On Loving Nonliving Stuff

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Abstract: One of the more important things that we can learn from space exploration is how to love lifeless stuff. We generally are taught by our cultures to love life but not be too concerned with nonlife. However, in our present understanding, within the solar system only the Earth has life. If we are to care for places like our amazing moon and be responsible citizens, we therefore must learn to value the moon's abiotic places for what they are in themselves. Of course, in our space adventures we similarly must care for other lifeless places like the spectacular rings of Saturn. Tibetans exemplify how we better can adore such things that are not alive through their reciprocal community relationships with the mountains among them. This Himalayan respect for peaks can teach us how to love nonliving stuff and thereby properly cherish wonderful locations within our solar system.

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The Value of Abiotic Entities

John Muir (1838-1914), the motive force behind the establishment of the National Park system in the United States, relished a special love for stones despite their lack of life. Without a doubt he also adored living things, too, from his treasured dog friend Stickeen to the sequoia trees that he compared to Jesus. Being fascinated by geology, though, Muir considered stones to be informative history books and excellent science teachers, and on this basis alone argued for the preservation of numerous rocky places. Further, and uniquely, Muir found that "rocks…are drenched with spiritual life—with God," so that Muir also considered stones to be teachers of religion (Muir 2013, 54). Of importance to this essay, through his attitudes toward the lifeless world Muir expressed a sense of being in a community with rocky beings, such as when he stated, "The very stones seem talkative, sympathetic, brotherly" (Muir 2003, 326). For Muir, a complete and fulfilled human life demanded a measure of respectful loving of nonliving stuff.

Muir's personal sense of kinship with lifeless entities was exceptional in his time, and today perhaps his respectful attitudes toward the abiotic universe still remain out of the mainstream. After all, most of us, whether we are religious or not, are taught by our cultures that life possesses greater value than nonlife. Across societies humans commonly teach that nonliving things exist merely for our use, not as items of intrinsic value, and since people around us share such views, we do not question them.

As I have discussed in other writings, in the West such attitudes which value life over nonlife began with Biblical creation accounts such as Genesis 1:20-31, which granted humans, considered to be superior, hierarchical stewardship or dominion over the nonhuman natural world, including over nonliving things (Capper 2021). Biblical moments that lack the valuation

of abiotic entities then fused with various versions of the Greek philosopher Aristotle's delineation of a Great Chain of Being, which explicitly places abiotic entities like water and minerals at the very bottom of a ladder of valuation. Thus, whether religious or not, based on this traditional cultural inheritance, Westerners commonly presume a lack of value in abiotic realities.

Likewise, although differing in manifestation from EuroAmericans, Asian citizens typically value life over nonlife as taught through the scriptures of Hinduism, Buddhism, Daoism, and Confucianism (Capper 2021). Moreover, First Nations cultures such as those of North America often contain brilliant expressions of great esteem for some nonliving things, like that of Tibetans, such as Ho'omana Hawai'i reverence for the mountain Mauna Kea or Lakota affection for the Black Hills. Yet, according to the scholar Howard Harrod in *The Animals Came Dancing*, one still finds general valuations of life over nonlife in these moral universes (Harrod 2000, 86-87, 111-112). This valuation of life over nonlife in fact extends beyond Earth, since according to an editor of this volume, James S. J. Schwartz, a similar "life bias" in the literature of space exploration both ingrains and expresses valuations of life over nonlife as contemporary humans travel through our solar system (Schwartz 2020, 124).

Because of the ways that many of us have trained in life bias worldviews since we were infants, a problem here is that nineteenth century Muir, with his love for nonlife, was more attuned to the ecological realities of the twenty-first century than many of us are. Muir's perspective grasped that since human bodies consist significantly of nonliving elements like water and minerals, we cannot be appropriately grateful for our individual existences without appreciating how we live on the shoulders of nonliving things. Further, we cannot properly battle climate change without thoroughly assessing and recognizing the values of nonliving

things like the ethically right amount of atmospheric gas elements. We also cannot responsibly sequester atmospheric carbon into rocks until we have appropriately valued those rocks. Hence, we cannot fully appreciate our own bodies or adequately manage climate change without finding a place within us to value things that do not live.

In addition, as humans increasingly leave Earth even if just via robot, we find that our traditional lack of valuation of nonlife is glaringly obsolete. The only life that we know of at the time of this writing exists on Earth, meaning that we cannot be responsible environmental citizens of our solar system without developing respect for its myriad nonliving realities and entertaining ecologically healthy concern for them in their own rights. If we are to leave our home planet yet avoid being terrible solar system neighbors, we need to reassess our capacity to love nonliving stuff.

Later in this essay Tibetans, with their terrific regard for the high mountains among them, offer us capable tools for this reassessment. These Himalayan residents teach us how to effectively engage our abilities to revere abiotic ecologies by enthusiastically extending respect to lifeless members through reciprocal actions within an ecological community. This ecological community remains somewhat nebulous, however, unless we first identify and appreciate some of our nonliving solar system group members, which we will do now.

Nonlife in Our Cosmic Neighborhood

When it comes to fondness for extraterrestrial nonlife, take, for instance, the fantastic rings of Saturn. First seen through Galileo's telescope, Saturn's diaphanous rings instantly define the planet for many onlookers because of the rings' majestic nature as well as their incomparability to anything else we know. Remarkably thin yet thousands of kilometers wide,

Saturn's eye-catching rings consist of particles of dust, rock, and ice, some of which are as small as a grain of sand while others are as large as a city bus. These particles are shepherded in their orbits around the planet by the presence of numerous moons both within and beyond the rings, with these moons' giving each ring its own character while also lending consistency and durability to the ring structure as a whole (Porco and Aulicino 2007, 336). Although Jupiter, Uranus, and Neptune have small rings of their own, the boldly ethereal rings of Saturn particularly stand apart in grandeur and rarity from any other feature of our solar system and thus deserve our admiration. In the words of the philosopher Tony Milligan, the ring structure of Saturn possesses a "special standing, a standing which would make it worth conserving, and not simply for the purposes of scientific enquiry" (Milligan 2015, 21). Because of this special standing, and since the rings of Saturn are nonliving, if we are to care for Saturn properly, we must learn to respect, perhaps even feel affection for, and maybe even love, nonliving entities.

At this point my reader may think that Saturn is difficult to reach and our current hardware is limited in destructiveness toward planetary rings, so who cares about trying to protect Saturn's rings? I offer that we all should care so that our ethics can be clear in formulation and understanding. More vividly, though, there are threatened nonliving places much closer to home that need our attention right now, such as the Malapert Massif. Appearing about 100 km from our moon's south pole, the collection of peaks called Malapert rises more than 8,000 meters above a sunken crater floor, thus rivalling the Andes Mountains in altitude (Van Susante 2003, 2480). This altitude makes a difference. First, we treasure the Andes Mountains for their own awe-inspiring sakes, and the Malapert Massif in itself should make a similar claim on our esteem. Further, the landscape views from Malapert, stretching 360 degrees over many kilometers, must be absolutely marvelous, making Malapert worth respecting as a

place for future moon science as well as for lunar recreation. In two centuries humans may enjoy leisure camping on the moon, and Malapert supplies one of the most dynamic of lunar locations for that activity.

Additionally, altitude engenders nearly-eternal sunlight on Malapert's slopes. Lacking the season-bringing obliquity, or axial tilt, of Earth, our moon rotates almost vertically relative to our sun. Being a high point that is nearly on top of the moon's vertical axis, the Malapert region therefore may be sunlit 85% of the time, making it a place unlike many others in our galactic neighborhood (Sharpe and Schrunk 2003, 2467). Also, and enchantingly, our moon's lack of tilt creates another notable Malapert ecological feature: eternally dark craters. Since the sun reaches some deep craters only sideways from the horizon, some crater bottoms have never witnessed sunlight, making them some of the coldest places in our solar system. Hence, just as the often-sunny Malapert slopes offer unbelievable landscape views, these dark craters, being free from a variety of forms of interference, present sky views of our solar system and the center of our galaxy that in their intensity and clarity will incite wonder and amazement even among the most jaded of human beings.

Although sunny high spots and dark craters can be found in various locations at both lunar poles, the especially tall and bright Malapert slopes that are admixed with eternally dark craters make Malapert a special place not just on our moon but also in terms of the rest of our solar system. In its unmatched magnificence and ecological richness the Malapert region remains worthy of our admiring and fond regard. Yet, even as I write, Malapert faces several possible near-term environmental perils. Already plans and hardware are being developed to place solar power collectors on the sunny highlands of Malapert (Sharpe and Schrunk 2003, 2467). Because of the altitude of the peaks, other people seek to place equipment on Malapert

for line-of-site communication transmissions with the far side of the moon. Other groups wish to use dark craters for telescope emplacements (Schrunk et. al. 2008, 54, 427). Moreover, commercial firms want to employ Malapert as a base for mining water ice from the dark craters and perhaps acquiring the energy source helium-3. For these industrializing and commercializing reasons, already international governmental and private ventures like the European Space Agency's Moon Village initiative have sent or soon will send missions to our moon's south pole.

In this essay I lack the space critically to assess, as others have done (Elvis, Krolikowski, and Milligan 2021), these individual proposals for the use of Malapert. Instead, regardless of how the various strategies that I just mentioned are implemented, I focus more foundationally on our prior attitudes. I suggest that before we begin the discussions about whether there should be telescopes, communication towers, and the like on Malapert, we must develop the appropriate esteem for that location. Malapert properly understood stands apart as a place of ecological value and splendor in its own right and thereby deserves our caring respect. Because of its terrific scientific and recreational views not just across the moon's surface but also of the vibrant lunar sky, perhaps Malapert in fact deserves our ecological affection. Even more, maybe the Malapert Massif should receive our environmental love for its extraordinary characteristics, even if it is a place without life. The wonders of Malapert should encourage us all to love nonliving stuff.

Of course, talking about the need to revere the rings of Saturn and the Malapert Massif leaves us with the asteroid in the room: if our cultures are not helpfully guiding us as we journey beyond Earth, how do we learn to love nonliving stuff? Since I have been discussing the high mountains of Malapert, I will answer this question by turning to Tibetans, who are some of the

greatest mountain experts on Earth. As we shall see, traditional Tibetan regard and love for mountains spotlights vividly ways that we all, regardless of our personal beliefs in this moment, can positively reverence and interact with treasured abiotic realities through reciprocity within an ecological community. Now let us visit the Himalayas in order to perceive these lessons more vibrantly.

Tibetan Love of Mountains

Tibetans can teach us how to love abiotic things because of the ways that they embody respectful reciprocal relationships with members of their community, which in their perception includes mountains. Rather than solely focus on what is living and what is not, Tibetans by culture instead consider the environmental existents around them, including mountains and rivers, to be a part of an interactive social group with them. Keeping practical and ethical order in social groups, as we all know, involves the extension of respect and affection to others in recognition of the reciprocal webs of dependence that bind communities together. By extending such admiration to cherished mountains, Tibetans thereby cultivate robust bonds of love with entities that do not live yet still represent vital members of a thriving community.

This Tibetan cultural love for mountains grows from the religiosity that remains a distinctive and visible element of Himalayan cultures and that arises from the inextricable blending of Buddhism with indigenous Tibetan spirituality which the Tibetologist Geoffrey Samuel classically portrayed (Samuel 1995). Expressions of this Tibetan fondness for peaks varies from village to village, so here I offer a description of a typical situation that can be diverse as lived. In advance I urge my reader to ponder the cognitive and motivational meanings

of these Tibetan attitudes of reciprocity in community without concern for exactly copying Tibetan beliefs and practices.

Regardless of location, Tibetan love for lifeless mountains begins with a deep regard for one's *yul lha,* or local deity. The local deity usually is synonymous, in a practical sense, with a nearby high mountain. In considering gods to be mountains, the typical Tibetan cultural perception is not that the mountain is personified as a god, but rather that the mountain is the form of manifestation of the god, like the clothing that the god wears. Within this outward divine raiment, the summit of a tall peak provides the residence area for the deity of the mountain and thus is voluntarily forbidden to human presences (Huber 1999, 219), a point to which I will return.

Appearing as a mountain, this deity controls prosperity and misfortune within a region like a valley. One can appreciate that there is a scientific dimension to such beliefs, since high Himalayan peaks literally dominate the weather nearby. More broadly than weather, though, one's life depends upon this local deity, so remaining on good terms with this divine being is paramount. Keeping a beneficial relationship is based upon the notion of respectful reciprocity within a community (Karmay 1998, 426). A couple who is engaged to be married, for instance, will announce their marriage to the local mountain deity, who as a member of the community deserves to know about the union. The couple may then lovingly venerate the local deity so that the god may assist them in having a child. The child later may break her leg, with such a fate's perhaps resulting from the mountain deity's punishment of a misdeed. The child's parents nonetheless may continuously provide gifts to the local deity to bring the prosperity needed to heal their daughter today as well as send her to university tomorrow. Obviously, outcomes can be multiplied beyond these. The point is that humans and mountains live in a community

together, so that caring for one member means, in a reciprocal way, caring for the other as well (Gagné 2020).

This "ethics of care" with nonliving mountains, as the anthropologist Karine Gagné states, institutes a "sense of obligation and responsibility toward the more-than-human" (Gagné 2018, 7). But of course reciprocity works in two directions, since, for example, Himalayan residents may perceive the higher temperatures of climate change as symptomatic of a decline in suitable reciprocal respect of humans for their mountain companions (Gagné 2018, 6). Because, as Gagné says, "landscapes are repositories for morality that constitute and animate ethical dispositions," the realities of climate change in this case demonstrate to some Himalayan residents that humans themselves benefit along with nonhuman environments when humans respectfully recognize their ecological relationships and dependencies with things that lack life (Gagné 2018, 12).

In a practical sense, Tibetans may exhibit their reciprocal regard for the mountains in their communities in numerous manners that start with personal behavior. As I mentioned, one's local deity does not tolerate misbehavior yet rewards proper acts, so that how one ethically behaves in ordinary life may influence the valence of one's relationship with the mountain deity (Obadia 2008, 120). Extending this notion in terms of community, villages may host important festivals designed to honor their local deity. Another traditional way of magnifying dynamics in the relationship involves making multiday pilgrimages (*nekor*) to holy mountains (Kapstein 2006, 237, 243). During these pilgrimages Tibetans often will camp at the base of a peak while engaging in admiring prayer. Out of reverence they simultaneously may place a stone on or affix special flags to the mountain deity's *labtse*, or sacred stone cairn. Typically, pilgrims additionally will engage in *korra*, in which they circumambulate the mountain while profoundly

reflecting on the holy importance of the site. Of interest, on pilgrimage Tibetans usually avoid the very summits of mountains despite the abilities of many Himalayan mountain climbers to get there. If the summit is the best place on a mountain, Tibetans kindly renounce the summit in order to visibly respect the mountain as special (Karmay 1998, 433). One more related and common expression of Tibetan mountain love involves the burning of *sang*, or incense, perhaps as large juniper branches that are placed in communal fires near, but not at, the summit.

Burning juniper on the open slopes of Malapert's peaks will not be possible because our moon has no oxygen atmosphere. This is no problem, for I have not described Tibetan beliefs and practices of fondness for nonliving mountains so that they may be strictly emulated. Instead, Tibetan adoration of mountains highlights that we can respect abiotic beings in ways in which we recognize our relationships with those lifeless entities in our mutual community of existents. On this basis we can extend appreciative and grateful behavior even to ecologies that are not alive. Now it is time to explore this environmental insight in greater extraterrestrial detail.

Affectionate Respect in Community

Despite deriving from specific cultural locations in the Himalayas, this example of Tibetan mountain affection can teach all of us about the importance of respectful relationships of reciprocity within a community that includes both abiotic and biotic entities. In their interactions with mountains, Tibetans do not begin with a discernment between what is living and what is not. Tibetans begin by recognizing community instead. From their point of view, the community does not end with the humans in the group, and their community in fact includes abiotic snow-capped peaks. Being community members, lifeless and living entities affect each other, and these interactions within the community are governed by reciprocity, respectful

recognition, and gratitude. Tibetan humans thus show thanks and exhibit goodwill for the benefits and effects that they feel that they receive from the high mountains around them. Mountains in turn receive beneficial ministrations from humans within this cultural code. Rather than being treated as meaningless, here nonliving beings like mountains are intentionally treated positively like other persons in the community. In this way Tibetans come to respect, also feel affection for, and quite often love things that are not alive.

Our relationships with nonliving entities in space can follow similar positive tracks regardless of our culture. As the anthropologist M. Jane Young has stated, local forms of religion like those explored here "can offer us alternative ways of seeing ourselves in relationship to the natural world and help us to answer the question of what constitutes appropriate behavior--in outer space as well as on Earth" (Young 1987, 269-279). In this case, the lesson is to set aside quick judgments based on a living/not-living binary and instead recognize the need for respectful reciprocity in community. Many of us treat nonhuman pets as parts of our communities; what is needed here is an extension of the idea to include realities in our midst that are not alive.

For instance, the rings of Saturn exist in a solar system community with us, if we will just look at things this way. And those of us who are amazed by the opulence of Saturn's rings have plenty for which to be grateful. In turn, those lovely rings may need to be protected at least from us. Therefore, why not recognize our experience of constructive reciprocity with Saturn's rings by extending caring esteem for them? Even if this inner attitude does not affect Saturn's rings today in a physical sense, it is morally the right thing to do and a good way to train our minds properly to value abiotic realities.

Moreover, future campers and astronomers can have many reasons for gratitude as they enjoy the terrific vistas and overwhelming skies of our moon's mountains at Malapert. In turn, Malapert, as a member of our solar system community, needs our wise and circumspect treatment today before the industrialization of the moon begins without an appropriate environmental plan. We can enact our reciprocal duties toward Malapert on the example of Tibetans, since the rest of us have the same capacities as Tibetans to genuinely respect abiotic things. We all can grow morally by learning from Himalayan residents who conserve nature while preserving positive human relationships with landscapes. Given that a marvel like Malapert is available to amaze us, why not show our thanks by adoring Malapert's abiotic highlands and craters like respectful neighbors should do? We should recognize lunar mountains and their future campers as a part of our community and, for their sakes, caringly honor Malapert's wonderful slopes. So that we can be more complete human beings in our own rights, like John Muir exemplified, as well as solid citizens of our solar system community, let us immediately energize our abilities to love nonliving stuff throughout our captivating cosmos.

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