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## Alternation and Other Modes of Periodicity from a Balinese Form of Life in Western Lombok

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“First attempts are always crude; but there can be no progress if we live in perpetual fear of those critics who esteem a work more for the absence of faults than for any positive endeavour”.

A. M. Hocart [1927: v]

### I Introduction

The present brief study is based upon the contention, which derives from the consideration of a wide variety of empirical cases, that alternation “has an immediate practical utility in the structural analysis of social facts” [Needham 1983: 154].

No study directed by this basic concept has been made of the forms of Balinese life, either those on Bali or on Lombok to its east. In the light of Needham’s contention, this is a gap in social anthropological knowledge and understanding of the Balinese people which should be filled. The present study aims to fill that gap by considering the form of Balinese social life in Pagutan under this new aspect.<sup>1)</sup> In doing so, and by enhancing our understanding of this form of life, it contributes

to a part of the central core of social anthropology (cf. Leach [1961: 1]).<sup>2)</sup>

In 1980, the population of the *lurah* (*désa*) Pagutan was 14,225. Of this number, 1,576 people were Balinese, resi-

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1) The writer conducted field research among Balinese people in Pagutan for about 21 months between 1979 and 1981. The research was funded by the Social Science Research Council of Great Britain and by two awards from the Emslie Horniman Anthropological Scholarship Fund. He is much obliged to these bodies for their support. Unless otherwise specified, “Balinese” refers to the Balinese inhabitants of the village (*kekliangan*) Baturujung and to Brahmana and Ksatria (see n. 19 below) of the Gria Taman and the Puri Pagutan.

2) The present study is one of a series of essays about Balinese life in Pagutan. Rather than burden the text with references to studies which are either in press or forthcoming, relevant studies are simply listed under Duff-Cooper in the Bibliography. References to published work are given in the normal way. Some of the points suggested in the present essay are speculative: they are to be treated as hypotheses to be tested by empirical enquiry in the field.

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dent in five villages (*kekliangan*; Ind. *kampung*); the rest were Islamic Sasak. The village in which I lived for about half my time on Lombok (cf. Duff-Cooper [1985b]), called Baturujung, “consists of about 350 people, all of whom can trace relationship one to another through either males or females and who are loosely divided into five localised groups” [Duff-Cooper 1984b: 16]. Villagers are agriculturalists, in the main, growing wet rice and a variety of secondary crops (see n. 12).

Alternation may be considered as a mode of periodicity. This mode is dyadic. Numerically, after alternation, therefore, the next more complex mode of periodicity is triadic. This mode is “pretty uncommon”, or seems at any rate “not to have attracted the attention of ethnographers and comparativists” [Needham 1983: 150–151]. The same can be said of periodicities of four, five, and so on.

Balinese notions of duration evince both circularity and linearity (cf. Howe [1981]) and so do a number of the techniques used in the cultivation of rice. Both circularity and linearity are aspects of modes of periodicity. The present study, therefore, isolates other aspects of Balinese life in which these forms are evinced by considering, in turn, periodicities of two (section II), three (section III), four (section IV), five (section V), and nine (section VI). A résumé of the findings arrived at and some of their implications are discussed in the concluding section (VII).

## II Alternation (Periodicity of Two)

In Balinese “there are words which are to some degree equivalent to ‘alternation’ ...” and which “convey in common a complex of senses that includes most prominently the notions of change, substitution, series” [Needham 1983: 126] all of which are implicated by “alternation”. Thus, alternation is implied by the Balinese words *pagentos-gentos/genti*, *silur* [Shadeg 1977: s.v. alternate].<sup>3)</sup> *Pagentos-gentos* means alternately, by turns; *genti* and *silur* mean to exchange. Simple *gentos* means to change, to replace, to renew; and to withdraw, to give way; *gentosin/gentinin* mean to be replaced (by) [Barber 1977: s.v. *gentos*]. *Magentos rupa*, which means to change shape, as Balinese witches (*leak*), for instance, often can (cf., e.g., Weck [1937: 286–289]), also implies alternation—from human to another form, and back again.

“To repeat”, which is also implicated by modes of periodicity, is in Balinese *wawanin/jumurin*, from \**wawan*, to begin again and from \**jumu*, to begin, begin again [Kersten 1984: s.vv. *wawan*, *jumu*].

The word periodicity, finally, is cognate with words which signify regularity of recurrence (cf. Lloyd [1982: Sec. 141]) which is arguably implied by the Balinese phrase *ané lakar teka*, “that which will

3) Balinese consists of words of various degrees of fineness (see, e.g., Kersten [1970: 13–25]). When words are given in this way, the word or words before the oblique are the fine (*alus*) form, the word or words after the oblique, the coarse (*kasar*) form.

come" [Howe 1981: 233 n. 4].

From the above, it would appear therefore as though Balinese ideology explicitly recognizes, to some degree at least, the operation of alternation and other modes of periodicity. We cannot, though, be certain that individual Balinese people recognize the operations (compare Needham [1983: 150]).<sup>4)</sup> Be that as it may the Balinese form of life evinces a number of aspects in which two (and more) entities succeed each other by turns.<sup>5)</sup>

As convenient a place as any to begin a demonstration of that assertion is the two-day week (*dwi wara*). These days are called Pepet and Menga. They succeed each other in turns. When a combination of a day from the seven-day week (*sapta wara*) and a day from the five-day week (*panca wara*) produces a numerical value which is odd (*gasal*)—such as Redite Kliwon, which has a numerical value of 13 (5+8)—the day is Pepet. When a com-

bination of days from these two weeks produces an even (*genep*) numerical value—such as Wraspati Wage, with a value of 12 (8+4)—the day is Menga.

Odd numbers are preferred by the Balinese in the sense that this series consists of "the numbers of life" (cf. Barnes [1985: 101–102]): as has already been established [Howe 1983: 145] (cf. Duff-Cooper [1984b: 17 n. 1]), the series of odd numbers is to the even series as life is to death, and as male is to female.

These associations correspond or are in accordance with the opposition between the sun, Bhatara (god, protector) Surya, and the moon, Bhatari (goddess, protectress) Candra. Each of these planets is implicated in dyadic periodicity, but they do not necessarily alternate one with the other. The moon alternates between being full (*purnama*) and being new (*tilem*). The moon waxes and wanes within a 30-day Balinese month (*sasih/bulan*) and these phases of the moon, like the full moon and the new moon, succeed one another in turns.<sup>6)</sup>

The (female) moon is thus inconstant, as women are said to be by villagers. By contrast, the (male) sun is constant, as men are said to be. The sun rises and sets every day at sunrise (*endag* Surya) and sunset (*engseb* Surya), and sunrise and sunset succeed each other by turns. Under this aspect, it does not matter that between

4) At the place cited, Needham writes: "The question is: How did the Iātmul get the idea (of alternation) in the first place? Well, we do not know that they have the idea at all. All we know is that a number of their institutions are framed by alternation; we have no evidence that they contemplate this mode of relation in abstraction, or that they assimilate one institution to another by reference to alternation."

5) Alternation can be represented by the equation:  $e_n = e_{n+2}$ . "It is to be understood that  $n$  can occupy any position in the sequence. Thus in the interrupted sequence  $a, -, a, -, \dots$ , the alternative  $b$  must occupy the vacant positions between the incidences of  $a$ ; and likewise in  $b, -, b, -, \dots$ , the alternative term  $a$  must occupy the vacant positions between the incidences of  $b$ —so that  $n$  may be represented by either  $a$  or  $b$ " [Needham 1983: 127–128].

6) For accounts of the Balinese calendar, see, for example, Covarrubias [1947: 282–284, 313–316] and Goris [1960]. For an account of the movement of the moon, see Howe [1981: 227–228, 228 Table 1].

sunrise and sunset, and indeed before the former and after the latter, the day (*rahine/dina*) is divided into a number of rough intervals which like sunrise and sunset “are fixed in a particular invariant sequence and which occur every day without fail...” [Howe 1981: 225].

We have noted already that the series of odd numbers is to the series of even numbers as male is to female. This social fact is of prime significance in, for example, the rite of *nuasén*. In this rite, rice seedlings (*bibit*) which are harvested first and which are used to make the *nini*, an effigy of the rice-goddess Sri, are planted in a way which makes a magic square of three. This form is shown below.<sup>7)</sup> Each number represents the order of planting and the number of seedlings planted at each point.

6	1	8
7	5	3
2	9	4

It will be noticed that odd and even numbers alternate round the central number, 5, whether one goes, correctly in Balinese terms, in a clockwise direction (*pradaksina*) or (like the Balinese witch) backwards or in the wrong order (cf., e.g., Duff-Cooper [1984a: 12; 1984b: 23]), i.e., anti-clockwise round the numbers. This alternation of odd and even numbers probably signifies the way in which the male and the female together, as in a married couple, for instance, are essential

7) A fuller account of this rite and some possible meanings of the planting scheme will be published in 1987 [Duff-Cooper forthcoming-d].

to creating and sustaining life by having progeny.

In this context, however, it is of perhaps greater interest that this intercalation of odd and even numbers—the numbers of life and of death—mirrors (so to say) an empirical individual’s life. This reflection concerns the opposition *sakala/niskala*, the former referring to what is material and generally visible, the latter, to what is essential and most often invisible. That is to say, that as a number of life succeeds a number of death, itself followed by a number of life, and so on in a closed series, so the life of an empirical individual, in all but exceptional cases (cf., e.g., Duff-Cooper [1985a: 81, *post*]), alternates between him or her being alive (*sakala*) or dead, either buried or cremated (*niskala*). These states follow each other as surely as sunrise follows sunset unless, as alluded to above, an empirical individual achieves *moksa*, freedom from rebirth and reunion with Ida Sang Hyang Vidhi, the high god of the Balinese, from which the individual, like everything else in the world (*madyapada*, the middle region, or *mertyapada*, the world of humans), ultimately derives.

Dyadic periodicity is also evinced by the white and black checks of the *polèng* textiles which are used in numerous ways on important (“ritual”) occasions among the Balinese. The checks symbolize “the dualism of fertility and death, white and black magic, as well as positive and negative, good versus evil” [Solyom 1977: 73] (cf. Swellengrebel [1960: 40, 107]).<sup>8)</sup> These checks, like the odd and even

numbers in the *nuasén* planting scheme, succeed one another whether they are “read” in rows or columns; diagonals of white checks and diagonals of black checks also alternate one with another.

Similarly, in the *perang rusak* textile which the Balinese often wear on both formal and informal occasions, alternation is discernible in the patterns of this kind of cloth. It is evinced by the orientation of the krisses down the diagonals; while these diagonals also alternate with diagonals of *mlindjon*, “lozenges” (see, e.g., Geirnaert-Martin [n.d.: 177, 194 Fig. 3]).

These lozenges,<sup>9)</sup> the number of points in the *nuasén* planting scheme, 9, the two days of the two-day week, the sun and the moon, odd and even, *sakala* and *niskala*, the white and black checks of *polèng* are

all exhaustive universes of discourse, i.e., they all represent totality.

Totality, of course, takes many forms. One such form is the *mantra OM*. Pedanda, but only Pedanda on Lombok,<sup>10)</sup> use a bell (*génta*) as part of their paraphernalia which they ring with their left hands at points during their meditation (*mayoga*) during rites of various kinds. “The sound of the bell is revealed to be the syllable OM, based in the eternal Siva, Lord of the World, cause of the good, and to be saluted with a respectful salutation” [Goudriaan and Hooykaas 1971: 340/341]. I was told by Pedanda Gdé<sup>11)</sup> that while studying to become a Pedanda (in the rite *madiksa*, from \**diksa*, rosary), a student (*sisia*) spends a lot of time practicing with the bell to achieve rhythmical regularity in the sounds which the clapper makes as it moves

8) Hildred Geertz remarks [1964: 296] that such oppositions as life and death and “even” good and evil are “distinctions (which) more closely resemble those of Christian metaphysics than Oriental”. She goes on to say that such binary distinctions are imposed on the data, or that the data are fitted deductively into such a frame. These assertions are, of course, quite wrong—and it is nothing to the point that such scholars as Bateson, Mead, and Belo make no mention of such dyadic distinctions as good/evil, life/death. The good/evil dichotomy, indeed, is one of a number of symbolic dyads which have a global distribution [Needham 1985: 139]; and in the particular case of Indonesia, including Bali, “the remarkable thing is precisely that similar conclusions (about the structure of indigenous thought and social action) were reached by individuals of markedly different training and background, many of them working quite independently of each other in different areas and with different aims and interests” [de Josselin de Jong 1964b: 297]. For an important account of Balinese conceptions of good and evil, see Hobart [1984].

9) Interestingly, the *mlindjon*, which is “sacred”, can be divided into two (or four) equal parts in *batik* patterns, thus obtaining two (or four) triangles. The two triangles thus obtained may, as in the two large triangles formed by the path followed by the right hand of the planter in *nuasén*, represent the contingency of male and female, opposed but “co-operating” [Zimmer 1972: 147–148], which produce life, both universal and individual.

10) And not Pemangku as in parts of Bali. Pedanda is the highest status in Balinese life. “OM” as is well known is composed of the *triaksara*, the three syllables AM, UM, MAM, of Brahma, Visnu, and Siva (Isvara), respectively (cf., e.g., Hooykaas [1978: 68]). The syllable OM “is manifested as the sound of the bell,.... The sound of the bell is the utmost good, it is loudly proclaimed as being the syllable OM; ...The life of the bell is (deserves to be?) worshipped like a god(?)...” [Hooykaas 1966: 86–88].

11) Pedanda Gdé Madé Karang, of the Gria Taman (see n. 1), my host and mentor for about 11 months.

from side to side. The standard to be achieved, one might say, is similar to the regular beating of a metronome set to *moderato*, or perhaps a little faster. These regular sounds (when this exacting standard is reached) alternate one with the other, and are begun by a slight upward swing of the bell to north or northeast: i.e., the bell moves from south (right) to north or northeast (left) to south, and so on; the clapper moves in the opposite directions. (A sharp ring of the bell, in which the clapper makes three rapid sounds, marks the end of a particular alternating series of sounds.) These movements and the sounds which they produce are representations of the god Rwa-Bhinéda, pole and antipole (see, e.g., Hooykaas [1978: 68]), though they are not of course the only such representations. They are also examples of alternation.

Sometimes, a Pedanda wears beads (*ganitri*) made from seeds of the wild canna (*Canna Orientalis*). Drawings of such beads appear in, for example, Hooykaas [1973: 134-139, 151-152]. These beads (Pedanda Gdé told me, though I was unable to confirm this) total 108. By casting out nines (see, e.g., Cammann [1961: 66]), a simple mathematical operation with which the Balinese may be familiar, the figure 108 reduces to 1, an odd number suggestive of life and Vidhi, a unity, and perhaps the only solitary being in the Balinese universe; and totality (Vidhi as Sang Bindu, the point or dot in which everything which exists is contained). Totality is also suggested by the circular forms which the lengths of beads make when they are worn over the left shoulder,

across the chest and back, and under the right arm; over the top of the ear; round the wrists; and so on. These circular forms bring Bindu and the fiery wheel (*cakra*), which also symbolizes totality, to mind.

The strings of beads consist of more or less round seeds and oblong seeds which alternate. This alternation appears to represent an alternation of male (oblong) and female (round). Although this last suggestion is one of the speculations mentioned in note 2, such an interpretation accords with, for example, the very coarse gesture which some Balinese men sometimes make, signifying sexual intercourse: a circle formed by the thumb and index- or middle-finger of the left hand penetrated by the fore- or middle-finger of the right hand. (It is noteworthy that even in this very coarse gesture, male is to female as right is to left (cf., e.g., Duff-Cooper [1985c: 244 Table 4]).) This interpretation also accords with, for instance, the image conjured up by the very coarse word for the penis: "snake" (*ula/lelipi*; Ind. *ular*).

At the notional middle point of any length or alternating series of such beads a white rock crystal is attached to the "central" oblong (male) bead. This crystal, also often found surmounting a Pedanda's mitre (*barwa*) and walking-stick (*danda*) and seats of Surya (*padmasana*) (see, e.g., Duff-Cooper [1985d: 46-47]), is the colour of the syllable *ongkara*, a form of *OM*. *Ongkara* is essentially life-giving and life-sustaining. The crystal which represents it divides a length of beads into a "half" of an even number of beads and

a "half" of an odd number of beads. These two halves, like the contingent odd and even numbers in the *nuasén* planting scheme, similarly stress life, as opposed to death. Furthermore, through the analogy odd is to even as male is to female, the numerically unequal halves of a length of beads together suggest the bisexual icon Ardhanārīśvara, a representation also of Vidhi and of other dyadic unities.

A Pedanda meditates for the benefit of groups of people of greater or lesser extension to sustain their lives, either by chasing off such nether-worldly beings as *bhuta-kala*, "demons", or by making holy water of various kinds. These holy waters (such as *tirtha* and *palukatan*) purify and protect people from danger. They also help to sustain people's lives, to keep them youthful, handsome or beautiful (cf., e.g., Duff-Cooper [1984a: 8-9]), and so on. In this Pedanda are like Sri, rice, made from seedlings planted in *nuasén*, the symbolism of which also stresses life.

In Pagutan, rice is grown in rotation with secondary crops.<sup>12)</sup> These crops are planted in a series as follows: rice, rice, secondary, rice, secondary, rice, rice, secondary, rice, secondary,..., and so on. Rice is in many ways quite different from all other crops, whether vegetable or fruit. It is the object of many complicated rites and rules concerning such matters as where it should be grown, who should

attend to its culture, how and when it should be harvested, stored, and disposed of.<sup>13)</sup> On the basis of this indigenous distinction between rice and secondary crops, the rotation of crops planted by Balinese farmers is clearly an alternating sequence.

The production of rice depends in the main upon four things: the good will of the gods; people's hard work; rites; and water.

Rites sometimes include music played on a *gamelan* called *gong* by villagers. The planting of seedlings in *nuasén* shows marked similarities with aspects of Balinese music.<sup>14)</sup> Similarly, alternation is evinced in at least one of the scores of Balinese music which I have been able to consult: in "Crow Steals Eggs" (see McPhee [1970: 238-239]), the cymbals (*céng-céng*) and the small (*alit*) male gong alternate; and the beating of the small gong itself alternates with it not being struck, i.e., with rests, in a sequence: rest, beat, rest, beat,...,. It may be (see n. 2) that in Balinese thought, the rest and the beat are associated with silence and with sound, respectively, and that they are representative of two contrasting, if not contrasted, moods: for example, sound, of people and situations which are lively; silence (but see Cage [1958: *passim*]), of sullen people and quiet times. Lively people and situations are exciting and are

12) See Duff-Cooper [1983: 95-170] for a fuller account of subsistence activities in Baturujung. Subsistence activities constitute Maussian "total social facts" (cf. Hobart [1980]). For this reason, this series is symbolically significant.

13) Hobart [1980] is an interesting discussion of some of these differences and their implications.

14) The movements of the planter's right hand are enantiomorphic in two ways, both directionally and proportionally like some forms of Balinese rhythm. Enantiomorphic reversal is characteristic of the Balinese form of life.

preferred to sullen people who may be ill, angry, or sad, for instance (cf., e.g., Duff-Cooper [1985e: 138–139]), and to quiet times, which are boring (*bosan*) and weigh heavily.

Rites usually include people eating together more or less formally (*magibung*). Four lots of salt and four lots of pig-meat representing oceans and forests respectively alternate around the cone of rice (called *mertha*)<sup>15)</sup> around which groups of eight people (*seluur*) of the same sex who eat together sit. As in Japan, salt is a purifying agent; pig-meat is relatively impure. Seawater also purifies, forests are among the haunts of beings associated with what is impure, ugly, immoral, and so on (cf., e.g., Duff-Cooper [1984b: 22–23]). White is the colour of semen (*kama putih*); red, the colour of the pig-meat, the colour of menstrual blood (*kama bang*). Again, the female (*pradhana*) and the male (*purusa*) and other dualities which constitute unities are represented in a series. The circular forms of these alternating entities again suggest the eternal nature of Vidhi (a duality and a unity) as Sang Bindu or the *cakra*.

In so far as the water for growing the rice is concerned, much of this is brought by the monsoon which comes from the north-west in about late October/November. This season is called the rainy season (*masan sabeh/ujan*) and lasts until April or May. Water purifies, may cure, especially if it is a type of holy water (see above) or

comes from a spring which has special qualities (*simbit*), is cooling, and is the god Visnu, the life-preserver. The dry (“hot”) season (*masan panes/kebus*), which follows the rains, brings great heat, disvalued relative to what is cool (cf., e.g., Duff-Cooper [1984c: 495]). It also brings illness in the form of the *gring* (cf., e.g., Berthier and Sweeney [1976: 33]). This illness moves from the seaward direction (*kelod*) mountainwards. These two seasons alternate and are opposed as cool is to hot, as Visnu is opposed to Brahma, the god of fire, and as the mountainwards direction (called *kaler* on Lombok in contrast to north, *kaja*) is opposed to seawards.

### III Periodicity of Three

A protection against the *gring* is a *kampung*, a “bracelet” made of short lengths of white, black, and red cotton which are plaited and onto which is threaded a small piece of palm-leaf onto which a Balian (medicine man or woman) has etched syllables with the sharp point of a knife and over which *mantra* have been said (see also Hooykaas [1980: 159–166]).<sup>16)</sup> This bracelet is then tied round the right wrists of children and of boys and girls who have passed puberty (in the Balinese sense) (cf., e.g., Duff-Cooper [1984c: 490]),

15) See Hobart [1980: 61–63] for a discussion of some of the associated meanings of “*mertha*” and other forms of this word.

16) My notes also have *kambuh*, a relapse, as in “to have a relapse” (*ngentah*) in an illness. *Kampung* which includes among its meanings “fold” (of cloth) and other associations with cloth, which is often used either to protect against or to cure illness (see, e.g., Roosevelt [1928: 26]), or to cause it, is the more appropriate.



but who have not yet taken, or been taken as, a marriage partner.

Plaiting the lengths of white, black, and red, one puts the white thread, for instance, over the red, the red over the black, the black over the white, the red over the black, the white over the red, the black over the white, the red over the black, and so on, until the plaited threads are long enough.

In this operation, two series of triadic periodicity are evinced: the threads passed over other threads, and the threads over which others are passed. In the example just given, these series are: white, black, red; red, white, black. Similar series are discernible in plaiting the white, black, and red rope which an ox is led by to the temple at the top of Gunung Péngsong, to the south of Pagutan (see Duff-Cooper [1983: Maps 3, 4]), where it is sacrificed at the festival of the temple (*odalan*, from \**edal*, to come out, emerge) held there on Anggara Kliwon Perangbakat.<sup>17)</sup>

The colours used in these contexts are, of course, the colours of the gods Brahma (red), Visnu (black), and Siva (white), respectively. Siva and white represent the synthesis of Brahma and Visnu and of red and black, which are opposed as seawards to mountainwards, low to high, among other ways (cf., e.g., Duff-Cooper [1985c: Tables]). Plaiting the threads of the *kampung* and the lead and halter of the sacrificial ox, rather than simply using

threads and rope of the three colours knotted at each end, for instance, emphasizes the way in which the duality of Brahma and Visnu (and of the other dualities with which these gods are associated) is inextricably a unity (like those other dualities). As Schärer writes [1963: 19] in another connection: "the unity was always a duality, and the duality also was always a unity".

These ideas (perhaps) are also expressed in the three-coloured *poléng* textile which is the simplest of all the motifs used in *gringsing* cloths to which villagers, like other Balinese, attach great importance.

Another form of triadic periodicity is, of course, the three-day week (*tri wara*), the days of which are Pasah, Gunung Tegeh, and Kajeng. Covarrubias mentions [1947: 44] that on Bali, markets were held each day in turn in one of the three villages (*désa*) which belonged to a "market association". This system is clearly also an example of triadic periodicity, and may well have been associated with each of the days of the three-day week, as market days were associated in Java with the days of the five-day week (*panca wara*) (cf. van Ossenbruggen [1983: 54–55]). Kersten indeed confirms [1984: 600 s.v. *triwara*] that this postulated connection between the holding of markets and the days of the three-day week obtains, at least in Central (Tengah) Bali.

#### IV Periodicity of Four

Apart from the days of the four-day week (*catur wara*)—Sri, Laba, Jaya,

17) On one account, this is the day after the day, Coma Wage Perangbakat, when the first Balinese, led by Bhatara Sakti Wau Rauh, landed on Lombok from Karangasem (Bali).

Menala—there appear only to be two other candidates for consideration for inclusion under this sub-head. One, birth-order names, is indisputably to be included; the other, the four directions (*catur désa*), east, south, west, and north, associated with the four gods (*catur dévata*) Siva (Isvara), Brahma, Mahadéva, and Visnu (and with many other groups of four besides), is more problematical. Let us consider this candidate before moving on to the names.

Periodicity (it will be conceded) implicates a series, not simply four consecutive but different entities (in this case). If these four gods are to be included in this section, therefore, we must be able to establish at least one empirical context in which the four gods are taken to constitute a series of the form: Siva,..., Visnu, Siva,..., Visnu, Siva,..., etc., for a significant number of such successions in a closed sequence. *Formally*, the gods can be understood as succeeding each other in the listed order continuously. Viewed under the aspect of *pradaksina*, i.e., a roll-call, as it were, of these gods in a clockwise direction, that is, the gods constitute a series with some of the required properties, although the sequence is not closed: under this aspect, it is infinite. We may take this property, however, to satisfy the condition of closedness.

However, “the interpretation of phenomena, whether social or other facts, is not a formal discipline” [Needham 1983: 160]. Looking at these gods, therefore, in settings in which they appear—such as stories, paintings, the *drama*, and other Balinese artistic forms (but see Duff-

Cooper [1984a: 35])—it is not, I think, possible to isolate empirical instances (i.e., situations with content as opposed to formal (contentless) situations) in which these gods stand one to another in a series which recurs. This candidate, therefore, does not qualify as a mode of periodicity.<sup>18)</sup>

The birth-order names mentioned above, by contrast, clearly constitute a series in the required sense. The four names—Wayan or Putuh (male or female) or Gdé (male): first-, fifth-, ninth-, etc., born; Madé, Nengah, Kadék (all male or female): second-, sixth-, tenth-, etc., born; Nyoman (male), Komang (female): third-, seventh-, eleventh-, etc., born; Ketut (male or female): fourth-, eighth-, twelfth-, etc., born (cf., e.g., Duff-Cooper [1985c: 234])—are applied to the children of a man and a woman (except where both parents are “caste” Balinese)<sup>19)</sup> whether their union has been purified in the rite of *ngantén*, “marriage”, i.e., whether the children are legitimate or illegitimate (*astra*). The names need not all be applied: if a child’s father and/or mother are wary of one of the names for some reason, it can be missed out and the next name applied to the child. Thus a fourth-born child, for example, may be

18) These considerations also rule out the *panca dévata* (the five gods at east, south, west, north, and centre) and the *nawa sanga*, the gods at these and the intermittent points of the compass, from inclusion in sections V and VI, respectively.

19) “Caste” Balinese, the *triwangsa*, the three senior estates (also called Dalem, insiders): Brahmana, Ksatrya, and Vesia; the outsiders (Jaba), usually called *Anak Bali*, Balinese people, on Lombok, constitute the fourth estate, Sudra.

called Wayan, not Ketut. Or else, a child first born to parents before *ngantén* may be called Gdé, and the child first born to the parents after *ngantén*, Wayan. Such occasions, though, are rare; the names usually constitute a series in which they follow one another by turns (in the sequence listed) and which is closed, in the cases of couples with four, eight, or twelve (or sixteen) children.

### V Periodicity of Five

As before, the days of the week of the mode of periodicity in question—in this case the days of the five-day week—provide an example which is a convenient starting-point. Thus the days Kliwon, Manis, Paing, Pon, and Wage succeed each other so as to constitute an instance of periodicity of five. These days are associated with the centre, east, south, west, and north respectively, according to my information. This series of correlated directions also constitutes an example of this mode of periodicity, of course, at least in this context, but it does not accord with either of the correct ways of listing the gods associated with these directions, either clockwise from east to centre, or from lowest (south) to highest (centre). Nor do the numbers of each of these days constitute a series of alternations of odd and even, although the numbers—8, 5, 9, 7, 4—constitute a series, of course, like the days and the directions with which they are associated.

It might be thought that ideas of reincarnation evince the present mode of perio-

dicity. Thus, an empirical individual (Ego) can in principle count eight generations of males and females above and below his or her own generation (cf. Duff-Cooper [1984c: 486]). An Ego “is reincarnated in the fifth generation from his own, according to villagers, so that any Ego (according to the terms) is always both a reincarnation of the highest (eighth) generation, with reincarnations, as it were, in the fourth ascending and descending generations. Human beings may at the same time be both gods and may be reincarnated” [*ibid.*: 487] (cf. Duff-Cooper [1985a: 81]).

In spite of what might seem to be the case, however, these generational terms do not evince periodicity of five. Speaking formally, the generations termed *kelépèk* (eighth ascending and descending) and *kelab* (fourth ascending and descending) are associated with an Ego being material and visible, while the intervening generations *klambiung*, *canggih*, *bruyut* (fifth, sixth, and seventh ascending and descending), *kumpiang/kumpi* (third ascending and descending), *aji/bapa* (male), *biang/mèmèk* (female) (first ascending), *kakiang/kakèt* (male), *niyang/dadong* (female) (second ascending), and *oka/pianak* and *putu/cucu* (first and second descending), are associated with an Ego being essential and invisible. In other words, these intervening generations are those when an Ego is most associated with what is *niskala*; the other generations, including the level of reference (Ego’s own generation), of course, those during which an Ego is most associated with what is *sakala*. Formally, alternation (and not periodicity of five) is evinced between

two entities, one of which is singular (either the eighth, fourth, or reference level), one of which is composite (one of the four sets of three intervening generations).

However, when this series is supplied with content, namely, the names of the generations, it is enantiomorphic, and this in two ways: under the aspects of those generations when Ego is most associated with the material and visible (*sakala*): *kelépék*, *kelab*, Ego, *kelab*, *kelépék*; and taking the entire set, which is enantiomorphic about the five central generations (+2, +1, 0, -1, -2). From various points of view, these five central generations are the same one as another, rather like the gods of the *panca devata*, for example. Abstracting these five generations in this way is thus faithful to Balinese ideology and social practice. Enantiomorphic reversal, as noted earlier (n. 14), is characteristic of many aspects of the Balinese form of life.

A series, however, which evinces periodicity of five when it is considered from a standpoint different from that earlier adopted is the cycle of birth, death, and rebirth of a human being. This cycle can be considered as consisting of a series of stages: conception, gestation, birth, and youth; adulthood; old age; dead but only buried (*pirata*); and death, cremated and existence in one or more of the heavens (*pitara*). Unless an individual dies an early (bad) death (*salah pati*) (cf. Duff-Cooper [1983: 541-543]), achieves freedom from rebirth, or is reincarnated as an insect or an animal such as a duck (*bébék*) or a pig for a hienous past life, this series repeats itself. Indigenously, it may be

that, for instance, youth and adulthood are more appropriately classed together than as I have classed them here; or perhaps youth should stand alone, and adulthood and old age together. These matters are unsolvable without enquiry in the field. On the basis of my knowledge of the Balinese form of life, however, I would claim that the number of stages, five, and that they succeed each other in turn in all but exceptional cases is probably incontrovertible.

Another such series, also considered earlier, is the planting of rice and secondary crops relative one to another. Substituting *a* for rice and *b* for a secondary crop, the series (it will be recalled) is: *a, a, b, a, b, a, a, b, a, b, a, a, b, a, b, a, ...*.

IR36, the new variety of rice mostly grown by villagers these days (see, e.g., Polak [1981]), takes about 90-100 days from planting to mature. Secondary crops and brief fallow periods take up about 30 days. Considered in terms of cycles of Balinese years of 210 days, the series roughly is: *|aab|aba|aba|baa|bab|aab|aba|aba|...|*. This cycle clearly repeats itself every five (Balinese) years. In the context of Balinese ideology, in which sets of five (*panca*) have such prominence as a mode of classification by partition (see Needham [1979: 7-15]), this finding (but see n. 2) may not be without significance.

## VI Periodicity of Nine

We have already considered whether the nine gods of the *nawa sanga* (see, e.g., Covarrubias [1947: 296-297]) should be

included under this sub-head. We concluded that although formally they could be, on other more compelling grounds, they were not eligible for such inclusion.

Thus, apart from the nine-day week, the only possible candidate for inclusion here appear to be witches (*lèak*) (see, e.g., de Kat Angelino [1921]). There are 11 kinds of witch associated with each of the nine major points of the Balinese compass (*pengideran*: east, southeast, south, southwest, ..., centre) and with the nadir (*ketebenan*) and the zenith (*keluanan*). In the 11 points, the centre of the nine points is the nadir, Siva; centre (*pusèh*) is constituted by the central points of the five gods of the *panca dévata* and of the *trimurti* (Brahma, Visnu, Siva) which merge, SadaSiva; while Siva as the duality and unity Vidhi is the zenith, the highest point, ParamaSiva.

As the 11 points are constituted of nine plus two (because nine is the number beyond which it is impossible to go in Balinese thought), this series may appear to merit inclusion here, rather than under periodicity of eleven. This is speaking formally, of course, but takes into account that witches move up through the ranks of witches, i.e., become associated with a point of the compass and a colour which is considered higher than the one before, until reaching the nadir (Siva); some may then go on to reach the centre and the zenith.

However, not all witches reach even the nadir, or anything like it; nor do witches operate as such during their childhood, nor, naturally, in their probable successive rebirths as insects and animals caused by

the wickedness, *ex hypothesi*, of their previous human incarnation; nor can it be assumed that a witch in one human life on earth will be a witch in a next and successive such lives.

These considerations militate against us including the successive ranks of witches here, even allowing that it is legitimate to consider the nine points of the 11 separately from the other two—which is questionable. Empirically, therefore, only the nine-day week appears to be an example of periodicity of nine in Balinese thought and social life.

## VII Conclusions

The present study of five modes of periodicity does not claim to have exhausted the examples of such modes which can be isolated in the Balinese form of life. Nor is it claimed—what would patently be false—that these are the only modes which are evinced in it: the periods which constitute a day succeed one another by turns and so are an example of periodicity of 18 (on Howe's [1981: 225] account), and the Balinese calendar evinces numerous modes of periodicity of various number.

In the present study, however, we have discerned alternation in the movements of heavenly bodies, the series of odd and of even numbers, the cycle of an individual's existence, generational terms, textile designs, mystical ideas, techniques, and paraphernalia, subsistence activities, music, food, and seasonal variations and their concomitants.

Periodicity of three is evinced in

protective medicine, in a sacrificial rite, in textile design, and (on Bali, but not on Lombok) in the holding of markets. Birth-order names evince periodicity of four; while human existence and subsistence activities (viewed under aspects different from those earlier adopted) may (see n. 2) evince periodicity of five. The nine-day week appears to be the only example of periodicity of nine discernible in the Balinese form of life.

We can now add these five modes of periodicity to the five varying degrees of asymmetry (four degrees of asymmetry and symmetry) which frame this form of social life. That the mode of dyadic periodicity (alternation) is by far the most frequent statistically may in part be connected with the form of Balinese life being diarchic (cf. Duff-Cooper [1985c: 247]). It may also be that it being, by definition, the most immediate form of periodicity lends it a particular effectiveness as a principle of order in a symbolic classification—an effectiveness which is perhaps depleted the greater the number of the entities in a series which is conceived as recurring regularly. “Periodicity of 18”, after all, sounds very odd, and is difficult to conceive, compared with alternation and the modes two, three, four, and five considered here.

Further, that the five modes of periodicity are evinced in such seemingly disparate aspects of this form of life lends further weight to the view (which has been expressed a number of times) that the Balinese form of social life is a totality, in spite of it not being a prescriptive system (see, e.g., Needham [1973]). The total

nature of this form of social life, when considered as a system of relations, becomes the more apparent, the more these relations are described by a range of formal concepts. In the course of such analysis, the meaning of social facts emerges the more clearly, which is after all the reason for analysing them at all.

Methodologically, a number of points are emphasized by the present study: that the use of formal concepts such as alternation is indeed practically useful in the interpretation of alien and exotic forms of life; that it is prudent not to make any prior decision about what is or is not to be included in the analysis on the basis of some theory or other; that what is included should be analysed in a way which is faithful to indigenous ideas and social practices, at least in the first instance; and that the social facts analysed should be viewed from as many points of view as is feasible.<sup>20)</sup> In this way, even when social facts turn out not to be amenable to the application of a particular analytical concept, other findings of significance may emerge. In our case, further examples of enantiomorphic reversal (another principle of order which frames aspects of the Balinese form of life) have been made out.

Finally, in so far as alternation and other modes of periodicity are concerned, it is of theoretical interest that entities which

20) This is a reference to “the enigmatic operation ‘change of aspect’, meaning by this the capacity to discriminate in an object of thought as many connotations and uses as can be discovered or contrived” [Needham 1983: 2]. See also Needham [*ibid.*: 178 s.vv. Change of Aspect].

alternate or which evince other numerically more complex modes of periodicity may be either singular or composite. Which is the case is probably best decided on the basis of indigenous ideas in each particular case, and not *a priori*. In this, alternation and other periodic modes appear to be similar to, for example, the notions of cause (see Needham [1976]), of opposition [Needham 1980: Chap. 2], and of reversal [Needham 1983: 93–120].

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