

# Symbiotics Overview

The citizens of the [Iromakuanhe Astral Commonwealth](#) are a people which practice a combined doctrine of democratic socialist transhumanism<sup>1)</sup>, by offering free [genetic corrections and body alterations](#) to those with genuine medical conditions which cannot be solved through conventional treatment. But in addition to these socialist practices, Iromakuanhe society is in general saturated with unrestrained bio-enhancement. Technological constraints and the [general incompatibility of their bodies](#) with [cybernetics](#), the [Iromakuanhe](#) have diverged technologically, instead developing organic and pseudo-organic body enhancement systems such as those listed bellow.

## Endosymbiotes

Endosymbiotes, also abbreviated to ENDS, are contained within the body of the symbiont<sup>2)</sup>, relying on its digestive, respiratory and circulatory tracts to sustain itself. Endosymbiotic enhancements are typically surgically implanted, or grown inside of the host by ingesting or being injected with a solution of spores or larvae. Of the three main subtypes of symbiote, ENDS require the most attunement to the symbiont's physiology, unless they have received genetic therapies to remove antagonistic alleles that might otherwise trigger rejection. In this sense, the symbiont can be treated as a garden, with the most desirable results from implantation occurring in a well cultivated and controlled environment.

### Saturation-type

Saturation endosymbiotes are composed of colonies of thousands of organic and pseudo-organic<sup>3)</sup> microorganisms which are injected and instructed to saturate specific locations of the body. This can result in enhanced performance of those tissue areas, the creation of unusual devices for functional (wireless communications system in the brain which utilizes local networks, increased emphatic abilities, etc.) or aesthetic (glowing tattoos, self-altering hair pigmentation, etc.) purposes. Saturation type enhancements, are however, limited by the scope of the mechanisms that drive them. Because of a technological constraints in the [Iromakuanhe](#)'s abilities in micro- and nanoengineering, these mechanisms cannot move large masses (with the possible exception of strength enhancements, where the colonies form into functional chains in between muscular tissues) or cause rapid alterations in properties or morphology (such as shapeshifting or attempting to induce heat resistance in the body).

#### Advantages

- Easy installation; rejection results in mild illness.
- Does not cause any radical alterations to body chemistry; low genetic damage.
- Difficult to detect.

#### Disadvantages

- Longest installation time.
- Limited abilities.



## Homunculus-type

Homunculus endosymbiotes are the most common and most well-known class of symbiotes in the [Commonwealth](#), essentially small multicellular organisms which remain in a pre-defined region of the symbiont's body, but unlike saturation types, are surgically implanted at a matured stage, often for medical purposes such as organ replacements when regenerative therapies have only produced damaged organs. In most uses, they either function as replacements for organs (a single homunculus can replace the entire functionality of the lungs and heart), or complement them through their own processes (releasing an enzyme the body is deficient in/can make use of, releasing sterile sub-homunculi to remove damaged tissues, clear waste and contain toxins in the body, etc.) Because they are large organisms with a lessened need for precision in design, homunculus-type ENDS are less expensive and rather durable compared to other symbiotes. Compared to a symbiont's natural organs, a symbiotic replacement may be several times more resilient, and offer a degree of redundancy in design.

### Advantages

- More durable than original/normal tissues.
- Do not modify body chemistry; no genetic damage.
- Does not increase the dietary needs of the body.

### Disadvantages

- Surgical installation only.
- Fewest actual augmentation options.

## Progressive-type

Progressive-type endosymbiotes are the most expensive and most powerful type of ENDS, because they do not only replace existing tissues but modify them to offer improved functionality and an array of powerful abilities. These combine the architectures of the Saturation and Homunculus types, implanted into the body to release controlled doses of self-replicating mutagenic spores which saturate specific body areas, allowing for the creation of new body structures (subdermal plates woven from flexible organic alloys, tentacles edged in serrated spines stored in the forearms, skin that is able to move and shift to alter appearance, etc.) or new chemical processes within existing ones (the release of certain nerve compounds by modified sweat glands, skin cells laced with a colloid that causes errors in video recording apparatus equipment as it is shed to avoid facial-recognition software, modified hairs which can be combined with modified saliva into a solution which corrodes inorganic compounds, etc.) Progressive-type ENDS have the most profound effects on the body chemistry of a person, and are the most prone to rejection, with frequent side effects such as greatly increased dietary requirements (with a need for unusual or exotic additives), loss of muscle mass or bone density during treatments and when a being has been modified to the point where they are no longer genetically compatible with their original species, sterility.

### Advantages

- Most extensive augmentation options.
- Initial augmentations occur very quickly after implantation.



- Modifications are retained even when additional body vectors are lost; can be regained through [regenerative therapy](#).

### Disadvantages

- Surgical installation only.
- May result in heavy genetic alterations.
- Most obvious type of modification because of unusual abilities.
- Increases dietary needs in proportion to the intensity of the modification.
- Overmodification results in sterility among baseline species.

## Ectosymbiotes

Ectosymbiotes, colloquially referred to as ECTS, are symbiotic systems which bind to the exterior of the symbiont's body, functioning as grafted tools or weapons, acting as surrogate body structures to its nervous system. Of the symbiote types which have to be implanted in the user, ECTS carry the least chance of rejection because they cause fewer biochemical interactions between the organism and symbiont and typically do not require more than preliminary changes to the symbiont's body chemistry, often no more extensive or complex than the suppression of immune responses specifically to the ECTS. ECTS are typically lab grown and installed simply by applying the augmentation to the desired surface, occasionally extending tendrils into the symbiont's nervous and circulatory systems, or in the case of [Iromakuanhe](#) hosts, their [entry ports](#).

### Extend-type

Extend-type ectosymbiotes blur the line between neural interface devices and symbiotic augmentations, essentially functioning as [entry port-based](#) organic devices which afford the user the usage of easily concealable tools or weaponry with intuitive controls. Extends can take nearly any shape imaginable, as blades or light ranged weapons attached to the wrists, neural feed/communication devices attached to the entry ports at the base of the neck or even supplementary arms docked on those of the shoulders. Simple extend symbiotes are the easiest to conceal as they only require a small amount of ordinary, although large or high-energy Extends will generally lose this advantage. However, the primary reason for the popularity of these systems is simple: the ease of use, attachment and removal combined with the ability to enhance without care for the natural tolerances to enhancement for the body allow already heavily modified beings to boost their performance further, while the reduced complexity of the biological mechanisms driving the system and low expenditures in micronization allow them to be fairly affordable.

### Advantages

- Comparatively inexpensive.
- Easy to install and remove.
- Extremely easy to use for [Iromakuanhe](#).
- Do not trigger metal detectors.
- Can be fitted with batteries or nutrient packets to reduce strain on user.



## Disadvantages

- Extremely obvious because of location on user.
- Weapons on arms may harm user collaterally during discharge.
- Extend variants of a similar device are less reliable and precise.

## Barnacle-type

Barnacle-type ectosymbiotes offer a middle ground between the replaceable gadgetry of an Extend and the long-term mutualism of a Coralian, combining (and diluting) their strengths and negating certain inherent weaknesses. Barnacle ECTS attach to the body, extending tendrils deep into tissues, connecting with the circulatory, nervous and lymphatic systems of the symbiont and extending a thin skin to reinforce the tissues where the Barnacle has been attached as well as those of the surrounding area. Once implanted they derive basic power from the user's natural bioelectrics and nutrients from the blood stream, only occasionally requiring nutrient packets or capacitor packs to operate. This comes at the cost of increasing the user's needs for food, water and sleep, especially in larger Barnacle

Common use of Barnacle ECTS include prosthetic limbs should the person elect not to have the original regrown or replaced with a homunculous implant, long term implants worn by industrial workers in hazardous environments and unusually, as fashionable wear by a large number of [Maekardanii](#) sophisticates.

## Advantages

- Long term usage of a single Barnacle-type less straining than several Extends.
- Generally takes what it needs from the body, instead of using external power sources.
- More augmentation options than Extend-type symbiote.

## Disadvantages

- Increases dietary needs in proportion to the intensity of the modification.
- Body experiences a period of awkwardness as it becomes used to the implant, which occurs every time a modification is added or removed.

## Coralian-type

Coralian-type ECTs are versatile concealable devices formed by large colonies of microfauna that remain in and on the top layers of the user's tissues, either in their skin or over it. Similar to saturation ENDs, Coralian symbiotes form a sort of self-reproducing and self-regulating colony that enters in mutualistic relationship with the symbiont, conferring upon them a number of possible tools or abilities. The types of Coralians run the gamut from permanent shape-shifting garments that can mimic all but the most intricate and complex of clothes, concealed body armor, tools and even certain weapons such as blades or razor-tipped whips that spring out from the wrist. The options are relatively limited because there is no room for any complex electronics or power-intensive technologies. As a consequence, the mechanisms of Coralians tend to be fairly simple, and thus do not cause that much of a strain compared to Barnacle ECTS and Progressive ENDs.



## Advantages

- Extremely easy to disguise from civilian scanning systems.
- Easy to conceal.
- Easy to maintain, as the user only needs to be in relative health to manage a decent number of Coralians.

## Disadvantages

- Few options compared to other enhancement types.
- Cannot incorporate any kind of electronic device into the enhancement.

# Independent Symbiotes

Independent Symbiotes, or INDs, are the most recently developed and most controversial type of symbiote. The relationship is not strictly one of mutualism, but often follows the patterns of master and slave. There are few biochemical interactions between the symbiont and symbiote aside from the exchange of commands through non-verbal mediums and the sharing of DNA at creation for certain kinds of symbiote. The entire existence of the IND is a moral quandary that has never been discussed upon to a satisfactory conclusion by the [Iromakuanhe](#) people, but certainly has been thought of in detail. This is best demonstrated through the theoretical, but not practical banning of humanform symbiotes which have the physical appearance similar to [Iromakuanhe](#) or demonstrate most of the characteristics associated with sentience/sapience. This is not done out of paranoia or hatred for constructs, but the knowledge that such beings would inevitably end up as slaves at worst and indentured servants at best. In fact, many wealthy families across the Commonwealth possess up to a dozen 'permanent staff' who are essentially synthetic sentients created to protect, or serve.

## Marionette

Marionettes are thought-controlled combat machines that are attuned to the thoughts of their master and function as bodyguards to the wealthy. Marionettes vary in intelligence and complexity, from fully independent drones that can be instructed to follow certain protocols and operate seamlessly within society to throwing hover disks that can be guided with just the eye movement of the user. More complex Marionettes require additional automation and intelligence to perform their tasks without increasingly intense levels of concentration on the part of the user to perform basic tasks. The Marionette is thus a creation based on balance, and its creator must find a desirable equilibrium between complexity and power, the relative intelligence it is accorded to employ it.

It is rumored (but not confirmed) that [Astral Vanguard](#) scientists have repeatedly attempted to create Marionettes from [Erla VANDR](#) chassis for the purpose of creating heavy UAVs for special forces, with mixed success.

## Familiar



Familiars are designer pets created from the genetic data of the master to create a servant that is able to assist them in daily life. Although the interactions between master and familiar might lend credence to the possibility of direct psionic control, the mechanism used to control familiars is more subtle, depending on a combination of implanted genetic memories and neural triggers associated with the natural pheromones of the intended master(s). Generally, Familiars are created to be sentient, or possess the illusion of sentience by creating a sufficient number of instinctual responses to a wide array of stimuli.

## OOO Notes

Approved [here](#).

1)

Egalitarian distribution of technologies which are used to improve the 'human' being, in this case an [Iromakuanhe](#), allowing even those on the fringes of society to receive as they desire.

2)

Host.

3)

Using alternative organic chemistries, incorporating nanomechanical devices in a dense proteinous shell, or even nanomachines constructed from organic mechanisms.

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