

On the Cultural Ecology of Sky Burial on the Himalayan Plateau

by DAN MARTIN

Introduction

Some years ago it was announced that a consortium of morticians and marketers had contracted with the National Aeronautics and Space Administration for the use of their Conestoga Two booster to launch space capsules, each containing over five thousand cremated bodily remains, into orbit. The first 'space burial' launching was scheduled for 1986 or early 1987 (Conestoga 1985: 20-21). This is not what we intend to discuss under the term 'sky burial', even if there are some intriguing similarities given the differences in technologies. By 'sky burial' we mean the deliberate, culturally countenanced, exposure of human corpses to carrion birds. This practice has strictly speaking been known only in Tibet, among the Zoroastrians in Persia and in two Parsi communities of modern India (but there may be some arguments for north Asian and Native American practice, and the method has occurred, though less commonly, in Thailand and Korea, according to Rockhill 1895: 729). It is our present task to trace the history of sky burial as one of several methods of corpse disposal used in Tibet; secondly, to attempt to determine if the Tibetan custom originated in Persia through a comparative method. Thirdly, we will discuss the ecological causes and consequences of the practice. Finally, we will explore a possible cultural concomitant of sky burial on the level of religious ideas. Each of these four approaches to the subject, all of them fallible and subject to debate among contemporary theorists, have particular, even if partial, insights to offer, although they may not be conclusive in equal degree. We may hope that future studies on this subject will achieve a greater level of sophistication, especially in accounting for local variations in funerary practice on the Himalayan plateau (see Losel 1991, for an example of the kinds of studies of local practice that need to be done).

I. Tibetan Sky Burial in Historical Perspective

While Tibet's literarily verifiable history began in about 640 C.E., traditional legends of royalty seem to extend back to the first century B.C.E., and Chinese

archaeologists have recently pushed the earliest human habitation of Tibet as far as 10,000 years (Zhang 1981: 13; Yang 1987). The Italian Tibetologist Giuseppe Tucci (1973: 50-56) has described many archaic grave sites, most of them hand-hewn from the rock and covered with stone slabs, some in stone shafts, and others in pottery jars. The Imperial Period (c. 640-842 C.E.) tombs of the Tibetan Emperors were huge burial mounds, still standing in the Chonggye ('Phyongs-rgyas) Valley, although already plundered at the beginning of the 10th century. These tombs, and funerary practices related to them, have been well studied (Hoffmann 1950; Tucci 1950; Lalou 1952; Richardson 1962; Haahr 1969; Tucci 1973: 61-64; Reb-gong 1987; Panglung 1988; Chu 1991) and do not so much concern us here, as they were limited to royalty. Indeed, we could find very few local Tibetan-language sources, starting from the 17th century, for general information on the ways Tibetans buried ordinary people. Funerals of Buddhist saints and scholars, starting from the 10th century, are often described. Saints were almost always cremated with great ceremony, but also occasionally embalmed (see Uebach 1981 for a study of a recent Tibetan work on embalming methods). This has remained standard practice, at least until 1959, in Tibet, but we are rather in the dark about the early history of ordinary burial practices.

A Tibetan astrological/astronomical work first published in 1685 gives the oldest local description we could uncover for burial customs in general, including those for ordinary people. In this work by the Tibetan Regent (the *Sde-srid* was political leader of Tibet) Sangye Gyamtso (Sangs-rgyas-rgya-mtsho), we find a gradation of burial rites according to the social importance of the deceased. For the high cost funerals, starting with the most expensive, the order is as follows:

1. Religious teachers.
2. Kings and high nobles.
3. Ministers.
4. Wealthy persons.
5. Soldiers.
6. Fathers with many sons. (Sde-srid 1972: II 96).

There are some twelve grades of low cost and 'commission cost' funeral services for commoners listed. We find in the same place a hierarchy of burial methods. Kings should not be cremated, but placed in a mausoleum. Ministers may be cremated. Learned religious scholars should be cremated with sandalwood (which needed to be imported from India), and their remains placed in reliquaries called chortens (*mchod-rten*). Ordinary monks should be cremated with fir wood. Their ashes should then be mixed with clay, made into clay memorial plaques called *tsha-tsha*, and placed in a chorten. Scribes may be cremated or exposed. Woodcarvers and tailors should be buried. For present purposes, the most interesting fact is that the only term employed in this texts for 'exposure' or 'sky burial' is *rir skyel*, which means, literally, 'to carry to the mountain'. In fact, we have never encountered a phrase in Tibetan

corresponding to 'sky burial', a term which perhaps entered into the western ethnographical literature through the medium of Chinese or Manchu interpreters.

This needs more study, of course. One Tibetan informant (Combe 1975: 93-94) claimed that a Chinese General Yo (who lived from 1686-1754) introduced the custom of exposing corpses to vultures, convincing Tibetans of its moral superiority to burial. We know from a travel diary kept by the Jesuit missionary Desideri between the years 1712 and 1727 that exposure to hungry animals was then the most usual form of corpse disposal, and he cites an earlier work (*China Illustrata* by Athanasius Kircher, published in 1667) to the same effect (Desideri 1971: 195; see also Wessels 1992: 263-64). Samuel Turner, in his travels to Tibet in the latter part of the 18th century, also reported that the common subjects were 'carried to lofty eminences, where, after having been disjointed, and the limbs divided, they are left a prey for ravens, kites and other carnivorous birds'. Less frequently, bodies were thrown into the rivers. 'Burial', he adds, '[...] is altogether unpracticed' (Turner 1800: 317, he is mistaken, since earth burial is the one type on which we have literary as well as abundant archaeological evidence). These testimonies make it extremely unlikely — indeed, the evidence from works of 1667 and 1685, among other evidence, make it impossible — that exposure was introduced into Tibet by a Chinese in the first half of the 18th century. There is a kind of poetic justice in the idea, in that Chinese always buried their dead (cremation has only recently been widely promoted in China) and sky burial they view as a deciding trait of Tibet's cultural otherness.

One nearly contemporaneous account of events that took place in 1792 refers to sky burial under the phrases *phung-po bya gtor*, 'scattering the body [to the] birds', and *bya khyir ster-ba*, 'to give to birds [and] dogs'. The Tibetan cabinet minister Rdo-ring Pandita had, during his life, expressed the opinion that scattering the body to birds was a virtuous act of generosity. Nevertheless, when he died in 1792, the Manchu generals could not accept this kind of burial for him, because, 'for Chinese customs, this cutting of the body and scattering it to the birds is as extremely improper as wife-burning is [to we Tibetans]'. Out of deference to the Manchu generals, who had fought on Tibet's behalf with the Gurkhas of Nepal, Rdo-ring Pandita was cremated, but with the offerings to the deceased made in the Chinese way (Rdo-ring 1987: 840-41).

In fact, immediately after Rdo-ring Pandita's death, the Manchu court in China did its best to do away with the Tibetan practice of sky burial, and an edict was issued by the imperial throne in 1793 which might have abolished the practice, that is if Tibetans had paid attention to it. Notices to the following effect were posted in Tibet:

In order to re-affirm the respect for the relationship between family members and to improve social customs, the carving up of the remains of the dead shall be strictly forbidden. Every human being is as much indebted to his parents for his upbringing as he is to the sky and the earth. So one should support one's parents and bury them in the earth after they have died [...]. It is a long established custom in Tangut [i.e., in Tibet] that after a person has died, his remains are carved up and fed to vultures

or dogs [...]. Sometimes the remains are even chopped up and mixed with barley flour as food for vultures or dogs. These are bestial practices. (Qu 1990: 157-58; a Tibetan-language version of the edict is found in Chab-spel 1991: 254-55).

Those who dared to disregard the edict and buried their parents in the traditional Tibetan way were threatened with death by 'slicing their bodies into small pieces' (Qu 1990: 158), and anyone who watched the sky burial or encouraged it would also be put to death. History has proven that Tibetans took little or no heed of these notices, and for quite cogent reasons — as we will see — even though a few fastidious public officials did make some effort to impose burial in public cemetery plots (Qu 1990).

Our oldest sources for sky burial have been saved for the last. The following is from the early 14th-century traveller Friar Odoric (1286-1331).

Suppose such an one's father to die, then the son will say, 'I desire to pay respect to my father's memory', and so he calls together all the priests and monks and players in the country round, and likewise all the neighbors and kinsfolk, and they carry the body into the country with great rejoicings. And they have a great table in readiness, upon which the priests cut off the head, and then this is presented to the son, and the son and all the company raise a chant and make many prayers for the dead. Then the priests cut the whole of the body to pieces, and when they have done so they go up again to the city with the whole company, praying for him as they go. After this the eagles and vultures come down from the mountains, and every one takes his morsel and carries it away. Then all the company shout aloud, saying, 'Behold! the man is a saint. For the angels of god come and carry him to paradise'. And in this way the son deems himself to be honored in no small degree, seeing that his father is borne off in this creditable manner by the angels. And so he takes his father's head and straightway cooks it and eats it, and of the skull he maketh a goblet, from which he and all the family always drink devoutly to the memory of the deceased father. And they say that by eating in this way they show their great respect for their father. (Rockhill 1895: 728).

With sincere apologies to Tibetans who know that this is a false portrayal of their funeral practices, nevertheless it may be important, historically speaking, to separate the wheat from the chaff. The reference to cannibalism should certainly not be taken at face value. It is merely hearsay, as Rockhill (1895: 727-28) long ago pointed out. In 1253-55, William of Rubruck had, during his travels in Mongolia, received second hand information that in Tibet people were 'in the habit of eating their dead parents, so that for piety's sake they should not give their parents any other sepulchre than their own bowels' (Hodgen 1971: 94). Without giving any credence to any of the traveller's tales of cannibalism, these stories may represent, in however distorted a manner, an originally accurate account of sky burial that was changed in the retelling. The bowels, however, were undoubtedly the birds.

We should note that one modern Tibetan writer (Reb-gong 1987: 111) argues, in a spirit of evolutionistic rationalization, that the very first Tibetan emperors, who

formed a group called the Seven Thrones of the Sky (Gnam-gyi Khri Bdun), since by all accounts they did not leave any physical remains to be buried, must have been exposed to vultures on the high mountains. The traditional account tells us that these kings dissolved into space in 'rainbow bodies' (*'ja'-lus*) or ascended a 'sky-rope' (*dmu-thag*). This would seem to place sky burial back to the first centuries B.C.E. While the argument is plausible, we cannot immediately accept it in lieu of explicit evidence. More intriguing is the same author's statement about how subsequent emperors were given water burials, as well as his argument that 'fire burial' or cremation was introduced to Tibet only in the eleventh century by the visiting Indian teacher Pha-dam-pa Sangs-rgyas (on whom more below). If the latter is true, then cremation would have been a direct Tibetan borrowing from India.

To sum up the historical evidence, we have to admit that we do not know when sky burial began in Tibet. Our earliest source is an inaccurate account from a European traveller of the 14th century. Because of the nature of the practice, archaeological finds are probably incapable of providing evidence. Early Tibetan works from the Imperial Period and the period from 1000 to 1500 C.E. have, so far as we have been able to discover, nothing to say on the practice, since they only describe the interments of saints and kings, not of common people. It is entirely possible that more research, especially in Tibetan language sources, will reveal a much earlier verifiable date for the custom.

II. *In Comparative Perspective. Zoroastrian Parallels*

The fact that sky burial as such is a cultural trait shared by Tibet and Zoroastrian Iran has sometimes been noticed (Modi 1914; Stein 1972: 202). There can be no doubt about the antiquity of the Iranian practice; Herodotus, Strabo, Cicero and many other classical sources have attested it (Louis Gray in Hastings 1961: IV 502; Duchesne-Guillemin 1973: 80-81). Some scholars have pointed to Tibeto-Iranian parallels in beliefs about the afterlife (Hoffmann 1973: 98-99; Tucci 1980: 195; but arguments for Iranian origins of Tibetan myths and practices have been judiciously criticized in Kvaerne 1987), and one Parsi scholar has already done, in some degree, what we propose to do, although approaching the subject from different interests and perspectives. (Modi [1914: 353, 368] believes that Tibetans and Iranians once lived side-by-side somewhere in Central Asia. The parallels in funerary practice are taken as evidence of this. Aspects of Tibetan practice objectionable from a Zoroastrian point of view are 'relics' of this early period, while peculiarly Zoroastrian practices are, to the contrary, seen as 'improvements'. Even with these assumptions, Modi's work is still the single most valuable article on the subject, and should be consulted directly. Less valuable, but notable for its drawings, is Horne 1872-73). We will assume that if the custom of sky burial was in fact borrowed from the Iranian world, then other characteristically Iranian funerary customs should have accompanied it. We prefer

to overlook abstractions and priestly rituals (on the latter, see especially Kværne 1985) and compare only the physical actions that transpire between death and interment, especially actions that relate directly to the handling of the corpse. We have compiled the following outline of Zoroastrian observances by comparing Kotwal (1982: 76 ff.), Masani (1962: 99-103) and Duchesne-Guillemin (1973: 78-79).

0. A drink of consecrated Hôm, or pomegranate juice, is administered to the person on the point of death (this custom not currently in use).
1. The corpse is washed and dressed in used, but clean, white clothes.
2. A sacred thread is tied around the body while a verse is recited.
3. The corpse is laid on a stone slab, on a circle of gravel, or in an excavated spot inside the house. This spot remains impure for nine days after the corpse is removed. Circles are traced in the ground around the corpse to 'isolate' it. One lamp fueled by clarified butter is lighted.
4. The hands are folded crosswise on the chest.
5. The corpse is shown to a dog with two 'eye-like spots' above its eyes. If any life remains in the body, it is believed that the dog will refuse to look at it.
6. A fire is lit and kept burning, with readings from scriptures, until the corpse is removed from the house.
7. Corpse removal must be done in daylight, on a sunny day.
8. The corpse is covered, leaving only the face exposed.
9. Corpse bearers, who must work in pairs, place the body on a bier which must be made of iron.
10. Mourners view the body.
11. The face is covered with a cloth.
12. The body is strapped to the bier with cloth strips. A second pair of corpse bearers takes over.
13. Those who accompany the funeral procession as well as the pallbearers must walk in pairs, holding a piece of cloth called *paivand* between them.
14. Silence must be kept during the procession.
15. The procession arrives at the Tower of Silence (*Dakhma*). Before entering, the face is uncovered and the corpse is shown to the dog for the last time.
16. Entering the Tower, the first pair of pallbearers deposit the corpse inside. They tear off the clothes and deposit them in a deep well.
17. Any bones, etc., not devoured by the birds are later deposited in a deep pit designated for that specific purpose.

The Tibetan observances are now listed by comparing Norbu (1974: 46-50), Waddell (in Hastings 1961: IV 509-11), and Sangay (1984).

0. Water mixed with consecrated pellets is administered to the dying person.
1. The corpse is bathed, the orifices stopped up with butter.
2. The corpse is bound up in 'fetal position' and completely covered with cloth.
3. The corpse is placed on a platform of bricks in a corner of the house. A curtain is drawn around it.

4. A number of butter lamps (sometimes the number five is mentioned) are kept burning near the corpse.
5. Any food or drink consumed within the house must first be symbolically offered to the deceased.
6. The corpse is removed from the house at early dawn (pallbearers numbering one to four).
7. Usually, a box or square table inverted (with carrying poles attached) is used for a bier.
8. An 'initiation string' is tied around the neck of the corpse and a 'crown' placed on the head. (These are later returned to the family).
9. The bier is carried at the tail end of the funeral procession. A priest 'leads' the corpse with one end of a long white scarf (*kha-btags*) held in his left hand (the other end tied to the bier).
10. Brought to a level rock shelf in a high place set apart for the purpose, the corpse is stripped, the flesh sliced. After the flesh is devoured by the vultures, often the bones are pulverized and mixed with barley flour. This is then also consumed by the birds.

It is not sufficient simply to isolate those facets of the two systems of funeral practice that seem similar. It is necessary at least to eliminate as far as possible similarities that could be attributed to Indian influence on Tibet. Where Tibetans administer holy water and Persians consecrated Hôṃ, Hindus give the 'five products of the cow'. In all three cultures, as also in Catholic Christianity, a consecrated or holy substance is placed in the mouth of the dying person. The burning of vigil lamps, the washing and clothing of the corpse, and the use of biers in the funeral procession are fairly universal in Indian, Iranian and Tibetan funerals. The specific instances in which the Hindu practices contrast with Tibeto-Persian parallels are the following:

1. Hindus lay the corpse after death directly on the ground inside the house. Tibetans and Persians take great care to place the corpse on a platform of stone, brick, etc., never directly on the ground. Tibetans and Persians also take great care to isolate the corpse, symbolically or otherwise.
2. The use of white cloths called *paiwand* in Parsi and *kha-btags* in Tibetan has no parallel, as far as we know, in Indian funeral processions. While usages and rationales differ, both have uses in their respective cultures which are distinct from their use in the funeral procession. *Paiwand* means 'connection' or 'bond' and is employed in a large number of ritual contexts to signify the bonds which bind the Parsis into a community. The *kha-btags*, in terms of its etymology, may mean 'tied mouth' and hence 'agreement', or 'woven surface'. *Kha-btags* are used by Tibetans in most social occasions, in personal visits, visits to temples, rituals, appointments with officials or high lamas, and so on. It always accompanies gifts and one is always presented to a departing friend or guest. (This resemblance of *paiwand* to *kha-btags* was noticed in Modi 1914: 337).

While it would be premature to draw from this data any definite conclusions, since there are yet other possible avenues for cultural influences, most notably China and North Asia, we may have succeeded in making it seem rather likely that the Tibetan practice resulted from contact with areas of Zoroastrian culture. This simply requires more study and thought.

III. *A Case for Sky Burial as an Adaptive Response to Himalayan Habitat*

The general assumptions, the ethnological generalizations, that lie behind the following considerations reflect those of Sahlins (in Manners & Kaplan 1980: 367-73): 1) That the relationship obtaining between socio-cultural systems and their natural environments is one of reciprocity. The two mutually condition and 'form' each other over time. Neither unilaterally determines the other. 2) That 'societies are typically set in fields of cultural influence as well as fields of natural influence' (*ibid.*: 368), and that often information available from outside any particular socio-cultural system defines the range of possible adaptive responses. This is not to deny possibilities for the internal development of adaptive responses. Indeed, this is presumed. The information, if exogenous in its origins, becomes quickly internalized and therefore tends to merge with indigenous ideas and practices which already, in some degree, fit with the newly introduced idea or practice. We would argue further that the adoption of exogenous ideas and practices depends in part precisely on the receiving culture's perception of those ideas as being *not too* exotic. Sky burial provides a good example of something that would likely prove too exotic for, say, Chinese or Americans to even consider adopting, and this regardless of the adaptive value of doing so.

Despite or because of the preceding considerations, it will be convenient for the sake of the following arguments to adopt, if only for temporary and heuristic purposes, the thesis that sky burial among Tibetans is a cultural fact which, disregarding any results of the preceding historical approaches, was determined by certain features of the natural ecology of the Tibetan plateau. These factors, which will be individually discussed, are the following. Each tends to factor out, although not entirely, other possible ways for disposing of corpses.

1. Shortage of arable land or, more generally, a dearth of land available for excavation (i.e. burial).
2. Shortage of fuel resources (lumber), or a dearth of fuel for any purpose (heating, construction, etc.), hence the high ecological cost of cremation.

Population is a very important third factor, since both shortages may be such only with reference to a subject that experiences those shortages. Thus, population is a key to the whole question. Did population pressures reach a point at which the widespread adoption of sky burial would have become a necessary adaptation? To

address this question properly, it would be desirable to have reliable demographic data for the entire period of Tibetan history (starting about 640 A.D., if we neglect archaeological finds). The available data is not only very limited, but also highly problematic for reasons that will become clear.

There have been a few articles dealing with Tibetan demography diachronically (Ekvall 1972; Petech 1980; Anderson 1981; Goldstein 1981a, 1981b; Clarke 1988). Of these studies, Anderson especially deals with political motivations behind the population controversy, the terms of which may be illustrated through an example Anderson draws from the New China News Agency stating that there were 'ten million Tibetans in the year 634, 8 million in 1737 and 1.19 million in 1959' (Anderson 1981: 7). These and other similar figures have been advanced as proof that the traditional culture was so oppressive, even suicidal, that it 'needed' liberation by the Chinese People's Liberation Army in the 1950's.

Ekvall (1972) follows this thesis that Tibetan population underwent decline through its history giving, however, no specific demographic data to support it. Consequently, he does not take a critical view of his (unnamed) sources for the idea that there was, actually, a decline. He only gives descriptions from his own on-the-spot observations in Eastern Tibet which, he believes, illustrate social and ecological reasons why there *should* have been a decline.

Goldstein has pointed out in two articles (1981a: 6 ff.; 1981b: 722 ff.) how dubious a procedure this is. Goldstein argues instead that there was probably a fairly steady increase of about 0.21 *per annum* (1981: 734). He supports this with his own small-scale (and short-term) demographic studies of Tibetan cultural groups on the edges of the Tibetan plateau (Ladakh and Nepal).

Perhaps the best way to comprehend this problem is to tabulate the various figures given by Anderson and Goldstein. Those which represent adjusted estimates by the respective authors (which they accept as probably correct) are asterisked (*) and the geographic area covered is noted if it represents only a part of the entire Tibetan plateau (the plateau roughly corresponds to the area of cultural/linguistic Tibet). A question mark (?) following the number means that the geographic area was not well specified.

<i>Date of census or estimate</i>	<i>Anderson</i>	<i>Goldstein</i>
7th century		6 million (?) (1981b: 722).
634 A.D.	10 million (?) (According to Chinese dynastic annals — 1981: 7).	
1268 (Mongol census)	223,000 (Central & W. Tibet). Petech (1980) agrees with this figure.	215,000 (Central Tibet excluding monks as well as E. & W. Tibetan populations). 1 million* (?) (1981b: 734).
1643	Tibetan government census taken for W. Tibet (no figures available).	

1663	Survey of monasteries by Tibetan government estimates 1800 monasteries with 100,000 monks and nuns.
1737	Manchu census: 852,162 (?) laypersons and 316,200 (?) monks (1981: 8).
1891	Over 2,000,000 (Rockhill calculated on amount of tea imported to Tibet from China! — 1981: 9). Elsewhere, Rockhill estimated 3,500,000* and 2,000,000 (area then governed from Lhasa).
1908	Over 6 million* (Manchu estimate for ethnic Tibetans).
1915	3,900,000 (area then governed from Lhasa).
1950	3 million* (area then governed from Lhasa — 1981b: 734).

We may add to this figures from (or based on) modern Chinese sources for the area known as the Tibetan Autonomous Region (TAR) or by the Chinese name Xizang. This area excludes areas of high ethnic Tibetan population now contained within the provinces of Chinghai and of western Szechuan.

1957	1,270,000 (official estimate — <i>World Atlas</i> 1973: II, 93).
1965	1,400,000 (official estimate — <i>World Atlas</i> 1973: II, 93).
1974	1,400,000 (total according to official estimate — C.I.A. 1979: 15).
1975	1,600,000 (not including 200,000 Han Chinese — C.I.A. 1979: 15).
1976	1,700,000 (not including 125,000 Han Chinese residents — C.I.A. 1979: 15)
1983:	about 1,754,000 (Tibetan nationality only; Chinese, etc. excluded — Sun 1983: 144).

It seems the only reasonable conclusions that may be made from this chaotic body of data (estimates based on numbers of monks were not noted, or the picture would be even more complicated; see Anderson 1981: 10-12) are those of Goldstein. There can be no doubt that the 7th century estimates are grossly exaggerated. They are based on the reported size of the Tibetan army. As Goldstein notes (1981b: 722), one Tibetan chronicle speaks of an army of 14 million cavalrymen. The inflated early figures may be dismissed as sheer hyperbole. The Mongol census of 1268, however, deserves serious consideration. It recorded (for tax purposes) a total of 36,031 households at a stated average of six household members, yielding a total of about 216,000. This figure only covers the area of Central Tibet (Dbus and Gtsang Provinces) and Goldstein plausibly speculates on this basis that the entire area of cultural Tibet must have contained a number 3 or 4 times higher, or about 1 million (1981b: 734). Keeping in mind that Goldstein, like other sources, does not very precisely define the geographic limits for his population figures, and that there may have been significant shifts in the areas of population density since that time, we may still agree with his

conclusion that a 1268 population of one million would require a rather low annual population increase of about 0.21 (1981b: 734). More serious reservations concern his choice of figures. Why did he not choose the 1908 or 1915 estimates? The number of 6 million is still commonly given by Tibetans as the total number of ethnic Tibetans now in the area of the Tibetan plateau. What figure are we then to believe?

There is a further mystery if we go from the figures given for the first half of the 20th century to the more recent figures from Chinese sources. Possibly the reduction of population from a minimal 3 million in the years 1900-1950 to the 1,270,000 given for 1957 is to be explained by the fact that large and more densely populated areas of Tibetan language and culture in the east were absorbed into surrounding Chinese provinces. But it is also possible that the radical drop reflects high mortality rates resulting from the Chinese invasion of Tibet which began in 1949, culminating in the unsuccessful revolt of March 1959, and followed by the excesses of the 'Cultural Revolution' in the mid-60's. Since today the Chinese are officially admitting the very high mortality rates during the Cultural Revolution, one wonders why it is not reflected in the Tibetan population figures. One gets the impression that the figures were simply adjusted upward every several years with some thought, but with little or no actual census-taking. Numbers of Han Chinese military, service and labor personnel are not normally included in these estimates even though their numbers could have been counted more easily. When given, we see that their number seems to have dropped by 75,000 in one year (!). In short, we may use Chinese estimates for Tibetan population, but only with the understanding that they surely have not been based on any real census for either the TAR or the much larger area of ethnic Tibet. For present purpose, it is only important to stress that previous claims that there was a steady decline in Tibetan population over the 1200 years preceding this century are not solidly based. We may, on the contrary, assume with Goldstein, that traditional Tibet, like premodern societies generally, had a high infant mortality rate which was compensated by a slightly higher rate of fertility resulting in a low average annual rate of population increase.

Since we have fairly well established that Tibetan population increased over time, we may make a case for the idea that population pressure produced shortages in the already very limited amounts of arable land and fuel resources. Some modern studies by the Academia Sinica and others have supplied the following figures. Of the 1,221,000 km² in the TAR, only 267,000 hectares (or 26,700 km²) were under cultivation in 1957. This represents only 0.2 percent of the total land area, and this percentage holds good also in the 1970's. This is the lowest percentage in all of the PRC (*World Atlas* 1973: II, 93 & 99). Only on land below 4,300 m in elevation is agriculture climatically possible and 88.43 percent of the land in the TAR is above that level (Sun 1983: 145). Other studies have estimated that 0.48 percent of the total area of the Tibetan plateau (a much larger area than the TAR) is cultivated (Li 1980 in Goldstein 1981a: 6). Goldstein has characterized the plateau

as environmentally encapsulated. By this he means only in terms of agriculture, *not* of pastoral nomadism, to quote his own words:

Encapsulation refers to a situation in which the potential for increased production of energy by agricultural exploitation of new areas and by internal intensification of production is virtually nil. (Goldstein 1981a: 6).

We may say that the most excavatable soil which could therefore serve most easily for burial purposes was at a premium in Tibet. This does not rule out other burial sites, however. To complete the picture, we must recognize that most of the remainder of available land outside the arable river valleys was rock. Much of the ground still remaining out of the 88.43 percent located at altitudes unsuitable for cultivation was frozen for much of the year. The number of frost-free days on the plateau ranges (depending on altitude) from 45 to 130 days per year (*World Atlas* 1973: II, 84).

For the scarcity of trees in Tibet, we have the 18th century testimony of Desideri. He says,

The mountains, with few exceptions, are so bare and stony that no trees or shrubs can grow. Only where there is a little cultivated land are there trees. (Desideri 1971: 121, and also 352).

Wood is used by some for cooking and heating, but as trees are scarce in Tibet, the dried dung of cows, sheep and horses is the usual fuel. (Desideri 1971: 183).

There are some good studies on forestation (Chang 1981; Keng 1958: 66-74) which we may simply summarize. Other than shrubs, the only common trees (and these were restricted to river valleys, at least in Central Tibet) were Juniper, Rhododendron, Siberian Elm and Poplars. All these trees are small and not suitable for sustained, high intensity heat production. Larger varieties of Fir trees existed, mainly on the southern edge of the plateau and in the relatively lower lands of the southeast; but these were in high demand for construction purposes and transporting lumber was both difficult and expensive. We may assume, even in the absence of clear documentation, that Central Tibet, like neighboring Nepal and Ladakh, suffered extensive deforestation.

In summary, it may be argued that land suitable for burial was scarce for a combination of reasons: 1) Agricultural land was too limited. 2) Most other land was rocky. 3) All land was frozen for the greater part of the year. Fuel suitable for cremation was likewise in low supply because: 1) The most available tree species did not make good firewood. 2) In the few places where good firewood could be found, it was in demand for building purposes. 3) Transportation of lumber was difficult and expensive. 4) Deforestation. These very basic observations were already made

by Waddell at the turn of the century. The 'Bogel' of his quotation is the George Bogle who led a British political mission in Shigatse in Central Tibet in 1774-75.

On a hill-top below the above hermitage was the local Golgotha, the place where the dead bodies are thrown to be devoured by dogs, vultures, crows and other carrion feeders. This revolting mode of disposing the dead is doubtless owing in part, as Bogel says, to the scarcity of wood for cremation, and to the difficulty of digging the frozen soil for graves. (Waddell 1929: 233; also, MacDonald 1991: 215-16).

Finally, before going on to discuss a possible ideological concomitant of sky burial, I should say something about its effect on Tibetan diet. Because not only vultures, but also crows and other birds devour human corpses in sky burials, Tibetans do not, as a rule, eat birds. Their distaste for bird flesh extends also to domesticated poultry, although eggs are eaten in moderation. The same holds for fish, since fish are believed to devour corpses disposed of by water burial (cf. MacDonald 1991: 151, 178). Except for an occasional shark's fin soup at the banquets of the more Sinitized Lhasa nobles, Tibetans did and still do largely abstain from fish (Ekvall 1964: 75; Waddell 1929: 422). I doubt if this lack of fish and fowl in the diet had much effect. Yak meat (both wild and domesticated) and mutton were in abundant supply, as were dairy products, and protein deficiencies were the least of Tibetan dietary concerns.

IV. *Ideological Correspondences: Sky Burial and the Visualization of Dismemberment (Gcod) as Related Cultural Phenomena*

This last part of our study of sky burial takes the practice as part of a larger cultural pattern. As a piece of Tibetan culture, we will argue that it has a particular correlate on the symbolic and religious level (Sahlins in Manners 1980: 370). I find this correlate within a certain stream of Buddhist religious doctrine and ritual practice called *Gcod* (pronounced 'Chö'). (For recent works on *Gcod*, see Schnier 1957; Lauf 1971; Tuyl 1979; Facchini 1983; Gyatso 1985; Orofino 1987; Stott 1989; Savvas 1990). We will discuss the history and character of *Gcod* in very general terms, show how Tibetans themselves have perceived its linkage with sky burial, and, finally, suggest that *Gcod* may be (at least in part) understood as a symbolic extension of, or possibly a psychological adaptation to, the cultural fact of corpse dismemberment.

Gcod as a system of religious practice existed within all four of Tibet's main schools of Buddhism, the Nyingmapa, Kargyudpa, Sakyapa and Gelugpa, as well as in the Bon (Pön) school, a school believed to preserve facets of the ancient pre-Buddhist religion of Tibet. An Indian teacher of the late-11th century named Phadampa Sangye (*Pha-dam-pa Sangs-rgyas*) introduced a system of Buddhist teachings called *Zhi-byed*, 'Pacifying'. It is possible that Phadampa introduced the practices later to be known as *Gcod*, but it was probably his female follower named Macig Labdrön (*Ma-gcig*

Lab Sgron, meaning 'Lady Lamp of *Lab*', *Lab* being a place name; her biography has been translated in Allione 1984: 150-87) who gave centrality to the metaphor of 'cutting' (the meaning of the word *Gcod*). In this way, the Indian practice of 'body donation' (*lus sbyin*) as a visualization intended to promote generosity and compassion in the life of the religious person, seems to have received a special Tibetan coloration. This can be seen as well in the shamanic-type paraphernalia of *Gcod*. The *Gcod* practitioner needed to be equipped with a human thigh-bone trumpet, a double drum made with the tops of two human skulls (this drum was played by rapidly shaking with a twisting motion so that the two clappers attached with leather thongs would hit the drumskins; similar instruments are well-known to North Asian and American ethnography), a bell and a specially made tent (Hoffmann 1973: 148-49; Dorje 1979: 69-74).

The actual rite of *Gcod*, typically done alone at sky burial sites or places believed to be haunted by hostile spirits, had four visionary phases. In the first, the 'white sharing', one imagines one's own body dissolved into a bowl of nectar then given in offering to the Buddha, etc. Then, in the 'multicolored sharing', the body is imagined to be transformed into all sorts of desirable objects as offerings to the protective deities. Thirdly, in the 'red sharing', the flesh and blood of one's body are imagined to be distributed among all the ghosts and other malevolent spirits of the universe. Finally, in the 'black sharing', all the sins and faults of all beings are imagined as a black ray entering the body, which is then sacrificed to the spirits as a kind of ransom offering (Hoffmann 1973: 149; Tucci 1980: 91).

David-Neel (1958: 157-64) has very vividly described her personal observation of a *Gcod* practitioner. After blowing the thigh-bone trumpet to invite the spirits to the feast, he shouted,

Come hungry ones and you that ungratified desires torment!

In this banquet offered by my compassion, my flesh will transform itself into the very object of our craving.

Here, I give you fertile fields, green forests, flowery gardens, both white and red food, clothes, healing medicines!... Eat! eat!... (David-Neel 1958: 160).

Non-Tibetans who read about these things may find it difficult to understand, but Tibetans generally perceive this apparently terrifying rite as a religious expression of sincere altruism, and respect it as such. This I know from my own observations and questioning of Tibetans in India. That Tibetans have noticed the parallelism of *Gcod* rites with the practice of sky burial is proved in a simile employed in a 14th century liturgy used in *Gcod* rites. This was translated by Evans-Wentz (1968: 301-34) in a kind of *king's English*. When the celebrant invites the hungry spirits to come and feast on his body, he or she says, 'As birds of prey (or vultures) flock round a dead body, come ye all here now' (*ibid.*: 313). There is also a reference to vultures consuming corpses in a *Gcod* work by Tsongkhapa, the founder of the Gelugpa school (Savvas 1990: 364).

The professional practitioners of *Gcod* moved about Tibet as mendicants, alone or in small groups, doing very little to directly benefit the larger society. They did at times act as exorcists and weathermakers, but their most concrete societal role connects them directly with sky burials. Whenever corpses of persons who died from contagious diseases such as cholera (or who were otherwise deemed dangerous to handle) needed to be disposed of, *Gcod* practitioners were called upon to perform the funerary rites and sky burial. It was believed that by virtue of their special calling, they had rendered themselves impervious to contamination (Allione 1984: 149; Tucci 1980: 92). Allione (1984: 246-47) translates an account of a group of *Gcod* practitioners asked by a widow to dispose of the corpse of her husband who had been killed in a feud. (His ghost was therefore considered dangerous). They gave the corpse to the vultures as they practiced their *Gcod* rites.

While the *Gcod* practice alone deserves an in-depth study, I believe even this superficial account could contribute to an understanding of sky burial. I believe that sky burial as a Tibetan cultural phenomenon explains why *Gcod*, among all Buddhist ritual systems, was unique to Tibet. A perceived connection between the two practices made them co-dependent (in some degree) within the culture as a whole. I believe that the general respect accorded to *Gcod* practitioners by the Tibetan people helped them to psychologically adjust to the eventuality of their own, and their close relations', ultimate death and dismemberment. Certainly, it had that effect for the individual *Gcod* practitioner. If so, it was surely no negligible contribution to a society where sky burial was a fact of life.

Tibetan culture has received its capacity to fascinate the remainder of the world largely from its apparently anomalous features, among which sky burial must surely be counted. I hope, by slowly approaching the subject from a variety of perspectives, showing ways in which the logic of environmental, historical and symbolic factors have played a part in its persistence and cultural coherence, that sky burial along with the whole of Tibetan culture will seem a little less strange. Clearly, given the importance of natural factors, of birds and trees, altitude and ice, it cannot be reduced to a simply 'cultural' phenomenon.

During a visit to Tibet in the summer of 1993, at Yerpa, a sacred and richly historical cave-hermitage area in a side valley up-river from Lhasa, I by chance encountered one of the sky burial sites called *dur-kebrod* (meaning 'cemetery') in ordinary speech. (Unlike a great many other travellers, I was not impelled by a 'morbid voyeurism' [Batchelor 1987: 65; also, Strauss 1992: 117] to seek out such places). A few large flat-topped stones formed a level platform. Except for a few wisps of hair in the nearby grass, there were no apparent signs of use. The impression I carried away with me was one of purity and serenity. It may not be too farfetched to speculate that, given an increased sense of ecological responsibility (even in the absence of Buddhist altruistic motivations), the world at large will learn to see the positive value of sky burial and perhaps eventually adapt it — assuming that the birds will cooperate.

REFERENCES

- Allione, T. (1984) *Women of Wisdom*. London.
- Anderson, J. (1981) Tibetans: A Dwindling Population — A Comparative Study. *Tibetan Review* (New Delhi), 16, 10, pp. 6-13.
- Asboe, W. (1932) Disposal of the Dead in Tibet. *Man*, 32, p. 66.
- Batchelor, S. (1987) *The Tibet Guide*. London.
- Brauen, M. (1982) Death Customs in Ladakh. *Kailash* (Kathmandu), 9, 4, pp. 319-32.
- Chab-spel 1991 = Chab-spel Tshé-brtan-phun-tshogs, ed., *Bod-kyi Gal-che'i Lo-rgyus Yig-cha Bdams Bsgriqs*, Bod-ljongs Bod-yig Dpe Rnying Dpe-skrun-khang, Lhasa 1991.
- Chang, D.H.S. (1981) The Vegetation Zonation of the Tibetan Plateau. *Mountain Research and Development*, vol. 1, no. 1, pp. 29-48.
- Chu Junjie (1991) A Study of Bon-po Funeral Ritual in Ancient Tibet: Deciphering the Pelliot Tibetan Mss 1042. In Hu Tan, ed., *Theses on Tibetology in China*, pp. 91-158. Beijing.
- C.I.A. 1979 = C.I.A. Study on Tibet. *Tibetan Review*, 14, 11 (November), pp. 12-17.
- Clarke, G. (1988) Tibet Today: Propaganda, Record and Policy. *Himalayan Research Bulletin*, 8, 1.
- Combe, G.A. (1975) *A Tibetan on Tibet*. Kathmandu. (1st ed. 1926).
- Conestoga 1985 = Conestoga Booster Will Launch Human Ashes for Space Burial. *Aviation Week & Space Technology*, 122, 3 (January 21), pp. 20-21.
- David-Neel, A. (1958) *Magic and Mystery in Tibet*. New York.
- Desideri, I. (1971) *An Account of Tibet*, ed. F. de Filippi. Taipei. (1st ed. 1932. Originally composed in 1712-1727).
- Rinjing Dorje & Ter Ellingson (1979) Explanation of the Secret *Gcod Da-ma-ru*: An Exploration of Musical Instrument Symbolism. *Asian Music*, 10, 2, pp. 63-91.
- Duchesne-Guillemin, J. (1973) *Religion of Ancient Iran*. Bombay. (1st ed. 1962).
- Ekvall, R.B. (1964) *Religious Observances in Tibet: Patterns and Function*. Chicago.
- Ekvall, R.B. (1972) Demographic Aspects of Tibetan Nomadic Pastoralism. In B. Spooner, ed., *Population Growth: Anthropological Implications*, pp. 269-85. Cambridge.
- Evans-Wentz, W.Y. (1968) *Tibetan Yoga and Secret Doctrines*. Oxford.
- Facchini, M. (1983) The Spiritual Heritage of Ma Gcig Lab Sgron. *Journal of the Tibet Society* (Bloomington), 3, pp. 21-26.
- Goldstein, M.C. (1981a) High-Altitude Tibetan Populations in the Remote Himalaya: Social Transformation and Its Demographic, Economic, and Ecological Consequences. *Mountain Research and Development*, 1, 1, pp. 5-18.
- Goldstein, M.C. (1981b) New Perspectives on Tibetan Fertility and Population Decline. *American Ethnologist*, 8, 4, pp. 721-38.
- Gyatso, J. (1985) The Development of the *Gcod* Tradition. In B.N. Aziz & M. Kapstein, eds., *Soundings in Tibetan Civilization*, pp. 320-41. New Delhi.
- Haarh, E. (1969) *The Yar-lun Dynasty*. Copenhagen.
- Hastings, J., ed. (1961) *Encyclopaedia of Religion and Ethics*. New York.
- Hodgen, M.T. (1971) *Early Anthropology in the Sixteenth and Seventeenth Centuries*. Philadelphia.
- Hoffmann, H.H. (1950) Die Gräber der tibetischen Könige im Distrikt 'Phyons-rgyas. *Nachrichten der Akademie der Wissenschaften in Göttingen, Phil.-hist. Klasse*, pp. 1-14.
- Hoffmann, H.H. (1973) *Tibet — A Handbook*. Bloomington.

- Horne, C. (1872-73) On the Methods of Disposing of the Dead at Lhasa, Thibet, etc. *JRAS*, n.s., 6, pp. 28-35.
- Hummel, S. (1961) Die Leichenbestattung in Tibet. *Monumenta Serica*, vol. 20, pp. 266-81.
- Keng Po-chien (1958) *Botanical Geography of China by Regions*. U.S. Government Translation, Research and Microfilm Publications. New York.
- Kotwal, F.M. & J.W. Boyd (1982) *A Guide to the Zoroastrian Religion: A Nineteenth Century Catechism with Modern Commentary*. Chico, California.
- Kværne, P. (1985) *Tibet Bon Religion: A Death Ritual of the Tibetan Bonpos*. Leiden.
- Kværne, P. (1987) Dualism in Tibetan Cosmogonic Myths and the Question of Iranian Influence. In Ch.I. Beckwith, ed., *Silver on Lapis: Tibetan Literary Culture and History*, pp. 163-74. Bloomington.
- Lalou, M. (1952) Rituel Bon-po des funerailles royales. *JA*, 240, pp. 339-61.
- Lauf, D.I. (1971) Die Gcod-Tradition des Dam-pa Sangs-rgyas in Tibet. *Ethnologische Zeitschrift Zürich*, 1, pp. 85-98.
- Losel, R. (1991) Burial Customs in Garze. In Hu Tan, ed., *Theses on Tibetology in China*, pp. 159-81. Beijing.
- MacDonald, D. (1991) *Twenty Years in Tibet*. Gurgaon, Haryana. (Repr. of 1932 ed.)
- Manners, R.A. & D. Kaplan, eds. (1980) *Theory in Anthropology: A Sourcebook*. New York. (1st ed. 1968).
- Masani, Sir R. (1962) *Zoroastrianism: The Religion of the Good Life*. New York. (1st ed. 1938).
- Modi, J.J. (1914) The Tibetan Mode of the Disposal of the Dead: Some Side Light Thrown by It on Some of the Details of the Iranian Mode as Described in the Vendidad. In J.J. Modi, ed., *Sir Jamsetjee Jeejeebhoy Madressa Jubilee Volume: Papers on Iranian Subjects*, pp. 319-72. Bombay.
- Norbu, D. (1974) *Red Star over Tibet*. St. James Place, London.
- Orofino, G. (1987) Contributo allo studio dell'insegnamento di Ma gcig Lab sgron. *AION*, 47, 4, (Supplement no. 53), pp. 1-87.
- Panglung, J.L. (1988) Die metrischen Berichte über die Grabmäler der tibetischen Könige: Ihre Überlieferung und ihr Beitrag zur Identifizierung. In H. Uebach & J.L. Panglung, eds., *Tibetan Studies*, pp. 321-68. Munich.
- Petech, L. (1980) The Mongol Census in Tibet. In M. Aris & Aung S. Suu Kyi, eds., *Tibetan Studies in Honour of Hugh Richardson*, pp. 233-38. Warminster.
- Qu Zingshan (1990) On the Funeral Reform in Tibet in 1793. *Tibetan Studies* (Journal of the Tibetan Academy of Social Sciences, Lhasa), 2, 2, pp. 156-60.
- Rdo-ring 1987 = Bstan-'dzin-dpal-'byor, *Rdo-ring Pandi-ta'i Rnam-thar*. Si-khron Mi-rigs Dpe-skrunkhang. Lhasa.
- Richardson, H. (1962) Early Burial Grounds in Tibet and Tibetan Decorative Art of the VIIIth and IXth Centuries. *CAJ*, 8, 2, pp. 73-92.
- Rockhill, W.W. (1895) *Notes on the Ethnology of Tibet: Based on the Collections in the U.S. National Museum*. Government Printing Office, Washington D.C.
- Sahlins, M.D. (1964) Culture and Environment: The Study of Cultural Ecology. In Manners & Kaplan 1980: 367-73.
- Sangay, T. (1984) Tibetan Ritual for the Dead. Transl. Gavin Kilty. *Tibetan Medicine* (Dharamsala), 7, pp. 30-40.
- Savvas, C.D. (1990) *A Study of the Profound Path of Gcod: The Mahayana Buddhist Meditation Tradition of Tibet's Great Woman Saint Machig Labdron*, doctoral dissertation, University of Wisconsin. Madison.
- Schnier, J. (1957) The Tibetan Lamaist Ritual: Chöd. *The International Journal of Psycho-analysis*, 38, 6, pp. 402-7.

- Sde-srid 1972 = Sde-srid Sangs-rgyas-rgya-mtsho, *The Vaidūrya Dkar-po*. 2 vols. New Delhi.
- Singh, B. (1933) Tibet: Disposal of the Dead. *Man*, 33, 149, pp. 141-43.
- Stein, R.A. (1972) *Tibetan Civilization*. Stanford, California. (1st ed. 1962).
- Stott, D.J. (1989) Offering the Body: The Practice of *Gcod* in Tibetan Buddhism. *Religion*, 19, pp. 221-26.
- Strauss, R. (1992) *Tibet: A Travel Survival Kit*. Hawthorn.
- Honglei Sun (1983) Land Resources and Agricultural Utilization in Xizang Autonomous Region China. *Mountain Research and Development*, 3, 2, pp. 143-48.
- Tucci, G. (1950) *The Tombs of the Tibetan Kings*. SOR, I. Rome.
- Tucci, G. (1973) *Transhimalaya*. Delhi.
- Tucci, G. (1980) *The Religions of Tibet*. Transl. G. Samuel. Bombay. (1st ed. 1970).
- Turner, S. (1800) *An Account of an Embassy to the Court of the Teshoo Lama in Tibet*. London.
- van Tuyl, C. (1979) Mi-la ras-pa and the *gCod* Ritual. *Tibet Journal*, 4, 1, pp. 34-40.
- Uebach, H. (1981) Eine kurze Abhandlung des Pha-bon-kha-pa (1878-1941) über Mumifizierung. *Journal of the Tibet Society*, 1, pp. 69-78.
- Waddell, L.A. (1929) *Lhasa and Its Mysteries: With a Record of the Expedition of 1903-4*. London. (4th ed.)
- Wessels, C. (1992) *Early Jesuit Travellers in Central Asia: 1603-1721*. Delhi. (Repr. of 1924 ed.).
- World Atlas 1973 = World Atlas of Agriculture*, 'under the aegis of the International Association of Agricultural Economists', Istituto Geographico de Agostini. Novara.
- Jia Yang (1987) L'Univers culturel du toit du monde. In *Trésors du Tibet*, Muséum National d'Histoire Naturelle. Paris.
- Zhang Senshui (1981) Uncovering Pre-historic Tibet. *Tibetan Review*, March, pp. 13-14.

From
EAST AND WEST

IsIAO

Vol. 46 - Nos. 3-4 (December 1996)