



Synthetics

A synthetic is an organic- or biologically-based artificial being created or manufactured according to a master template or blueprint. **Synthetics** are blends of biological and non-biological processes (the proportion may vary). For example, a synthetic may use biological processes to produce energy but have a mechanical pump to circulate blood. Synthetics are distinguishable from clones (duplicates created from existing genetic templates), chimeras (the result of genetic engineering), and robots (truly mechanical or non-organic beings).

Just How Synthetic Is Synthetic?

Many organic sophonts have mechanical or non-organic components (replaced teeth, replaced joints or bones, prostheses, a heart pacemaker, an insulin pump). Many robots have organic-based components (smell processors, organic brains). The generally accepted guidelines are:

A being (natural, clone, or chimera) remains organic despite the replacement of body components with non-organic parts if the majority of functions are organic.

A robot remains robotic with up to one-third organic components. The most common organic component for a robot is an organic brain.

A synthetic or semi-organic lies between organic and robotic.

While sophontoids appear externally similar to the sophont on which they are patterned, they are internally and macroscopically dissimilar. Internal process, organs, and fluids are all independently designed and created using alternative methodologies. In addition, a semi-organic is incapable of reproduction.

TERMINOLOGY

Several terms refer to synthetic beings:

Synthetic. An artificial being blending organic (living) and mechanical (non-living) elements. Synthetic refers to the general class of created beings between natural and robotic.

Android. Specifically, a synthetic human. Technically, android is a synthetic male human; a synthetic female human is a gynoid.

Sophontoid. A synthetic sophont. Sophontoid is an expansion of the word android to encompass all sophonts rather than just humans.

Semi-Organic. A combination of organic and mechanical components. Literally, half-organic. A synonym of synthetic when applied to beings. Semi-organic refers to the nature of components or devices which blend organic and non-organic elements. A semi-organic brain adds electronics to an organic brain to enhance its capabilities.

TYPES OF SYNTHETICS

There are three general types of synthetics: Faux, Organic Devices, and Sophontoids.

Faux (Imitation Animals)

A **Faux** (one is pronounced Foe; several together is Foes; they are spelled the same either way) (characters with C5=6 or less say **Fox**) is an imitation animal; a semi-organic simulacrum (plural = simulacra) of a non-intelligent being.

For example, a synthetic guard dog can be produced with greater survivability than a biological dog; a synthetic transport beast may be superior to a horse or mule.

Imitation animals have some organic and some mechanical components. They are directed by semi-organic brains and implanted personalities.

Using Imitation Animals. Imitation animals are encountered in the course of ordinary events.

Organic Devices

An **Organic Device** is a synthetic object which performs some activity using biological processes.

For example, a semi-organic voice amplifier may have superior qualities when compared to an electronic amplifier.

Other examples are: small room cleaners, intruder sensors, a water filter/purifier, and lawn trimmers.

Organic devices have some organic and some mechanical components. They are directed by semi-organic brains and implanted (rudimentary) personalities.

Encountering Organic Devices. Organic Devices are commonly encountered in the course of ordinary events; they may be commonplace, and often ignored.

Sophontoids

A **Sophontoid** is a semi-organic imitation of a sophont. It is an artificial sophont built for specific purposes (for example, cheap labor under special or extreme conditions).

For example, a company may endeavor to create a low-cost imitation human. Based on an existing human, the android (the term for a human sophontoid) has the general human body structure, but makes use of a mechanical pump to circulate body fluids. It is controlled by a circuitry-enhanced animal-derived brain.

Sophontoids have semi-organic bodies, semi-organic brains, and implanted personalities.

Playing Sophontoids. A sophontoid may be a character.

HOW THEY BUILD SYNTHETICS

Naasirka Regina (a synthetic manufacturer) sees a market need for a small semi-organic room cleaner.

They select a common mouse as the starting point and begin the process. The rudimentary personality of the mouse is recorded, the mouse is cloned several hundred times, and the personality is re-implanted. The mice are trained on basic tasks (obeying instructions, avoiding moving objects and people). These multiple personalities are then recorded, edited, and integrated to create a basic mouse personality with the best of the learned behaviors.

The Semi-Organic Body. A semi-organic body is designed and manufactured. It includes a self-healing outer skin, multiple retractable legs for stability, basic sensors to detect edges and prohibited areas, and a pouch to store dust and floor dirt.

An organic power system is designed to take nutrient from a fixture in the nest and to deposit waste in the pouch.

The Semi-Organic Brain. The mouse personality is implanted in the semi-organic brain. Because the personality is derived from the original of the cloned brain, the personality implant is permanent.

The End Product. The Naasirka-Regina NR1000 cleaning system is a system consisting of a floor level nest as home to one or more cleaners dedicated to keeping floors clean and shining. The cleaners stay out of sight whenever people are present; it is only when the room is empty that they come out and do their work. The cleaners collect dirt and dust in their internal pouches and empty it into a central receptacle in the nest. They sort larger objects (coins, small parts) from the pouch into an accessible Lost & Found bin. The cleaners live on a special nutrient fluid available only in the nest (refillable quarterly).

Other Features and Restrictions. The NR1000 has a useful life of about 10 years. The cleaners are available in a variety of colors, including licensed sports team themes.

Naasirka-Regina provides periodic upgrades to the implanted personalities (which are self-installing in the nest).

THE TECHNOLOGY OF SYNTHETICS

Effective Cloning and Forced Growth are foundations for the organic components of synthetic; these technologies cluster around TL-13. Mechanical and electronic components are available at earlier levels.

THE DETAILS OF SEMI-ORGANICS

The term semi-organic is generally used with Faux and with Organic Objects. Intelligent semi-organics are usually called sophontoids.

There is usually no purpose to non-sophontoids as characters; sophontoids, however, can be quite interesting.

Production

Semi-Organics are produced at a factory using a set of master plans or master drawings. The commonly used term for a semi-organic factory is **vat** (the concept that semi-organics are grown in a vat is inaccurate but widespread).

Manufacture. Semi-Organics are manufactured. When they leave the vat they are in final operable form, fully trained, and fully capable of fulfilling their intended functions.

Reproduction. Semi-Organics are incapable of reproduction.

Cloning. Because some components are non-biological, semi-organics cannot be easily cloned.

Injuries and Healing

Semi-Organics can be injured in the same way as other biological beings can.

Semi-Organics usually have an outer covering (skin) capable of healing. Organic internal organs can also heal; and they can be cloned for replacement. Non-organic components which are damaged require repair or replacement.

THE DETAILS OF SOPHONTOIDS

Sophontoids are produced at a factory using a set of master plans or master drawings. The commonly used term for a sophontoid factory is **vat**. The concept that sophontoids are actually grown in a vat is inaccurate but nonetheless widespread.

Manufacture. Sophontoids are manufactured. Various components are grown or fabricated, and the sophontoid comes to life with the installation of the semi-organic brain. They begin life in adult form, fully trained and capable of performing their intended duties.

Before leaving the factory, a sophontoid receives a basic education or training consisting of a total of 12 skill levels (for batch sophontoids) or 18 skills (for premium sophontoids) distributed across any number of skills and knowledges. Sophontoids which do not meet this level of quality or achievement are terminated as substandard.

A sophontoid has no memory of events prior to leaving the factory. Its first memory is of the final production chamber at the factory immediately prior to being sent into the world.

Reproduction. Sophontoids are incapable of individual reproduction. Some sophontoids are the product of a profit-making organization with little access to, or knowledge of, their native factory. Other sophontoids have acquired access to their factory and control its central reproduction policies.

Sophontoids may have external gender characteristics, or they may lack any specific gender characteristics.

Semi-organics cannot be cloned using normal processes; their organic components may be cloned; distinct components may have distinct genetic structures, each of which must be cloned separately; finally, non-organic components must be manufactured and added.

Injuries and Healing

Sophontoids can be injured in the same way as their pattern sophont.

Sophontoids have an outer covering (skin) capable of healing. Organic internal organs can also heal. Non-organic components which are damaged require repair or replacement.

The sophontoid brain is a manufactured semi-organic brain:

Identifying Marks and Control Codes

Local law level and culture determine the markings and control codes for sophontoids.

Markings. Markings are applied at the factory. Sophontoids have markings which allow them to be identified as sophontoids. Batch sophontoids have one obvious marking and one unobtrusive marking (as a backup or

confirmation). Premium sophontoids, intended to blend more fully into society, have one unobtrusive marking.

For example, a sophontoid may be created to eat marginal foodstuffs (spoiled foods, bulk cellulose, common non-food plants), or specially formulated foods (spiked with exotic chemicals). A sophontoid may require biological process supplements (to support or drive internal processes).

Control Codes. Control codes are installed at the factory. Every sophontoid has an installed control code. Although the original intent was that such codes be secret, integration of sophontoids into society means that each sophontoid probably knows the control code that applies to him.

SOPHONTOID IDENTIFYING MARKINGS

<applies to skin>

Flux	Obvious Markings	Unobtrusive Markings
- 5	Spots Overall	Tattoo- Hidden
- 4	Conspicuous Patterns	Tattoo- Inconspicuous
- 3	Blotches	Minor
- 2	Multiple Marks	Internal RFID
- 1	Prominent Mark	Internal Scannable Chip
0	Pigmented Skin	Local ID marking
+1	Patterned	Verbal Trigger
+2	Subtly Patterned	Touch Point Disable
+3	Subtly Colored	Scent Trigger
+4	Unpigmented	Visible Pattern Trigger
+5	Transparent Skin	IR Hotspot

A Batch Sophontoid has BOTH one Obvious Marking and one Unobtrusive Marking.

A Premium Sophontoid has one Unobtrusive Marking.

SOPHONTOID CONTROL STRUCTURES

Flux	Non-Standard Behavior or Requirement	When
- 5	Accumulated Waste Residue Flush	annually
- 4	Organic Chemical Supplements	daily
- 3	Dietary Supplements	daily
- 2	Hormone Supplements	monthly
- 1	Eats spoiled or substandard foods	
0	Eats a specific geneered plant	
+1	Internal Energy Cell Recharge	daily
+2	Internal Energy Cell Recharge	weekly
+3	Tailored scent input	weekly
+4	Coded Strobe Light Incapacitation	
+5	Coded Sound Pattern Incapacitation	

CREATING SOPHONTOIDS

Sophontoids are created by the factory according to a model or pattern which details the values for its characteristics. Typically, sophontoids are created in "batches" of about 100. Sophontoids from the same batch have a special bond and consider themselves brothers (or sisters or sibs).

Creating a sophontoid involves determining what values best emulate the pattern.

Available Characteristics. The sophontoid manufacturing process creates characteristics C1 C2 C3 and C4. Characteristics C5 and C6 are "empty" and set to 0.

The Process. The producing factory creates a pattern or master plan for the sophontoid characteristics where the sum of the characteristics C1 C2 C3 C4 equals 3.5 times the dice rolled for those characteristics in the sophont pattern.

For example, a factory chooses to produce a laborer android based on a human. A human character rolls for C1 C2 C3 C4 a total of 8 dice (= 8 * 3.5) = 28 points. The factory allocates Str= 10 Dex =6 End = 8 Int=4. Edu and Soc remain at zero.

Batch Produced Sophontoids

The factory routinely produces sophontoids in batches of about 100 based on market orders or perceived market needs.

Identify the market need for the sophontoid (for example, laborer, servant, soldier).

Determine the total number of dice rolled for characteristic C1 C2 C3 C4 for the sophont. Multiply that number by 3.5 for the total points available for characteristics. Distribute those points among the characteristics based on the market need.

Select one or more skills (based on market need) and allocate a total of 12 skill levels among those skills.

Determine the identifying markings and control codes for the batch and apply them to the sophontoids.

Premium Sophontoids

The factory produces high quality sophontoids in batches of about 10 based on specific orders.

Identify the market need for the sophontoid (for example, astrologator, librarian, bodyguard).

Determine the total number of dice rolled for characteristic C1 C2 C3 C4 for the sophont. Multiply that number by 3.5 and add 10 for the total points available for characteristics. Distribute those points among the characteristics based on the market need.

Select one or more skills (based on market need) and allocate a total of 18 skill levels among those skills.

Determine the identifying markings and control codes for the batch and apply them to the sophontoids.

Randomly Encountered Sophontoids. Any randomly generated sophont can conceivably be a sophontoid.