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Charles Macdonald

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# Earth and Sky in Philippine and Indonesian Mythology

Charles Macdonald



My aim in this article is to identify a mythological system, that is, a set of interrelated themes or motifs, in the folklore of various populations of Southeast Asia and beyond. I would like to show first that a number of myths in the Philippine-Borneo area offer enough structural similarities to grant the view that they are transformations of a single system. Beyond that I will venture the hypothesis that this system extends beyond southeast Asia to the American continent. This in turn would lead to speculations about the kind of chronological depth against which one could expect to place the origin of such a mythical or ideological complex.

In the field of Insular Southeast Asian mythology one has identified certain "themes," such as the "quarrel between the sun and the moon" (see Rahmann 1955), or the "transformation of people into animals" (see Forth 1988) and followed these themes into widely divergent oral traditions with a view to identifying a common symbolic structure. But this has resulted more or less in a catalogue of formal similarities. One could wish instead to seek out more sharply articulated structures, such as those identified by Dumezil in the field of Indo-European studies (e.g. Dumezil 1949), using a trifunctional model, and by Levi-Strauss (1964, 1985) in the field of American Indian mythology, using a multidimensional model. From their conclusions, one can be reasonably sure that myth structures remain stable for millennia (Allen, 16).

I would like to propose a similar approach to the field of Philippine and Indonesian mythology, through the identification of a structural frame common to several groups of myths. I shall proceed by

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steps. Firstly, I shall analyze three groups of myths, from the Southern Philippines, Northern Philippines and Southern Borneo, respectively. Then, I will attempt to show that they belong to one larger whole characterized by the same structural core. Finally, I will point out their striking conceptual similarity with a group of South and North Indian American myths. This, I shall argue, points to a possible proto-Malayo-Polynesian or proto-Austronesian ideology that has been developed prior to the movement of people from Asia to America.

#### Southern Philippines: Bagobo, Manuvu, Palawan

Several texts recorded by F. C. Cole and L. W. Benedict at the beginning of the century among the Bagobos of Southern Mindanao, speak of a situation of the universe wherein communication between this world and the sky world was effectuated by mythical heroes. The summary of one of these myths is as follows (Benedict 1913, 20–21):

Lumabat, son of the first human couple starts on a journey to the sky with a party of people. They cross an ocean, then a land where some of them become rocks or trees. They reach a place where the sky and the earth meet. Their edges are like snapping jaws. Lumabat succeeds in getting through it and keeps on going, past the land of the dead, until he reaches the sky and the dwellings of the diwatas. The diwatas open his belly and extract his intestines. As a result, Lumabat becomes a diwata himself.

In the meantime, one of Lumabat's brothers, Wari, decides to undertake the journey in order to join his brother Lumabat in the sky. He follows the same route and reaches the house of the diwatas. But at this point he refuses to have his intestines extracted, thus provoking the anger of the diwatas. He then expresses the wish to go back to earth and is lowered down, together with his dogs, by means of a rope of grass. Before letting him go, the diwata gives him food but forbids him to eat it on his way down. Wari disobeys and, as a result, the diwata lets go of the rope. Wari falls to the ground but is stopped by the branches of a high tree. He is transformed into an owl.

Cole's version of this Bagobo myth varies somewhat from the preceding one (Cole 1913, 126–27):

After Lumabat has reached the sky, his son Tagalion follows in his steps. He is carried there by bees. One of his followers refuses to have

his intestines taken out and wants to go back to earth. He is lowered down by means of a rope of grass and, upon reaching the ground, becomes an owl.

A very brief synopsis of a Manuvu myth is given by E.A. Manuel (1977, 4–5). This story displays some intriguing features that will prove to be key elements in the transformation process:

The earth and the sky are connected by a ladder. Puhak (a word meaning "owl" in several Southern Philippine languages) climbs the ladder and reaches the sky. But on his way up, he eats all the rice that has been placed on each rung of the ladder. Upon arriving in the land of the diwatas in the sky, Puhak defecates. The stench of his excrements proves to be so offensive that the diwatas throw Puhak down on earth and remove the stair, thus separating the sky from the earth. Since that time, people have to court the favours of the deities.

Although only the briefest summary has been presented so far, some of the main elements become apparent, namely the passage from earth to sky, the fall from the sky to the earth, the transformation into an owl, the removal of intestines, the excrement and the presence or absence of food.

A Palawan tale which I collected myself, displays several of these elements, mainly the "owl motif":

Moon and Owl are husband and wife. Moon goes to the sky, leaving Owl behind. After several unsuccessful attempts, Owl is carried to the sky by an eagle and joins her husband Moon. She is told not to look down, for fear of mistaking a certain kind of mushroom for her husband Moon. But she disregards this warning and falls to the ground down on earth where she remains as an owl, crying forever toward the moon, and forever unable to join him.

The owl—whether the screech-owl or the horned-owl—is also present in several Dusun myths from North Borneo (Evans 1923, 88–89; Rutter 1929, 251–52) and similarly paired with the moon.

Before examining further the meaning of the "owl-motif" which provides a link between these various groups, let us assess the main points that emerge as a structural basis for this group of myths. A first passage to the sky (Lumabat, Moon) is successfully completed and results in the transformation of the hero into a deity of a celestial body (moon) after removal of intestines. Then, a second passage to the sky by another hero (brother, son or wife of the former) is

successfully completed but results in the fall of the hero (or his companion) down to earth and the transformation into an owl, after and as a result of defecation, or of refusal of having one's intestines removed. A net result of these actions is a total separation between the earth and the sky —whereas before there was a material connection between them— and a parallel separation between the human and divine populations.

It becomes clear that what is being explained by these tales is an opposition between the sky and the earth in terms of food. More precisely, it is rather the feeding process that forms the central part of the reasoning. The texts are making a clear statement: the sky (divine) population is characterized by an inability to ingest food and the absence of a digestive system; the earth (human) population and the owl are characterized either by the mere presence of a digestive system and by hunger, or even more, in the case of the owl, by the excessive action of the digestive process (excrement). The equation between excrement and intestines illustrates the whole underlying structure of this mythical system.

The "owl-motif" can be shown to function as a strategic category not only because it is a nocturnal bird, and the fact that its cry is heard when the moon appears in the sky at night, but also because its habitat is characterized by heavy droppings. This fact is mentioned by ornithologists (see Rabor 1977, 105). Moreover the owl is given a more specific position on the vertical axis. In one case the owl is said to remain in the branches of a high tree, in another case it sinks in the ground, with the head only emerging. It is in more than one way an intermediary creature, close to the ground, but at the same time slightly above or slightly below.

The owl, then, is an important mythical category in this system because of its connection with the digestive process, together with its position on the vertical axis. Further, it could be shown that the entire system rests on a combination of food categories, such as milk, lemon juice, betel quid, game, that function, so to speak, as topological markers. But I shall not dwell on a detailed analysis of these texts. The main point is that the passage from earth to sky and back is expressed in terms of food categories and feeding process. The simplest formulation of this opposition rests on the contrast between sky-no-food-taking versus earth-food-taking. The transformation of one term in the other is thought of as either removal of intestines(=earth creature becomes a sky creature), or presence of intestines (=excrement = earth creature brought back to earth).

#### Northern Philippines: Ifugao, Nabaloi

I shall turn now to a group of myths from the other end of the Philippine Archipelago. They also deal with the problem of bridging the gap between the sky world and the earth world, but in a reverse manner. Instead of a human undertaking the journey towards the sky, they stage a marriage between a celestial being and a human. As we shall see, the following separation between sky and earth is presented also in terms of food categories.

In the Cordillera, one is apparently faced with a very different system of thought, compared with what is known from the Southern Philippines. Indeed, it is something of a basic tenet of Philippine anthropology to separate the cultures of the Cordillera from the rest of the Philippines, and particularly those of the Sulu Basin. But a closer examination of the mythology of these groups provides, I think, some clues as to the existence of a common heritage.

As we have seen, the "owl-motif" is central to the Bagobo-Manuvu-Palawan system, because it refers to the concept of the digestive process which serves as a model of the separation between human and nonhuman, earth and sky. It is intriguing, at first, to observe, in a somewhat more subdued manner, the same motif in an Ifugao story collected by Villaverde at the end of the nineteenth century (Beyer 1913, 105–10). In this myth a sky woman descends from the skyland to the earth and marries a man from Ifugao.

This Ifugao version of the story of Bugan and Kinggauan, run as follows:

Bugan, a woman from the highest level of the sky world, spurns a number of divine suitors, among them the god of thunder and lightning. She eventually marries an Ifugao hunter, by the name of Kinggauan, who is pictured as a poor naked man digging holes in the ground. She presents him with food (cooked rice) and a piece of cloth. Bugan and Kinggauan have a son, Balituk. After catching a great number of animals, they move to Kinggauan's village, but are rejected by the village people who become envious of their success in hunting and their food composed of an abundance of meat and no vegetables (which Bugan refuses to eat). As a result, they surround Bugan's house with vegetables and fish. She is sickened by the smell of the fish and the vegetables. She then decides to leave the earthworld.

As Kinggauan is unable to make the trip to the sky, they decide to divide their child and cut him in two. The lower part, Bugan keeps and revives in the sky where it becomes whole again. The upper part is kept by Kinggauan but he is unable to give life back to it. The stench

of the rotting entrails reaches Bugan. She comes back to earth and transforms the different parts of the dead body of the divided child into a number of animals or natural phenomena, namely the head into an owl, and the heart into a rainbow.

There are a few other known versions of this tale from the Ifugaos and the Nabalois, a neighboring group from Benguet. The two Ifugao variants given by Beyer (1913, 105–10) and Barton (1955, 142–48) are based on what is essentially the same plot. A sky woman marries a man from the human world, bringing with her food (cooked rice) and cloth. A conflict arises between the sky woman and the human community, due to differences in feeding habits which take the form of an opposition between several kinds of food: venison, green vegetables, garlic, ginger, rice and fish. As a result, husband and wife separate and divide their child; one half becomes a new child, living in the sky, the other half becomes a number of natural phenomena, one being the rainbow, another the owl, others several kinds of diseases. It should be noted also that the myth provides an explanation for various sorts of cures and offerings.

The two Nabaloi versions given by Beyer (1913, 110) and Moss (1924, 237–39) display a similar structure with a very consistent inversion of the same elements. In those tales, it is a man, not a woman, from the sky world who marries a woman from the human world. In both versions, jealousy, and more specifically sexual jealousy, not food categories, provide the ground for a conflict between the divine hero and the people. As a result, their child is cut in two, each half becoming thunder and lightning, whereas in the Ifugao versions, it is a refusal to marry the god of thunder which leads to a marriage with a human.

The common theme that proves to be a central motif in those different versions, is that of the divided child, together with an opposition between sky world and earth world, and the creation of celestial phenomena (rainbow, thunder, lightning).

If we compare this mythical system with that of the Southern Philippines, it becomes clear at once that an overall parallelism, together with a consistent inversion of the relationship between the major elements of the myth, are at work. Instead of a human being going to the sky, it is a deity from the sky world who descends to earth. Instead of the departure from the sky being caused by the mere ingestion of food, the departure from earth is caused by an opposition between certain specific food categories, or jealousy, or both. Moreover, two notions seem to carry greater significance and a cen-

tral role in the unfolding of the plot, namely the excrement (together with the owl) in one case, the divided child motif in the other.

As Levi-Strauss (1985, 180) has pointed out, the "excrement" motif and the "divided body" motif belong to the same semantic field. In fact, there is reason to believe that the excrement can be considered as an internal part of the body which is severed from the rest by the excretive process. If such is the case, then the "divided body" motif becomes the pivotal element around which the separation of sky and earth is being conceptualized in both the Southern and Northern Philippine mythology. Moreover, there is a stable connection between the "divided body" motif and two others, the jealousy and the celestial phenomena (moon, rainbow, thunder), a connection which we will explore further later on.

We shall now turn to a myth from the Ngaju of Southern Borneo, which will add new elements to this investigation.

#### Southern Borneo: Ngaju

The story of Silai has been collected by Sharer and published in his Ngaju Religion (1963, 204–15).

Jangga, the Lord of the Moon, marries a woman from this world and they conceive a son born with half a body, by the name of Silai. When Silai has grown up, he undertakes the journey to the sky, in order to meet his father.

Eventually he succeeds, by climbing a rope of blowgun's darts and with the help of King of the Orangoutans and the King of the Ravens, in reaching the sky and meeting his father.

After a number of trials, his father, the Lord of the Moon, agrees to build him a new body, which he does by cutting him into small pieces and forging him anew.

As Silai is now equipped with a new and beautiful body, he descends to earth, but on the way, deceives his uncle, the Lord of the Sun. As a result, a quarrel opposes the Sun and the Moon, which explains the phenomenon of eclipses.

This is the briefest possible summary of a rather long text, which shows some Hindu influences and includes explicit references to Majapahit. It features however a structure very similar to those we have seen above. It starts like the Nabaloi variants of the divided child, with the marriage of a celestial husband to an earthly woman. This union produces a half-child (the child is already divided at birth, instead of being cut in two at a later stage). The passage from earth to heaven transforms the child with half a body into a whole body

and this is a result of blacksmithing (instead of transforming one child into two, as a result of cutting). Finally, the return to earth is paired with the emergence of a celestial phenomenon, the eclipse. Here again we are presented with a feature already known from the Cordillera versions, where the divided child motif is directly associated with celestial phenomena, the rainbow and the thunder.

The Ngaju myth does not mention the owl among the animal categories that take part in the story, but features prominently the moon as the husband of an earthly woman. This of course brings us back to the Southern Philippine variants. In the Ngaju myth of Silai, moreover, it is the existence of numerous prohibitions that explains the departure of Silai from the skyworld and his return to earth. This could be an indication of something similar to the prohibition to ingest food that we have seen in the Southern Philippine versions. The motif of the "half-one" is widespread in Insular Southeast Asia (Dixon 1964, 215). Several versions of the Iban story of Simpang Impang (Roth 1896, 301; Sandin 1957, 118, Jensen 1974, 760) do not however fit into a structure based on an opposition between sky and earth. Instead they feature a conflict between the wind and the main character, who is the son of the fire. A Balinese story of the "halfone" would come closer to the kind of structure that has been identified so far (see Hooykaas 1961, 18).

In spite of the many variations from one version to another, structural similarities support the hypothesis that we are in fact presented, throughout this whole area (including both the Philippine Archipelago and Borneo), with one single mythological system.

All the versions presented so far talk about the same thing, namely the attempt made by a human being to become part of the sky population and vice-versa, and the failure thereof, as a result of the impossibility to sustain certain food prohibitions and /or as a result of jealousy.

The separation between the earth population and the sky population is always associated with the central motif of the divided body, whether conceived of as half-body or a body cut in two, or as a part of the body being severed from the rest (intestines, excrement).

Finally all three groups of stories mention the origin of certain celestial phenomena (moon, rainbow, thunder, lightning and eclipses), while the first group insists on the separation between sky and earth and the removal of the connecting link between them.

The main differences pertain to the elements of material culture instrumental in the plot; the first group (Southern Philippines) thinks

of the separation between earth and sky, or the passage between them in terms of food categories. The second group, particularly the Ifugao versions, seem to conceive of the relationship between sky people and earth people not only in terms of food categories —which are also prominently displayed— but in terms of weaving, since the first gift with which the Ifugao hunter is presented by his celestial bride is a piece of cloth. The Ngaju myth in turn concentrates on forging and blacksmithing as a way to restore the main character to his complete human form, thus enabling him to leave the sky world.

### Comparative Notes on Southeast Asian and American Indian Myths

At this point, I would like to venture some comparative notes with a body of mythological data already analyzed by C. Levi-Strauss in his book *The Jealous Potter* (1985). As suggested by the title of this work, the concept of jealousy plays a prominent role in various myths from South America and North America, particularly Jivaro myths dealing with the origin of pot-making. But jealousy, as a mythical category, together with envy, should be seen as a form of interpersonal conflict, or domestic war. In a more formal sense, it consists in a situation where two terms that go together are being forced apart or, conversely, where two terms that are normally kept separated are being put together.

In the Bagobo myth, the journey towards the sky starts with a quarrel between Lumabat and Mebuayan, a brother and a sister who do not want to go in the same direction. The Palawan tale of Owl and Moon, rests heavily on the jealous feelings of Owl who is forever trying to remain with Moon and fails to do so. In the Ifugao mythology, people are jealous or envious of Bugan and succeed in expelling her, first from the social community, then from the earthworld. In the Nabaloi mythology, it is sexual jealousy that drives the divine husband away. Finally, it is a grievance over a debt that provokes the quarrel of the Lords of the sun and the moon in the Ngaju story of Silai, and the phenomenon of eclipses which brings together two celestial bodies that are normally kept apart.

Since these myths deal with a relationship between sky and earth, divine population and human beings, which are being brought temporarily closer together, whereas they are normally kept separate, jealousy or envy can be seen as a mere transposition in the realm of moral conduct of topological categories. But what matters essentially

is not the fact that both in island Southeast Asia and South America, jealousy plays a crucial role as a mythical category; it is rather its association with two other categories, namely those of "divided body" and "celestial phenomena."

Before coming to that, let us briefly examine one other theme common to both traditions. One of the jealous animals in South and North American mythology is the nightjar or whippoorwill (genus Caprimulgus), a nocturnal bird characterized by its voracious appetite, together with its anal incontinence, which amounts to saying that it is characterized by the quantity of food ingested and an equally important amount of dejections. It so happens that the Manuvu myth gives the same functions to Puhak (owl), guilty of eating too much and defecating too much. Besides a livaro version of the myth of the genesis makes the nightiar the suitor of moon (Levi-Strauss 1985, 98). The nightiar is known to many mountain groups in Vietnam (Leger 1981, 259-71) but is connected with blacksmithing and thunder. This bird is endemic in the Philippines, too, but is not quoted in the texts under consideration. It is more likely then, that the owl has been substituted for the nightjar on the basis of similar biological characteristics, namely its nocturnal habits and its heavy droppings.

It is also because of the latter property that the nightjar/owl category connects with the semantic field of the divided body. The connection between the three terms excrement/jealousy/celestial phenomena is considered by Levi-Strauss as a stable system in a number of American Indian myths, particularly those of Southern California (p. 180). We are also presented in the Philippine-Borneo area with three groups of myths staging a disjunction between earth and sky in terms of a disemboweled body, or a child being cut in two or a half child being cut in many pieces and then reforged anew. This semantic field with its associated terms, jealousy and meteorological phenomena, may then be considered as the structural core around which local developments have expanded and diverged.

#### Conclusion

I have been trying to underscore that a common set of motifs for the Philippines-Borneo area, as a structural set of themes is interconnected in such a way as to produce, through transformations, a large number of possible variants. The fact that this set is strikingly similar to Indian American myths should lead us to the question of a possible common origin. If the movement of people from Asia to America has taken place more than 30,000 years ago (MacNeish, R.S. 1978, 1982), and if we are to assume that the people who have crossed the Bering Straits carried with them the elements of such a "fragmented body" complex in connection with a speculation about meteorological phenomena and moral attitudes, then such a set of traits should be placed way back in the paleolithic past, at a time much prior to the end of the second millennium B.C. that witnessed the Malayo-Polynesian expansion outward from Southeast Asia (Whitmore 1977, 140; Taylor 1976, 50).

At this stage of the investigation, one could hardly expect to bring forth any detailed evidence of a genetic link between Proto-Austronesian myths and American Indian myths. A crucial step however, would consist in documenting a similar myth structure in the folk-lore of aboriginal groups in Taiwan, since this is where the Initial Austronesians settled prior to their movement southward into the Philippines (Bellwood 1985, 120–22). There is already enough evidence to support the idea of a close relationship between myths of aboriginal groups in Taiwan, especially the Atayal, and the Philippines (Norbeck 1950; Macdonald 1988, 71, 197; Ting-jui 1971).

Of course it could be argued that we are in fact presented with a phenomenon of polygenesis which would render historical speculations pointless. Are there still reasons to think that the oral traditions of mountain peoples in Southeast Asia can be considered as the living fossils of a prehistoric ideology? Further investigations in the area of comparative mythology in Southeast Asia and beyond may bring evidence of this fact.

#### References

Allen, N. And the lake drained away: An essay in Himalayan comparative mythology. Ms.

Barton, R.F. 1955. *The mythology of the Ifugaos*. Memoirs of the American Folklore Society, vol. 46. Philadelphia.

Bellwood, P., 1985. Prehistory of the Indo-Malaysian archipelago. Sydney: Academic Press.

Benedict, L.W. 1913. Bagobo myths. Journal of American Folklore 26.

Beyer, H.O. 1913. Origin myths among the mountain peoples of the Philippines. The Philippine Journal of Science 8.

Cole, F. C. 1913. The wild tribes of Davao district, Mindanao. Field Museum of Natural History. Publication 170, Anthropological Series 12. Chicago, September.

- Dixon, R.B., 1964. The Mythology of all races. Oceania 9. New York: Cooper Square Publ.,Inc.
- Dumézil, G. 1949. L'Héritage Indo-Européen à Rome. Gallimard, Paris.
- Evans, I.H.N. 1923. Studies in religion, folklore and custom in British North Borneo and the Malay peninsula. Cambridge University Press.
- Forth, G. 1988. Apes and Dugongs: common mythological themes in diverse Southeast Asian communities. Contributions to Southeast Asian Ethnography 7 (*December*): 189–229.
- Jensen, E. 1974. The Iban and their religion. Oxford: Clarendon Press.
- Hooykaas, J. 1961. The myth of the young cowherd and the little girl. BKI, Deel 117, pp. 267-78.
- Levi-Strauss, C. 1964. Le Cru et le Cuit. Mythologiques I. Plon, Paris.
  - \_\_\_\_. 1985. La Potiere Jalouse. Plon, Paris.
- Macdonald, C. 1988. L'éloignement du Ciel. Paris: Maison des Sciences de l'Homme.
- MacNeish, R.S. 1978. Late pleistocene adaptations: A new look at early peopling of the new world as of 1976. *Journal of Anthropological Research* 34, no. 4.
- \_\_\_\_\_. 1982. A late commentary on an early subject. In Peopling of the New World, eds. J. Ericson et al. Los Altos: Ballena Press.
- Manuel, E.A. 1977. Origin myths of the Manuvu. In Filipino Heritage: The making of a nation, vol. 1. ed. Alfredo R. Roces. Manila: Lahing Pilipino Publisher.
- Moss, C.R. 1924. Nabaloi Tales. University of California Publications in American archaeology and ethnology 17 (September).
- Norbeck, E., 1950. Folklore of the Atayal of Formosa and the mountain tribes of Luzon. Ann Arbor: University of Michigan Press. Anthropological Papers, Museum of Anthropology, University of Michigan No. 5.
- Rabor, D.S., 1977. Philippine birds and mammals. Quezon City: U.P. Science Education Center, U.P. Press.
- Rahmann, A. 1955. Quarrels and enmity between the sun and the moon. Folklore Studies 14.
- Roth, H.L. 18%. The Natives of Sarawak and British North Borneo. London.
- Rutter, O. 1929. The Pagans of North Borneo. London: Hutchinson and Co.
- Sandin, B. 1957. Iban movements: From the deluge (and the survival of Dayang Racha). *The Sarawak Museum Journal* 8, 10 December, pp. 117–32.
- Shärer, H. 1963. Ngaju Religion. Translated by R. Needham. The Hague: Martinus Nijhoff.
- Ting-jui, Ho. 1971. A Comparative Study of Myths and Legends of Formosan Aborigines. Asian Folklore and Social Life Monographs 18, The Orient Cultural Service, Taipei.
- Taylor, K.W. 1976. Madagascar in the ancient Malayo-Polynesian myths. In Explorations in early Southeast Asian history, eds. Hall, K.R. and Whitmore. Michigan Papers on South and Southeast Asia. No. 11. Ann Arbor, Michigan: Center for South and Southeast Asian Studies.
- Whithmore, J.K. 1977. The opening of Southeast Asia, Trading Patterns through the centuries. In *Economic exchange and social interaction in Southeast Asia*, ed. K. Hutterer. Michigan Papers on South and Southeast Asia, No. 13. Ann Arbor, Michigan: Center for South and Southeast Asian Studies.