

Landscapes and Skyscapes in Contest

SANDRA BUSATTA

Abstract. The creation of cultural landscapes can support different claims to land or territory. Some Apache conflate both conceptualized and constructed landscapes, sacred sites and archaeological ruins with the natural world. Curiously, astronomers share biospherical and biological imagery with their opponents, Apache as well as Anglo and Chicano ones. In the vicious contest of land/skyscapes at Mt. Graham, Arizona, many stakeholders share the belief that the mountain is sacred, although they understand it differently.

We never did give up ownership of cultural resources (1)

Resource preservation, especially of cultural resources, is one way indigenous people respond to threats to their traditional lifeways. Increasing numbers of nations and tribes of American Indians ¼ commit themselves to exercising cultural sovereignty.

(Gulliford 2000:99, original emphasis).

These words by Lorette Jackson and Robert H. Stevens, Hualapai Office of Cultural Resources, embody a fiction which allows tribal control of the landscape within and outside Indian reservations in the USA, albeit Indians have not lived according to “traditional lifeways” for at least a century and more than seventy percent of them dwell in the metropolitan areas (2).

Landscapes are ways of expressing conceptions of the world, although they also refer to physical entities, that is to say landscapes may refer both to the environment, generally shaped by human action, and to a meaningful representation of it (3). According to Hirsch (4), there is no “absolute” landscape: landscape is a process, always dependent on the cultural and historical context. Cultures construct landscapes by means of oral traditions, buildings and monuments, manipulation of natural features, and photographic, pictorial and written representations. It is a colonization of nature by landscape, which reveals assertions of power. Layton and Ucko (5) remark that meaningful practices may leave their mark on the landscape and, if the pattern of such references becomes sufficiently habitual, it becomes recognizable to the archaeologists. Thus cultural heritage has become a major component of environmental assessments in many parts of the

world. These authors emphasise that UNESCO recognizes that a cultural landscape may be one whose significance lies in the powerful religious, artistic or cultural associations of the natural element rather than material evidence.

Ashmore and Knapp (6) distinguish between constructed and conceptualized landscapes; the former involve the actual building of artefacts, while the latter have a formal ideological structure and are characterized by powerful cultural meanings invested in natural features rather than material culture. Potter (7), warns against overly simplified classification systems, and correctly proposes to define all cultural landscapes as conceptualized at some level. The controversy around Mt. Graham is an example of constructed vs. conceptualized landscapes, albeit much more nuanced, where both sides share some features of their opponents’ worldview. This controversy pits astronomers vs. biologists, environmentalists vs. developers, Vatican’s Jesuits vs. a number of Apache and their anthropologists: it represents in microcosm oppositions such as globe vs. sphere (8), religion vs. science, “immigrants’ landscape” vs. “natives’ landscape”.

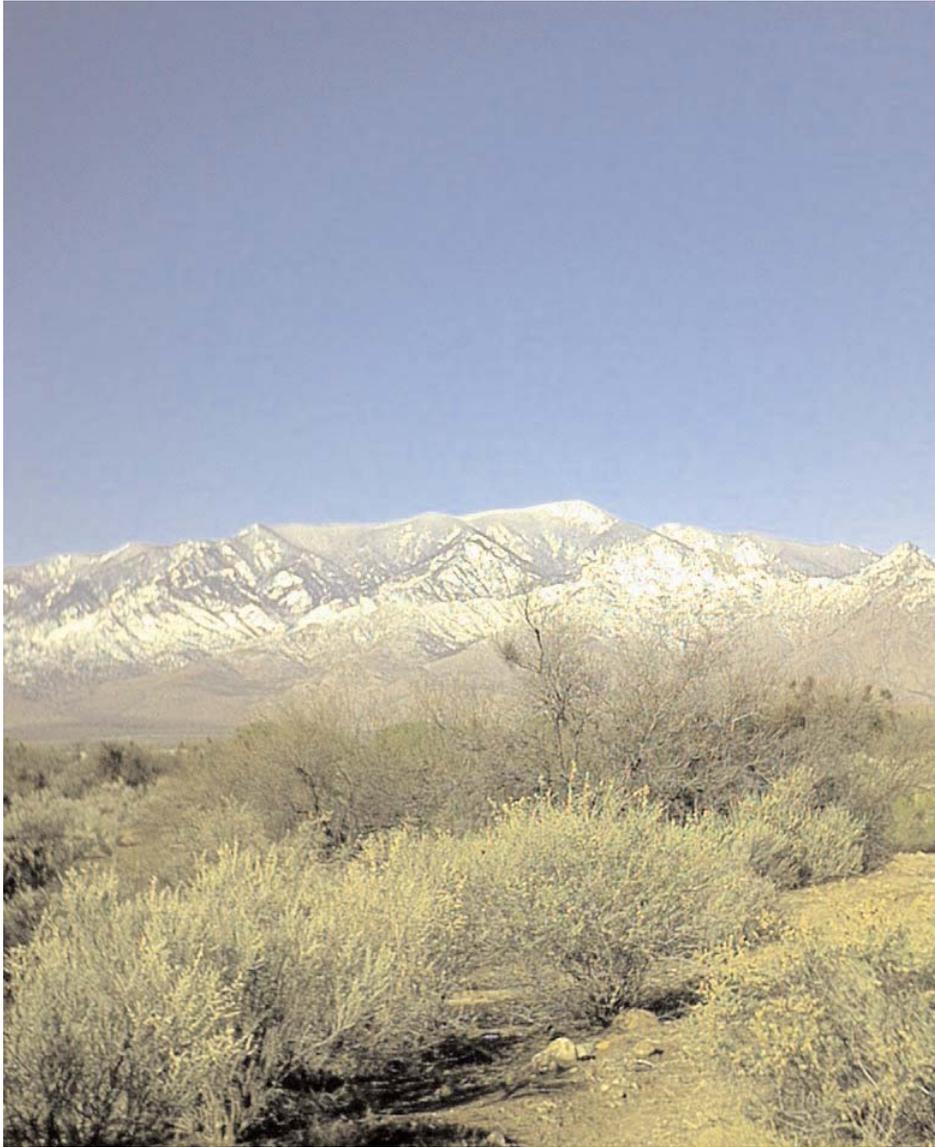
The case of Mt. Graham

In a nutshell, Arizona dubs itself the astronomical capital of America and the many observatories on its mountains never provoked conflicts. A conflict, however, broke out in the 1980s, when a formidable environmental alliance, from Greenpeace and the Sierra Club to Earth First!, and many other organizations tried to stop the construction of seven telescopes on public land, on the peaks of Mt. Graham, *Dzil nchaa si an* or Big-Seated Mountain in Western Apache, on the Pinaleno Mountains, located in the

Coronado National Forest. The consortium was composed of the University of Arizona, other American universities, the Max Planck Institute (Germany), a group of Italian universities (9), headed by the Arcetri Observatory (Florence), and the Vatican Specola. ‘Commentators argued that environmentalists sought Indian alliance only after attempts to stop the construction on environmental grounds failed’ (10). As a matter of fact, only the Zuni and the Hopi replied to the letters concerning the protection of some shrines belonging to an archaeological culture (11). Some years later a small number of Apache began to oppose the telescopes on religious ground, supported by a number of biologists and anthropologists, who united to some Protestant churches (12) to form the Apache Survival Coalition. Albeit two Tribal Councils issued a number of documents opposing the telescopes, they also issued declarations in favour of them, according to the contradictions of Indian factional politics, and never joined the Coalition’s suits.

Is Ola’s Crystal Mountain sacred for all the Apache ?

The chair of the Apache Survival Coalition is Ola Cassadore Davis, a San Carlos Apache married to a Choctaw man. Daughter and sister of two men who revived the old religion, she was a Lutheran, then a Mormon, and left the reservation when she was young to work as a factory worker in Dallas, Texas. Then she went to Tucson, AZ where she held unskilled jobs in hospitals and rest homes until she retired. It was then, in 1989 and 1990, that she had some dreams about Mt Graham. During the first dream, she saw her father asking her whether she really wanted to fight for the holy mountain. Later, Ola saw the Gans,



or Mountain Spirits, floating high above the summit, and approach from the four directions, leaving trails of colour in the sky. She listened to the songs which seemed to emanate from the mountain itself, then watched as the entire mountain became transparent like a piece of glass (13). She went to the reservation to ask advice to a cousin of hers, Franklin Stanley, a former Mormon bishop and high school janitor, who had become a medicine man with some followers around the reservation village of Bylas. Stanley was also the great-grandson of Chief Bylas, a Chiricahua Apache. He had led ceremonies on Mt. Graham and accused the university of Arizona of “defacing” it.

We use the mountain as an altar and offer prayer and song when we get in tune. We believe that the godhead comes to the mountain. If a man believes in God, then he can comprehend God's way instead of

building a telescope and trying to see God through a piece of glass. [1/4]Who's the pope, anyway? The pope's medicine is his mouth. How would he like if I built a wikiup and beat my drum on top of his church, on his sacred ground, not just for a little while, but for a lifetime?” (14)

In a fashion typical of many crisis religious cults, both old and modern, they decided to revive the old religion, supported by anthropologists Basso and Brandt. It would be a mistake, however, to consider Davis and Stanley as representatives of the “local” vs. the “global”. They have travelled back and forth from Arizona to Italy, and extensively throughout the U.S. and Germany. They were also often at the U.N. They may be considered as members of a “community” of transnational activists as well as local politicians, because both participate to the elections in the San Carlos Apache reservation. As a matter of fact, Davis,

Stanley, and their followers, are the children of globalization: in fact, like other fundamentalists, they feel themselves separated from their tribespeople's lifestyles, and are now promoting a return to a “purer” spirituality, closer to a revitalized “tradition”. While this is perfectly valid from a religious stance, it does not mean that their Apache opponents are less true to their culture. The idea that one could not be an Indian who followed “traditional” cultural practices and a businessperson at the same time has been deconstructed (15). Actually, a culture is not a discrete entity, but a spectrum of different, often contradictory, always negotiating, points of view.

Indeed, many Apache are opposed to the Coalition. Karen Kaye Long publicly declared in her testimony in 1992:

My name is Karen Long. I am of the Dischchiidn clan on my father's side and of the Bettsoohn clan on my mother's side. I am a member of the San Carlos Apache Tribe People's Rights Coalition [1/4] To say that our livelihood depends on Mount Graham and to say that any permanent modification of the mountain might jeopardize our prayers, songs, and ceremonies is an outright lie. It saddens me today to know that a people strong of tradition and culture and has survived much change would allow the observatory to be a threat. I believe that just as Mother Earth's creation, the Star Nation was created by our higher power and acknowledge the Universe is to acknowledge our whole being. To continue the practice of physical and spiritual healing by our Apache medicine men and women does not depend on whether the Mt. Graham Project is a success. No mountain is so sacred as a human being, therefore, I believe we as a People will survive. I believe that responsible and legitimate use of the land enhances its true purpose. Outsiders of our tribe continue to exploit the issue of Mt. Graham. [1/4] My love for peace and harmony has been attacked by these very outsiders [1/4] Alcohol abuse, sexual abuse, child neglect, low self-esteem, health care, homelessness, unemployment and AIDS are the true and valid THREAT to our livelihood [1/4] hand in hand with the astronomers, we will continue to learn, live and grow. (16)

Karen's daughter, Leslie Eva K. Long, a high school student at the time, declared in a handwritten letter:

I know the construction of the telescopes on Mt. Graham is a project that is very

positive and the reason I know this is because of the way it can educate our people of San Carlos and others. [1/4] What my family has taught me of our ceremonies, prayers and songs the observatory is not a threat to our tradition (sic). Astronomy today remains one of the most active and exciting sciences. New telescopes on the earth, as well as orbiting observatories enable astronomers to study increasingly distant regions and to make increasingly accurate observations. My interest for astronomy through this observatory will strengthen even more if it is built. I support the Mt. Graham Project (17).

Norma Jean Kinney is the grand-daughter of the most important 20th century Apache religious figure, Silas John Edwards, the founder of what the Apache call the Holy Ground religion, which blends old tribal customs with some aspects of Catholic ritual and evangelical preachments. She declared in her testimony that he had never mentioned Mt. Graham as a holy place:

I have lived with my grandfather, when he came home from prison he stayed with us. He picked up his position as medicine man and he let us in on all the history – the spiritual leading, the aspect of the San Carlos Apache Tribe – what is most valuable and what is very traditional to us. [1/4] I have never met with any of the Survival Coalition on San Carlos. Mrs. Davis knew who I was and of my interest in the Apache Survival Coalition, mainly because I needed to understand what she was doing on the reservation being an urban Indian. She comes around to the reservation, we see her, but not many people understand what she represents. I spoke to the elderly people on the reservation as I visited homes in my district. [1/4] But the people that I spoke to have not set down and talked to Mrs. Davis about the spiritual aspect concerning Mt. Graham. Silas John Edwards is my grandfather. My relatives are tired of the abuse (sic) used in my grandfather's name – in something that he did not believe in. He told us that there was no connection, he had never once discussed Mt. Graham with us as a holy place. In his singing he mentioned other mountains because of their religious significance – different things that I cannot discuss – but I will always treasure what my grandfather said to me. My grandfather shared this information, the most cherishing is the spiritual life and what it could mean to me in the future. His

teaching and sharing is also very sacred to my tribe. [1/4] He has held dances with the rattlesnake, and he is a leader in the thirty-two [songs] which all the medicine men talk about nowadays on the reservation (18).

William Belvado, an Apache entrepreneur, who beat Stanley at the district elections, considers Ola Cassadores Davis little more than a tourist, who was rarely seen on the reservation before her dreams. In his testimony he wrote that as co-chairman for the San Carlos Apache People's Rights Coalition, he was 'concerned that the Apache Survival Coalition is misrepresenting itself speaking for the entire San Carlos Tribe.[1/4] Several of the council acted solely on their behalf, not on behalf of the people of this tribe (San Carlos). [1/4] The San Carlos Apache People's Rights Coalition wishes to set the record straight – we are in favour of the telescopes on Mt. Graham.' Moreover, although Belvado concedes that some of Stanley's followers believe that the Crown Dancers, the Mountain Spirits or Gan, come from Mt. Graham, he says:

Well, we believe that the Crown Dancers come from another area, from the Superstition Mountains. We've all got different ways of treating the land. We're not the same (19).

Conflicts usually take place when calls to

protect places where people find spiritual meaning clash with the hostility or indifference to such calls by those who do not share such spiritual perceptions. Much so when the definition as "sacred" of a cultural landscape situated on public lands is subject to the efforts of one stakeholder to forbid access to other stakeholders (20). What the Apaches say is, they're using some iron things, punching through the mountain spirit's skull. They're hurting it. [1/4] Astronomy, that's not a connection with our prayers, - San Carlos Apache activist Ola Cassadores Davis said. Apache religion don't go for astronomy. The metal they're going to put up there, it's going to spoil our religion. We're not supposed to interfere with the sky or the stars – we're supposed to leave them be, just enjoy them, not bother them. Those telescopes will bother them. We're not supposed to mess with the earth and water (21).

According to Bordewich, Mrs. Davis is influenced by New Agers such as her supporter Ann Roberts of the Fund for the Four Directions. Moreover, this campaign is part of a 'nationwide effort by tribes to regain control of many kinds of land lost through treaties or by brute annexation.' He thinks that extreme traditionalists, with the support of New Agers and ecologists who believe that Indians have a unique spiritual bond with



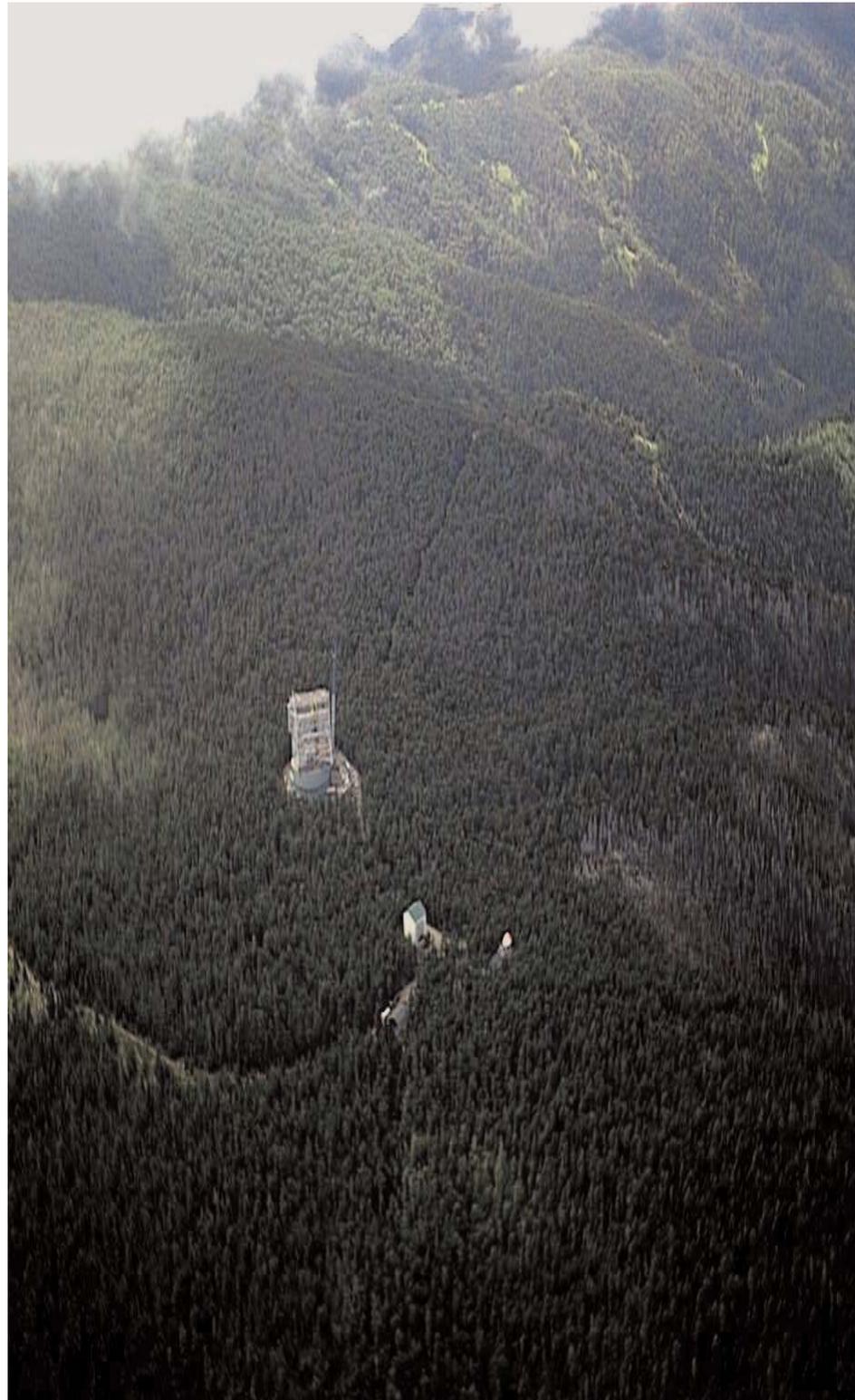
the soil, may increasingly assert ‘the religious duty, to challenge other Americans far beyond the boundaries of their reservations’(22). In 1988, however, the Supreme Court had rejected an appeal by members of three Californian tribes on the basis of the First Amendment, which applies to all citizens alike, ‘and it can give to none of them a veto over public programs that do not prohibit the free exercise of religion’ (23).

San Carlos Apache businessman William Belvado, in contrast, believes that the observatory is not going to destroy their culture: ‘We know it will bring lots of tourists to the area, but that will be good for the tribe. We have maybe 80 percent unemployment, and it will mean jobs. [¼] We want our kids to learn from the stars. When Indians attack the university, it’s like saying that education itself is not an Indian value, that’s un-Indian to learn. We should be working on education, the economy, programs for the elderly [¼].’(24).

Anthropologists Climb the Mountain

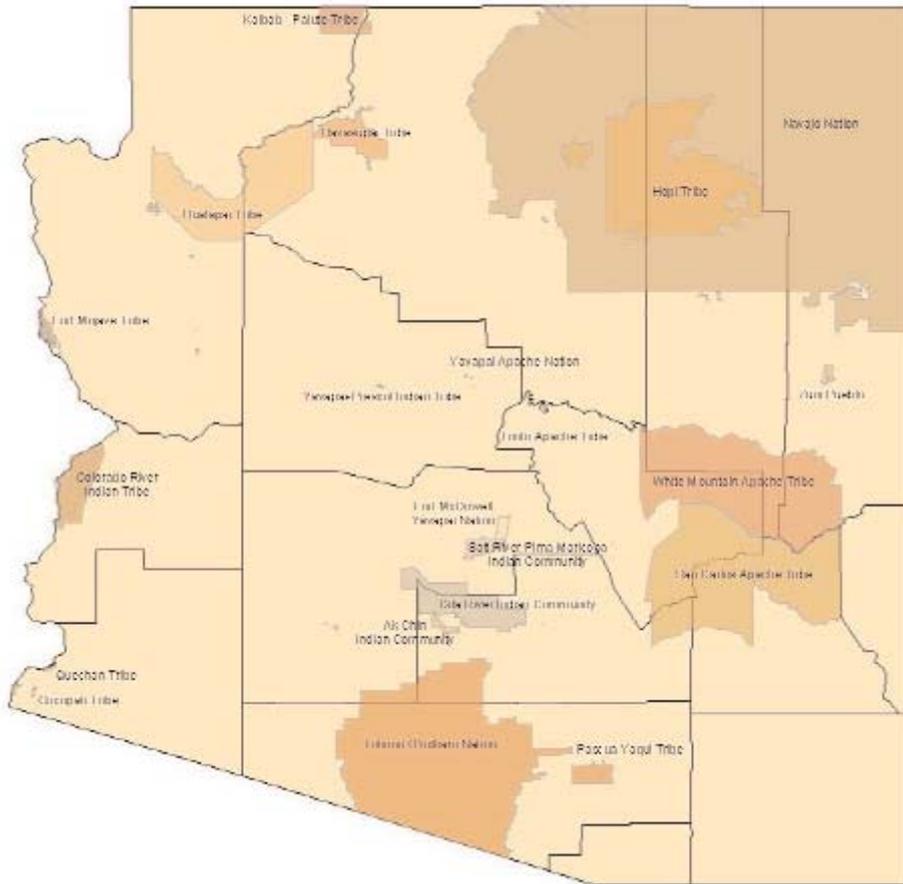
In *Globes and Spheres* Ingold (25) contrasts the globe (the planet Earth of school globes), which can only be perceived as such from without, with the spheres (the Ptolemaic universe), which were perceived from within. Moreover, the former involves visual perception, and the latter were imagined in terms of listening rather than looking. Ingold argues that the lifeworld imagined from an experiential centre is spherical in form, while a world divorced from life, as in the phrase “the global environment”, is imagined as a globe. From a global perspective it is on the surface of the world that life is lived. From a cognitive stance, meaning does not lie in the relational context of the perceiver’s involvement in the world; on the contrary, the world becomes, in the mind, a map, a Baconian *tabula rasa* for the inscription of human history. Thus, Ingold contends, the image of the world as a globe is a colonial one. The tribal stories of the Athabaskan southern migration from the Arctic, which gave origin to the Navajo and the Apache in the early seventeenth century, chronicle their occupation of the landscape and the origin of their customs (26). Thus, these stories are “global”, but the stories about the underground emergence to this world are “spherical”.

Malkki (27) emphasizes the connection between the concept of nation and the



anthropological concept of culture. The conceptual order of the “national geographic” map, similar to a school atlas, is comparable to the anthropological spatial arrangement of peoples and cultures. A related set of connections between nation and culture has to do with the fact that, like the nation, culture has for long been conceived as something existing in “soil”, by means of terms like native, indigenous, and autochthonous (28).

Following Appadurai’s notion of “incarcerated natives”, Malkki wonders why the rights of the “Indigenous Peoples” should be seen as an “environmental issue”, more natural, somehow more sacred than those of other oppressed peoples. The incarceration of the “natives” in a bioregion perceived as primordial has convinced the environmental activists to exploit popular notions about the American Indians as “rooted in



place". They are supposed to be able to give moral lessons to the restless, rootless children of colonists and immigrants.

This notion also appears in the title of Basso's book *Wisdom Sits in Places* (29). As a founding member of the Apache Survival Coalition, Basso wrote the book in the heat of the controversy. He also belongs to the army of American anthropologists who, like Diogenes with his lantern, looks for the pure Indian, and constructs "the" Western Apache. Moreover, Basso (30) contrasts Apache "wisdom" to 'this unsettled age [¼] ravaged by capitalism [¼] when philosophers and poets (and even the odd sociologist or two) are asserting that attachments to geographical localities contribute fundamentally to the formation of personal and social identities [¼] in these disordered times.' In a Statement to the University of Arizona Faculty Senate and the Arizona Boards of Regents in 1992, Basso states:

[¼] for many Apache people talking candidly about religious knowledge constitutes something close to a sacrilegious act. Conversely, refraining from such talk is viewed as an act of religious respect.

In other words, an attitude of deferential avoidance is the prevailing norm [¼] For these and other reasons Mount Graham is a cherished feature of the Apache landscape that symbolizes an entire way of life. In terms used by some social scientists these days, Mount Graham might be described as a material vehicle of ethnic identity or, even more opaquely, a visible icon of the enduring integrities of tribal selfhood. But that obviously is the talk of nervous academics (31).

In court Stanley and Basso were presenting silence as the ultimate argument; what Basso calls "deferential avoidance" was to be understood as evidence that Mount Graham was in fact sacred. In his 'Statement' Basso also wrote:

Every form of life is associated with its own intrinsic power which is inherently sacred and can be enlisted by trained Apache personnel to serve a wide variety of helpful hints. Consequently, and this is a critical point, every form of life requires continuing displays of honor and respect from human beings. [¼] In sum, deferential avoidance in word and deed is a central ingredient in maintaining productive relationships with all forms of life and their associated sacred

powers. [¼] Mount Graham possesses a form of life entirely its own. It also possesses a sacred power of formidable dimensions. In addition, because the mountain is the home of many other forms of life, it is intimately associated with a broad range of other sacred powers. And that significance, as I have suggested earlier, is nothing short of enormous. It follows, naturally, that the mountain warrants the highest degree of respect from human beings and, so, must be treated at all times in the spirit of deferential avoidance. [¼] Representatives of the University and its affiliated institutions have questioned why the Apache did not oppose the construction in the 1930s of a paved road here and to Mount Graham. The answer is twofold. First, the new road provided easier access to clear sites on the mountain. And this was welcomed as a convenience by older people who had difficulty walking. Second and more important, the road was not perceived by Apaches as constituting irrevocable damage to the mountain or its environment. [¼] Needless to say, gigantic slabs and poured concrete, topped by buildings fashioned by equally permanent materials, is something else again. As perceived by Apaches, and surely their perception is correct, these things are designed to resist the inevitable forces of nature. These things are made to last forever. And that, courtesy of the University, is irrevocable damage (32).

This anthropologist seems to forget that roads, albeit comfortable for old legs, supposedly carried by car, not only open places to human intrusion, but may also be very permanent, as Roman roads in Europe and Indian paths such as Manhattan's Broadway teach us. On the other hand, even capital cities of once powerful empires, built with slabs of stones and huge boulders, and meant to last forever, have been engulfed by forests and sand dunes and disappeared for millennia.

Even if Basso's claims may be the subject of an academic article, they did not hold in court. In fact, the court seemed to share Carl Sagan's point of view: 'Claims that cannot be tested, assertions immune to disproof are [as a verdict] worthless, whatever value they may have in inspiring us' (33). In addition, Basso was given a good lecture by anthropologist Martin Ball (34), because the former provided a philosophical frame in which to situate his description of Western



Apache sense of place based on Sartre (35), which 'is at least problematic, and at worst it forces Basso's descriptions into a context that just does not fit.' Ball, in fact, does not believe that explaining cultures according to analyses that are not their own sheds light on their emic aspects (36). Basso has also argued that Apache "speaking with names" exploits the evocative power of placenames to comment on the moral conduct of persons absent from the scene. Most placenames are believed to have been created long ago by the "ancestors" of the Apache and illustrate aspects of "ancestral wisdom" (37). Basso, in sum, claims that 'insofar as people and placenames provide Apache people with symbolic reference points for the moral imagination and its practical bearing on the actualities of their lives – the landscape in which the people dwell can be said to dwell in them' (38).

Apache religious claims lack material culture evidence and rest on very scant documentation. This fact is confirmed by Fort Apache archaeologist J.R. Welch (39), when he says that «finding an unambiguous Apache element of the Mt. Graham shrines is unlikely.» There are only two sites dated about 1100 AD, where Mimbres pottery was found; these sites are protected after an agreement with the Hopi and the Zuni. Welch invokes 'a naïve or conspiratorial blindness' (40), due to the fact that Southwestern archaeological survey methods have focused on ceramic and earthen architectural remains and perhaps because ancient Apache lifeways are difficult to detect. This conspiracy thesis can be compared to the charge, laid by Rev. Polzer, a Jesuit spokesman for the Vatican Observatory, with 'Jewish conspiracy', of which opposition to the telescope would be part, and to Basso's bad taste remark on the Observatory

buildings as similar to a swastika on the walls of a synagogue.

Unfortunately Welch's argument does not hold up: in fact, firstly Spanish sources document the existence of Apache towns and rich fields, and secondly, if archaeologists are able to find mammoth hunters' temporary camps, which are millennia old, they should be able to find an Apache temporary camp only three centuries old. Although hunter-gatherer peoples have been considered both within and outside anthropology as those who modify their environment less, this is not the case with the Western Apache. They have been agriculturalists since the 17th century, when they adopted agriculture from the Pueblos, and later added ranching to it.

Welch also confirms that San Carlos and White Mountain Apache reservations do not agree about which mountains (41) form the actual spiritual boundaries of their homeland, due to the composite history of the reservations. Furthermore, as Basso writes, 'what matters most to Apaches is *where* events occurred, not *when*, and what they serve to reveal about the development and character of Apache social life. In light of these priorities, temporal considerations, though certainly not irrelevant, are accorded secondary importance' (42). Ball confirms that it is 'from *where* the event took place that context and meaning is derived, not precisely when, in a linear sequence of time, the event took place.' (43) This means that even if Mt. Graham became sacred after Ola Cassadores Davis' dreams, the mountain, not when it acquired its sacredness which counts from an Apache point of view. Therefore, while this may be a very convincing argument in a conference about Anthropology of Religion, it is no surprise that the court rejected it.

Anthropologist Elizabeth Brandt, also in the Apache Survival Coalition, in her counter-statement (1992) in response to the Vatican Observatory Statements, defends the papers which an anthropologist, Grenville Goodwin, wrote some two generations before, in the 1930s, in order to construct those Apache who do not speak Apache and therefore are unable to access sacred knowledge, and those Apache who belong to other religions as being not really Apache. She does not realize that what she writes gives the idea that even if Mt. Graham was really sacred in the past, now it is not such for

most Apache. In fact, she quotes Goodwin when he wrote on material gathered in the late 1930s, and published posthumously, that 'ritual knowledge is found confined largely to those who practice ceremonies. [14] This is more apparent at present, because much of the old culture has passed away'. (44) Unfortunately, there are only two non-native sources on the Western Apache, Goodwin and Basso, neither of whom have yet been submitted to a serious critical revision. Moreover, Basso cannot be relied on when he states: 'The intimation that Apache people would intentionally lie about their own religious knowledge is an anathema'. (45) In fact, he ignores the contingencies of Apache political struggle, dominated by the iron rules of a political machine which is a miniature copy of that of cities like Chicago. On August 31, 1990 the Chairman of the San Carlos Apache Tribe Buck Kitcheyan, in fact, could state: 'Since time immemorial, Mt. Graham has been a sacred mountain to the Apache people. The proposed construction of an astronomical observatory on Mt. Graham threatens to destroy Apache ancestral burial grounds, medicine plants used in sacred Apache ceremonies, and other religious sites' (46). After losing the elections, and under trial (later condemned) for embezzlement and theft, in June 1992 he declared in his testimony: 'To put it to the forefront, and to be blunt, I can safely say with the support of elder medicine people of my tribe, that there is absolutely no religious or sacred significance to Mt. Graham. [14] This project on Graham Mountain would be and will be a contributing factor to benefit the human race on this continent. And I pray the San Carlos Apaches will be a part of it' (47). Mr. Kitcheyan is not a villain, but an average Native American tribal official and politician.

Chicanos Christen their Landscape

It is interesting that during the controversy, the Apache play the part of the "indigenous" rooted to the place. This is a territorializing, arborescent conception of a nation and a culture (although Basso's remark about "sitting" refers more to a dwelling), associated with a powerful sedentarism, as Malkki aptly stresses (48). The Apache are seen in contrast not with the Puebloans and the Pimans, who migrated into the region some time during our Middle Ages, but with the non-Indian Arizonans, whose

ancestors mostly arrived from Mexico at the same time as the Apache came from Alaska. The ancestors of the Mexican Americans and later waves of Latino immigrants were Spaniards and Mexican Indians migrated more or less at the same time as the Apache, mixed up with the local Indian population. Their migration, like that of the Apache bands, was also dotted of miraculous events. For example, Santiago Matamoros, Our Lady of the Rosary, nicknamed La Conquistadora, the Blue Lady, St. Michael, etc., helped the Spaniards in battle; Montezuma, possibly the remembrance of the Aztecs who arrived with Oñate, appeared in many sites of the Great New Mexico, as well as dangerous spirits such as El Diablo and La Llorona. Although most geographical features in Arizona bear Spanish placenames, and Mexican American churches, chapels and shrines mark the landscape, the Mexican Americans, as well as the Nahua, Zapotec, Mixtec and Maya and other Indian immigrants, are not considered as “native” as the Apache. Yet these ‘Latino’ people form most of the 280.000 visitors a year of Mt. Graham, and some are at the head of the University of Arizona, the main cities’ and towns’ and the state’s governments. They are considered as immigrants as the “Anglos” after them, and as such, like Malkki’s refugees, they belong to ‘the aberrant condition of people whose claims on and ties to national soils are regarded as tenuous, spurious, or nonexistent’(49) In this sense, pardon the word play, they soil the national soil, their constructed landscapes are stained morally, and their observatories pollute the biologists’ Mt. Graham bioregion as well as Apache sacred landscape (50).

On the other hand, the Apache Survival Coalition conceptualizes “the” Western Apache as a pure cultural product, forgetting that pure products go crazy (51) in a “world in creolization” (52). Gupta and Ferguson (53) are right when they warn against the conceptualization of the “local” understood as the centred, the natural, the authentic as opposed to the “global”, understood as new, external, artificially imposed, and inauthentic. Leonard (54) has shown, in fact, how immigrant Japanese and (East) Indian agricultural workers have superimposed “Asian” landscapes on rural California. Similarly, non-Indian Arizonans have constructed hybridized, rhizomatic identities for their communities, which “root”

them to the landscape in a way as authentic as that of their Indian neighbours.

The issue about Mt. Graham is neither whether some Apache people’s claims are legitimate nor whether their non-Apache neighbours’ identities are spurious, nor whether scientific truth is superior to religious belief and vice versa. The issue is whether the rights of a minority (however composite, socially and politically, such as the Apache Coalition) may be harmonized with the rights and beliefs of other stakeholders.

“Green” Forests, Islands and Oceans

Commonsense assumptions linking people to place are not simply territorializing but deeply metaphysical, and are conceived in specifically botanical metaphors (55). The Apache activists prefer a rhizome-like web of sacred spots and paths; they are opposed to the telescopes because, they say, they would interfere with their medicine people’s gathering of herbs and plants, and with the path of their prayers to the Mountain spirits.

Although the Mount Graham International Observatory (MGIO) complex occupies only 0.004 percent of the mountain, activist biologists and environmentalists portray Mt. Graham as a spoiled pristine world, when actually it is far from it (56). They usually omit to cite a seventy years’ logging, a 40 mile-long, two-lane highway, two artificial lakes, multiple campgrounds with developed sanitary facilities, two villages of about 100 summer cabins, a Bible camp, two Forest Service workstations, and more than 70 transmitters. Tens of thousands of visitors escape the desert heat in its conifers each year.

These activists rely on a relatively new theory, island biogeography, which endeavours to explain why unique flora and fauna tends to evolve on islands. They contend that Mt. Graham, together with the other two dozens or so “sky islands” dotting the Sonoran desert, evolved on their own since the Ice Age, and their isolation made them much like islands (57). Mt. Graham’s unique and fragile ecosystem would be destroyed by the MGIO. An un-authored on-line article (58) describes the Madrean Archipelago, of which Mt. Graham’s Pinaleno Mountains are part, as a group of sky islands surrounded by a sea of desert grassland, and a treasure chest of biological diversity. Thus, Mt. Graham is a cradle of evolution ecologically equivalent to the Galapagos Islands, desecrat-

ed by both Catholic and secular science. Diagrams of these sky islands show a vertical slice of biosphere, a wart on the global surface of the earth. If one flattens this vertical slice on a horizontal surface, one gets a miniature map, like a patriotic microcosm, of North America, with the Hudsonian boreal spruce-fir forest in the north, and the Mexican desert flora and fauna in the south. It is also the Edenic landscape of North America before Columbus, devoid of human pollution, inhabited only by vegetal and animal life, of which the Apache would be part, according to the illusory images of Green primitivism (59).

Green activists’ landscape is inhuman, and as stranger as a seascape or a skyscape to human life. They do not want to occupy this specific part of the global surface; they want to put it aside, artificially far from human agency. It is a life-size landscape painting.

The Pope’s Telescope

The Vatican finds no conflict whatsoever between the telescope and Apache religious practices or site preservation: ‘This conviction is based on open, public remarks made by Pope John Paul II’. The Vatican’s point of view about land management is clear:

Public lands of this nation [the U.S.A.] are open and available to all religions and all cultures [1/4] We are not convinced by any of the arguments thus far presented that Mt. Graham as a whole possesses such a sacred character that it precludes responsible and legitimate use of the land. Such use has not been precluded in the past; we fail to see why it should be precluded now. Land is a gift of God to be used with reason and to be respected (60).

The Catholic Church had seen the world as a sphere for about a millennium before Copernicus, Galileo, and Newton shattered this image. For the early astronomers, the cosmos was seen to be comprised of a series of hollow and transparent spheres at the common centre of which stood man itself (61). In Dante’s Ptolemaic universe a macrocosm corresponded to this microcosm, and at its centre stood the First Immobile Mover (62). The spheres were supposed to make a music and from the centre of the earthly sphere man could ascend to a higher perception. When the earth ceded its central place to the sun and the First Mover became Newton’s engineer, the Holy See reacted badly.

The Vatican Advanced Technology Telescope (VATT), a joint enterprise of the Vatican Observatory and the University of Arizona, can be seen, physically and metaphorically, as a dome. Ingold (63) argues that we can regard the world as a sphere, and its logical inverse, the globe (and vice versa). It is a dialectical interplay between engagement and detachment, that is manifest in the architectural form of the dome. Coyne, the VATT's Jesuit director, declared that the sacred is beyond this world and the Vatican's telescope is part of an other-worldly religious mission to help humans to know where civilization came from and to find God, or at least to deepen human understanding of God's creation and character (64). In an official Statement of the Vatican Observatory, its Director, George V. Coyne, S.J. affirms the primacy of the Pope's principles:

Just as the Apaches through all this wandering on this continent have always looked to the heavens for guidance as they live the cycles of change, so too, does the Vatican Observatory respect the quest for the discovery of the truths about the universe which God has made. Rather than encroaching on a sacred mountain, the Vatican Observatory sees its role more as mediator than meddler [1/4] We believe that we are making a positive contribution to seeing that their [the American Indians'] rights are fully respected according to the principles enunciated by His Holiness (65).

Another Jesuit director, Christopher Corbally said: 'For us, this project is concerned with God's action in the world. We understand the Creator by understanding what he created. Although the word of God is clear in the Bible, it is filled out by understanding the process of the universe. By putting astronomy before us like a filter, as it were, we see an enhancement of God's action in the world' (66) This is a cosmological, spherical point of view. On the other hand, when Coyne claims that the VATT may enable earthly Christians to communicate and evangelize extraterrestrials (67), he holds a global perspective.

The earth is a platform for a series of hops to the outer space New Worlds, waiting for a new Admiral of the Ocean Sea to be discovered. Albeit Coyne states: 'No mountain is as sacred as a human being,' (68) the scope of the Pope's telescope is the same as in Galileo's times.

An Island of Science

'The candle flame gutters. Its little pool of light trembles. Darkness gathers. The demons begin to stir'

(Carl Sagan, *The Demon-Haunted World: Science As a Candle in the Dark*, 1997).

God and the creation of the universe receive a lot of attention in Stephen Hawking's "A Brief History of Time". As Carl Sagan puts it in his introduction to Hawking's book, it is also a book about God, or perhaps the absence of God, since Hawking's universe is with no edge in space, no beginning and no end, and nothing for a Creator to do.

Secular astronomers portray themselves as people with very little impact on the environment: they work during the night, sleep during the day and move very little around their workplace, the observatory. For a long time astronomy has been seen as a "clean" science, which merely observes the sky. Religious scholar Bron Taylor (1995) has suggested that astronomers view outer space as the ultimate sacred space, partly because it is the place where divine mysteries are still being revealed, through the miracle of astronomical technology. Carl Sagan, for example, albeit an atheist, thought that science was a profound source of spirituality. By contrast, Earth First! sneers at '[...] the telescopic erections protrud[ing] from the side of the mountain that faces their (Apache) reservation. It's not a pretty sight.' They declare the MGIO construction is an 'environmental and cultural jihad' against the Apache and environment (69). Earth First!'s activists, however, celebrated a ribald rave party on the "sacred" Mt. Graham, and quarrelled with their Apache allies. Moreover, these militants' phallic fantasies misunderstand the telescopes' shapes, which indeed are more similar to vulvas and breasts.

The Italian astronomers who work in the MGIO complex, are from Padua and Arcetri, where Galileo lived and worked. In Padua Galileo built his telescope and discovered the satellites of Jupiter; in Arcetri he wrote his famous *Dialogue*. In particular, the mother of Italian astronomy, Arcetri's based scientist Margherita Hack, is a militant atheist. These scientists are very worried by the wave of religious fundamentalism, mostly, but not only, Christian, threatening science and rational thought, especially after the Creationist successful influence on

American schools. They see the observatories on Mt. Graham as an island of science surrounded by a land of harsh and primitive majesty, especially when, 'for every telescope project that proceeds amid the fury of protest, there is a place like Kansas, where legislators relegate the teaching of evolution to the back of the class' (70). Padua and Arcetri astronomers' worldview is very secular; yet, when they look at the depths of the universe, their world is a spherical one. As Ingold (71) aptly puts it, a spherical world 'has properties of both transparency and depth: transparency, because one can see into it; depth, because the more one looks, the further one sees' (72).

Curiously, opponents of the telescopes concentrated their polemic cannonade on the softer target, the Vatican, whose scientific and religious record is not stainless and whose spokespeople were quite awkward in their public relations. Opponents conflated priests and scientists as if they were the same lot of trespassers on the sacred mountain. The Vatican's universe and that of the scientists, however, are very different. Physicist Max Tegmark's point of view on spacetime can give an idea of how a scientist conceive the skies:

Space is not a boring static stage on which events unfold over time, but a dynamic entity with curvature, fluctuations and a rich life of its own [1/4]. Current measurements are consistent with an infinite flat everlasting universe containing about 30% cold dark matter, 65% dark energy and at least two distinct populations of black holes (73).

[1/4] all available data so far is consistent with the simplest possible space, the infinite flat Euclidean space that we learned about in high school. That is in regards to three-dimensional space. The global structure of our four-dimensional spacetime also depends on the beginning and end of time (74).

The description of a professor of Theoretical Physics, Michio Kaku, of Hawking's theory, offers us an apt metaphor of the relation of the scientists' and their opponents' universes:

[1/4]the starting point of Hawking's theory must be an infinite set of parallel universes, the wave function of the universe. Hawking's rather simple analysis, replacing the word particle with universe, has led to a conceptual revolution in our thinking about cosmology [1/4] If we take Hawking seriously, it means that we must begin our analysis with an infi-

nite number of all possible universes, coexisting with one another. To put it bluntly, the definition of the word universe is no longer "all that exists". It now means "all that can exist". [1/4] Hawking's quantum cosmology assumes that the wave function of the universe allows these universes to collide. [1/4] Each universe has its own self-contained time. It is meaningless to say that time passes at the same rate in all these universes [1/4]. (75).

Metaphorically speaking, Hawking's theory of "baby universes", as bubbles in a spacetime universe foam, describe the various conceptual universes in collision as well as the political agendas of the different peoples who have an interest in Mt. Graham.

Landscapes and skyscapes in contest.

Some Apache conflate both conceptualized and constructed landscapes, sacred sites and archaeological ruins within the natural world (76). Earth First!, sexualizes the astronomers' landscape derogatorily; most Arizonans, however, see the MGIO as "an island of science". In this often vicious contest of landscapes, many stakeholders share the belief that the mountain is sacred, although they understand it differently. Moreover, green militants, anthropologists and Apache activists interpret the term "sacred" as "forbidden" (77), but their worldview succeeded only in delaying the construction of the MGIO; in court the non-exclusionary interests of the other stakeholders' "taskscape" (78) got the upper hand.

Yet, astronomers share biospherical and biological imagery with their opponents. In some way the biologists' landscape of sky islands mirrors the astronomers' skyscape of galaxies as islands in a black sea-like space with magnetic currents and solar winds. Marine images pervade astronomical parlance and science-fiction in placenames, and in mission and spacecraft names. Astronomers, however, also see the sky as a forest and the stars as trees (79). Although biologists count in thousands of years and astronomers count in billions, both speak of extinctions, animal or stellar. The organic analogies of Classic and Medieval astrology between the astronomical macrocosm and the human microcosm, with its moral ramifications similar to Apache wisdom in placenames, are mirrored in the zoological *Wunderkammer* of the astronomical sky,

with its Swan's Veil, the Tarantula and the Crab Nebulas, the *Canis* and the *Ursas*, Alpha Centauri, the Hydra, the Draco, and so on.

'At any rate, the primacy of space over time is an infallible sign of reactionary language,' wrote Ernst Bloch in 1932 Germany (80). Moreover, he notes, fencing off cultures breaks up the very process of history, turning them into Gardens of Culture or "Culture Souls". Like trees in a garden, these static cultures are caught in cultural monads with no links among each other (81). In sum, when "indigenous" people are seen closer to the "cultural" roots of a place, and "immigrant" people more as leaves blown off by the wind of history, this arborescent image is easily overlapped by evolutionist trees.

Note

- (1) Weldon Johnson of the Colorado River Indian Tribes, in Gulliford 2000, p.3.
- (2) U.S. Census 2000.
- (3) Olwig 1993, in Layton and Ucko 1999
- (4) Hirsch 1995, p. 23.
- (5) Ucko 1999.
- (6) Ashmore and Knapp 1999.
- (7) Potter 2004.
- (8) Ingold 1995.
- (9) A member of the consortium is the University of Padua, with its Faculty of Astronomy and observatory, where Galileo taught.
- (10) Gulliford 2000, p. 133.
- (11) The first of the many laws and regulations which protect Indian sites is the Antiquity Act of 1906. Since this Act to the National Historic Preservation Act (NHPA 1966), the American Indian Religious Freedom Act (AIRFA 1978) and amendments, to President Clinton's Executive Order No. 13007 (1996), legislators evolved from a constructed landscape stance to a conceptual one. Key elements of the new policy include tribal standards to identify sites, maintaining cultural control of information, and allowing tribes to provide only general, not specific, locations in order to protect confidentiality (Gulliford 2000, p. 120).
- (12) A branch of the National Council of the Churches of Christ and the Unitarian Universalist Association of Congregations.
- (13) Personal communication, Florence 1992.
- (14) Bassett 1992, p. 7.
- (15) Hosmer and O'Neill 2004.
- (16) K. Long, Testimony 1992, original emphasis.
- (17) L. E. K. Long. Handwritten letter, 1992.
- (18) Kinney 1992.
- (19) Bordewich 1996, pp. 235-37.
- (20) According to Freeman (1984) stakeholders include all affecters and affectees of corporate policies and activities, i.e. all relevant interests. I use this term in the most general way.
- (21) Bordewich 1996, pp. 207-209.
- (22) *Ibid.*, p. 210.
- (23) *Ibid.*, p. 221.
- (24) *Ibid.*, pp. 237-238.
- (25) Ingold 1995.

- (26) Kelley and Francis 1994, p. 1.
- (27) Malkki 1997.
- (28) *Ibid.*, p. 57.
- (29) Basso 1996a.
- (30) *Ibid.*, p. 53.
- (31) *Ibid.* p. 2
- (32) *Ibid.* pp. 2-4.
- (33) Carl Sagan 1997, p. 171.
- (34) Martin Ball 2002, p. 474.
- (35) Basso 1996a, 1996b.
- (36) Appadurai, Asad, Bhabha, Ong and others are warned.
- (37) Basso 1988.
- (38) *Ibid.*, p. 122.
- (39) Welch 1997, p. 89.
- (40) *Ibid.*, p. 88.
- (41) *Ibid.*, p. 88. Mt. Graham or the adjacent Santa Teresas, the Mazatzal Mountains or the nearby Sierra Ancha.
- (42) Basso 1996b, p. 31 emphasis added.
- (43) Ball 2002, p. 465 emphasis added.
- (44) Brandt 1942, p. 541.
- (45) Basso 1992, p. 4.
- (46) Kitcheyan, B., Letter to David F. Jolly, Regional Forester, Southwestern Region, U.S. Forest Service, (August 31, 1990).
- (47) Kitcheyan, B., Testimony, June 1992.
- (48) Malkki 1997, pp. 59-63
- (49) *Ibid.*, p. 55.
- (50) See Douglas 1966.
- (51) Clifford 1988.
- (52) Hannerz 1987.
- (53) Gupta and Ferguson 1997, p. 6.
- (54) Leonard 1997.
- (55) Malkki 1997, p. 56.
- (56) The Observatory occupies 8.6 acres of the at least 900 acres spruce-fir forest summit, out of about 200,000 acres occupied by the mountain. Activists claim that the MGIO damages more than 28 endangered species, among them the Apache trout, imported from another area, and the red squirrel.
- (57) Warshall 1995.
- (58) Mount Graham, Sacred Mountain, Sacred Ecosystem, no date, <http://www.environment/Mount%20Graham.htm>, access 1/7/2005.
- (59) Ellen 1986.
- (60) Coyne 1992, p. 7.
- (61) Ingold 1995, p. 32.
- (62) It is no surprise that a theory such as the Big Bang had a powerful effect on Pope Pius XII's mystical imagination in 1951, because it fitted well with the first chapter of the Genesis, although the Vatican now is more cautious about it. In 1950 Pius XII had condemned Darwin's theory.
- (63) Ingold 1995, pp. 41-42.
- (64) Taylor and Geffen 2004, p. 58. These words echo those of Pope John Paul II, which echo Galileo's words when he was obliged to refute his bold theories.
- (65) Coyne 1992, pp. 7-8.
- (66) Bordewich 1996, p. 239.
- (67) Taylor and Geffen 2004, p. 59.
- (68) Coyne 1997, p. 8.
- (69) Horne, E. and R. Beatty, Mount Graham Desecration Continues: Judge Rules Against Apache. *Earth First! Journal* (June-July 2001).
- (70) Bradigan 1999.
- (71) Ingold 1995, p. 37.
- (72) On the other hand, the third and largest telescope (the Pope's eye, as it is called, it is the smallest of the three built so far) of which the Italian consortium owns a 25 percent, the Long Binocular Telescope (LBT), at first was

dubbed Project Columbus, probably because many components were built in Italy, among them the mirrors, and Columbus Day is the day of the Italian Americans. The name was changed after the controversial Fifth Centenary in 1992. The Admiral's name, however, haunts the project also from Columbus, Ohio, where other components were built for the University of Ohio, a member of the consortium. Italians, however, usually prefer Leonardo's name.

(73) Tegmark 2002, p. 1.

(74) *Ibid.*, p. 3

(75) Michio Kaku 2006, original emphasis.

(76) A statement from the San Carlos Apache Tribe (Mount Graham Coalition 2005) declares contradictorily that 'we want the mountain (*Dz'il nchaa si an*) be left natural, the way God created it. The natural world includes archaeology (sic) sites, traditional cultural places, and sacred sites.' They want to stick to the official definition of cultural landscape in a number of U.S. federal laws, regulations, and guidelines. A landscape is defined by the way the land is organized and divided, settled, and used, and the types of structures that are built on it. The most detailed federal policy statement on cultural landscapes appears in the National Park Service *Cultural Resource Management Guidelines* (NPS 1994): a cultural landscape is a geographic area, including both natural and cultural resources, associated with an historic event, activity, or person (NPS 1994, p. 94 in Stoffle et al. 1998). The NPS is the manager of the area occupied by Mt. Graham.

(77) "Devoted exclusively to one service or use (as of a person or purpose)", "Dedicated or set apart for the service or worship of deity" and also "accursed" (Webster's Ninth New Collegiate Dictionary 1983).

(78) Ingold 1993.

(79) Solar Empire, A Star Was Born. A *Discovery Channel* documentary (2/7/05).

(80) Bloch [1932] 1962, p. 322, in Fabian [1983] 2002, p. 37.

(81) Basso's ethnography on *The Western Apache* is typically in the ethnographic present, surgically "purified" of any hint of modernity.

References

- Ashmore, W. and A.B. Knapp, (eds.), *Archaeologies of Landscape*, (Oxford: Blackwell, 1999).
- Ball, M., 'People Speaking Silently to Themselves', in *American Indian Quarterly* (26 (2002):460-478).
- Bassett, C.A., *Fighting for the Heavens*, in *Tucson Weekly* (April 22, 28, 1992, pp.6-8).
- Basso, K.H., "Speaking with Names": Language and Landscape among the Western Apache, in *Cultural Anthropology* 3(1988):99-130.
- Transcript: Statement of Dr. Keith Basso, Professor of Anthropology, University of New Mexico, To the University of Arizona Faculty Senate and the Arizona Board of Regents at the University of Arizona, Tucson, Arizona (March 27, 1992).
- *Wisdom Sits in Places*. Notes on a Western Apache Landscape, in S. Feld and K. H. Basso (eds.), *Senses of Place*, (Santa Fe: School of American Research Press, 1996a)
- *Wisdom Sits in Places*. Landscape and Language among the Western Apache, (Albuquerque: University of New Mexico Press, 1996b).
- Belvado, W., Testimony, (June 1992).

Bordewich, F.M., *Killing the White Man's Indian. Reinventing Native Americans at the End of the Twentieth Century*, (New York: Doubleday, 1996).

Bradigan, B., *Summit Meeting: Past, Future Merge on Mountain*, in *Eastern Arizona Courier* (Aug. 18, 1999).

Brant, E.A., *Response to the Statements of the Vatican Observatory On the Mount Graham International Observatory and American Indian Peoples; and Statement on the Mount Graham International Observatory (MGIO), The Ecology of the Pinaleno Mountains, and Related Political Issues*, (May 5, 1992).

Clifford, J., *The Predicament of Culture. Twentieth-Century Ethnography, Literature and Art*, (Cambridge: Harvard University Press, 1988).

Coyne, G. V. s.j., *Statement of the Vatican Observatory on the Mount Graham International Observatory and American Indian Peoples*. (Castelgandolfo: Vatican City State, Original on 5 March 1992. Revised on 21 June 1992.)

--- *Statement of the Vatican Observatory on the Mount Graham International Observatory and American Indian Peoples*. (Original on 5 March 1992. Last Revised on 8 May 1997. <http://clavius.as.arizona.edu/vo/R1024/indian.html>)

Davis, Cassadores, O., *Personal communication*, (Florence, Italy, 1992).

Douglas, M., *Purity and Danger. An Analysis of Concepts of Pollution and Taboo*, Harmondsworth: Penguin Books, 1966.

Fabian, J., *Time and the Other. How Anthropology Makes Its Object*, (New York: Columbia University Press, 2002 [1983]).

Freeman, R.E., *Strategic Management: A Stakeholder Approach*, (Boston: Pitman, 1984).

Gulliford, A., *Sacred Objects and Sacred Places. Preserving Tribal Traditions*, (Boulder: University of Colorado Press, 2000).

Goodwin, G., *The Social Organization of the Western Apache*, (Chicago: University of Chicago Press, 1942).

Gupta, A. and J. Ferguson, *Beyond "Culture": Space, Identity, and the Politics of Difference*, in A. Gupta and J. Ferguson (eds.), *Culture Power Place. Explorations in Critical Anthropology*, (Durham: Duke University Press, 1997).

Hannerz, U., *The World in Creolisation*, in *Africa* 57(1987):546-58.

Hirsch, E., *Introduction. Landscape: Between Place and Space*, in E. Hirsch and M. O'Hanlon (eds.), *The Anthropology of Landscape. Perspectives on Place and Space*, (Oxford: Clarendon Press, 1995).

Horne, E. and R. Beatty, *Mount Graham Desecration Continues: Judge Rules Against Apache*, in *Earth First! Journal* (June-July 2001).

Hosmer, B. and O'Neill, C., *Native Pathways: American Indian Culture and Economic Development in the Twentieth Century* (with a foreword by Donald L. Fixico). (Boulder: University of Colorado Press 2004).

Kinney, N.J., Testimony, (June 1992).

Ingold, T., *The Temporality of the Landscape*, in *World Archaeology* 25(1993):152-173.

--- *Globes and Spheres. The topology of environmentalism*, in K. Milton (ed.), *Environmentalism. The View from Anthropology*. (London: Routledge, 1995).

Kaku, M., *Wave Functions of the Universe(s)*, in http://www.geocities.com/CapeCanaveral/Hangar/6929/h_kaku2.html?200621 Access Feb. 1, 2006.

Kelley, K.B. and H. Francis, *Navajo Sacred Places*. (Bloomington: Indiana University Press, 1994).

Kitcheyan, B., *Letter to David F. Jolly, Regional Forester, Southwestern Region, U.S. Forest Service*, (August 31, 1990).

--- Testimony, (June 1992).

Layton, R. and P.J. Ucko, *Introduction: Gazing on the Landscape and Encountering the Environment*, in P.J. Ucko and R. Layton (eds.), *The Archaeology and Anthropology of Landscape. Shaping Your Landscape*, (London: Routledge 1999).

Leonard, K., *Finding One's Own Place: Asian Landscapes Re-visioned in Rural California*, in A. Gupta and J. Ferguson (eds.), *Culture Power Place. Explorations in Critical Anthropology*, (Durham: Duke University Press 1997).

Long, K.K., Testimony, (June 1992).

Long, L.E.K., *Letter*, (June 2, 1992).

Malkki, L., *The Rooting of Peoples and the Territorialization of National Identity among Scholars and Refugees*, in A. Gupta and J. Ferguson (eds.), *Culture Power Place. Explorations in Critical Anthropology*, (Durham: Duke University Press 1997).

Mount Graham Coalition, www.environment.mount20graham%20coalition.htm Access Feb. 6, 2005.

Olwig, K.R., *Sexual Cosmology: Nation and Landscape at the Conceptual Interstices of Nature and Culture: or, What Does Landscape Really Mean?*, in B. Bender (ed.), *Landscape: Politics and Perspectives*, (Oxford: Berg 1993).

Potter, J.M., *The Creation of Person, the Creation of Place: Hunting Landscapes in the American Southwest*, in *American Antiquity* 69(2004): 322-340.

Sagan, C., *The Demon-Haunted World: Science As a Candle in the Dark*, (New York: Ballantine Books, 1997).

Stoffle, R.W., D.B. Halmo, and D.E. Austin, *Cultural Landscapes and Traditional Cultural Properties: A Southern Paiute View of the Grand Canyon and Colorado River*, in *American Indian Quarterly* 21(1998):229-248.

Taylor, B., *Resacralizing Earth: Pagan Environmentalism and the Restoration of Turtle Island*, in D. Chichester and E. Linenthal (eds.), *American Sacred Spaces*, (Bloomington: Indiana University Press 1995).

Taylor, B. and J. Geffen, *Battling Religions in Parks and Forest Reserves: Facing Religion in Conflicts over Protected Areas*, in *The George Wright Forum* 21(2004):56-68.

Tegmark, M., *Measuring Spacetime: From Big Bang to Black Holes*, in *Science*, 226(2002):1427-1433. and <airXiv:astro-ph/0207199 v1 10 Jul 2001> Access Jan. 8, 2006.

Warshall, P., *The Madrean Sky Island Archipelago: A Planetary Overview*, in DeBano, L.F, P. F. Ffolliott, A. Ortega-Rubio, G. J. Gottfried, R. H. Hamre, and C. B. Edminster, technical coordinators., *Biodiversity and Management of the Madrean Archipelago: The Sky Islands of Southwestern United States and Northwestern Mexico*. Sept. 19-23, 1994, Tucson, AZ. Gne. Tech. Rep. RM-GTR-264. (Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station 1995).

Welch, J. R., *White Eyes' Lies and the battle for Dzil Nchaa Si'an*, in *American Indian Quarterly* 21(1997):75109.