



A clone is a sophont genetically identical to a single or donor parent sophont. It has the same genes as its parent. Clones fill important social, economic, and medical functions in society.

The concept of clone embodies an organic reproduction or recreation of a single individual. The genes of the original are used to create one or more duplicates.

CLONE TYPES

There are five general types of clones:

Natural. Clones occurring naturally.

Offspring. Clones produced as children.

Relict. Clones intended to replace dead individuals.

Guest. Clones produced to provide cheap labor.

Meds. Clones produced to provide medical parts.

Natural Clones

occur without the intervention of technology. Identical twins are natural clones (of each other rather than of a parent). The children of Solitaires (sophonts with only one gender) are natural clones. Natural clones are birthed as children and proceed naturally through all life stages.

For example, citizens Sean and Filis Netzel meet, fall in love, and marry. After a suitable period, they have their first child. Actually, their first child turns out to be two: identical twins. Identical twins are natural clones of each other.

For example, Knuma is a Dantonite from Thestrouroua (Tickstap 7 [A3 V]). This species has a single gender (=Solitaire). Knuma has a litter of four pups, each genetically identical to the parent. They are natural (and offspring) clones.

Natural Clones have natural organic bodies, natural brains, and naturally formed personalities.

Playing Natural Clones. Two or more players may decide to play identical sibs: twins, triplets, litter mates. A single set of characteristics is created for the natural clones, and then each player administers his individual character through the character generation process.

Offspring Clones

are deliberately created clones intended as children of individuals. They are typically created for an individual driven by a need to have offspring, but who does not care to involve other parents in the creation process. For example, a Neuter does not normally participate in child creation; it could create a child through cloning. The offspring of the Solitaire gender are natural clones (and offspring clones).

Offspring clones are birthed as children and then proceed through all normal life stages.

For example, merchant captain Eneri Dinsha travels the starlanes and has never settled down; co-incidentally he has never found a suitable mate. As he approaches Life Stage 5, he feels, and acts on, his instincts to have a family. He visits a doctor's office on Regina and makes the necessary arrangements. Nine months later, he returns to Regina and

takes delivery of his new son. The first few years are both harrowing and exciting, but the ship's crew lends its help, and soon Eneri's son Ank is a junior member of the crew, helping with cargo handling, food preparation, and eventually helping on the bridge. Ank Dinsha is an offspring clone.

For example, a Neuter in the gender structure Female-Male-Neuter does not normally participate in reproduction and child creation; it could create a child through cloning.

Offspring Clones have natural organic bodies, natural brains, and naturally formed personalities. Offspring clones progress normally through childhood.

Offspring clones are always the same gender as the parent.

Playing Offspring Clones. A player whose character has reached Life Stage 9 may decide to continue adventuring as an offspring clone of the original character.

Relicts

are deliberately created clones intended to replace an existing individual (typically one who is dead or incapacitated). The pattern provides genetic material samples and a personality, memory, and skill recording.

Relicts are not created until the pattern has died or disappeared. When a pattern dies, a relict is force-grown to Life Stage 3 and implanted with the pattern's recorded personality (including memories and skills).

A relict preserves memories and is an effective duplicate or replacement for the pattern.

For example, Star Marine Captain Sir Mountain Dressler III is employed in a dangerous profession and he quite responsibly has bought life insurance. Before what came to be known as the Retreat from Jewell, he spoke with an agent and made the appropriate arrangements. Dressler acquitted himself heroically, and was awarded the MCG. In the last days of the campaign, Dressler held off the enemy, protecting his Infantry Company as they boarded the retrieval cutters. Dashing for the loading doors, he was cut down in enemy plasma gun crossfire.

His unit, when it returned to base, notified his insurance company, which used its cell samples to force-grow a new body and then implant into it his personality and memories. About a year later, he returned to duty wearing his newly won MCUF, his Battle Ribbon (and a Wound Badge) on his dress uniform (but with no memories of the entire campaign).

Relicts have force-grown organic bodies, cloned brains, and implanted personalities (a recording of the original personality).

Playing Relicts. Life Insurance activates a Relict when a

verified report of death or disappearance is made to the company. The activated Relict has the memories and skills of the original and becomes owner of the original's property.

Guests (as in Guest Workers)

are deliberately created clones intended as cheap laborers. A suitable pattern provides genetic material samples and a personality and skill recording.

Guests are force-grown from genetic material samples and implanted with an edited recorded personality (typically personality and skills but not memories). A guest is a skilled duplicate of the pattern, lacking only the memories of the original.

For example, during the Second Frontier War, Zhodani and Imperial forces repeatedly held, lost, and retook strategic positions on Arden. Thousands of soldiers on both sides were killed. Local trading company Lant Partners saw an opportunity for profit in midst of all this destruction and collected cell samples and brainscans from several dozen of the dead (some were actually not quite dead when the samples and scans were taken). The result was a bonanza: dead soldiers became guest security guards and bodyguards; dead technicians became guest factory workers; a dead doctor became a series of sorely needed medical staffers.

For example, Antiles Rahban grew up on Boughene, the child of prospectors in the copper-rich Swalian Mountains; he was the operator of a small copper mine for more than 40 years. Both strong and smart, he was good at what he did, and he enjoyed his work. When Naasirka opened a much larger mine, it needed more skilled workers than the planet could provide, and they struck a deal with Rahban: in return for his cell samples and brainscan, they provided him with a new cloned body and bought out his mine for enough to support him reasonably well for the rest of his life.

Naasirka's Rahban Mine (they named it after him) is staffed by a workforce of strong smart Rahban clones, each implanted with the proper skills and a personality which enjoys its work. Naasirka's cost-benefit analysis was confirmed: it was cheaper to create a clone workforce than to recruit, transport, and train hundreds of offworlders.

Guests have force-grown organic bodies, cloned brains, and edited implanted personalities (an edited recording of the original personality). Guests are typically sterilized when created.

Playing Guests. A character may be a Guest. Although memories are supposed to be edited out of the personality, the process sometimes fails.

Meds (as in Medical Clones)

are clones deliberately created as reserves of medical replacement parts. When a pattern requires medical repair parts, a med is force-grown to Life Stage 3 and then used to provide replacement parts.

For example, after a terrible groundcar accident, AcLama Stigh and Destiny Arrcher both lay in autodocs with extensive injuries. AcLama was 62 years old: the doctors took tissue samples and force grew a completely new clone body over about 18 weeks. When it was ripe, they implanted his brainscan into the new body and allowed the old one to expire. Destiny is 24 and her injuries are confined to the left leg. The leg is removed and replaced with a mechanical. Once the clone body is ripe, her leg is replaced with a clone leg and the rest of the clone body is destroyed.

Playing Meds. Meds are rarely played. The occasional med may escape its force-growth chamber.

THE DETAILS OF CLONES

Clones may be characters.

Genetic Duplication

It is possible that a clone is not an exact duplicate of an existing sophont (the pattern) since only the genetics are duplicated. Cloning duplicates the genetic values of the pattern and dice create the remainder of each characteristic.

For each characteristic, the remainder (the other dice) are rolled normally. Non-genetic characteristics have a value of zero (for example, C5=Education).

For example, the original Eneri Dinsha 777777 has each characteristic created with 2D. For each characteristic, the first D was 3 and the second D was 4. Eneri's genetic UPP is 3333XX.

When creating nine clones of Eneri, the non-genetic D is rolled individually. Implanting Eneri's personality provides the Edu and Soc.

THE NINE CLONES OF ENERI DINSHA

Who?	Dinsha = 777777	Genetic=3333XX
Clone01	444777	< minimum
Clone02	455777	
Clone03	484777	
Clone04	599777	
Clone05	566777	
Clone06	685777	
Clone07	757777	
Clone08	884777	
Clone08	899777	
Clone09	999777	<maximum

Seven randomly generated clones of Eneri Dinsha, plus the minimum and maximum possible UPPs.

Each of the clones "thinks" he is Eneri Dinsha. Some of them will remember different Strength or Dexterity and soon realize that he is not the original. Others may persist in believing he is the original.

Clone Intelligence. A clone possesses its native (genetic) Intelligence. The Forced-Growth process does nothing to increase that intelligence so a clone freshly made has only genetic intelligence.

Personality Implants. Once fully grown, a clone is implanted with its personality which provides it C4 C5 and C6.

Natural Life Stages. Natural and Offspring Clones proceed through the Life Stages in ordinary time. They generate C5 normally. They generate C6 according to the specific non-genetic inheritance rules.

Force Growth. It is possible to speed up the growth of organics. A Metabolic Chamber (the standard device for creating clones) can accelerate growth to about one year per week.

Natural Gestation Periods. The human gestation period is nine months. If a gestation period is necessary for a non-human, calculate it using sophont size as a percentage of nine months. For example, a Size 50 sophont has a pregnancy of (50% of 9 months) = 4.5 months.

Some parents prefer that the pregnancy proceed in a laboratory, and some prefer it be forced-growth.

Natural Or Forced-Growth?

Natural Clones and Offspring Clones mature naturally. They pass through each Life Stage in real time.

Relicts and Guests would be relatively useless concepts if they could not be rapidly made available.

Clones can be force-grown in a Metabolic Chamber (at one year per week) to Life Stage 3.

A Force-Grown clone body has no developed personality. Without a personality implantation, it has C5=0 and C6=0.

Aging

Cloning accelerates the aging pattern of the individual.

Physical aging begins at Life Stage 4 (one stage earlier than the pattern). Age is the biological age of the newly produced body. Physical aging applies to characteristics C1 C2 C3.

Mental aging begins at Life Stage 8 (also one stage earlier than the pattern). Mental aging applies to Intelligence.

Natural and offspring clones are not subject to accelerated clone aging.

Reproduction

Natural and Offspring Clones and Relicts reproduce normally under the same circumstances as their pattern.

Guests are typically sterilized during the force-growth process. However, their innate genetic material allows them to be cloned.

Injuries and Healing

Clones can be injured in the same way as their pattern sophonts. They heal in the same way as well.

Identifying Marks and Controls

The clone creation process itself imposes no special identifying markings. Natural and Offspring clones are almost never given unique or identifying markings.

Relict Markings. A Relict may be given an unobtrusive marking for identification purposes (typically a tattoo); obvious markings would frustrate the purpose of a Relict.

Guest Markings. A Guest may be given markings for identification purposes. Guest markings are usually visually obvious (large tattoos).

Med Markings. A Med is typically unmarked.

THE TECHNOLOGY OF CLONING

	TL	
High Tech	10	
	11	
	12	Personality Recording and Editing.
VhighTech	13	Cloning. Forced Growth. Wafer Technology.
	14	Geneering.
	15	
Xhigh Tech	16	Artificial Intelligence.
	17	
	18	

CREATING CLONES

A clone is a duplicate of an existing sophont (the pattern). Cloning duplicates the genetic values of the pattern and dice create the remainder of each characteristic.

For example, for a human pattern the Genetic Characteristics and their values are known (or can be determined). These values form the base for clone creation.

For each characteristic, the remainder (the other dice) are rolled normally. Non-genetic characteristics have a value of zero (for example, C5=Education or C5=Training).

Natural Life Stages. Natural and Offspring Clones proceed through the Life Stages in ordinary time. They generate C5 normally. They generate C6 according to the specific non-genetic inheritance rules.

Natural Variation. A clone is not identical to its pattern. The natural variation added to the gene means that a final characteristic can be much different from the original's characteristic.

CREATING A CLONE

A human (or sophont) clone can be created from available information.

Required Information. SCC for humans (or sophont). UPP, skills, and knowledges for a specific human (or sophont). Genetic Profile for a specific human (or sophont).

Natural Clone

C1= DNA + 1D (or as required for the sophont).

C2= DNA + 1D (or as required for the sophont).

C3= DNA + 1D (or as required for the sophont).

C4= DNA + 1D (or as required for the sophont).

C5= 2D (or as required for the sophont).

C6= Soc = Parent. Cha or Cas generated per Chargen.

Gender= random.

Personality= new with this person.

Offspring Clone

C1= DNA + 1D (or as required for the sophont).

C2= DNA + 1D (or as required for the sophont).

C3= DNA + 1D (or as required for the sophont).

C4= DNA + 1D (or as required for the sophont).

C5= 2D (or as required for the sophont).

C6= Soc = Parent. Cha or Cas generated per Chargen.

Gender= random.

Personality= new with this person.

Relict

C1= DNA + 1D (or as required for the sophont).

C2= DNA + 1D (or as required for the sophont).

C3= DNA + 1D (or as required for the sophont).

C4= implanted from original.

C5= implanted from original.

C6= implanted from original.

Gender= is the same as the original.

Personality= implanted recording from original = C4 C5 C6.

The Relict has the same personality C4 C5 C6 as the original, including skills and knowledges. It has the same memories as the original, but only to the date of the personality recording.

If this relict were somehow released before being implanted with the original's personality, it would have C4 Int = Genetic C4. C5 Edu =0. C6 Soc =0.

Guest

C1= DNA + 1D (or as required for the sophont).

C2= DNA + 1D (or as required for the sophont).

C3= DNA + 1D (or as required for the sophont).

C4= edited implant from original.

C5= edited implant from original.

C6= edited implant from original.

Gender= same as the original.

The personality for the Guest is edited. It usually has the same personality C4 C5 C6 as the original, including skills and knowledges. Typically, memories have been removed.

Med Clone

C1= DNA + 1D (or as required for the sophont).

C2= DNA + 1D (or as required for the sophont).

C3= DNA + 1D (or as required for the sophont).

C4= 0

C5= 0

C6= 0

Gender= same as the original.

Personality= none.