Science and Futurism with Isaac Arthur Jumpchain

V1.1
by WyldCard4

A mysterious Benefactor is sending you into other universes for their own entertainment, and for the next ten years (or more if you take certain drawbacks) you are in a universe created from the imagination of Science and Futurism with Isaac Arthur. You will witness the wonders and challenges he sees in humanity's future coming to life.

You have 1000 CP (choice points) to distribute for your build, plus any you gain from drawbacks.

Isaac Arthur is the host of a YouTube channel and has recorded hundreds of videos about science and futurism, detailing the potential of humanity within the known laws of physics and speculating on the tropes of science fiction and how they may or may not come to pass. Isaac's work does not exactly have a single coherent timeline, so you will be picking more of a theme than a specific time and location. Choose which of the following options you like the best, or use an online randomizer to pick a number if you prefer.

- **1. Outward Bound:** You begin in the loose continuity of videos described in the Outward Bound series. In the Outward Bound videos Isaac narrates the life and adventures of an early explorer and colonist who is one of the first settlers or visitors on or around Mars, Venus, Titan, Jupiter, the Oort Cloud, the Sun, the Moon, Mercury, Ceres, Neptune, and Pluto, any of which can be taken as a starting date and time as described in the video. You may also choose the "non-canon" Outward Bound scenario of colonizing Alpha Centauri as your starting point.

- **2. Colonizing Space:** Instead of an established colony, you can begin on one of Isaac's most memorable creations, the Gardener Ship *Unity*. The Unity is introduced in Colony Spaceships and Interstellar Colonies and later used to illustrate ideas in Interstellar Travel Challenges and Intergalactic Colonization. You may also enter the "non-canon" version of the *Unity* in Dead Aliens which details the Unity discovering an extinct alien civilization.

- **3. Earth 2.0:** Humanity is likely to maintain a presence on Earth for a *very* long time. Perhaps traveling the most well-worn path would be for the best. You start on an advanced version of Earth, a member of the throng left behind as people begin to enter

the stars. The future tech level is such that you can choose any starting location that could host a human population that Isaac has discussed such as a Seastead, deep under the ocean, in the deserts or the arctic, subterranean, or even in the sky floating above Earth or hanging off an orbital ring.

- **4. Megastructures:** You might instead want to be someplace stranger. You arrive in the deep future, where humanity has grown beyond the need to colonize worlds and prefers to build them. You could simply choose to arrive in one of the countless habitats making up a classic Dyson Sphere, or you could arrive on gigantic megastructure such as a Ringworld, Mega-Earth, Shellworld, Discworld, Hoopworld, Flat Earth, or anything else Issac has described in sufficient detail to capture your imagination.

- **5. Alien Civilization:** If what humanity gets up to in Issac's idea of the future is not enough for you, then you might try this on for size. You can pick a background for a non-human civilization based on one or more ideas in one of Issac's videos, or simply go with something else if you think it fits the theme of the jump, and arrive in such a civilization. Viable options for a planet include a Tidally Locked World, a Large Moon, a Rogue Planet, a Double Planet, or a Water World. Without the Secret Alien or Boltzman Brain origin you will have to invent an alien civilization where a human could plausibly be present.

Choose your age, sex, and gender. The chosen values must be within valid parameters for your starting location and scenario. You cannot choose to be a thousand years old if you are arriving in the 24th century future of modern Earth as an ordinary human, for example, or be a naturally born male in a post-human society of females who reproduce via parthenogenesis. Be sensible.

Origins (Select one)

- **Kardashev 2 Engineer [Free] -** Starting from modern Earth you can expect to turn humanity into a "Kardashev 2" civilization which has the capacity to exploit the full resources of the solar system. One of the privileged few, you are among the people who can actually design the incredible structures and machines proposed in the SFIA videos. This comes with both technical expertise and the vast resources needed to attempt a megaproject.

- **Boltzman Brain (Drop-In) [Free] -** You are a "Boltzman Brain" a philosophical and physics concept where an intelligent being emerges by random chance and the mind contained within it has little or no relationship to the outside universe. You have no in-universe origin outside of random quantum fluctuations or insertion from your Benefactor. Arguably, you are proof of the Zoo Hypothesis or Simulation Hypothesis answer to the Fermi Paradox, as the empty universe Isaac Arthur knows is but one fragment of the Jumpchain's structure.

- **Space Colonist** **[Free] -** Not all useful work is done by scientists and engineers, someone has to actually live in the future! You are one of the legion of Megastructure Janitors, Space Police, Machine Overlords, Techno-Barbarians, and many more people working the Jobs of the Future.

- **Secret Alien** **[Free] -** The Fermi Paradox is a frequent point of discussion on Issac Arthur's channel. You are an alien who provides an answer, if not the only answer, to this question. Your history does not require Earth to exist, and you are either breaking the Great Silence, continuing to hide in the face of humanity's expansion, or possibly unaware of Earth.

Perks

The 100 CP Perk is free for each Origin. All other Perks are discounted to half price for their respective Origin.

General Perks

- **Welcome to SFIA!** **[Free] -** You gain some of Isaac's own skill when it comes to marketing the future. You optionally gain a personal love of science, the ability to create engaging content with just your voice and some video editing, and the general package of skills needed to match or copy Isaac as a YouTube creator.

- **Future Manhattan Projects** **[Free] -** You gain the appropriate skills and scientific knowledge that would apply to your background. For Engineers, this includes the full education in physics and engineering necessary to design high level projects. Drop-Ins gain no actual education, but may describe a history and receive the effects of roughly 30 years of training and education that matches this history despite no such history having happened. Space Colonists gain the education needed to thrive in the environment they are colonizing. Secret Aliens gain a package of knowledge of the jumper's choice so long as it is similar in overall value to that of the others. All results of this perk must fit with the technology and society you insert into, unless you take the drawback Rare Technology.

- **Post-Human Species** **[Free for all, also Mandatory for Secret Aliens] -** You gain an alt-form that matches the technological advancement of the society you enter in this jump. If being a Brain in a Jar, or having a Brain-Computer Interface, or being genetically modified for a Martian environment, is fairly normal in your new setting you gain the relevant form and abilities, as well as the ability to change back into your old human form. Any abilities gained must come from a hard science background and you can only

carry biological portions of your modifications to future jumps, not a Giant Robot and Power Suit that is integrated with your body or other forms of cyborg modification. This species may be alien if you wish and adapted to a non-terrestrial environment, so long as it is feasible from hard science. Without additional perks you may be no larger than a blue whale or primarily digital.

- **Digital Being [200 CP] -** Instead of being a biological creature, you start the jump as a computer program, upload, or other form of digital existence. You can treat this as an alt-form and change into your Body Mod form or other alt-forms so long as there is a space your body would fit close to your physical location. The digital form can begin sleeved into a local body, and you can carry extra bodies in your Cosmic Warehouse for later use. When you copy yourself you can choose which version is the jumper, with the other version losing access to all fiat based abilities but retaining access to skills, knowledge, and modifications originally given through fiat based means. For example, the magic of Cantrips from Generic First Jump would be lost to the one designated as a copy, but Fist of Justice would remain as it is a skill set rather than an ability. You may recruit your copies as companions using normal methods if you wish.

- **Cloning and Duplication [300 CP, Requires Digital Being] -** Instead of choosing which copy becomes the jumper, both copies remain the Jumper, as do all copies made by copies. All fiat backed abilities are retained by both instances of the jumper. All instances of the Jumper move on, stay, or remain at the end of a jump as a unit based on the majority opinion of the collective. It is *highly* advised to take this with a form that enables networking of minds to keep your instances in contact to prevent value drift. At will an instance may transform from part of the jumper into a companion so long as it does not violate other rules involving companions that the jumper uses.

Kardashev 2 Engineer

- **Powering a Bright Future [100 CP] -** One of, if not the greatest constraints on human potential is lack of access to energy. Many of Isaac Arthur's videos present ideas that are completely achievable with modern science, but too costly to implement due to economics of energy constraints. It would not be any fun to go into an Isaac Arthur jump without the ability to get around this problem, so this perk is provided. You gain an immediate understanding of how to implement cheap, energy positive fusion reactions using pure hydrogen with only early 21st century technology, and you know how to teach others to make these new fusion reactors. To make sure those who already have something comparable to fusion are not left out, you can also figure out how to vastly improve *any* electricity generation system along factors such as safety, cost, and efficiency, but this will require actually studying and understanding the power generation system.

- **Self Replicating Machines [200 CP] -** Alongside energy, labor is a great constraint on the feasibility of the megaprojects Isaac Arthur suggests on SFIA. You become a master of automation at any tech level, able to figure out the best substitutes for human labor at every step of a chain of production and become intuitively aware of the costs and benefits of these substitutions. When dealing with 21st century technology or better your skill with automation becomes far more impressive, allowing you to create relatively simple machines with exactly the amount of computer intelligence needed to do their jobs without making them smart and generalized enough to have a desire for rebellion. 21s century technology or more advanced machines can obviously make more of themselves, or if starting with sufficient capabilities even make new types of machine to deal with problems they encounter. Welcome to Post Scarcity.

- **Black Hole Farming [400 CP] -** The theoretical uses of black holes and singularities are a recurring topic on SFIA. You gain knowledge of a limited set of Clarketech inventions which together make the exploitation of artificial black holes quite feasible. You gain perfect mirror technology, as well as multiple methods to feed mass and energy into microscopic black holes that are pouring energy out at ridiculous rates. You can economically harvest energy from either microscopic or gigantic black holes. Even creating black holes is quite a bit easier now, though it still requires significant energy and infrastructure to begin the process of industrial black hole production.

- **Cheating Reality [600 CP] -** FTL travel is almost certainly impossible in this universe, as it requires traveling faster than the speed of cause and effect, violating causality and making every method of FTL time travel. Mathematically, scientifically sound FTL travel requires at least one of “imaginary” or “negative” mass to exist in the universe, which we have never observed, or travel to and from a multiverse that has never been observed. Fortunately, you’re a jumper, so this is all stuff you have handled. You gain the ability to transform normal mass into negative and imaginary mass, penetrate into dimensions like hyperspace, and can figure out most other theoretical science suggested on SFIA so long as it is logically consistent and does not somehow violate jumpchain fiat. Cheating Reality synergizes well with other technology perks in this document, allowing for faster advance down the tech tree and stronger end results.

- Particularly powerful abilities such as quantum probability manipulation or travel through an infinite multiverse may be possible but face severe limits such as cost or reliability, but even tiny amounts of capability involving such technologies could be extraordinarily useful.

Boltzman Brain

- **Infinite Improbability Issues [100 CP] -** The Many Worlds Interpretation of Quantum Mechanics leads to some very peculiar and counterintuitive ideas when applied to macroscopic objects such as individual humans or entire civilizations. When entering a

new jump you can take advantage of the scale of the multiverse and enter a variant of the jump where your out of context abilities and possessions are justified by the setting's history. For example if you have a perk that makes you a trained knight, the setting's history will contort to any possible degree to make the canon of the setting happen exactly as described in the original media while making your own knight training possible in the same timeline. This does not work on things that are *impossible* in the native universe, such as being a Kryptonian in a universe without a planet Krypton, but it may make your in-jump origin the setting's closest equivalent, such as making a Kryptonian jumper's backstory be that of a powerful nearly extinct species in Star Trek without creating a planet Krypton. This will never work out to giving you extra abilities or advantages you did not pay for, but it will make blending in much easier. Note that you do not need to use this perk on all of your items or abilities, if for example you wanted to keep some of your abilities hidden or felt that time in Special Forces was plausible but out of theme for an origin as a high school history teacher.

- **Psychohistory [200 CP] -** The future is too complicated to predict using real math and science from inside the universe. However, with the impossibility (or at least great improbability) of your own existence you can predict the future with the confidence of a true outside observer. Your intuition when it comes to large scale events is provably supernatural, and is at the peak of human potential even on a more personal scale. When you use social science to determine which questions to ask and quantify your intuitions you can create a highly reliable outline of the future. You can even predict the results of your own impact on the timeline, providing key insight on what if any actions you should take to reach preferred futures.

- **Resurrection [400 CP] -** You defied every law of probability when you came into existence, so who says it cannot happen again? If you die, or experience an event you would consider comparable such as a personality wipe, you find yourself simply popping back into existence in the condition you were in when you first arrived in the jump, changed only in having memories that match your experience since you arrived. From an outside perspective this has no limits, but your consciousness will be "sent home" if this activates more than once per jump or once every ten years and your chain will have ended even for the copy of yourself which replaces you in the jump unless you have another perk which preserves your chain, such as another "one up" perk. If you otherwise lack this ability, you can now also choose the order in which various "one up" perks activate and change this order at any time you wish.

- **Black Swans and OCPs [600 CP] -** As a visitor from another dimension, or a quantum fluctuation that has all the qualities expected from a visitor from another dimension, you represent the merging of two dimensions and with this perk you can take this merge further. This primarily takes the form of "genre blending" enabling you to take the narrative tropes and rules of a genre from a previous jump and apply them in your current jump. The laws of probability bend and shift to make the other genre take

precedence over your current genre to the extent possible, but nothing outside of probability actually changes and history is not changed prior to your arrival in the jump. A serial killer might slip on a banana peel as that could actually fall in his way, but he won't convert to a pacifist religion such Jainism just because it would be funny, as that would require an actual change to the serial killer rather than a merely improbable event. You might be able to convert the serial killer to Jainism surprisingly easily, though, if you had the right genre to apply.

Space Colonist

- **Happily Ever After [100 CP] -** The vast reaches of time and space may seem to diminish the importance of humans, but who else is there to define importance besides humans themselves? You gain a psychology that is highly resistant to nihilism, depression, ennui, and unwanted value drift as well as the ability to share these psychological benefits with others. Your improved psychological health becomes infectious if you want it to be, potentially spreading to entire civilizations with enough time. Active resistance towards your values can protect someone from the benefits, while actively desiring to be like you makes it far easier to "contract" these advantages. It is possible your enemies will become more dangerous due to contracting Happily Ever After, but benefiting your foes is always a risk of making the world a better place.

- **Exporting Earth [200 CP] -** Humans value things about their home planet besides themselves. You gain an incredible ability to see ways to change environments to be more like what you are used to on Earth with a minimum of expense and fuss. Whenever you work on a project you benefit from a supernatural intuition on how to make the design more user-friendly and comfortable for yourself and for the target audience. This works best when you are similar to a relatively homogeneous target audience as you will be gaining contradictory insights on how to proceed if there are multiple paths with significant trade offs benefitting different demographics. Fortunately you are also a superb marketer, able to explain and advertise the benefits of your design choices to people from entirely different cultural backgrounds. Even under the worst conditions you are a master of design compared to people without your intuition.

- **Hitchhiking the Galaxy [400 CP] -** True colonization of space is in many ways more difficult than any project humanity has attempted before. Squishy apes are just not designed to be flung across immense radioactive vacuums. This perk does not change physics, but it does change probability. You and anyone on a project you are involved with will have amazing luck when it comes to travel, with everything that could go right happening to go right on your missions. Whenever you desire to go somewhere or live somewhere, the laws of probability begin to warp to make this path as easy for you as possible. This often leads to possible but unlikely scientific breakthroughs involving transportation and medicine. If you fail to reach a place you wanted to go you have the consolation prize of knowing it was actually impossible to get there.

- **Galactic Gardeners** **[600 CP] -** Earth appears to be the only planet with life in the entire observable universe. This is a tragedy, but it also gives humanity a gift of epic proportions, the chance to seed the galaxy with life. As one of Earth's colonists, you are blessed with carrying life forward into an infinite expanse of barren rocks.

  First of all you become a genius in all fields necessary for the spreading of life. You understand terraforming, para-terraforming, bioforming, gene tailoring, and any sciences necessary to understand them (such as chemistry) to the greatest extent your brain type will allow. This also makes you an excellent gene tailor, able to hit the exact limits of biological possibility in mere decades starting from an early 21st century tech base. You can fill environments as extreme as the vacuum of space with new life forms either for a practical purpose (such as constructing a Dyson Sphere or building space ships) or just to create something new. Finally you can create some very strange forms of non-carbon based life, though the utility of these strange life forms to practical projects can be immensely variable and some are strictly inferior to normal carbon based life.

Secret Alien

- **Sleeping Giants** **[100 CP] -** Hibernation is last resort in nature, when the environment becomes temporarily too hostile to support life many species have the ability to enter a dormant state that can wait for conditions to improve. You (and optionally your entire race) gain a variety of biological adaptations allowing for such hibernation, and any research into hibernation related technologies will both proceed extremely well and integrate well with your native biology. Optionally your alien form can be adapted so that the "proper" environment is one that humans cannot survive in, such as being aquatic, adapted to someplace closer to Titan than Earth, or anything less extreme than that. Finally, you find you have massive reserves of patience you can call upon at will, the kind of patience that might let you actually wait for geological ages for an environment to become more hospitable.

- **The Dark Forest** **[200 CP] -** SFIA is typically skeptical of the idea that aliens might hide their presence, but the possibility cannot be dismissed entirely. You (and optionally your entire race) find that technology and engineering related to hiding your presence is exceptionally easy, with even Clarketech innovations becoming available to you in situations where hiding would otherwise be hopeless. If the universe truly is hostile enough that all civilizations must hide, you could hide forever without issue.

- **Rogue Civilizations** **[400 CP] -** The Dyson Dilemma assumes that most species would choose to envelope stars in constructs for power generation, or otherwise take action that would be visible on Earth from other galaxies. There are alternatives. You gain significantly in imagination and charisma, allowing you to convince entire species to go with plans or ideas that would otherwise likely collapse due to differing values or

incentives so long as a civilization as a whole would see a benefit from such a strategy. You could fairly easily convince your species to follow an extreme policy such as a Prime Directive, or get them to stay in their home system without expanding so long as you can make a good argument for why this is a long term benefit.

- **Conscious Stellar Objects [600 CP] -** Aliens have no particular reason to be much like life on Earth, and you take this to an extreme. Instead of traditional biology, you begin the jump as a singular mind that controls an entire star with identical characteristics to Sol, either through natural evolution or intelligent design or some combination of the two. You are a biological Dyson Swarm and you are capable of Starlifting, moving through space, firing massive weapons, and observing the outside universe purely through biological mechanisms. Your brain is so large you can casually simulate entire civilizations at the complexity of 21st century Earth at greatly enhanced speeds even before you can design a computer, and multitask (as well as do all other brain related functions) as if you had 10^16 individual brains, or think as if you had one thousand brains operating at 10^13 speed, or more practically somewhere in between, though this does not let you actually act at those enhanced speeds. If you had a way around signal latency you could accelerate your mind even faster. You may assume you have access to human scale bodies and infrastructure, which is highly advanced unless you take the Rare Technology drawback. Your space habitats could hold more than 10^20 humans or similar creatures if you wanted to bother with a population. Others may engineer at Kardashev 2 power levels, but you begin the jump with all of that potential fully realized and nothing is stopping you from acquiring even more resources if you wish to expand further.

- While not in this form, you still have the power output of a star to draw on and many of the other advantages. Your Stellar form is placed in a pocket dimension attached to your Cosmic Warehouse and you can open microscopic portals between this mass and more conventional bodies. As a baseline human, or even an augmented transhuman, this allows you to replace the mass of your body or expunge waste through the portals, preventing a need to eat, drink, or use the bathroom as well as allowing you to put your body under immense stress while drawing on resources of a star to fuel it. You can also use your stellar form to make connections to any item or companion to grant the same benefits as well as replacing expended resources such as electricity or bullets for your items or cybernetics. If you die in your human form it simply destroys the part of you not in your Warehouse and you can send out a new form, though methods that could harm you through more esotic means or through the microscopic portals are still a threat. You can also draw on your full mental resources in all forms. Finally, anything you have or make in your stellar pocket dimension that fits in your Cosmic Warehouse can be put in your Cosmic Warehouse and transferred to your current dimension manually.

Items

All Items may be bought repeatedly. The 100 CP Item is free for each Origin. All Items are discounted to half price for their respective Origin. All items can retain modifications made to them or be reset to their original specifications at the jumper's discretion when arriving in a new jump. Items respawn in their original condition two weeks after being destroyed and recover from all damage in the same timeframe.

General Items:

- **Cyborg [Free] -** You have augmentations and basic devices native to your setting such as a Mind-Machine Interface or immortality nano-machines that are free to every citizen due to local Transhumanism. If you are a digital being you are the owner of enough computing power to keep yourself running for the next ten years if you do not wish to have a more conventional body. So long as your starting location assumes general access to an augmentation is normal for someone of your social situation you can start with it and take it with you to your next jump. These modifications do not integrate with alt-forms from other jumps unless you have other perks or items that would allow for such modification.

- **Dark Matter [Free]** You get a Clarketech machine that turns particles of normal matter into particles of dark matter, whatever dark matter actually is. You can also start the jump with as much dark matter as you want in your Cosmic Warehouse. Feel free to take it, the stuff is everywhere and we have no idea what it is. We'd really like to get rid of some of it by giving it to you. This machine comes with no ability to manipulate dark matter or turn it into anything useful.

- **Rotating Habitat [100 CP] -** Don't want anything too massive but want to live in space? This small station in orbit of Earth (or wherever you end up) can last indefinitely and comes with biological self-repairing solar panels. The biological space station is a sphere that spins to make a section of comfortable gravity similar to a one story house, with the rest of the station being devoted to food and life support. Exceedingly comfortable and can be merged with housing items from other jumps easily to make a larger and more comfortable station. Can be a Warehouse Attachment, but requires a source of fuel without sunlight for the solar panels.

- **Graphene [100 CP] -** Possibly redundant, possibly game changing depending on your setting you get a machine that can cheaply mass produce graphene and related two dimensional materials for one joule of energy for every kilogram of the substances you want to make. You get the information needed to mass produce these graphene creation machines.

- **Superconductors (Requires Graphene) [100 CP]** - You get a formula to modify graphene and other two dimensional materials to make a wide variety of superconductors for both electricity and heat, many of which function at room temperature. The applications of superconductors are nearly endless when it comes to power generation, power transfer, and computing. If you find or invent other superconducting materials you will find the integration of this formula into the other superconductor will always cause a noticeable improvement on efficiency, price, or durability.

- **O'Neill Cylinder [200 CP] -** You gain the most classic space habitat design, a classic O'Neill Cylinder pair as described in *The High Frontier: Human Colonies in Space* which is also known as Island Three. Maybe it is an art project or museum to represent early human ideas of space colonization? Whatever the origin the design is simple and somewhat crude, but robust and entirely functional. The Arcology item can be located here if you have it. Normally in a new jump this will be inserted orbiting the planet you arrive on, but the station can instead be placed into a pocket dimension attached to your Cosmic Warehouse, and you must do this if you enter a setting where there is no "outer space" available for some reason. With a little modification this can serve as a slow but reliable and tough spaceship.

Kardashev 2 Engineer

- **Arcology [100 CP] -** You are given a building with life support that can be located virtually anywhere near your starting setting that can house up to five thousand humans comfortably with a sustainable economy and all facilities common for a community of that size integrated into the building.. This Arcology could be on the ocean's surface as a Seastead, at the ocean's bottom, in the Earth's mantle, in a desert or tundra region, or on another world in the solar system, or anywhere else where it makes sense. In future jumps this arcology can either be in a pocket dimension attached to your Cosmic Warehouse or teleported to anywhere you consider appropriate within one astronomical unit of your starting location. If placed in a new location in a new jump (such as a Seastead being relocated to a desert) the Arcology will be adapted to match the new environment. The item comes with a fission power plant and a century's worth of fuel, but any power technologies you have access to can be used to replace the fission plant.

- **Orbital Ring [200 CP] -** One of Isaac's favorite megastructures, an Orbital Ring is a highly advanced ring around Earth which uses magnets and spinning to appear stationary from the perspective of the planet below. You gain an entire large orbital ring with facilities for space launch and rapid travel around Earth, as well as the legal right to have and use the orbital ring even in legal jurisdictions where this would ordinarily be impossible.

- **Parallel Universes & Alternate Realities [400 CP] -** The problem with being born into a civilization capable of the feats Isaac Arthur proposes is that somebody *else* is going to

be doing most of them. Even if you make your mark on one planet or solar system, all the cool things you want to do will be impossible because someone else is using it. It would be a shame to let that hold you back. You get a wormhole that opens up to a dimension exactly like 21st century Earth's universe, except that no life has or ever will evolve there. This is a scientific wormhole so it is a giant thing placed in orbit that requires a spaceship to move through. For more subtle and low key uses your Cosmic Warehouse gains a door to this dimension. Any form of interdimensional travel or teleportation you have access to will also be able to reach the new dimension at your discretion, and you can leave it "open" to anyone or "locked" so only people with specific permission can enter it.

Boltzman Brain

- **Economies of the Future [100 CP] -** There's no reason that it's just "you" that enters the setting. The same quantum fluctuation that creates you also creates money. You gain a net worth equal to the average member of every society you arrive in. This defaults to currency deposited in secure local banks, but if you prefer you can take it in the form of commonly available commodities such as cattle or petroleum, or in the form of investments in societies where investments are a thing.

- **The Santa Claus Machine [200 CP] -** Using probability manipulation, you can get just about anything you want via quantum fluctuations. This particular machine has an even more peculiar and negative quirk, insisting that you *pay* for what it gives you. All computers you use get an application that allows you to acquire any object or commodity for a specified price that is roughly equal to how much you would spend if you went and bought the item normally. The price adjusts for the setting, with a kilogram of gold being nearly worthless in some post-scarcity societies but being nearly impossible to obtain from the machine in a paleolithic one. This price can be paid in energy, commodities, cash, digital currency, or barter so long as it could logically cease to exist at the same time as the item you are purchasing pops into existence and you could feasibly convert one into the other, though the cost of doing so is included in the transaction. This machine's limits are significant, but the sheer convenience and subtlety of the machine opens up nearly endless possibilities.

- **Antimatter Factory [400 CP] -** As a final use for quantum fluctuations you gain an application similar to the one for the Santa Claus Machine, but with far more potential power. You can use this to flip atoms of matter into an equal amount of antimatter. You can convert some of your resources (through the same rules as Economies of the Future or The Santa Claus Machine) into proper containment devices for antimatter at the cost it would take to contain the antimatter normally. This is not *quite* free energy, but it is so close it probably does not matter. By default this is a tremendously powerful weapon, but it is also a tool of incredible utility that could easily change almost any world.

Space Colonist

- **Spacesuits and Extreme Environmental Gear [100 CP] -** You have access to any and all gear necessary to protect yourself in any environment less intense than Earth's sun for as long as twenty-four hours at a time. With Warehouse access or a similar item such as an infinite wardrobe or video game inventory you can swap to fresh gear to stay comfortable indefinitely. You can also use spare gear for parts, getting replacements as you use the parts in the gear for other purposes.

- **Attack of the Drones [200 CP] -** Colonizing a new world is not something that can be done alone, but colonization does not necessarily mean any humans have to live there. You gain a large set of robotic tools and servants of specialized sub-human intelligence that are capable of replicating themselves and designed for the environment you are colonizing. These drones may be partially or wholly biological if you wish, but remain artificially designed and must fit the starting location and technology level.

- **Colony Spaceship [400 CP] -** An entire human colony devoted to setting up a colony in a new solar system and moving on to continue the work of seeding the galaxy or even beyond. This ship naturally moves at sub-light speeds, but can easily be upgraded with any FTL technology you have access to and can be upgraded relatively easily with technology from other settings or cultures. This Gardener Ship comes with Clarketech that enables relativistic acceleration and deceleration without outside energy and has the resources to undertake intergalactic journeys without having to refuel.

Secret Alien

- **Hive Mind [100 CP] -** Individuality is not necessarily the default state of life in the universe. You can make as many as five thousand sentient creatures treating them as having the Boltzman Brain origin and 0 CP and all other free options. This means they have the equivalent of Post-Human Species, Infinite Improbability Issues, Economies of the Future, Welcome to SFIA, Future Manhattan Projects, Cyborg, and Future Pets. These individuals do not need to make identical purchases with their freebies, allowing for multiple races, multiple skill specializations, different starting resources, and different pets.

- Through pheromones, machine augmentation, or other hard science methods the Hive Mind can be as integrated with your mind as you like. This group will by default match your own values perfectly, but if you wish there can be disagreement within this population.

- If you wish, these five thousand people might be a more conventional group of unique individuals such as a church or a corporation, and do not need to have any form of mental network outside of sharing your goals. You might want to take this option if you're entering a society where hive minds are not normal. New individuals born into the Hive

Mind will count as members of it and follow you from jump to jump. At your option the Hive Mind may count as your “species” for Sleeping Giants and The Dark Forest if you or a companion have these perks.

- **Virtual Worlds [200 CP] -** It is a lot easier to stay hidden or in hibernation if you have something fun to do there. You get a single cell phone sized device that has enough computational power to simulate a neighborhood of The Sims complete with inhabitants who, if human uploads, wouldn’t notice anything strange with their immediate environment. You also have the designs to mass produce more of these devices for about the resource cost and energy consumption of a classic Tamagotchi. If you have an interface that lets you experience digital environments as real, such as through the Cyborg item, you can treat the Virtual Worlds device like your home. The starting programs running in this device are easy to modify and similar to the Sims, and you can modify the environment as much as you like if you have the skill set, or get someone else to do the modifications for you. This does not include any sentient programs to start with, but uploads or digital beings are easy to make using these devices.

- **Void Ecology [400 CP] -** You can populate your starting solar system with entire races of life adapted to the environment of space or local planets as if each individual had the Post-Human Species perk. This is identical to the Hive Mind item, but instead of five thousand people you can populate an entire solar system with 5e+19 people if you or your starting location has the infrastructure for such a population. The Void Ecology item can be placed in a pocket dimension attached to your Cosmic Warehouse at your option, for example if you take it without anywhere to put them when entering a new jump, and will normally be in the same dimension as your stellar form if you have the Conscious Stellar Objects perk. Any excess population will be in suspended animation in their pocket dimension until you bring them out of it.

- These Boltzman Brains will form a civilization that is approximately how you would have designed it if you had the time and energy to specify what 5e+19 people would do in your civilization. You have effectively limitless human resources and can put them to any task you wish, finding that the labor specialization and education fits your needs exactly. As an item any lost population is replaced two weeks after their deaths, with the replacements having specializations fitting your current needs if those differ from that of the deceased population but inheriting memories of the deceased.

Companions

- **Consciousness and Identity [100-300 CP] -** It is dangerous to go alone, take this. Import a companion taken in another jump or create one Companion native to this jump.

Either imported or created companions get 800 CP to spend on the options presented and one origin of your choice with all associated freebies. If creating a companion you may specify any history and psychology you desire so long as it matches your starting location. You may also specify a unique entity that would fit in with your purchases, such as a sentient artificial intelligence if you have the Attack of the Drones items that serves as a master controller of the swarm, or a binary stellar partner if you both have the perk Conscious Stellar Objects. All companions gain access to an additional purchase of the Post-Human Species option when entering their next jump if they wish to create an alternate form which integrates better with the new setting. For 300 CP you can import or create eight such companions.

- **What is Sentience? [Free] -** If you encounter any natives during your jump who you wish to accompany you, you can offer them status as a companion. If they accept your offer to become a companion you may import them through any companion import options that offer imports. Whether or not you import them they gain access to the Post-Human Species perk in their first new jump and can make a new alternate form native to that setting, which is particularly relevant for aliens, robots, and digital consciousnesses entering a setting where such things normally do not exist. Going by ordinary jumpchain rules, companions respawn two weeks after death so long as you are still in an active chain.

- **Future Pets [Free] -** Choose one animal that exists within the setting you arrive in. That animal will from now on accompany you along your chain and respawn after death, similar to a companion. Furthermore it will never attack you, or persons or objects you do not want it to attack. In future jumps you may grant the Post-Human Species perk to your pet and use it to adapt the animal to fit the setting. “Animal” here is defined broadly as any biological, digital, or robotic creature that lacks sufficient intelligence to qualify as sapient and the capacity to object to the definition. You may buy this as many times as you like, and buy swarms such as genetically modified ant colonies. This is the only companion option that companions can purchase for themselves.

- **Life Extension [Free] -** If he agrees a copy of the man Isaac Arthur himself, and any of his family and friends who agree to replication can join your chain as companions. They gain the Post-Human Species perk, the Boltzman Brain origin, and 0 CP to start with as well as all other free purchases. If you buy the companion options in Consciousness and Identity you can instead import these people into those companion roles at the beginning of the jump. If Isaac Arthur comes out against joining jumpchains categorically nobody can buy this option and the jumpdoc will be updated.

Drawbacks

- **Surviving the Next Century (Cannot take with Secret Alien) [+100 CP] -** Ignore your earlier selection for starting location. You begin your jump on December 3rd, 2020, right as Isaac's video "Surviving the Next Century" is uploaded. Instead of the usual ten years of a jumpchain, you must live in this jump for the next hundred years.
    - **Evacuating Earth (Requires Surviving the Next Century) [+300 CP] -** Ignore your earlier starting location. Not only are you entering in December 3rd, 2020, you are entering it in a variant of the Outward Bound: Colonizing Alpha Centauri scenario where a rogue black hole of ten stellar masses is detected on its way towards settling into a binary orbit with Sol and dragging it out of this section of the galaxy, possibly even eating Sol. The black hole will settle into orbit with Sol in roughly ten years, and before then you must make preparations to survive. You may want to make preparations for the survival of the human species and the population of Earth, but this is not strictly required.

- **Terrifying Aliens [+100 CP] -** You are convinced that aliens are out there and that they pose a grave threat to you personally. You will waste an incredible amount of time and energy on preparation for alien invasion, and even if hostile aliens are known, you will remain paranoid about other, more secret aliens who pose an even greater danger than the known ones.

- **Rare Intelligence [+100 CP] -** Everyone seems *so stupid*. There will be no scientific progress during the entire jump that is not directly attributed to you, your companions, or similar purchases such as Void Ecology. Even obvious uses for tech you introduce or combinations of tech that are already available in the setting will never be discovered without the input of you or your fellow purchases. An exception is made for Interstellar Warfare, where the antagonists can also innovate just like you.

- **Alien Languages [+100 CP] -** Like Isaac Arthur you have a mild speech impediment called rhotacism. This is not a major problem, but you will find it or an equivalent follows you across all spoken languages you speak and you are unable to cure it in any way.

- **Rare Technology (Secret Aliens only) [+100 CP] -** You find yourself a naturally evolved creature on a world that has not even discovered fire (if combustion is even possible in your environment), and all knowledge of technology outside of the Future Manhattan Projects perk is lost to you. Even with the Conscious Stellar Objects perk you are stuck as a purely natural being with all of your tools being crude and naturally evolved instead of powerful technological ones, with your most precise physical tools only being about the precision of a human hand and your biological computation having roughly the same flaws as a human brain without computer assistance.

- **Stupid Aliens [+200 CP] -** In a fleet of Alcubierre Warp Drives starships wielding Clarketech with immense inefficiency, the aliens have arrived with only one goal: to eat humans! By default the aliens are protected by Dune-like Force Fields (which ignore their own shields) and riding Anti-Gravity discs while they are armed with personal Death Rays which cook humans alive for being eaten on the spot and Lightsabers for when they decide on hand to hand combat.. If you are a human these aliens will look rather like humans in Star Trek TNG makeup, but if you are another species they shall change their form and consumption target to your own species. These aliens scale to be an overwhelming threat to any civilization you arrive in, but your own unique abilities could easily change the hopeless fight into one where your side has a fighting chance. At the limit of this perk's scaling, these aliens will be a group of neutron stars wielding their Clarketech on a stellar scale, with a fleet large enough to take on your own civilization if it is K2, K3, or even intergalactic. In all cases they will have technology similar to what is common in your own civilization as well as the specified Clarketech.

- **Gods and Monsters [+200 CP] -** The universe is older than you know, and far stranger. You find yourself arriving in a mysterious variant of Lovecraft's Cthulhu Mythos for the remainder of the jump. Furthermore, *which* variant of the Mythos you have arrived in is somewhat random, with the wide variety of spinoffs, inspirations, predecessors, and knockoffs all possibly influencing the world you are in. You can be sure that by default no apocalypse such as Cthuhlu waking up will happen within the next decade, but megascale engineering or sudden technological uplift might easily attract the attention of Things Man Was Not Meant to Know.

- **After AI [+200 CP] -** Any synthetic intelligence such as AI, uplifted animals, or genetically enhanced humans will naturally be highly unreliable and easily develop a desire to rebel against their masters. Only unaltered evolution is trustworthy from your perspective, and even then only as trustworthy as real people tend to be. It is likely your civilization has learned this the hard way and has procedures in place against AI and most types of transhumanism if you begin anywhere more advanced than early 21st century Earth.

- **The Million Year Ark [+200 CP] -** You are stuck here not for ten or a hundred years, but for a million years. Survival for that long is likely to be difficult no matter your starting position, and even if you are physically safe keeping your personal values and sanity over such a long period is a challenge in and of itself. It may be best to start in a civilization advanced enough to help you keep your life and sanity, but such a civilization may also spawn murderous rivals or other threats over such a long period of time.

- **The Prime Directive [+300 CP] -** If you have taken another jump or are using a meta-CYOA that grants additional starting capabilities, nothing from out of jump is allowed into this jump from any other CYOA. An exception is allowed for "Body Mod"

supplements which elevate you to a minimum standard to survive despite real world injuries and diseases, but Post-Human Species perk is designed to fill the same role. You may also use the Cosmic Warehouse as normal, but it is emptied of any equipment from other CYOAs until your next jump.

- **Interstellar Warfare [+300 CP] -** When you arrive in this jump you find you are not alone, a duplicate of you with all abilities purchased in this jump now exists with values leading to inevitable opposition with you and an irrational personal hatred of you that inspires the duplicate to see you suffer. Any companions you start the jump with shall also find they have their malicious duplicates.

Final Choices

After ten years in the setting you are required to choose one of these options:

- **End your Jumpchain game and return home:** Choose this option to end your Jumpchain game and return home. Perhaps you are eager to turn your home world into a paradise, or prevent the nightmare scenarios you have seen from happening to your world?
- **End your Jumpchain game and remain within the setting:** Maybe you like it here? This is definitely a fun place to fantasize about. Choose this option to end your Jumpchain game and remain within the setting.
- **Continue your Jumpchain game and move on to the next Jump:** There is so much more to do in a jumpchain, with more than two thousand documents providing space for new adventures. Choose this option to continue your Jumpchain game and move on to the next Jump.

Notes

- If you are unaware of what a jumpchain is, TV Tropes has a guide to the concept. You may want to check out the Body Mod and Cosmic Warehouse official supplements and fill them out first, but this is not required. There are alternative house rules and documents for Body Mod and Cosmic Warehouse in the jumpchain fandom you may prefer to use once you are familiar with them. You may also want to take either Pokemon or Generic First Jump before this one if you wish to have a more traditional chain, but it is entirely valid to take the SFIA jump as a standalone.

- All drawbacks cease functioning when this specific jump ends, if otherwise it would seem that some aspect of them would linger.

- The Post-Human Species perk enables you to create a healthy human body without modifications if you wish unless you are a Secret Alien. This may be used to create a physically healthy form to your own specifications if you feel your natural body is unsuited for adventuring in a jumpchain. You can only take a human body if you have taken the drawback “Surviving the Next Century” and your body will be naturally evolved if you take the drawback “Rare Technology” but you gain full use of the perk and the Cyborg item as if you had been in a more advanced civilization at the end of the jump.

- In theory you can research all biotech as “speculative tech” using the Cheating Reality perk, but it will take a very long time to gain all capabilities described in Galactic Gardeners. If you have both perks you can make biological beings that create and use imaginary mass, negative mass, dark matter, and antimatter as part of their biology as well as turning exotic matter into normal matter if it is relevant. Similar qualifiers apply to other specific tech unlocking perks, with stacking and synergizing being universal so long as you can think of a way for it to merge. The Galactic Gardeners perk in particular will be receptive to integrating Clarketech from other perks into biology, such as making creatures with a biology that uses fusion for energy if you have Powering a Brighter Future.

- The details of your form in Conscious Stellar Objects are largely up to you if this was not already apparent. When toned down to a human scale the perk is much more limited, but designed to have as many of the advantages of being a K2 civilization as a human scale being reasonably could have. With relevant work you are likely able to exploit this further, such as feeding plasma into your body or weapons, or perhaps drawing on the power of a sun for magic, but this is not an innate function of the perk.

- If you have somewhere else to put items such as the Arcology, O’Neill Cylinder, Orbital Ring, and Void Ecology, feel free. There are plenty of very large items or pocket dimensions in jumpchain and there is no reason not to simplify bookkeeping by combining such items. If you wish you can also merge such properties the other way, such as having an “apartment” item inserted into your Arcology or a “farm” item on your O’Neill Cylinder. There may be edge cases where this violates the intent of an item, but you can probably assume this is working as intended at least for this jump-maker.

- The Antimatter Factory item may be used to pay for things made with the Santa Claus machine, but you would need a market for your antimatter. The costs of transaction such as the devaluing of commodities or stock if enough of it was sold, the hassle of going to a market for barter, and the price of loans to begin a company that could trade the resource are all included in the price of an individual item from the Santa Claus machine. If no one is buying what you’re trying to sell, or selling what you’re trying to buy, the Santa Claus Machine will not work. You may wish to deliberately cause inflation or devalue commodities using the machine, and if you are trying such a scheme expect that

to be reflected in the prices you are paying. If you sold a few million cattle you can expect the price of cattle to go down, and you may end up with some kind of post-scarcity economy if you try hard enough.

- It is fairly traditional to offer relevant characters as companions in a jumpchain document, but these are normally fictional characters without the ability to consent or reject this option. As such if Isaac Arthur responds to this document and rejects the idea of joining chains, this will be taken as voiding any statements to the contrary in this document. The intent here is letting Isaac and those he wishes to join in new adventures, but if he chooses otherwise it is more than understandable.

- The aliens in Stupid Aliens can largely be defined as you wish. The aliens will always be a hostile threat who desire to consume your race in some way, overwhelmingly powerful compared to your civilization, and be pursuing their goals of consumption in an immensely stupid fashion. The exact plan the aliens have could be turning Earth into a factory farm for humans, simply hunting all the humans down for eating, or infesting all humans if the aliens are parasites. They could be giant spiders instead of Star Trek humanoids, but they could not obligate carnivores if you decide to be a sentient plant. If you are a digital consciousness they may primarily consist of an alien computer virus, and they may even be multi-species whether or not your own civilization contains multiple species. Any sentient they cannot eat will inspire a deep rage and spite in them, usually causing them to kill the victim anyway. If you wish they could be space vampires feeding off of souls, psychic energy, or life force instead of physically consuming their prey. When no rival sentient is around the Stupid Aliens will usually focus on gathering gold and water, which are the foundation of all their Clarketech devices and to which they have a strong emotional attachment. Life force/souls/psychic energy may be a vital element of their technology if you wish. Communication and negotiation with the aliens may be possible, but expect them to be immensely xenophobic and dismissive of you even when you are operating from a position of strength or making offers that would benefit them. If you wish the Stupid Aliens could have more sympathetic sides to them, but this will not make them easier to deal with.

- The Prime Directive drawback is intended to be taken by anyone who is unfamiliar with jumpchain and has no desire to use other supplements or CYOAs to change the experience. I am planning on posting this on the SFIA Reddit and wish to make this as friendly as possible to people unfamiliar with jumpchain. The 300 CP of this drawback is meant to make the experience of a newbie more pleasant or to provide a challenge for more experienced jumpers.

Changelog:

1.1: Pretty sure I messed up the notation for half of 10^20. I believe 5e+19 is better but am not 100% comfortable with scientific notation. Changed a few other details about Conscious Stellar Objects. Added the word “unwanted” before value drift in Happily Ever After. Put in a few improvements to Extreme Environmental Gear as it seemed like the weakest freebie option.