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Satellite Zodiac

Stars are decorations of the night sky. The contemporary cultural framework has always provided a way of interpreting them. This pattern interpretation led to the so called modern (western) constellations. The majority of which depict animals (Aries, Aquila, Taurus, Cancer, Leo, Scorpio, Pisces, Canis Major, Canis Minor, and so forth), followed by Roman, Greek and Babylonian mythological characters (Andromeda, Aquarius, Auriga, Hercules, Pegasus, Perseus, Orion, Virgo and others). The third biggest group of constellations are man-made machines – pieces of technology like the arrow (Sagitta), the triangle (Triangulum), the balance (Libra) and the lyre (Lyra). But there are also more curious ones like a ships keel (Carina), poop deck (Puppis) and its sails (Vela), an air pump (Antlia), a pair of compasses (Circinus), a carpenter's level (Norma), a mariner's octant (Octans), and compass (Pyxis), a eyepiece graticule (Reticulum), a telescope (Telescopium), a pendulum clock (Horologium), a microscope (Microscopium), a chemical furnace (Fornax), a sculptors chisel (Caelum) and a painter's easel (Pictor). Those constellations were given names by the French theologian and scientist Nicolas Louis de Lacaille (1713-1763) during an astronomical expedition to study the southern heavens at the Cape of Good Hope. When Lacaille looked up to the nightly firmament he saw the high-tech equipment of artists, craftsmen, seafarer and scientists of his time. Like a Rorschach test he made his sense of the patterns in the sky according to his conditioning.

If the stars would miraculously rearranged themselves one night – how would we name the new constellations? Wind generator, Pedelec and iPad?

Since a majority of the world's population now lives in cities, starry nights have become increasingly difficult to witness. One would probably have better chances with a tabloid horoscope in the big city. Astrology claims to speak to us but our everyday life is dominated by artificial heavenly bodies. The times have come to an end when stars meant guidance and orientation. Navigation and positioning is the domain of man-made orbital vessels. Guidance systems from missiles to cars use satellites to triangulate their positions. Weather forecasts are based on remote satellite imagery. Communication and television is transmitted over satellite dishes. We know the size of the ozone hole just as well as Iranian nuclear sites from a satellite's perspective. Every day satellites play a part in the modern person's life – yet



Fig. 1: Satellite constellation

for the most part they stay invisible and their names and constellations remain obscure.

Satellites reflect sunlight to the earth rendering them visible to the eye just shortly after sunset, when their orbital position is still in the sunlight. Just before dawn one can also see the orbiting machines in the heavens above. Most satellites are registered and their orbits are published by government authorities. Some “secret” ones are not, but a small group of amateurs hunt them down in their free-time, calculating the orbits by collecting individual spottings from different times and points around the globe. Figuring out the orbital data makes prediction possible for future passes and subsequently adjustments to the orbit. The enthusiasts exchange their findings through the “See-Sat” e-mail list.

Satellite Zodiac is a taxonomy of satellite constellations to give satellites visibility and meaning. Satellites can either stand still relative to our position or move on asynchronous paths with different speeds depending on their orbital type. The constellations are therefore determined by time and location. They are ephemeral by nature, existing only for fractions of a second. A theory of satellite constellations must allow for those special circumstances of moving objects in different orbital planes.

Satellite Zodiac is an installation where motor controlled laser pointers display the current position of up to 12 moving satellites in our field of view in real time plus the belt of geosynchronous satellites – the satellite milky way. Just like in a planetarium where the star constellations can be displayed, illustrative interpretation of the emerging (satellite-) constellations explain their meaning and reflect our technological contemporary mythology. The C64, iPod, Gameboy, Polaroid and Walkman are among zodiac symbols of satellite constellations.

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