

IN THE BEGINNING...

Te Kore

the nothingness,
the potential:
before the Big Bang

Te Pō

the night:
the Universe is
just energy,
first atoms emerge

Te Ao

the light:
First stars
form

Ranginui
(Sky/Sun Father)
+
Papatūānuku
(Earth Mother)

THE CHILDREN OF RANGI AND PAPA
(guardians of)

Tāwhirimātea (the wind),
Tangaroa (the sea),
Tāne-mahuta (the forest),
Tūmatauenga (war and humankind),
Rongo (cultivated foods) and
Haumie (uncultivated foods)

Aotearoa – New Zealand

Māori Ways of Knowing

ASTROBIOLOGY ORIGINS AND WHAKAPAPA MĀORI
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The unwritten teachings of Mātauranga Māori (Māori way of knowing) in Aotearoa – New Zealand encapsulate the traditional way of relating to and rediscovering one's own linkage to the land, sea and sky based on the connectedness that knowledge has with respect to its lineage, and bound within the immediate environment, that informs our understanding of the Universe around us.

Genealogies (whakapapa) and creation traditions are the most sacred of all knowledge for Māori, as they map tribal lines of descent connecting their fundamental beliefs about the nature of reality and the foundation from which all other whakapapa derive. Even though genealogies of creation vary from tribe to tribe, or from region to region, and from tohunga (expert practitioner) to tohunga, they most often begin from Te Kore (the nothingness, the void and primordial source, the potential) and then are followed by Te Pō (the night, representing the unknown and the darkness of creation). Te Pō (representative of dark and solid matter) and Te Ao (light and radiant matter). Finally, oral genealogical recitations succeed to Ranginui and Papatūānuku (the sky father/or radiant Sun* and Earth mother, respectively), followed by the guardian forces of nature and the beginnings of human and other life forms on Earth, as explanations

*Taranaki Māori chiefs translate Ranginui as 'the radiant sun' – Ra - Sun, Ngi - radiant; Ranginui = Te Ngi o te rā (Waikarepuru. Huirangi, 2011)

of how the phenomenological world came to be. In the creation of the world, Ranginui and Papatūānuku were the first physical representations of ancestors that link us back to the creation of the Universe. Their children ruled the natural world. Tāwhirimātea was guardian of the winds, Tangaroa was guardian of the sea, Tāne-mahuta of the forest, Tūmatauenga of war and mankind, Rongo of cultivated foods and Haumie of uncultivated foods. The children gave rise to both humans and all aspects of the natural world.

Mātauranga Māori is based on empirical observations of the environment to which Māori are profoundly connected. The way Māori look at the creation of the world, in the particular order announced by their genealogical charts (the potential, the night, the light, followed by the formation of the Sun and Earth) can parallel the scientific theories that describe the moments before the Big Bang, the time when the Universe was potential energy, and through the formation of the first stars. These events are followed in Māori lore by the creation of the Sun and Earth. In their stories, Earth and the rest of her children were separated from the Sun and the Sky only by Tāne-mahuta, the guardian of the forest. Trees pushing the sky away create space for the other children to see the light, akin to life on Earth that mostly exists within the atmospheric blanket, maintained by photosynthetic life forms, keeping the living safe from the void of space.

We are the children of Papatūānuku and Ranginui, looking back to the beginning of the Universe.

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Left:

The Māori concepts of both takarangi (the spiral ridge) and koru (the loop) inspired the logo of Spacewardbound New Zealand, New Zealand Astrobiology Network's (NZAN) flagship event, recognising the unique indigenous traditional knowledge of Māori that relates to our development as human race and to life in the Universe.

Takarangi: is the expanding heavens design depicted in the prow of ancient Waka (canoe) signifying humanity's celestial origin born at the beginning of the Universe.

Koru: represents growth and development, learning and teaching.

Photo credits : PIA09958: Mira Soars Through the Sky (/ NASA/JPL-Caltech/ 2007-08-15); Sunrise panorama taken from the International Space Station (NASA/ Date 25 July 2016); Pioneer plaque placed on board the 1972 Pioneer 10 and 1973 Pioneer 11 spacecraft, featuring a pictorial message, in case either Pioneer 10 or 11 is intercepted by extraterrestrial life.