

## Martian People

That which does not kill us makes us stranger.

-- Trevor Goodchild

The Martian people, while not a species “Homo martialis” of their own, are in general different from pre-space humans. They are most often furred and now and then exhibit a number of enhanced traits. Race is far more real among Martians than 21st century humans. Not just because the differences between different races are larger, but also because the differences are more drastic than before genetic engineering and nanotechnology. Race is not so much a sign of geographic background as genetic background, stretching back to the choices made during the Red Era. There are several subgroups cutting through the population ranging from minor differences in fur texture to different genetic complements precluding interbreeding. In many cases this has led to peculiar cultural effects. Often they are not linked to nationality but to family – when traits and abilities go in families they become an even more significant social indicator than just shared kinship.



## Lifespan

A common trait is slower ageing, which divides people into short-lived people (maximum lifespan 120 years, and usually a far lower life expectancy such as ~60 years), long-lived people (maximum lifespan of 150 or more, life expectancy somewhat higher than the norm) and unaging people (no ageing after 30 years of age, but still vulnerable to disease and accidents).

Elders and especially ancients suffer from fading, a memory effect of long lifespans. Since the unaging still learn while their minds have finite capacity, they will slowly tend to forget their oldest and least used memories. This makes them less and less reliable as historical witnesses, and if they spend long time in an environment with unchanging routines they will tend to become somewhat rigid – well adapted to the routines, but unexpectedly finding themselves confused when encountering something different, even if they think they should be able to understand and handle it.

Another problem among the ancients is fertility. Females have a limited number of oocytes, and they run out after around 400 menstruations. Males produce sperm indefinitely, but random mutations decrease its quality and fertility. Ancients become sterile, unless they have specific nanoenhancements to prevent it.

People with strong longevity genes or unaging cause complications family-wise. Long-lived parents often have to see their children age and die while they remain young, and it is common for people with the same longevity to marry in order to avoid the fate of having one's spouse age before oneself. At the same time there is a security in marrying a long-lived provider. In some regions (such as Xanthe) it is mostly personal choice, while in Uzbaï the tradition is for women to seek to marry long-lived men while long-lived women are viewed as unfortunate – doomed to become poor widows.

Another effect of having long-lived parents to short-lived children is that inheritances may jump generations – the children and grandchildren are already dead when the parent dies, and the great-grandchildren get the inheritance. In regions where the children divide inheritances more or less equally such jumps tend to splinter old estates and distributing the wealth fairly broadly (Aeolis is a typical example). In regions where one child inherits the main share (such as Xanthe) such jumps

instead cause unexpected and sudden rises of previously unremarkable people into wealth (providing a far more interesting noble politics).

Especially among nobility longevity causes complications, as the path to power is often blocked by elders that refuse to die. In some cultures this produces Byzantine-style assassination politics where ambitious descendants (“expectants”) orchestrate “accidents”. Another solution is the “Century rule” found in many societies: after one century (either Earth or Mars century) a ruler or nobleman has to step down. This limits the risks of assassinations and makes the politics move faster. Such centurians often retreat to a less important position and either spends their time in retirement, new pursuits or try to remain a power behind the throne.

In rural slowly ageing families there is no room for the younger generation beyond the eldest children. It is quite common for such extra children to move away, either to a city, to find jobs elsewhere or to band together with other people in the same situation to build a youngtown on the border of the wilderness (variations of “youngtown” is probably the most common place name on Mars).

## ***Performance***

Compared to something that had evolved naturally on Mars humans and other terrestrial animals are powerpacks with fast reflexes. At the same time they are not quite adapted to the environment.

Things fall with just a third of Earth acceleration, making a 1.5-meter fall take nearly a second (twice as long as on Earth). People routinely pick up dropped objects before they reach the floor, juggle several things in the air or dodge falling garbage.

Lower gravity means that less energy has to be expended in lifting the human body, enabling people to jump higher and longer. Martians can jump more than twice as high (up to five meters with athletic training), 2.3 times as far (up to 20.3 meters with a running start) and throw small objects 60% longer (with no air resistance it would be 245% longer)

The energy costs of walking are just 50% less than on Earth. There are some balancing problems: the weight is smaller, but as a human sized body tends to oscillate at a different rate in Mars gravity than normal walking speed more energy is lost per step. Walking tends to be slower than on Earth – 3.4 km/h instead of 5.5 km/h. The transition to running occurs at Earth walking speed. Martian children literally tend to bounce around, jumping rather than walking. Adult Martians often jog or run smoothly when they are going longer distances.

Being overweight is less heavy lifting, and older Martians tend to put on weight. The lower energy demands on Mars makes sedentary Martians develop their muscles to a lesser degree than their Earthly counterparts, while active Martians tend to be as strong as Earthlings.

Since the gravity is smaller objects weigh just 0.4 times what they weigh on Earth, enabling a Martian weightlifter to lift nearly a ton. The mass is however the same.

## ***Genetics***

Martian genetics mainly depends on the number and type of chromosomes a person has. Traditional humans have 46 chromosomes, 44 basic chromosomes and 2 sex chromosomes. Most genetic enhancements during the Red Era were placed on an extra chromosome pair, the technosomes. There were several variations:

- Some parents wanted to give their children changes that would not be inherited (either because they believed the grandchildren would have far better genetic options, or because they didn't want to take the ethical responsibility for all future generations). People with non-inheritable technosomes reproduce as if they had been traditional humans. Today only a few ancients have this kind of technosomes.

- Many technosomes are inherited, but only work when paired. This means that both parents have to have this type of technosomes in order to produce viable offspring. They form the Gifted class of Martians, genetically separate from everybody else.
- Certain technosomes are independent and do not have to exist in pairs. A carrier of two or more technosomes of this type will provide one to their offspring. A carrier with one technosome will provide it to 50% of their offspring. Technosomes of this type are known as “blessings”.

To complicate things, certain traits are dominant or recessive, and certain technosomes are also dominant and will inhibit all other technosomes.

Genetic counseling is common in most Martian cultures, with councilors keeping track of who is related to whom and have what blessings. In many locations people can proudly recite what blessings are on their chromosomes. Unfortunately the local systems often are incompatible with each other, and someone moving somewhere else might cause unexpected surprises as misunderstandings of genetics lead to confusion.

The differences between the MTN “Martians” and the CSRE “Earthlings” have largely vanished due to interbreeding in most regions. Still, fur-less people are commonly called Earthlings and treated differently. Some blessings have been favored in some regions, either deliberately or through old-fashioned survival of the fittest.

## ***Fur***

Fur is most variable among Martians, both in color, pattern, length and properties. The main purpose of fur is to protect against ultraviolet radiation and cold, but aesthetics is important too. The majority has fur of some kind, since fur genes are dominant and an advantage for surviving outdoors.

The fur is somewhat similar to the naturally occurring hair in congenital hypertrichosis (Ambras syndrome), although being genetically designed it is not linked to any abnormalities. Martians have hair on all areas where it is usually present, with hairless skin on the palms and soles. Human fur usually has somewhat coarser guard hair above the warming undercoat fur, although certain rare mutations produce softer fur with no guard hairs.



The colors range from black over brown, yellow and tan, to white and silver. The inheritance pattern is complex, with several loci that can hold genes for different colors. In general black is dominant over other colors, and they follow a general “pecking order” where silver is most recessive (and hence often highly valued or exotic).

For example, a homozygote black and a homozygote yellow parent will produce heterozygote children that have black fur. However, if any of the children inherits a texture gene (which can be hidden in their parents) they would have yellow patterning on the black fur. If the yellow parent instead was heterozygote for yellow and silver, the textured children would still show yellow stripes but their children might (if they mated with somebody with another allele for silver) have silver or silver-textured children.

The texture can be striped, spotted or homogeneous; usually people have a homogeneous color (dominant) but “tigers” and “leopards” are not uncommon, where the dominant color is replaced by the non-dominant color (if any).

Normally the fur only grows to a certain length (unlike the head hair), but a certain rare genetic variant produces the angora variant where the fur grows until it is sheared.

<b>Region</b>	<b>Common colors</b>
Southern uplands	Black
Marineris	Red, tan, yellow (commonly textured)
Xanthe and Margaritifer	Mixed colors
Arabia	Brown, with some black and red
Argyre	Black and white
Isidis	Tan, brown
Hellas	Tan
Elysia	Red, yellow
Aeolis	Brown-black, tan (spots common)
Amazonia	Mixed colors
Olympia	Grey

## ***Common Blessings***

Life extension:                The person does not age significantly after a certain age (usually 25).

Cold resistance:                The person has a protective layer of subcutaneous fat and heat exchanger blood vessels, enabling him to handle cold much better.

Oxygen uptake:                The lung capacity is larger and the hemoglobin is more efficient, enabling the person to function at high altitudes.

Radiation tolerance:            Increased DNA repair allows the person to withstand higher levels of radiation. The downside is an increased metabolism, requiring more food to survive. This leads to the “hunger ill”, which has been selected against in most areas where food has been scarce from time to time.

Hibernation:                The person can go into a state of suspended animation for several months.

Thick skin:                Thick, resilient skin that can withstand sandstorms, UV and damage.

UV protection skin:            The skin is an extremely dark ebony color, and usually the eyes have a slightly reddish sheen.

IR Vision:                The person can see infrared. Such “Nightwatchers” are important in many fields, and having “the sight” is commonly regarded as a great blessing.

Nictitating membrane:        A nictitating membrane, protecting the eyes from dust and strong light.

Sealable nose:                The nose can seal itself against dust.

Enhanced hearing

Enhanced smell

Enhanced sight

**Regeneration** This blessing makes the person able to regenerate lost limbs. The process takes several months and may never produce a truly satisfactory limb, but it might be enough.

**Adaptation:** A set of blessings, that are activated when needed. If the person spends time in a cold place fur starts to grow, in the highlands the lung capacity expands and so on. This is only found among the Gifted.

Various personality traits are also linked to the technosome. However, being more subtle they are not commonly recognized. Quite a few are irrelevant or counterproductive in modern Martian society, such as genes for multiple personalities or technological Asperger syndrome. Some, like the Truthers of Sharonov, only work in certain societies.

## ***Disease***

When Mars was colonized, terrestrial diseases followed. Genetic enhancements, Red Era vaccines and nanotech immune boosts kept them manageable, but in the post-Crash era many diseases returned. Many of the old killers like cholera and malaria were not present, but even infections could be deadly. And the common cold was everywhere.

One small blessing was that nearly all parasites had been left back on Earth; lice are unknown on Mars. But new viruses and bacteria evolve from old.

The great Cimmerian plague 2687-2689 was likely due to a mutation in the influenza virus not unlike the Spanish Flu pandemic of 1918 or the Bird Flu of 2006. It swept the coast, killing millions through pneumonia-like symptoms. It did not reach Xanthe and Hellas before burning itself out; there might be a risk that the old virus is still around and could cause a re-ignition if the contact intensifies.

**Rindpest:** Skin disease, causing suppurating sores that dry out to form a thick crust (“the rind”). Likely a chickenpox variant. Very contagious and healthy victims might still harbor the virus which blooms when their immune system is strongly weakened. While originally quite deadly (in the Stargazer era it was called “a pure bioweapon” and decimated several bunker cities) it has become less lethal.

**Marinerian madness:** A slow degeneration of thinking, leading to stereotyped movements, spasms, violent outbursts and dementia. Possibly a prion disease spread by cannibalism.

**Drapetomania:** An irrational desire to run away, to escape from one’s present position. Especially common among indentured workers.

**Desertblindness:** People spending too much time in the uplands unprotected sometimes develop cataracts due to the UV radiation

**Hornbane:** Cancerous skin disease causing hair to grow together into a hard horn-like structure. It can be caused by the sap of certain Mangalese upland Marinovska plants, and is used both as protection and punishment in Mangala. If left untreated it can begin to metastasise, causing eventual death.

**Technosomasis:** Genetic disorder caused by an erroneous number of technosomes. It mainly occurs with older parents or couples with very unequal technosomes. The effects are unpredictable but usually detrimental, similar to traditional chromosomal diseases. People with extra technosomes usually overexpress their blessings in unhealthy ways. Overexpressed longevity causes developmental problems where the individual ages unevenly, turning into an “ancient child”, nictitating membranes and enhanced hearing lead to skull deformities and IR vision to colour blindness.

Nanoists sometimes acquire strange bugs and nanodiseases as software suffers bit rot and update starvation. One of the most common is nanocrysts: the formation of solids or crystals of nanodevices that stick together and slowly grow as new nanodevices are built to replace the old. Nanocrysts can cause obstructions and tissue damage not unlike cancer, requiring surgery. In some cases crystals accumulate beneath the skin or grow through it. In folklore nanocrysts are imbued with great magical

potency and is a reputed ingredient in the most powerful potions and spells (similar to dragon blood or bezoar stones on old earth).

**Weregrowth:** A disease attacking bigenitals. A naturally occurring virus upsets the genetic program distinguishing the animal and plant phases, causing cells to differentiate into the wrong type. The most common expression in plants is malformation and stunted growth, but sometimes rudimentary animal shapes appear on leaves or stems, such as grass growing insect-like wings or berries containing chitinous masses instead of seeds. In animals plants may instead start to grow, producing ants with tiny leaves, fish with algae growing from their gills or beetles with flowers. Usually the wererowth affects only one bigenital species, but in rare cases the virus appears to affect many species, causing serious ecological disruption in an area. While inoffensive to humans and their crops and livestock, the effects of wererowth blights can seriously hurt farming due to erosion and pest invasions.