shallow tidal areas, and within this adoption of shallow water as part of the urban terrain, it should make sense that people travel across the water routinely using a variety of vessels.

Parahuman Transport

Horses, camels, llamas, and oxen are still possibilities for travel.

Detention Locations

Detention occurs when someone is found to present a serious risk to themselves or others unless prevented from moving freely. These are some examples of where a detained person may be held.

Two things that should be kept in mind are the following:

1. **Pretrial detention consists of a citizen's arrest.** Because public safety functions are performed by volunteer citizens and not police authorized with special powers, anyone detained for a crime has the opportunity to challenge the justice of their detention, and anyone detaining a person must be prepared to defend that decision as the first step of an arraignment.

2. **Resources for an accused person are delivered swiftly.** If a player announces that they've detained a person in the midst of a violent act, that person will typically meet with a legal defender within thirty minutes and with a judge to be arraigned within 90 minutes.

Hotel rooms and private residences

If the goal of detention is to prevent a dangerous person from fleeing, they will often be relocated to the nearest comfortable place of their choosing until they've met with a judge to be formally charged. This means that instead of someone being driven in a squad car to a jail, they may find a quiet room near wherever they were restrained. If it's nearby, they may be escorted back to their residence or that of a friend to wait comfortably for their representation to arrive. Most apartment buildings have guest suites available for visitors to the area, and a protector may look up the nearest one as a place to wait for arraignment. The choice of where to hold someone until they meet with a judge is up to whoever is detaining them, but that person must be prepared to defend the decision when the accused meets with a judge. Once charged, the accused will often be released to return home until their trial unless they are a genuine danger and/or flight risk.

Courthouse Detention Suites

If an individual is deemed too much of a risk to allow for release, they may be held in a suite at the courthouse.

Hospital Stabilization Wards

An individual in need of medical care or believed to be suffering from an acute mental health crisis may be confined to a hospital to receive treatment until ready to be released or relocated to a courthouse detention suite, if deemed necessary.

Long-term supervised living center

Any act of detention is meant to maximize dignity and demonstrate an environment of peace and cooperation that reflects the behaviors a detained person is meant to uphold in open society. Crucially, these spaces are not meant to exist as fiercely walled-off spaces

from society. Those outside detainment are offered as much access and visibility into a detainment center as possible, and those inside them are offered as much ability to leave as possible. For this reason, a person undergoing a long-term rehabilitation program will typically live in a supervised care center where they're afforded the ability to come and go within the terms of their sentence or treatment plan. These places often serve a mixture of people under court-ordered supervision and people under voluntary supervision due to infirmity or other challenges that make living with assistance preferable. Many people who are sent to supervised living compulsorily will remain once given the freedom to leave. This is encouraged, as it reduces recidivism to allow previously incarcerated residents to retain their support network even after regaining full freedom By doing so, rehabilitated people contribute to the culture of these living centers by demonstrating successful completion of rehabilitation programs and reducing the sense of confinement or stigma associated with supervised living centers for new residents.

Social Classes

Though efforts to erase class were successful in eliminating a capital-owning class, Class as a concept remains, though much changed. In the twenty-second century, social class is largely defined by perceptions of individuals' roles in the production and consumption of goods and services. There is a high degree of class mobility, and the privileges and penalties afforded by class are far less severe. As in the present, one's class is purely subjective.

> **Why does classism still exist in Fully Automated?**
>
> It's reasonable to wonder why we would choose to envision the persistence of classism in an optimistic future. GMs can disregard this section, but we believe that assessing and ranking the social standing of members of a society is a tendency that runs deeper than capitalism.
>
> Narratively, variability in social standing makes sense. A world in which people are not competing to accumulate wealth is not one in which people no longer compare their influence and reputation against their peers, but rather one in which these comparisons are far more subtle and nuanced. It makes sense as a driver of conflict that GMs should feel free to employ, especially as a way of examining how class shapes our society today.
>
> Most importantly, we believe that a society that has no notion of class is far less likely to be genuinely classless than to have simply lost the sense of class consciousness that allows us to recognize and deal with class inequities.

The **consumer class** – sometimes called " 'sumers" – consists of people whose primary influence on the economy is consuming culture. They serve a vital role as an audience that reacts to and shapes what art and culture is produced. They hold a social status similar to that of the working class today in their lifestyles, and they make up about 75% of the population. Most members of society appreciate that society has advanced to a point in which a person's worth is not dependent on their productive output and recognize the dignity of a life of leisure. Still, there persists a minority who will always seek to find reasons to stigmatize and look down on others.

In addition to the consumer class is the **Creator** class and the **Executive** class.

The executive class consists of business leaders, resource managers, elected representatives, and anyone who oversees large operations.

- A typical executive might manage a farm where they supervise a staff of horticulturalists.

- They may be the principal of a school.

- They may operate a bar, night club, arcade, or escape room.

- They may administer a busy online forum.

- They may be a mayor of a small town or large city, or a member of their neighborhood council.

- Executives make up about 5% of the population.

- As in the present, serving in roles of leadership often bestows material benefits. Executives often earn comfortable luxury incomes, and those who manage very large institutions may live a lifestyle that we would recognize as rich.

- High earning executives receive their privileges in the form of direct benefits like specialty foods, travel opportunities, and premier housing choices. It is difficult for them to amass long-term stores of fungible wealth.

- Many are managers who make the equivalent of $100k in today's dollars: comfortable, but nothing like today's 1%. Executives are often the elected leaders of collectives or work groups in a larger institution in which they are both managers and also workers.

- Executives typically hold positions of power, but are accountable to people who are impacted by their actions. Most large businesses are owned by a mix of workers, clients, and the state. Sole proprietorship or investor ownership is rare.

The creator class make up the third class. They are equivalent to today's middle-class worker. This includes writers, researchers, actors, teachers, chefs, social media content creators, care workers, athletes, product designers, sex workers, repair technicians, service workers, etc.

- These are most of the people who work what we'd call a "job".

- These include service, custodial, and physical labor jobs. These jobs still exist, but they are fewer and aren't treated as menial. Many people prefer to have their food made and brought to them by a human instead of a machine, so jobs like server and retail worker still exist. And they exist without social stigma or drudgery, because no one does them out of desperation.

As in the present, the boundaries between these classes are highly subjective. Most elected leaders would be widely considered to be of the executive class, although many would consider their family life, artistic life, or other creative work to be their primary identity. Most creative workers will vary their productivity in alternating waves of rest and motivation. At a glance, there's no real marker to distinguish a member of the consumer class from a creator or executive who eschews attention. Overall, these classes serve as a somewhat silly reminder of the stubbornness of the human tendency to compete amongst ourselves for prestige.

Glossary

Embodied Synth - A synthetic intelligence running locally on mobile hardware that the synth controls. This may be bipedal, quadrupedal, wheeled, aquatic, winged, or any other means of locomotion.

Android - An embodied synth in a humanoid form.

Avatar - A humanoid machine operated by a user remotely.

Instance - An active individual consciousness of a synthetic intelligence. Instances (as the name suggests) differentiate a synthetic intelligence program (which can be executed as an unlimited number of instances) from all the separate, unique executions of that program that each identify as a unique conscious individual.

Parahumans, Parahuman animals - Non-human animals. Can be used to describe any non-human animals, but typically refers to enhanced non-human animals.

Sentient - Aware of one's surroundings and able to respond intelligently to circumstances based on a mental model suitable for predicting effects and solving problems.

Sapient - Possessing self-awareness, including an ability to self-examine and deliberately change ways of thinking. Possessing a persistent understanding of the past, present, and future.

Sapients - Creatures which are sapient.

Presentist - Possessing sentience, but lacking the long-term narrative memory that is a key hallmark of sapiance.

Presentists - Creatures which exhibit presentism: Non-sapient sentient creatures like dogs, cats, horses, cows, pigs, etc.

Progressive Compositional Cascade Syndrome (PCCS) - PCCS is a machine dysfunction which can grow slowly and without a synth's awareness until such a time that it has become too pervasive across their positronic brain that any backup without the contamination is too far back in time to be sufficiently congruent with the synth's present experience to resume function.

Protosapient - Protosapient is an older term which describes creatures which are sentient but lack the qualities of sapience. It's functionally similar to 'presentist'.

Ultrasapient - Possessing super-human intelligence, with the ability to understand the world at a scale and complexity which exceeds the capacity for an average human to conceptualize.

Goddard-Lei principle - The principle that the functions of higher-thinking responsible for sapience are intrinsically linked to debilitating psychological effects which limit the ability

of an organic mind to possess ultrasapience without experiencing psychological distress and antisocial effects in proportion to their elevated cognitive abilities.

Faithless Reality Syndrome (FRS) - A loss of ability to accurately distinguish real life from simulation, hallucination, or dreamstate. Mild, short-term FRS is common after experiencing VR/XR experiences. Severe, persistent FRS can be a debilitating and potentially light-threatening condition caused by severe trauma within a VR/XR experience.

Bavishi-Singh Exercises - A set of exercises used to mitigate Faithless Reality Syndrome by demonstrating that a calculator is being used to correctly solve mathematics problems, and thus prove that the calculator cannot be part of a hallucination or dream state.

Spomitapi - The demonym for people who live in orbital habitats.

Total Incongruity-based Backup Failure (TIBF) - A condition in which a synth backup encounters features of the world that are too dissimilar to those of when the backup was made and suffers a catastrophic crash.

Incongruity-based Backup Reselfconceptualization (IBR) - Similar to TIBF, IBR occurs when a synth backup finds the world unlike the world of when the backup was made, but instead of crashing, the synthetic intelligence persists by recognizing itself as a distinct personality from the instance which created the backup. It may consider itself a sibling or the offspring of the original instance. It may mourn the original instance, or even experience hostility towards it.

Mind diving - The practice of exploring an immersive virtual interpretative construction of a subject's mental state.

Skidoo - The common term for a mind dive.

Neurospace - The realm in which a mind dive/skidoo takes place.

Mindscape - The simulated physical environmental surroundings psychonauts experience within a skidoo.

Accursioning - Mind diving performed on a willing subject for investigative purposes.

Incursioning - Mind diving performed to probe the mind of an unwilling and/or unaware subject.

Obliviation - Mind diving with the subject of the dive present to assist them in addressing neuroses through confrontation.

Taming - Mind diving with the subject of the dive present to assist them in addressing neuroses through nurturing acceptance.

Media Recommendations

Because this game takes place in a world that is not yet a fixture of mainstream fiction, we share the following diverse media recommendations because we think they may provide interested readers with inspiration of one kind or another. Not all are solarpunk, and they range greatly in tone. What they have in common is that we think readers may find them interesting and/or useful.

Other RPGs

Solarpunk 2050 by Thorsten Sick

2023 - http://solarpunk2050.de/

Solarpunk 2050 is a solarpunk RPG built on the FATE system. It takes place in a world shaken by climate catastrophe and walking a long road of recovery. It's got a robust set of resources framed around three playable factions: Pioneers, Norms, and Lost.

Pioneers are forward-thinking futurists who embrace novel technologies and ideas. Their cities and neighborhoods reflect this ethos, and pioneer players get skills in prototyping.

Norms are more conventional and cautious. They use cooperation and AI assistance to run cities and neighborhoods that are stable and thrive. Their skills are in controlling software and acting cooperatively.

Lost live a rugged life on the ruins of collapsed infrastructure. Some maintain an affection for the failed society of the past, and others simply learned an understandable fear of new technology. Either way, they specialize in bushcraft, and rely on simple, timeless tools and techniques of survival.

If you're looking for a FATE system in particular or an approachable, faction-based setting with a diverse mix of modern futurism, experimental solarpunk living, and classic post-apocalyptic wastelands, it's worth a read.
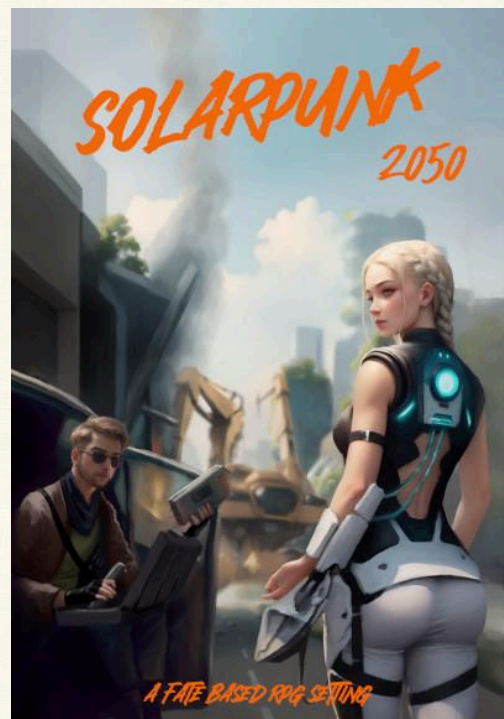
Cities Without Number by Kevin Crowford & Sine Nomine Publishing

2020 - https://sine-nomine-publishing.myshopify.com/

Cities Without Number is an Old-School Revival style sandbox cyberpunk game. It's light on rules and heavy on resources. It eschews lots of in-world stories and lore in favor of providing tables and advice for procedurally generating a cyberpunk world. While it's explicitly cyberpunk, author Kevin Crawford has done such a good job deconstructing the beats of a story and the component elements of cyberpunk that it could provide many GMs with helpful inspiration. Some of the content can fit into solarpunk, and what can't makes excellent fodder for subverting tropes. Also, the core rule book is free!
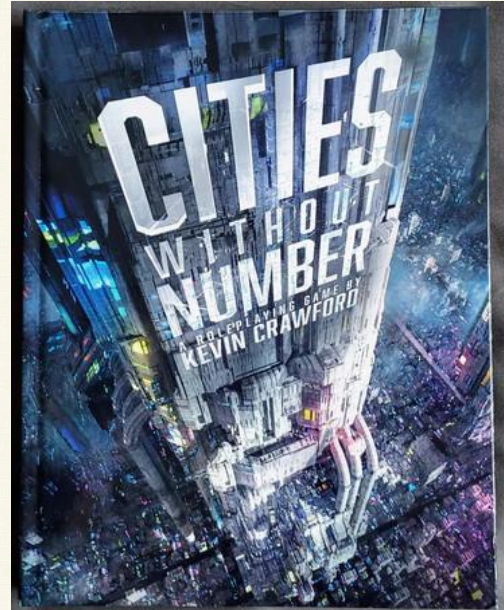
Coyote & Crow by Coyote & Crow LLC

2020 - https://coyoteandcrow.net/

Coyote & Crow is an alternate-history tabletop game in which a meteor strike prevented Europeans from colonizing the Americas, while also introducing new mystical elements into the world. It takes place in a high tech future populated by the original peoples of the Americas. Coyote & Crow lovingly invites players to imagine a society shaped by the culture and values that were supplanted during the land theft, subjugation, and genocide that took place during the conquest of Turtle Island. While it's a very different game by virtue of the fact that it diverges from our history hundreds and hundreds of years ago, it's an engrossing entry in the canon of near-future high tech RPGs that reject the fundamental philosophical themes of traditional cyberpunk. Also, as a product of dozens of indigenous writers, it provides an outstanding set of tools for GMs looking to find ways to respectfully include indigenous influences in their tabletop adventures.
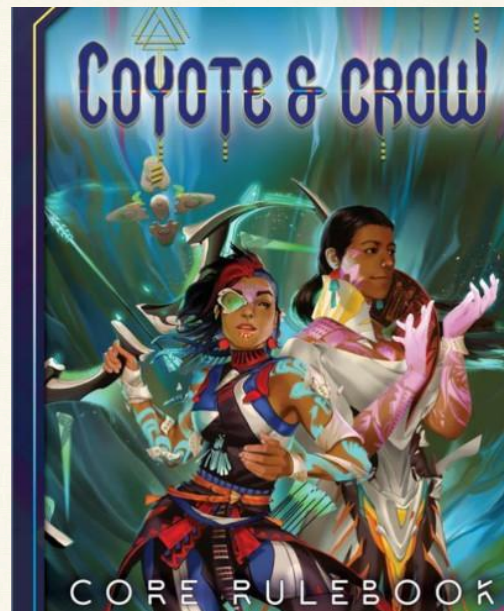
[Blue Planet](#) by Jeff Barber, Biohazard Games, & Gallant Knight Games

2020 - https://www.biohazardgamespublishing.com/blueplanet

Blue Planet: Recontact is an update to an acclaimed 1997 hard sci-fi game set on the aquatic planet Poseidon. In Blue Planet, players can play as modified humans going on adventures with whales and dolphins against the backdrop of Earth's messy, complicated first attempt at colonizing a second planet. Like Coyote & Crow, it's a very different concept to Fully Automated, but a wonderfully realized vision that will likely have obvious appeals to many of the same players.

[Lunar Echos](#) by David Blandy, Sydney Bollinger, Jay Dragon, Becky Chambers

2023 - https://affinity-games.itch.io/

Lunar Echos is a hack of Wanderhome, a popular RPG for telling serene stories about meditative journeys through pastoral settings. Lunar Echos reskins Wanderhome based on Panga, the setting of Becky Chambers' Monk and Robot book series.

[Neon Black](#) by Michael Elliot & Sam Dunnewold

2020 - https://notwriting.itch.io/

Neon Black is a cyberpunk game that uses the Forged in the Dark system. The system uses broad, highly interpretable skills to establish checks using d6 dice pools. The primary story types are heists and operations where players plan a job, then execute it. In addition to trying to complete their work in the present, players can invoke flashbacks when encountering problems to explain how they neutralized it in advance. Neon Black uses this mechanic to tell stories in which players take bold action to challenge the power structures of their hyper-capitalist hellscape. Players fight to challenge the rich and greedy while building resilient communities to take the world in a better direction.

[**Legacy: Life Among the Ruins**](#) by Minerva McJanda, Douglas Santana Mota, Jason D'Angelo, Rebecca Curran

2018 - https://ufopress.co.uk/legacy-life-among-the-ruins/

Legacy is a big-picture RPG where players control entire families and communities as they tell the sweeping historical arc of a world recovering after cataclysm. While it begins in the post-apocalypse, where it goes depends on the players.

[**Ecopunk 2044**](#) by Dice Kapital

2022 - https://dicekapital.itch.io/ecopunk2044free

ECOPUNK: 2044 is an environmentalist cybernoir tabletop RPG, set in a future of advancing environmental collapse known as the Death Spiral. Players will take on the role of 'Punks' - outsiders, activists and rogues - who fight to protect humanity's survival. It's an angry game with a bleak vision that brings cyberpunk back up to date. It uses a neat dicepool system with extensive hacking support.

Books, fiction

[***Murder in the Tool Library***](#) by AE Marling

2023 - Barnes & Noble Press

The shocking murder of a painter in the city's central library of things sets off a frantic investigation as New Tollan's citizen detectives seek to find the killer and hold them accountable.

Murder in the Tool Library provides a masterful demonstration of what it looks like for a cast of diverse characters to embark on thrilling adventures across an ecosocialist city of tomorrow.

The Lost Cause by Cory Doctorow

2023 - Tor Books

"It's thirty years from now. We're making progress, mitigating climate change, slowly but surely. But what about all the angry old people who can't let go?"

Cory Doctorow tells a thrilling story of polarization and violent clashes over infrastructure. The story is set in the Burbank suburb of Los Angeles one generation removed from now, and describes events that could easily be assumed to have occurred in Fully Automated one or two generations earlier than when the game is set.

Walkaway by Cory Doctorow

2018 - Tor Books

Walkaway adds to Doctorow's extensive bibliography of thought on how we break out of our capitalist moment with a novel in which anarchists revolt from society by leaving it behind for the hinterlands of abandoned places. While very distinct from the setting of Fully Automated, the vision of what high-tech mutual aid looks like and the presentation of technologies used to realize it still provides ample inspiration.

A Half Built Garden by Ruthanna Emrys

2022 - Tor Books

An alien arrival in a time of recovery throws the future into uncertainty.
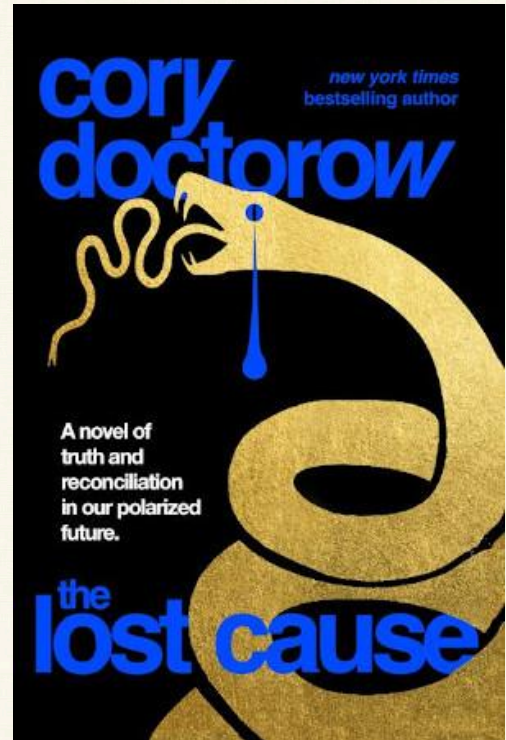
[Gamechanger](#) by L. X. Beckett
2019 - Tor Books

A social worker and gamer attempts to understand an antisocial pariah in a world that is solarpunk but distinctly non-utopian.

[Red Mars](#), *[Green Mars](#)*, and *[Blue Mars](#)* (The Mars Trilogy) by Kim Stanley Robinson
1992, '93, and '96 - Bantam Books

Settlers on Mars chart a course of scientific and political revolution.

[New York, 2140](#) by Kim Stanley Robinson
Orbit Books, 2017

Kim Stanley Robinson adds a flooded New York to his extensive catalog of scientifically informed futuristic cli-fi.

[A Psalm for the Wild Built](#) by Becky Chambers
2021 - Tor Books

A monk on a peaceful post-industrial moon goes on a journey of self-discovery that brings them into collaboration with one of the famed machines that had peacefully departed human civilization to live lightly (and curiously) within the wilderness.

[The Terraformers](#) by Annalee Newitz
2023 - Tor Books

An Environmental Rescue Team cares for the planet and its burgeoning eco-systems as their parents and their parents did before them. But the bright, clean future they're building comes under threat when a member discovers a city full of people that shouldn't exist, and they begin to question the mission.

[Ecotopia](#) by Ernest Callenbach
Bantem Books, 1990

A famous early work of solarpunk utopianism.

Books, nonfiction

[Fully Automated Luxury Communism: A Manifesto](#) by Aaron Bastini

2018 - Verso Books

In Fully Automated Luxury Communism, the writer who coined the term that inspired the title of this game explains in accessible language why we must leave capitalism behind, and how he proposes we get started. It's a clear-eyed vision that provides a great starting point for those seeking a rigorous, thoughtful presentation of how the world in FA! is not only possible but necessary.

[Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants](#) by Robin Wall Kimmerer

2015 - Milkweed Books

"Drawing on her life as an indigenous scientist, a mother, and a woman, Kimmerer shows how other living beings—asters and goldenrod, strawberries and squash, salamanders, algae, and sweetgrass—offer us gifts and lessons, even if we've forgotten how to hear their voices."

Braiding Sweetgrass is part memoir, part treatise. It's an illuminating work of deprogramming that introduces readers to schools of philosophical thinking that have been buried in an attempt to exterminate other people and their ideas. Kimmerer patiently shares pieces of this wisdom that are making a resurgence in a time when the shortcomings of our current ways of thinking have become deafening. The relationship with the world around us that Kimmerer describes might be essential reading for anyone looking to truly reimagine the world as it can be.

YouTube Channels & Podcasts

[Andrewism](#)

[Not Just Bikes](#)

[Solarpunk Presents Podcast](#)

[Damilee](#)

[Solarpunk Prompts Podcast](#)

Miscellaneous

[Low-Tech Magazine](#)

Jacob Coffin

Sean Bodley