Coffee and blood: A brief anthropological reading of *Tiny Mining* on and off-world

Dr Aaron Parkhurst

Senior lecturer in Medical and Biosocial Anthropology at University College London (UCL). His research has focused on the anthropology of the body, management of chronic illness, and bioethics.

Introduction: Mineral kinship

One of the greatest achievements of "Cosmos", when it aired in 1980, was Carl Sagan's ability to inspire a new sense of perspective from his viewers and readers. In one episode, he challenged his audience with a now famous provocation: "We are a way for the universe to know itself. Some part of our being knows this is where we came from. We long to return. And we can, because the cosmos is also within us. We're made of star stuff." The statement is powerful on multiple registers. In one regard, Sagan was speaking literally. Almost every metal in the universe is forged in the great celestial furnaces of the galaxy through nuclear fusion. Every atom of these metals in our bodies was made by these stars - lighter elements at first, and then heavier elements as their parent stars eventually ran out of fuel and exploded. In another regard, however, Sagan was speaking socially, perhaps even ethically. The idea that we are all 'made of star stuff' frames a collective identity. For some generations of anthropologists, kinship was understood as the very fabric of society, a universal concept that bound together people and the worlds which they inhabit. A grand intellectual project at that time was to understand what kinship actually was, or how it was defined and transmitted.

The late Marshall Sahlins, through what he called a "Frazerian piece… an exercise in uncontrolled comparison", presented a paper that was meant to transcend idiosyncratic cultural practices and moments. He laid out the basic principle that kinship, whether applied genealogically or sociologically, is defined as nothing short of social actors being "made of the same stuff"[1]. Such a definition is important. It allows for acceptance of relationships between people who are born of the same parents, or who are sustained of the same nutrient rich soil, or who are composed of the same dreams and stories. Biological transmission is then understood as one of many cultural transmissions within the remit of kinship. How romantic, then, is the grandiose vision of Carl Sagan's provocation! One's iron-rich blood, and the zinc and copper in one's joints, binds one to another, and to the planet and its parent star as well, in a sort of cosmic procreation. It is an interesting conjecture, and no doubt attractive to the artists within us, even if such kinship is rarely grounded, so to speak, in practice. To what degree, and under what remits, do we share our composition? What is the separation and connection between our 'selves', and the various physical and social elements of which we are composed?

By challenging its audience to reconsider the composition of the human body, *Tiny Mining* invokes these first of many anthropological questions. *Tiny Mining* is a community of artists, chemists, geologists and other scientists and practitioners, exploring what they call 'extreme' ecologies of the body – positioning the human body as an extractive mineral resource.

1. M. Sahlins, "What kinship is (part one)". Journal of the Royal Anthropological Institute, *17(1), 2011, 4.*

The iron within the blood has [...] cosmic origins. It is formed in stars, the heaviest atoms that a star can make in its fusion cores before it supernovas and scatters its elements across the galaxy. Within the human body, iron is no less remarkable.

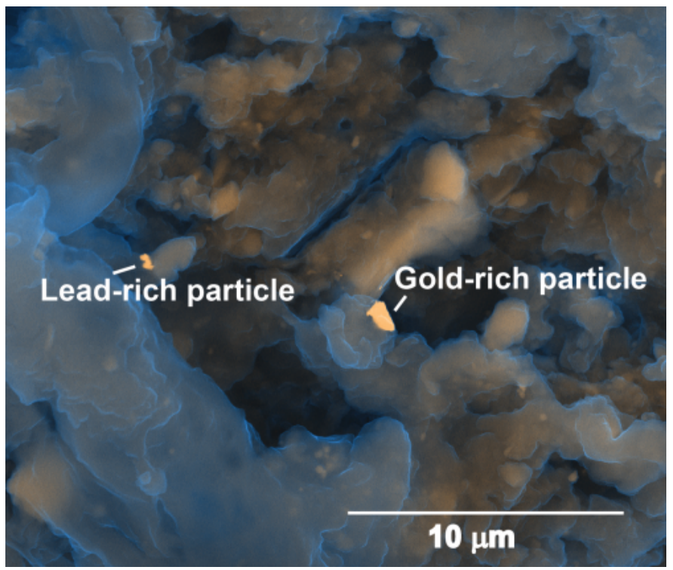
Within anthropogenic contexts, *Tiny Mining* is a comment upon the exploitation of the natural environment. However, it is also a reflexive and embodied practice, a meditation perhaps on one's relationship with land, waste, and resources. As a discipline, anthropology might ask very broadly how social relations are formed. Few things escape the inclusion of social systems, and a project on extreme ecologies of the body is no less susceptible to such scrutiny. In this short essay, I offer a very brief discussion of what *Tiny Mining* might offer to debates within anthropology, and medical anthropology more specifically, and how it might challenge narratives of the objectification of the body and its parts, perhaps even on an atomic level.

Blood, organs and markets

The iron within the blood has, as alluded to above, cosmic origins. It is formed in stars, the heaviest atoms that a star can make in its fusion cores before it supernovas and scatters its elements across the galaxy. Within the human body, iron is no less remarkable. It is crucial in the construction of myoglobin and hemoglobin, helping to carry oxygen throughout the body. Without this function of blood, human life cannot survive. In her formulations of a framework of symbolic anthropology, Mary Douglas has outlined blood as a seemingly natural symbol of society, partly because of its widespread association of kinship[2]. Such thinking charts the potency of blood as far beyond biological, and indeed beyond the remit of kinship, shaping commercial and political life, and creating new social collectivities[3].

2. M. Douglas, Natural Symbols *(1996 ed.). London: Routledge, 1970.*

3. J. Copeman, and D. Banerjee, Hematologies: The Political Life of Blood in India*, Cornell University Press, 2019.*



Relatively recent medical technologies that allow for the safe sharing of blood between individuals complicate such social potency. Transfusion practice saves lives. Any patient with hemorrhagic shock requires transfusion, and there are complex economies of care that shape how such practice is conducted. From a medical perspective, in any particular context, blood must be taken from the 'correct' individual, and given to the 'correct' patient, in the correct dose, within the correct time, and in the ideal amount for the nature of the hemorrhagic shock. Blood is always in demand, and often must be triaged. It is this scarcity, and the fact that it is sourced from the human body, that makes blood a nexus for anthropological thought. Transfusion technologies, and related practices, have informed a wide social consciousness. Community and national level blood drives, organ donation campaigns, regulated and unregulated organ trades, and new forms of medical tourism arise from what is now common medical practice.

Medical anthropologists have explored multiple dimensions of these trends, but I have space in this short piece to outline two related themes that take central importance in thinking through the construction of ethics and the sociality of what can be taken from the human body: commodification and inalienability. Both of these themes speak towards a wider problem in the anthropology of the body. That is, in what ways is the body objectified, and what are the consequences of this objectification? In the case of organs, the ethics of trade are brought to the fore: who has rights to the materials of the body? In an unregulated

organ trade, the fact that a kidney can be removed and given to another creates a situation in which massive economic disparity informs the flow of organs from the global South to the global North. Ethnographers have collected the narratives and experience of individuals who have lived through the choice of selling their organs in the face of extreme debt and poverty, and the nature of the full agency of the seller is always complicated[4]. As many theorists of labour have pointed out, it can be argued that workers of all sorts sell their physical body as an economic liaison for skilled trade - to chop, assemble, dig, fight, construct; the energy stored within the human cells converted into French baguettes, Honda Civics, architectural renderings, or sex work. The stuff of the human body, however, seems to bridge the cultural limits of what can be considered an economic good. As American political Philosopher Michael Sandel has asked[5], we might accept that there are things that money can buy, but are there things that money shouldn't be able to buy? When debt-ridden individuals turned to kidney selling in Calcutta, they received a tiny fraction (one-fortieth) of the cost paid by the wealthy who, faced with the final years of dialysis, would purchase a kidney at any cost. The vast majority of the money is kept by middle agents of the ambiguous international market. Within a year, sellers are back in debt[6].

Marxist scholars might refer here to the fetishization of commodities - the ability for the market to remove social relations and affective and emotive engagements that exist between individuals, and place them into objects, in the money exchanged between vendors,

[...] workers of all sorts sell their physical body as an economic liaison for skilled trade - to chop, assemble, dig, fight, construct; the energy stored within the human cells converted into French baguettes, Honda Civics, architectural renderings, or sex work.

4. N. Scheper-Hughes, "The global traffic in human organs". Current anthropology, *41(2), 2000, 191-224; L. Cohen, "Where it hurts: Indian material for an ethics of organ transplantation".* Daedalus, *128(4), 1999, 135-165.*
5. M.J. Sandel, "What money can't buy: the moral limits of markets". Tanner Lectures on Human Values, *21, 2000, 87-122.*
6. Cohen.

and within brands, rather than people. The ethical danger here is a shift in cognitive association, in which kidneys, say, do not 'come from' a woman in Calcutta, but simply from a branded clinic in Turkey. Instinct has readers often recoil at the idea of people selling their body parts; it transgresses the sacral boundaries of the skin. Yet, when there are not enough of these body parts to satisfy need, it is easy to turn to the comfort of the market. History has shown that markets and their actors will enact great violences for things less intimate and critical to life as organs: oil, salt, gold, as I will address soon, and opiates, even as one is unlikely to die without gold (though, as the tiny miners can tell the reader, gold atoms are indeed present throughout the human body). Yet many societies are used to markets. They are comforting, and they afford an erasure of the obligations between people.

Yet the commodification of the body and its parts in anthropology is far more complex than reduction to political economy. Its existence opens up multiple lines of social inquiry, from debate on novel ethical commitments, to the subtle use of metaphor that shapes social acceptance[7], to questions on the inalienability of those 'stuffs' that can be extracted from the body[8]. Technological advancements might serve in some regards to objectify the body, isolating it from the identity and selfhood of those from whom it is sourced. However, there is great consideration in the social canon on how the relationships and obligations between people are carried forth in economic and cultural transactions, and through technological processes. Some of the very foundations of British Anthropology are premised partly on a re-

7. L.A. Sharp, "The commodification of the body and its parts". Annual review of anthropology, *29(1), 2000, 287-328.*

8. L.A. Sharp, "Commodified kin: Death, mourning, and competing claims on the bodies of organ donors in the United States". American Anthropologist, *103(1), 2001, 112-133.*

[...] what aspects of a good are alienable - separated from the giver in the exchange - and what are inalienable.

lated ethnographic question. Bronisław Malinowski, from his years spent studying the Kula cycle, an exchange of bracelets and necklaces in the Trobriand Islands in the Melanesian New Guinea archipelago, famously asked "why would men risk life and limb to travel across huge expanses of dangerous ocean to give away what appear to be worthless trinkets?"[9]. Decades of inquiry following this question has outlined theories of what relations are embedded in the 'gift' exchange, the obligations of reciprocity involved, and the 'spirit of the thing' - what the Maori for example, famously outlined by Marcel Mauss, called the Hau - a force binding the giver and the receiver.

The person within the object

There is something very challenging here in teasing out the different complexities between what is embedded in a 'gift' as opposed to what is 'purchased in a market'. That is a large debate, but one perhaps central to the future of the practice of *Tiny Mining*. One brief concept to think through is what aspects of a good are alienable - separated from the giver in the exchange - and what are inalienable. The Austrian painter Gustav Klimt's signature, for example, is very recognisable by curators. He places his given name on top of his surname, the 'U' and the 'V' in his name sharing the same pointed edges. His paintings can be sold and exchanged multiple times, but there is an aspect of the painter that cannot be removed from the painting - an identity sealed by the signature. There is an element of inalienabili-

9. B. Malinowski, Argonauts of the Western Pacific: An Account of Native Enterprise and Adventure in the Archipelagoes of Melanesian New Guinea, *Routledge, 2013 [1922/1994].*
10. M. Mauss, The gift: The form and reason for exchange in archaic societies. London: Routledge, 2002.

Figure 4 Emblem 8, 3rd series, Johannes Mylius, *Philosophia reformata*, 1622

ty to the work that gives the painting much of its value. The artist is in the painting. To a small degree, each consecutive owner of a painting is also embedded in its purchase, telling a story, and bringing the art its identity. When it comes to the body and its parts, such inalienability might take strange forms. In the case of organ donations and donor kin, returning a small sense of inalienability to a donated organ bears "the potential to transform the anonymous dead once again into social creatures"[11], creating unexpected forms of kinship. Even when the organ donor remains fully anonymous, ideas of reciprocity might remain for the living in the forms of social obligation, a change in personal health-seeking behaviour, and/or forms of responsible citizenship, all in the spirit of the 'gift' from the organ donor. In terms of the economy of blood, as mentioned earlier, the obligations of responsible citizenship and reciprocity are merged with altruism and enacted by the giver to inform donation practices. Here, biology and demographics additionally inform the spirit of the bodily gift - "O" negative blood, for example, is medical 'gold' - it is always in demand, and people die when this blood is scarce. A pint of blood from a healthy adult can be given safely every three to four months. If someone produces such blood, what is their obligation to society? In Euro-American contexts, blood donors are very rarely compensated in terms of money, though depending on the national context, other organ or tissue donations may be. The dance between commodification, marketisation, reciprocity, alienability, and altruism, is thus always a careful and complex ethical navigation.

11. Sharp 2001, 129.

When minerals and metals are extracted from the body, how does it change the social constitution of those minerals? What new ethics does it open upon the people who take part?

When bodily substances are turned into commodified goods in non-medical markets, they are often met with controversy, curiosity, public distaste, or taboo. Such is the case with breastmilk, for example, which has been purposed into making resin for jewelry to commemorate the act of breastfeeding, or into ice cream ingredients in trendy cafes, or marketed and sold as performance nutrients for elite ironman athletes. The taboos upon such goods may partly be informed from social constructions of pollutants and dirt, what Dame Mary Douglas frames as "Matter out of Place"[12], objects and processes that disrupt social constructions of purity by transgressing normative orders, or the binaries that people make to shape their world: nature vs. culture, inside vs. outside.

For the project of *Tiny Mining*, and to the artist-scientists engaged in its practice, the anthropologist asks, what is the spirit of the 'thing'? When minerals and metals are extracted from the body, how does it change the social constitution of those minerals? What new ethics does it open upon the people who take part? The tiny-mined mineral is an odd thing for the anthropologist because the mineral is 'from', but not normally associated with the human body - not like, say, grand anatomical structures, a heart, a kidney, or the cornea, the most common 'opt-out' organ donation in the UK. The eye or the kidney, outside the human body, is still tied to its organic roots in the very nature of its composition and structure. Gold, silver, aluminium and nickel form solid matter by organising their atoms in face-centered cubic structures. These structures are the same whether the metal is mined from the body or

12. M. Douglas, Purity and Danger *(Vol. 68), London: Routledge, 1966.*

from the earth. Instead, one might suggest, as many anthropologists have, that the minerals have social lives[13], and biographies[14] that shape relationships between people and things.

Gold is particularly curious in this regard. Its importance to peoples throughout human history cannot be understated, though its value is fully invented. As Ferry, Vallard and Walsh have shown, "its preciousness must always be understood in relation to complex cultural, political-economic, and semiotic systems of value."[15]. It is relatively rare, but it never breaks down. All the gold atoms that exist on the planet were forged in a dying star, and they will outlive humans, and indeed outlive the planet. It exists as ore in the rock and the earth, causing great social movement and unrest whenever and wherever it is discovered. It exists in great amounts in the earth's core, but is unobtainable from that source. It exists as well in the human body, sitting in the human brain and the heart, and it is particularly useful, albeit in small amounts comparatively, in the knees and elbows, supporting human joints. Should all the naturally occurring gold be extracted from the bodies of all the humans residing within the metropolitan London area, it would amount to some 4.6kg of gold worth, at the time of writing, almost £200,000 ($267,000). It is likely to be (or should be) for readers an absurd calculation, though it becomes sinister when juxtaposed with the dehumanising and objectification of the body.

At the beginning of the holocaust, the Schutzstaffel (SS) Reichsführer Heinrich Himmler gave the SS orders to collect gold teeth from individuals who died in Hitler's death camps.

Should all the naturally occurring gold be extracted from the bodies of all the humans residing within the metropolitan London area, it would amount to some 4.6kg of gold worth, at the time of writing, almost £200,000 ($267,000).

13. A. Appadurai (Ed.), Social Life of Things: Commodities in Cultural Perspective. *Cambridge: Cambridge University Press, 1966.*

14. I. Kopytoff, "The Cultural Biography of Things: Commoditization as Process". In Appadurai, 1966, 64–93".

15. E. Ferry, and A. Vallard, A. Walsh (Eds.), The Anthropology of precious minerals. *University of Toronto Press, 2019.*

Figure 1 Alchemical emblem from 'De Alchimia', *c.* 1526

Hundreds of dentists were employed for just this task. By the date of the liberation of Auschwitz, around 6,000kg of gold had been mined from the gas chambers of that camp alone[16]. Each concentration camp had many dentists employed for just this purpose. The operation was profoundly profitable. The gold was melted down and added to national gold stocks, and then traded to the Swiss national bank. Switzerland remained politically neutral during the war but was also the central distribution point for the axis powers' gold, worth many billions of US dollars at current exchange rates, the vast majority of which was looted by the Nazi party through their portfolio of war crimes. The majority of this gold then flowed into European banking systems in the years following the Second World War. There is much to comment on here, and there is no shortage of controversy over this gold[17]. The question on inalienability remains, and in some regard, especially in terms of large-scale compensation for victims of the holocaust, calls for justice were never resolved. The social life of bullion in Europe after the war, moved through Swiss vaults, the Vatican, the Bank of England, and spread across the globe, is thus still tainted by the spirit and biographies of the un-named dead. Such social lives of minerals still shape political, cultural, and economic relations.

Taboos, then, may not arise from the inherent materiality of precious minerals, but rather from their biographies. 'Blood diamonds' cannot be labelled thus as emanating from the colour, tint, cut, carat, or molecular structure of the carbon complexes that form the rock. Rather, the blood diamond is known as sanguine because of social and moral obli-

16. X. Riaud, "History of Nazi Dental Gold: From Dead Bodies till Swiss Bank", SAJ Forensic Science, 1(1), *2015.*

17. I. Sayer, and D. Botting, Nazi Gold: The Story of the World's Greatest Robbery - and Its Aftermath. *London: Granada, 1984.*

To release the mineral from the blood with whom it is tied is to be complicit in the potent market stoicism that fetishises commodities over human life.

gation, a recognition of deeply exploitative labour and social injustice. Body and mineral are therefore concretely joined through synecdoche. The 'social life' of carbon matters. To release the mineral from the blood with whom it is tied is to be complicit in the potent market stoicism that fetishises commodities over human life.

Mining the body off-world

I argue nothing at all so sinister for *Tiny Mining*. The *Tiny Mining* community is interested in the connections between one person and another, between people and their environment. They are interested in how bodily engagement with the 'non-human' is part and parcel of the human condition. Such a premise presents the human body as a form of gestalt, a unified whole more than the sum of its parts. This geological rendition of the body may serve indeed as a mode of highlighting the primacy of the human, rather than an objectification of the body and its parts.

As a medical anthropologist, I work in the context of space medicine and life-science research aboard the International Space Station (ISS). Part of this work is to understand the role of the ISS as a dual analogue - a model of living to inform future habitats off-world, and a model of living that affords an opportunity to question the structures of living developed on earth. An anthropology of the body that positions the human as a nexus of biology, society, ecology and politics is critical to helping to understand, appreciate, and communicate what is required for humans to thrive off-world as well as on earth at a

Figure 5 Emblem 101, Daniel Stolcius, *Viridarium Chimicum*, 1624

time of profound environmental change. New research platforms envision the curation of self-sustainable biologically-based life-support systems for off-world living. These can take many forms, from biologically-based exoskeletal systems, space suits, and other integrated extraterrestrial clothing, to designing biologically sustained greenhouses for the moon. Such projects already exist in their infancy on the ISS, and are planned for many off-world living missions. They speak towards a common need for human sustainability under harsh conditions, in extreme isolation, in environments that are unsuitable for life, and in which resources are extremely scarce - developing ecosystems that operate at as close to perfect efficiency as possible, and which rarely, if ever, need resupply.

The human body, if it is to thrive off-world, is a critical part of this closed-loop system. The body's need to consume nutrients and resources must be contextualised by its need to also produce these resources. It is no small endeavor to create and improve these systems in the ISS. The Urine Processor Assembly on the ISS, and its many improvements and developments since its initial launch, collects and recycles astronaut urine to convert it back to potable drinking water. As JAXA astronaut Koichi Wakata states from his many months of living in space "Here on board the ISS, we turn yesterday's coffee into tomorrow's coffee!". Initial operations from the Urine Processor Assembly failed due to the large excess of calcium excreted by astronauts due to extreme osteopenia created from microgravity living. Astronauts must also take supplements such as calcium and vitamin D as well as medications

The ability of the individual to produce resources for the community in which they are a part is an element of the engine that keeps everyone in the community alive. Tomorrow's coffee is only possible because of yesterday's coffee.

such as biophosphinates to help mitigate against bone loss[18]. While much of the fluid excretions from people can be recycled, the closed loop system is broken when it considers the dynamic compositions of the body. For the space farers aboard research stations in lower earth orbit, every gram of resources sent to them is extremely expensive to ship, but regular payloads are manageable. As human habitation moves further from its home-world, better closed-loop systems become more critical for survival.

There is much to say on these endeavors. However, for the tiny miners, and for the anthropologist as well, I suggest that the future of closed-loop biological systems offers a vantage point to reconsider frameworks of kinship, reciprocity and the objectification of the body. In such contexts of close to 100% life-support efficiency, gone is the seductive voice of marketisation and commodification. The ability of the individual to produce resources for the community in which they are a part is an element of the engine that keeps everyone in the community alive. Tomorrow's coffee is only possible because of yesterday's coffee. The epistemological and cognitive moieties that are often woven into the fabric of society - nature/culture, self/other, inside/outside - are challenged and perhaps even rendered obsolete through cyborgian living. Gold and iron and copper and carbon are both simultaneously inside and outside the flesh. That is not to say that there would be an erasure of the boundaries of the skin, or of the concept of the 'self'. Rather, to be part of a totalising system is perhaps to celebrate the individual's sense of collectivity, shared matter, and novel kinship. All resources,

18. –, National Aeronautics and Space Administration, "Preventing Bone Loss in Space Flight with Prophylactic Use of Bisphosphonate: Health Promotion of the Elderly by Space Medicine Technologies", NASA Archives. 29.02.2012, nasa.gov/mission_pages/station/research/benefits/bone_loss.html

even water, are unalienable. Embedded in the mineral within these hypothetical extraterrestrial habitats is not a price or cost, but rather nothing short of humanity's obligations to itself.

In conclusion, the tiny miners have called their practice 'extreme ecology', and to a degree it is. Through their practice, the scientist-artists personify the planet by highlighting, through the human body, exploitation and extraction. But it is more than that. They imagine what a future ecology might look like, to be tied more intimately to the cycles of consumption and production that sustain the body and the community. It is a fascinating thought experiment. No doubt others will have differing ethical takes on such a practice. I am content for now to leave the reader with the optimism of collective and ecological unity. All the medical anthropologist asks of the miners is to consider - when the mineral leaves the body, what goes with it? Such projects may indeed show that people and places are bound together in ways one might not anticipate or expect. We are all made of star stuffs.

Gold and iron and copper and carbon are both simultaneously inside and outside the flesh.

LITERATURE

A. Appadurai (Ed.), *Social Life of Things: Commodities in Cultural Perspective*, Cambridge University Press, 1986.

L. Cohen, "Where it hurts: Indian material for an ethics of organ transplantation", *Daedalus*, 128(4), 1999, 135-165.

J. Copeman, and D. Banerjee, *Hematologies: The Political Life of Blood in India*, Cornell University Press, 2019.

M. Douglas, *Purity and Danger* (Vol. 68), London: Routledge, 1966.

M. Douglas, *Natural Symbols*, London: Routledge, 1996 [1970].

E. Ferry, A. Vallard, and A. Walsh (Eds.), *The Anthropology of precious minerals*, University of Toronto Press, 2019.

I. Kopytoff, "The Cultural Biography of Things: Commoditization as Process", in Appadurai 1986, 64–93.

B. Malinowski, *Argonauts of the Western Pacific: An Account of Native Enterprise and Adventure in the Archipelagoes of Melanesian New Guinea [1922/1994]*, Routledge, 2013.

M. Mauss, *The gift: The form and reason for exchange in archaic societies*, London: Routledge, 2002.

–, National Aeronautics and Space Administration, "Preventing Bone Loss in Space Flight with Prophylactic Use of Bisphosphonate: Health Promotion of the Elderly by Space Medicine Technologies", NASA Archives, 29.02.2012, nasa.gov/mission_pages/station/research/benefits/bone_loss.html.

X. Riaud, "History of Nazi Dental Gold: From Dead Bodies till Swiss Bank", SAJ Forensic Science, 1(1), 2015.

M. Sahlins, "What kinship is (part one)", *Journal of the Royal Anthropological Institute*, 17(1), 2011, 2-19.

M.J. Sandel, "What money can't buy: the moral limits of markets", *Tanner Lectures on Human Values*, 21, 2000, 87-122.

I. Sayer and D. Botting, *Nazi Gold: The Story of the World's Greatest Robbery - and Its Aftermath*. London: Granada, 1984.

N. Scheper-Hughes, "The global traffic in human organs", *Current anthropology*, 41(2), 2000, 191-224.

L.A. Sharp, "The commodification of the body and its parts", *Annual review of anthropology*, 29(1), 2000, 287-328.

L.A. Sharp, "Commodified kin: Death, mourning, and competing claims on the bodies of organ donors in the United States", *American Anthropologist*, 103(1), 2001, 112-133.

A.B. Weiner, *Inalienable possessions*. University of California Press, 1992.

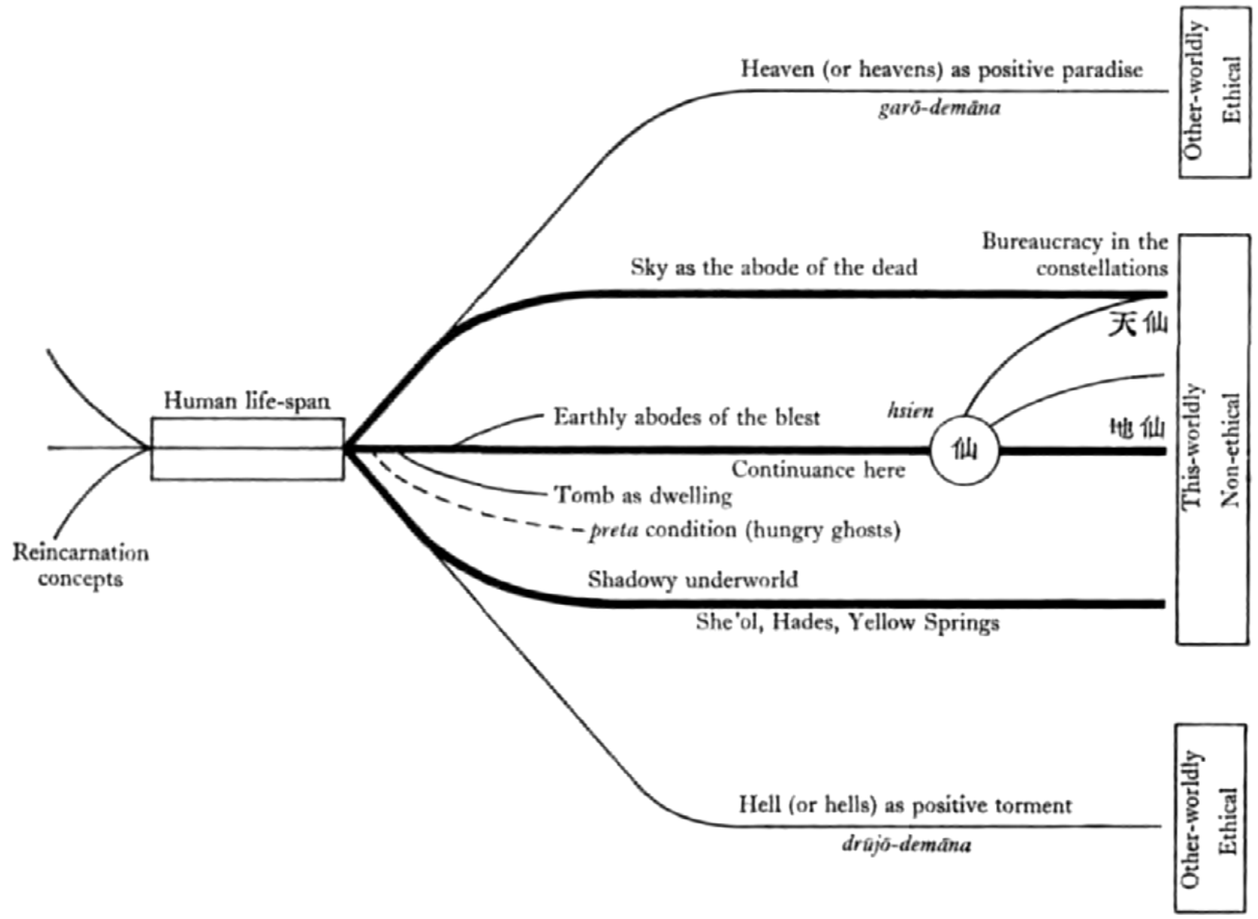
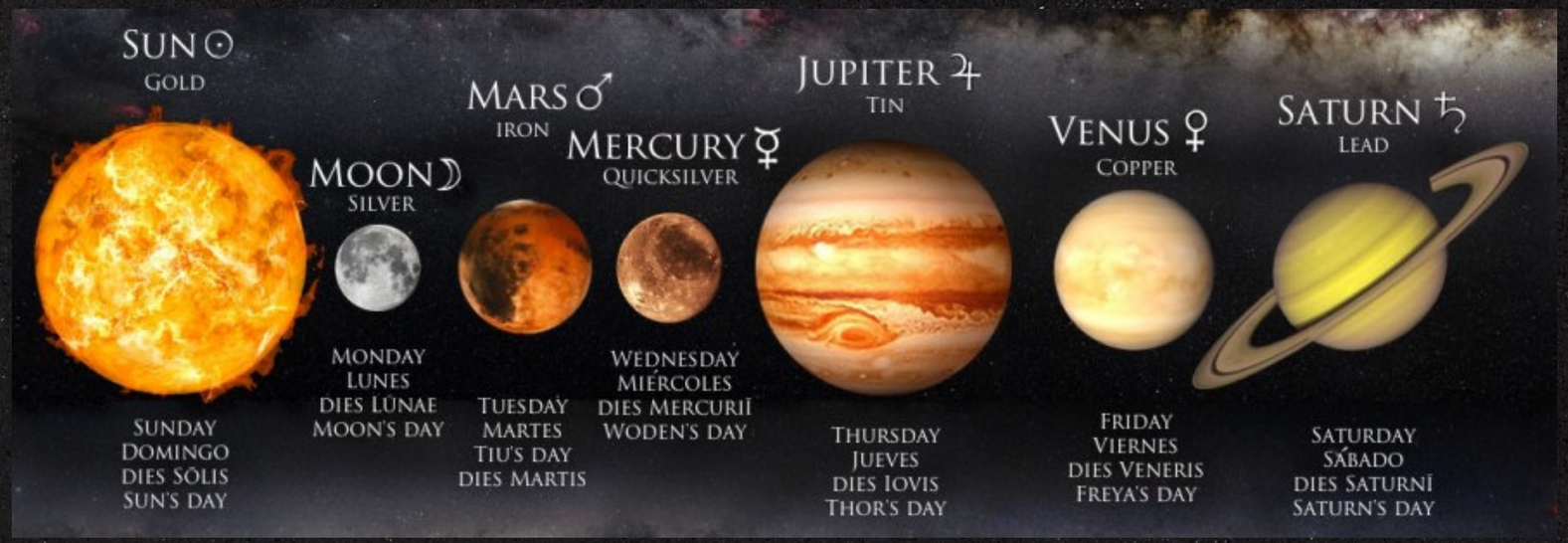


Table 93. *Schematisation of immortality conceptions; development of ethical polarisation*


SUN ☉
GOLD
SUNDAY
DOMINGO
DIES SŌLIS
SUN'S DAY
MOON ☽
SILVER
MONDAY
LUNES
DIES LŪNAE
MOON'S DAY
MARS ♂
IRON
TUESDAY
MARTES
TIU'S DAY
DIES MARTIS
MERCURY ☿
QUICKSILVER
WEDNESDAY
MIÉRCOLES
DIES MERCURIĪ
WODEN'S DAY
JUPITER ♃
TIN
THURSDAY
JUEVES
DIES IOVIS
THOR'S DAY
VENUS ♀
COPPER
FRIDAY
VIERNES
DIES VENERIS
FREYA'S DAY
SATURN ♄
LEAD
SATURDAY
SÁBADO
DIES SATURNĪ
SATURN'S DAY