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Mahā- and Cūḷa-Vaggas and Suttas in the Majjhima-Nikāya

THE Majjhima-Nikāya[1] is usually regarded as the second 'book' or Collection of Discourses in the Suttapiṭaka. It contains 152 Discourses (*sutta*) and is divided into three Sections (*paṇṇāsa*) of 50 Discourses each, the last Section however containing 52. These Sections are further sub-divided into Divisions (*vagga*) of ten Discourses each, the penultimate Division including the extra two Discourses.[2] There are 15 Divisions, five in each Section.

An interesting feature of the *M.*, and one that is peculiar to it, is its possession of two *vaggas* or Divisions both called Yamaka, pair, twin, double, couple (Vaggas IV, V). These are distinguished one from the other by prefixing Mahā- (Great or Greater) in the first case, and Cūḷa- (Small or Lesser) in the second to the otherwise identical title of Yamakavagga. In the *Dhammapada* there is a Yamakavagga where the verses are arranged by pairs; and Yamakavagga is also the title of one Chapter in the *Saṁyutta* (*S.* iv. 6-15) and of two in the *Aṅguttara* (*A.* iv. 314-335, v. 113-131).

The *M.* carries the idea of *yamaka*, but not the name, further than its Mahāyamakavagga and Cūḷayamakavagga. As these form a pair, so, out of the total of 152 Suttas, there are 17 pairs. In each of these one Sutta is called Mahā- and the other Cūḷa- so as to distinguish an otherwise identical title that they share in common.

Except for a concentration of five such pairs in the Mahāyamakavagga, the remaining pairs occur here and there throughout the *M.* This Vagga is well named since it is the only one of the 15 Divisions to contain nothing but pairs of Suttas. The Cūḷayamakavagga had, one may suppose, to stand in some close relation to the Mahāyamakavagga and, with its two pairs, follows it. But these two pairs are not placed at the beginning of the Vagga as though they were continuing from the Mahāyamakavagga, but are its Suttas Nos. 3-6.

1. Referred to throughout this article as *M.* All references are to the Pali Text Society's editions.

2. Perhaps the Bhaddekaratta should be regarded as one Discourse, and the Ānanda-, Mahākaccāna- and the Lomasakangiya-bhaddekaratta Discourses as together forming one Discourse instead of three.

Immediately before the Mahāyamakavagga comes the Tatiya (Third) Vagga, unique among *M.* Vaggas in apparently having no specific name. It contains two pairs, and as they are its last four Discourses they lead straight on to the five sets of pairs in the Mahāyamakavagga. It might therefore have been appropriately named the Cūḷayamakavagga had there not been another consideration, a cross-division as it were. For the two pairs that conclude this Vagga, as well as its first two Discourses, are further distinguished by the inclusion of the word *upama* in their title. As this is so, and as there are only two other *upama-* Discourses in the *M.* (Nos. 7, 66), it seems strange that this Division was not called by a title so nicely to hand : Opammavagga.[3] But at least this assemblage of six *upama-* Discourses in the Third Division provides a good and acceptable reason for *not* calling it Cūḷayamakavagga. It is difficult to know why Suttas 7 and 66 were not included in this Vagga.

There is no such problem with the title of the Second Division, with its two sets of pairs placed at the beginning of the Division, for, in naming it the Sīhanāda-vagga the not uncommon practice was being followed of naming a Vagga after its first Sutta, chapter or section as the case might be, a plan also adopted in the first, eleventh, twelfth and thirteenth Vaggas of the *M.* The name may also have been determined by the recognition that in the *M.* the technical term *sīhanāda*, the lion's roar, is I believe found only in the Cūḷa- and Mahā-sīhanāda Suttas. Therefore, once the idea of grouping Suttas in pairs had arisen, such a focussing of attention on a rare but important word, and all that it implied, would provide not only a suitable title for a pair, but also one from which a Division might well take its name. When we call to mind Rhys Davids' intimation that all Sīhanāda Suttas are discourses on asceticism[4] together with Chalmers' emphasis on this subject,[5] we can see that the Buddhist teaching would not wish to ignore a subject that was uppermost in some of the contemporary and rival teachings, but would have wanted to put forward its own interpretation of false and true asceticism. Moreover in neither of the *M.* Sīhanāda Suttas could either the persons addressed or the places where the utterances were pronounced provide a sufficiently distinctive title : monks, Sāvatthī, Sāriputta and Vesālī all appear too frequently.

A few points about the pairs of Discourses in the *M.* may now be briefly summarised, a full discussion of this complicated question being impossible here.

(1) The method of beginning a pair with its Mahā- or Cūḷa- member is reversible. In fact the Cūḷa- member precedes its Mahā- nine times, the Mahā- thus preceding its Cūḷa- member eight times.

3. *Cf.* Opamma Saṁyutta (*S.* ii, 262 ff.), so called because it is rich in parables and similes. The name of Opamma-vagga has been suggested for the Tatiya Vagga by E. K. Neumann and Chalmers in their translations of the *M.*

4. *Dialogues*, i, 208.

5. *Further Dialogues*, i, Introduction.

(2) With the exception of the Mahā- and Cūḷa-puṇṇamā Suttas (Nos. 109, 110) which are named after a *time*, all the other sixteen pairs are called either after the main topic treated ; or after a proper name, that of a place or a person ; or after some simile or parable that they contain.

(3) There are no pairs in Vaggas I, VI, IX, X or XII, and only one member of a pair in Vagga XV.

(4) Pairs occur with greater frequency in the Vaggas placed earlier in the *M*. They culminate in the Mahāyamakavagga and, dwindling again through the Cūḷayamakavagga, appear more sporadically afterwards while displaying, to all seeming, a few interesting diversities not found among the pairs placed more at the beginning. Thus:

(5) Where a Discourse has no pair of the type under discussion, it is invariably the Cūḷa- member that is lacking. Thus, in the sequence of the three Vacchagotta Suttas, one is called Mahā- (No. 73) but neither of the other two (Nos. 71, 72) is called Cūḷa-Vacchagottasutta. There is a Mahācattārīsaka Sutta (No. 117) and a Mahāsaḷâyatanika (No. 149), but in neither case is there a corresponding Cūḷa- member, although there is a Saḷâyatanavibhaṅga Sutta (No. 137).

(6) Occasionally the members of a pair are divided by one or more intervening Suttas. The Mahā- and Cūḷa Sakuludāyi-suttas (Nos. 77, 79) in Vagga VIII have one other Discourse between them ; but of the three Rāhulovāda Suttas, although the Mahā- (No. 62 in Vagga VII) follows immediately after the Ambalaṭṭhikā-Rāhulovāda, the Cūḷa-Rāhulovāda is placed as far on as Sutta No. 147 in Vagga XV (referred to under (3) above). Vaggas VII and XV therefore each contain one member of a pair.

One of the chief problems arising in connection with the *M*. pairs of Suttas is whether these prefixes of *mahā-* and *cūḷa-* are intended to qualify the title of the discourses or the discourses themselves. In some cases the answer is clear. For example, no discourse could have been addressed to a Mahā-Saccaka or a Cūḷa-Saccaka, for no such persons are known to have existed—merely Saccaka ; again, no discourses could have been given at Cūḷa-Assapura or at Mahā-Assapura or in a Mahā- or Cūḷa-Gosiṅga sāl-wood, for there were no such places—only Assapura and Gosiṅga. This is true of all the *M*. pairs of Mahā- and Cūḷa- Suttas in whose titles the distinguishing word is a proper name. Thus in such Discourses the Mahā- and Cūḷa- in the titles refer to the Discourse itself, and not to the name of the person or place that is included in the title. Why one Discourse is estimated as Mahā- and the other as Cūḷa- is a further problem whose solution will probably depend on such considerations as the comparative length of the two Suttas in such a pair, on the relative importance of the subject matter each contains, or even possibly on the one, the Cūḷa-, being subsequent to or supplementary to its Mahā- partner, or intro-

ductory to it. It is probable that no general rule could be laid down, but that each pair must be investigated separately and taken on its own merits. This would necessitate a long piece of research. Here I propose to do no more than indicate various aspects of the problems of naming in reference to (1) the Sīhanāda Suttas, which I have already mentioned, and (2) the Puṇṇamā Suttas. Both these pairs give good evidence of some of the intricacies of the whole problem.

There is probably little doubt that the Mahāsīhanāda Sutta[6] may be regarded as the 'Discourse on the Lion's Roar that is Great'—'great' referring to the Lion's Roar. This is 'great' because, in words attributed to Gotama, now at the close of his life (*M.* i, 82), it sets forth the Tathāgata's ten Powers and four Confidences in virtue of which he claims the leader's place, roars a Lion's Roar in assemblies, and sets rolling the Brahma-wheel (*brahmacakka*); great because of his comprehensions of the five bourns (*gati*); great because of his autobiographical reminiscences both of this 'birth' and of 'the far past'. Further, this Discourse itself might also be considered as Great, since it is longer than the Cūḷa-sīhanāda. This then, as far as length is concerned is Small or Lesser. In addition, since it does no more than urge monks to roar a Lion's Roar, then quitting the topic, the Cūḷa-sīhanāda might well mean the 'Sutta on the Lion's Roar that is Lesser'—the Lion's Roar here being lesser than the Tathāgata's Lion's Roar in the Mahāsīhanāda and not nearly so significant.

Coming to the Mahā- and Cūḷa-puṇṇamā Suttas (Nos. 109, 110), we find they have little in common with one another except that both are recorded to have been given near Sāvatthī to a body of monks on the night of an Uposatha, Observance day, of a full moon, *puṇṇamā*. These are the only two *M.* Suttas to derive their name from a time; but they are not the only ones said to have been delivered on the night of a full moon. For Sutta No. 118, the Ānāpānasati, is also recorded to have been given on such an occasion, also in Sāvatthī and to monks. So here we have another problem: why—with three Discourses held at a time that was probably rather unusual since the monks, whether they were to be the auditors or the speakers, were likely to have been engaged on purely monastic business—are only two of these Discourses named after the time and the other not? One of the consequences of this anomaly is that, if we went purely by titles, we would not know that this other Discourse had also been given at such a time. And in relation to the time of its delivery the Ānāpānasati is all the more remarkable because in it this is further defined. For first it is said that Gotama addressed the monks (briefly) on the night of the full moon after a Pavāraṇā ceremony (at the end of the rains), thus identifying the full moon; and then it is said that he gave a Discourse in the same place on the night of another full moon, that in the fourth month, Komudi,

6. There are three Sīhanāda Suttantas in the *Dīgha*, Nos. 8, 25, 26.

on an Observance day. The Ānāpānasati therefore mentions two utterances given at the time of two different full moons.

Therefore problems that arise are why the Ānāpānasatisutta was not named after the occasion when it was given; and why the two Puṇṇamā Suttas, which are divers in subject matter, are united by the name which, if *time* had been the only consideration, might more aptly have been given to the Ānāpānasati. That it was not will almost certainly be because of the importance of in- and out-breathing in the applications of mindfulness, the topic of the Ānāpānasati. In choosing a title for this Discourse it therefore seems that preference was given to its topic rather than to its occasion, probably because this was held to be of greater significance or more telling for purposes of identification. I do not think it at all likely that the 'editors' had forgotten or were not aware that there were Suttas called Puṇṇamā. But we do not really know how the names of the Discourses came about, except that now and again Gotama is shown as spontaneously naming the Discourse he is about to give, as in *M*. Suttas 1, 2, 17; or as suppplying alternative titles by which they might be remembered. These are usually found at the end of a Discourse, as for example in *M*. Suttas 12 and 115 and in *Dīgha* Suttanta No. 1. Buddhaghosa also appears to have known a number of alternative titles. This is another problem, not without some bearing however on that of naming the *M*. pairs.

But we will return for a moment to the Puṇṇamā Suttas. The sole topic of the Cūḷa-puṇṇamā is *sappurisa* and *asappurisa*. This is likewise the sole topic of the Sappurisa-sutta (No. 113). Although these two Discourses approach their subject matter rather differently, it yet forms a strong link between them. There consequently emerges the further question of why there are not two Sappurisa Suttas. Was the chronology of naming the *M*. Suttas responsible, or was the subject matter? Some time such questions should be discussed.

The Mahā-puṇṇamā is virtually the same as the Puṇṇamā Sutta of the *Saṁyutta* (*S*. iii. 100 ff.). Both deal with the five groups of grasping (*upādānakkhandha*). As this important topic occurs in many of the Discourses recorded in the Nikāyas, it can provide no very distinctive title for any particular one, although it is true that there are various Upādāna Suttas in the *Saṁyutta* and at least two Khandha Suttas, while the *Aṅguttara* also contains two Khandha Suttas. Apart from this, the Mahāpuṇṇamā Sutta may be regarded as reasonably named if we (1) agree that its topic is weightier than that of the Cūḷa-puṇṇamā, (2) recognise its greater length, (3) allow the rightness of stressing in the title of the Ānāpānasati the subject matter of the Discourse rather than the time at which it was delivered.

I have suggested earlier in this article that, in order to assess why the *M.* pairs are distinguished from one another by the introduction of Mahā- and Cūḷa- into their titles, it would be best to examine each pair separately. For only then, if ever, could anything of a general nature be established. For this purpose, it would be convenient in the first place to take the pairs by the categories I have mentioned and in which they may be grouped: subject matter, proper name, and simile, with the addition of time (only the Puṇṇamā Suttas). The subject might profitably be further studied in conjunction with the wider one of the naming of all the Mahā-Suttas, including those in the *Dīgha,* all Cūḷa-Suttas (lacking in the *Dīgha*), and of all Suttas that are comparable in any way to the *Majjhima* ones wherever any of these may be found in the Pali Canon. This article has aimed at no more than giving a brief indication of some of the interesting problems connected with the naming and the titles of the *Majjhima's* pair of Vaggas and its seventeen pairs of Suttas.

I. B. HORNER

I. *The Cultural Background of the Veda*

IT is generally believed—and, to a large extent, rightly believed—that a proper understanding of the Veda affords the master-key which unravels many a problem relating to ancient Indian culture and civilization. Every serious student of ancient Indian civilization, therefore, begins, naturally enough, by asking himself the question: What is the Veda? Let me also then, by way of a general introduction to my lectures, today begin by posing such broad questions as: What exactly is connoted by the term, Veda? What is its real nature? What is its extent and what its cultural background?

When we speak, in more or less general terms, of Sanskrit language and of Sanskrit literature, we are actually speaking of two languages and of two literatures. In other words, there are, strictly speaking, two Sanskrit languages, the Vedic Sanskrit and the Classical Sanskrit, the one being distinct from the other in respect of several essential linguistic characteristics. Correspondingly, there are two Sanskrit literatures, the Vedic literature and the classical Sanskrit literature, the one being distinct from the other in respect of nature, extent, and cultural background. I shall try briefly to elaborate this point. In what way is the Vedic language distinct from the classical Sanskrit? It is well known that the science of comparative philology has established the position of Sanskrit as a very important member of the family of Indo-European languages. It is, however, not so very well known that by 'Sanskrit' is here meant principally the Vedic language and not so much the classical Sanskrit. The implications, from the linguistic point of view, of what I have just now said are indeed manifold. Without, however, going into the details of this question, I shall only emphasize what is pertinent to our present purpose, namely, that, so far as the study of Indo-European linguistics is concerned, the Vedic language has all along been distinguished from the classical Sanskrit. The second point of distinction, to which I shall now refer, is perhaps more tangible. I shall put it like this: The classical Sanskrit, as we know it, is essentially a static language. It is completely tied down by the rules of grammar—the grammar of Pāṇini and, to a certain extent, of his immediate successors. Accordingly there is, in that language, absolutely no scope for dialectical developments and no possibility of dialectical differences. For instance, the Sanskrit, as spoken and written in Kashmir, has been quite the same as the Sanskrit as spoken and written in the southernmost parts of India. Similarly the Sanskrit, as it was spoken and written in the days of Kālidāsa or Śaṁkarācārya, was not in any way different from the Sanskrit as it is today spoken and written by a Pandit of Banaras. To resort to a mathematical metaphor, Sanskrit has remained an 'invariable' in the time-space-context. As against this, the Vedic language had been growing and changing throughout its career.

It had, indeed, been a 'living' entity. The Vedic language as represented in the Ṛgvedic *mantras*, for instance, shows certain linguistic peculiarities which are absent in the Vedic language, as represented in the *Śatapatha Brāhmaṇa*. Again, the occurrence, in the Vedic language, of what are technically called 'prakritisms' would justify our positing the existence of several Vedic dialects. Such a language, with its proneness to change and growth, could not have failed to evoke significant psychological reaction from the speakers of that language. Another distinctive feature of the Vedic language, as against the classical Sanskrit, is the important role played in it by accent or *svara*. Apart from ensuring the rhythmic, musical character of the Vedic language, accent also governs the sense of a Vedic word. A story is told in Vedic literature of how an incorrectly accented word yielded a sense radically different from the one which was intended by the speaker and thus brought disaster on him, when he was, naturally, most unprepared for it. Gods and demons were, as usual, locked in battle—gods under the leadership of Indra and demons under that of Tvaṣṭā. For the time being, gods appeared to be in the ascendancy. Tvaṣṭā, who, incidentally, had already lost his only son, therefore, performed a sacrifice with a view to securing for himself another son who would vanquish Indra. He offered oblations into the sacred fire pronouncing his wish with the formula, *indraśatrur vardhasva*,—may a son grow who will be *indraśatru*. Now, as we all know, the word, *indraśatru*, is a compound and can be interpreted either as a genitive *tatpuruṣa* compound, that is to say, as *indrasya śatruḥ*, meaning one who is the slayer of Indra, or as a *bahuvrīhi* compound, that is to say, as *indraḥ śatruḥ yasya*, meaning one whose slayer is Indra. Tvaṣṭā, of course, wanted his son to be *indraśatru* in the *tatpuruṣa* sense—he wanted him to be the slayer of Indra. Now, according to the rules governing the accent of Vedic compounds, in a *tatpuruṣa* compound, the second member of the compound is accented, while in the *bahuvrīhi*, the first member is accented. As it happened, in his great excitement, Tvaṣṭā pronounced the word, *indraśatru*, in the formula, *indraśatrur vardhasva*, with an accent on the first member and thus made that word yield the *bahuvrīhi* sense. The sacrifice performed by Tvaṣṭā was otherwise perfect. As the result of it Tvaṣṭā did obtain a son—whom, incidentally, he called Vṛtra—who did indeed become *indraśatru*—but in the *bahuvrīhi* sense, and not in the *tatpuruṣa* sense as Tvaṣṭā had desired. Accordingly, Vṛtra, instead of becoming the slayer of Indra, became one whose slayer was Indra. I have recounted this interesting story in order to underline the important role of accent in the Vedic language and the scrupulous care which people were expected to take in respect of it. In classical Sanskrit, on the other hand, accent hardly plays any significant role. It will now become clear, from what I have said so far, why, from the linguistic point of view, the Vedic language has to be regarded as distinct from classical Sanskrit.

Far more striking, however, than the points mentioned above in connection with the two languages, are the points which distinguish Vedic literature from classical Sanskrit literature. The most distinctive claim made on behalf of the Veda is that it is *apauruṣeya*. Let us, for the time being, stick to the traditional view in this regard. According to that view, no human agency has been responsible for the creation of the Veda. The Veda is not man-made ; it is god-given. There are, no doubt, frequent references, in the Vedic literature itself, to several *ṛṣis* who are said to be responsible for the various Vedic *mantras*. But we have to understand this their responsibility in a limited sense. In order to make this point clear, the Vedic *ṛṣis* may well be compared to Columbus. Columbus did not create America ; he only discovered that land. Similarly, the Vedic *ṛṣis* did not create or compose the Vedic *mantras* ; they only 'saw' or discovered the *mantras*, which had been in existence from times immemorial. A *ṛṣi*, indeed, is one who 'sees': *ṛṣir darśanāt*. What the *ṛṣis* were able to see through their intuitive 'vision' is the Veda—the word, *veda*, being linguistically connected with Lat. *video* (= to see). That is, really speaking, why the Veda is also called *darśana*—that is to say, the object of immediate vision and not of mediate knowledge.

There is another imagery employed to bring out this character of *apauruṣeyatva*. The Veda is not infrequently called the *śruti*—that is, 'what is heard'. The music of the infinite, which is the Veda, had been going on since eternity. The ancient sages heard it and transmitted it to posterity as their richest heritage. The Veda is *śruti* in the sense that it is 'the rhythm of the infinite heard by the soul'. Obviously no such claim can be made on behalf of classical Sanskrit literature.

This traditionally accepted *apauruṣeyatva* of the Veda led to some very important consequences. It was argued that, being *apauruṣeya*, the Veda represents the most complete and the most perfect expression of truth. For, it is only what is created by man, which is most likely to be characterised, in one way or another, by defects and imperfections. The *apauruṣeya* Veda, which is naturally free from such defects and imperfections, must then be regarded as the most infallible authority in every walk of life. The *apauruṣeyatva* of the Veda thus logically led to *veda-prāmāṇya*, that is, to the concept of the unimpeachable validity of the Veda. Indian logic usually speaks of three main *pramāṇas* or means of knowledge—*pratyakṣa* or direct perception, *anumāna* or inference, and *śabda* or the Vedic authority. Of these three the first two, namely, *pratyakṣa* and *anumāna*, are likely to be vitiated by the natural deficiencies and imperfections of human sense-organs and intellect. Accordingly, their validity is only relative. The third *pramāṇa*, namely, *śabda* or the Veda, on the other hand, being *apauruṣeya*, is free from such deficiencies and imperfections and must, therefore, command absolute validity. Such faith in the absolute validity of the Veda is indeed one of the main planks

of Brahmanic ideology. Verily it is this criterion which demarcates the two main currents of thought—the *āstika* and the *nāstika*—which have flown side by side throughout the cultural history of ancient India. The *āstikas* (usually called the orthodox) are not, as popularly understood, the theists—those who believe in the existence of god ; they are those, who have perfect faith in the absolute validity of the Veda, while the *nāstikas* (the heterodox) are those, who challenge this claim of absolute validity made on behalf of the Veda.

Another distinctive claim made on behalf of the Veda—a claim, which, in a sense, originates from its *apauruṣeyatva*—is that the Veda is the fountain-head of all knowledge. Religion and philosophy, law and history (*itihāsapurāṇa*), fine arts and natural and technical sciences—the beginnings of all these branches of knowledge are traditionally traced back to Vedic sources. This fact would not surprise us if we should take into account the vastness of the extent of the Veda. Setting aside the traditional view regarding the *apauruṣeyatva* and looking at things from a strictly historical point of view, one would easily realise that the Veda could not have been produced by one author—not even by one generation of authors ; it must have been the outcome of the intellectual labours of generations of authors through centuries. What is true in the context of time and authorship is also true in the context of space. It is not possible to assign the production of the Veda to any restricted geographical locality. Indeed, without being guilty of exaggeration, one may say that the activity which gave rise to the Veda did, in a sense, extend from the Volga to the Gaṅgā. All this vastness of extent, from the points of view of chronology, authorship, and geographical locality, naturally resulted in the manifold character of the form and the contents of the Veda. Though, therefore, the Veda is popularly regarded as the sacred scripture of Hinduism, in the sense in which the Koran is regarded as the sacred scripture of Islam and the Bible of Christianity, we have necessarily to distinguish the Veda from the other two works. It is well and truly said that the Veda is not one single book, it is verily a whole library and literature.

And this brings us to perhaps the most characteristic feature of the Veda—a feature, which clearly distinguishes it from classical Sanskrit literature. In spite of its great complexity and diversity in the matter of form and contents, the Veda, as a whole, is actually found to be characterised by a remarkable unity. As will be shown in the sequel, this unity is a kind of logical unity—that is to say, a unity brought about by the logical development of thought from one period of Vedic history to another. Of perhaps no other literature than the Veda can it be said that it so faithfully reflects and is so deeply influenced by contemporary life. Throughout the cultural history of the Vedic age, Vedic literature and Vedic life have vitally acted and reacted on each other. The thread of historical development which runs through Vedic

life also binds together, in a unified whole, the various literary works, which are collectively called the Veda. Consequently, the importance of the Veda as a valid source of ancient Indian cultural history is far far greater than that of classical Sanskrit literature.

A reference may be made in passing to two other peculiarities of Vedic literature. The first is that the entire volume of the literature, which is known as the Veda, has been handed down, from generation to generation, through oral tradition. The Veda was not written and read ; it was recited and heard. This is another reason why the Veda is known as *śruti*. The fact that such an extensive literature has been preserved intact, through the ages, without being reduced to writing must indeed be regarded as the most unique phenomenon in the literary history of the world. It may, however, be added that, perhaps, it was the oral tradition itself, which helped to preserve the Vedic texts perfectly intact. For, as the students of textual criticism know, it is in the written-out texts that corruptions, omissions, and interpolations creep in and, in course of time, become rampant. And how wonderful are the devices, which the Vedic poet-priests had developed to facilitate the memorising and the perfect preservation of their texts ! A single *mantra* from the *ṚV.*, for instance, was studied in at least five—originally, perhaps, there were many more—modes of recitation. Various kinds of permutations and combinations of the words in a *mantra* were ingeniously thought out and marshalled into service. There is the normal mode of recitation, governed by the rules of metre and rhythm, which is called the *saṁhitā-pāṭha*. Then there are the *pada-pāṭha*, where each word in a *mantra* is pronounced separately without coalescence or *saṁdhi* and with its own specific accent ; the *krama-pāṭha*, where the words are recited in the order : ab, bc, cd, de . . . ; the *jaṭā-pāṭha* (ab, ba, ab ; bc, cb, bc ; . . .) ; and the *ghana-pāṭha* (ab, ba, abc, cba, abc ; bc, cb, bcd, dcb, bcd . . .). And all these complicated labours of the Vedic poet-priests did yield marvellous results. For, to take an example, the entire *Ṛgveda*, which consists of 1,028 hymns (about 10,560 *mantras* or about 74,000 words), has, through over three millenia, remained perfectly free from *veriae lectiones*—except in one passage (= VII. 44.3), where the reading is either *bradhnam maṁścator varuṇasya babhrum* or *bradhnam māṁścator* . . .

But there is also another side to this peculiarity, namely, the oral transmission of the Veda. It is more than probable that, owing to the fact that the Veda had not been reduced to writing, a considerable amount of literature produced by the Vedic poet-priests was lost in course of time. Again, there are clear indications that there did exist, in those early days, certain literary traditions which had not been given a fixed literary form, which, in other words, continued to remain in a fluid and floating condition, and which, accordingly, must have become lost to us. In other words, the Vedic literature, which is available to us today, does not represent the entire literary output

of the Vedic age. I am often tempted to compare the literature of the Vedic age—indeed, the entire Sanskrit literature—with an iceberg. Just as a major portion of the iceberg is submerged under waters, only a smaller portion of it being visible to us, even so, perhaps a major part of the literature of the Vedic age is buried in the abyss of time and only a small part of it has become known to us. A historian of the Vedic age can ill afford to ignore this fact.

Though what I have said so far relates mostly to the externals of the Veda, I believe that it has helped to prepare the ground for my main task today, which is to analyse the cultural background of the Veda. For such an analysis, it would be convenient to divide the literature of the Vedic age into certain distinct periods. These periods may either be chronological or they may be logical. As it is, in the case of the Veda, as I shall endeavour to demonstrate presently, the chronological periods correspond perfectly well with the logical periods.

The history of the antecedents of the Vedic Indians[1] shows that certain tribes from the common Indo-European stock migrated from their primary Urheimat in the Ural-Altai region towards the south-east and, in course of time, settled down in the region round about Balkh. Here they seem to have lived for quite a long stretch of time—indeed, for so long a time that they soon began to regard that region itself as their original home. These people, who are generally known as the Aryans, were the ancestors of the Vedic Indians and the ancient Iranians. It was in the region round about Balkh that these Aryans developed the Aryan language, which must be regarded as the parent of the Vedic language and the ancient Iranian language, and the Aryan religio-mythological thought, which eventually gave rise to the religions and the mythologies of the Veda and the Avesta. In course of time there occurred further migrations of these Aryans—some warlike, adventurous tribes from among them left the region of Balkh and advanced towards the land of seven rivers in their quest for fresh fields and pastures new, while other tribes of a more quiet and peaceful temperament gradually moved to the south-east and finally settled down in a land, which later came to be called *āryāṇām* (of the Aryans)—Iran, that is the land of the Aryans. We are of course here concerned with the warlike tribes who advanced—often aggressively—towards the land of the seven rivers—the tribes who were the immediate forefathers of the early Vedic Indians. One of the main features of the Aryan religio-mythological thought, which constituted the common heritage both of the early Vedic Indians and the ancient Iranians, was its cosmic character. The Aryans, like their other Indo-European brethren, always lived close to nature. Their early religious thought was, therefore, conditioned by the peculiar way in which they reacted to the vastness and brilliance of nature. Like their other Indo-European brethren, the Aryans also gave expression to their sense of awe, occasioned

1. For a detailed statement on the subject see *PIHC X* (Bombay, 1947), pp. 24-55.

by the vastness and brilliance of nature, through the mythical concept of the Father Sky—Vedic *Dyauḥ* or Greek Zeus, Vedic *dyauḥ pitar* or Roman Jupiter. What must, however, be regarded as a unique contribution of the Aryans to mythological ideology is the striking advance which they made over this ancient Indo-European concept. The Aryans seem to have realised—and this realisation on their part, indeed, marks a distinct stage in the development of human thought—that the universe or nature, vast as it is, is not an unregulated, haphazard entity but that it is governed by some definite law. In other words, the universe is not chaos ; it is cosmos. The concepts of this cosmic law (the Vedic *ṛta* and the Avestan *asa*) and of the dispenser of this law, the cosmic magician Asura Varuṇa or Ahura Mazda, are essentially Aryan and, to a large extent, constitute the main theme of the common mythological heritage of the early Vedic Indians and the ancient Iranians. The *mantras* relating to this, what may be called, cosmic-worship—in both its aspects, the Dyauḥ-aspect and the Ṛta-Varuṇa-aspect—which were produced by the early Vedic Indian poet-priests may be said to represent the beginnings of the Veda. Another important feature of the Aryan religion was fire-worship. A comparative study of the Indo-European religions would show that the worship of fire, as such, is found only in the Vedic and the Avestan religions. Ignis, the Latin counterpart of Agni, has no religious significance whatsoever, and the worship of Roman Vesta (= the goddess of the hearth) and Greek Hestia can hardly be said to correspond with the fire-worship as it had been developed among the Aryans. The Vedic poet-priests, like their Iranian compeers must have produced several *mantras* relating to fire-worship. In addition to these two types of *mantras*, which owe their origin to the common religio-mythological ideology developed by the Aryans, the Vedic Indians produced *mantras* relating to a religio-mythological ideology, which was essentially their own. The early Vedic Indians were an aggressive, warlike people. From their secondary Urheimat in the region round about Balkh they set out on an adventurous campaign in the south-eastern direction. This their onward march was by no means smooth or uneventful. They had to face, on the way, strong opposition from various antagonistic tribes, whom they collectively called the *dāsas* or the *vṛtras*. But under the leadership of their heroic leader, Indra, they successfully overcame all that opposition and eventually entered the *saptasindhu* country. To suit this new phase in their cultural life, the early Vedic Indians evolved, in the course of their victorious campaign, a new type of religion. It was the religion of what may be called hero-worship.

Broadly speaking, therefore, while living in the region of Balkh and during the course of their progress towards Saptasindhu, the Vedic poet-priests produced *mantras* or prayers mainly relating to the three aspects of their religion—the cosmic-worship, the fire-worship, and the hero-worship. But this threefold religious thought cannot certainly be said to constitute the entire religious thought of the Vedic Indian community. By its very nature it must

have been restricted to the classes of poets, priests, and warriors. Side by side with it, there must have been in existence, as among other primitive peoples so too among the Vedic Indians, the usual religion of the masses—religion, that is to say, embodying magic, witchcraft, superstition, etc. Naturally enough, there were produced *mantras* relating to this religion of magic as well. The word, *mantra*, is indeed a very remarkable word. It is employed with reference to both the above-mentioned currents of the Vedic religious thought. In relation to the religion of cosmic-worship, fire-worship, and hero-worship, *mantra* means a prayer, while, in relation to the religion of magic, it means a magical formula or incantation. These two types of *mantras*, relating to the two currents of religious thought, which the Vedic Indians produced in the region of Balkh and in the course of their victorious march towards Saptasindhu represent the beginnings of what, in later times, came to be called the Veda. In a sense, therefore, the Veda must be said to have been born outside India. These *mantras* thus constitute the first period of the literature of the Vedic age. As I have tried to indicate, the character of the contents of the literature of the Vedic Indians, during this period, was directly influenced by their peculiar way of life and thought. Not only this. The form of that literature also was conditioned by their way of life. During this long stretch of time, the Vedic Indians lived, as should be quite obvious, a nomadic, unstable life. Their literary creation, namely, the various *mantras*, also were correspondingly more or less fluid in form. They were not then given a fixed literary form. They were being continually revised and modified. These *mantras*, again, were all scattered about in an unorganised form. In other words, the unsettled, unstable way of the life of the Vedic Indians was reflected in the fluid and scattered condition of these *mantras*.

As the culmination of a series of victorious battles which they fought on their way from Balkh to Saptasindhu under the behest of Indra, who had by this time been transformed from a heroic leader into the national war-god, the Vedic Indians entered the land of seven rivers (which, incidentally, seems to have included the present Afghanistan, the N.W.F., and West Panjab) avowedly in order further to conquer, to colonise, and to civilize. It may be presumed that they were greatly impressed by the natural richness of Saptasindhu. Fertility of the soil, abundance of water, regularity of seasons, invigorating sunshine—all these geophysical factors must have been responsible for the decision of the Vedic Indians to settle down in that country. Accordingly, in course of time, there arose in Saptasindhu various settlements and colonies of the Vedic Indians. Now they began to lead a more or less settled life. And this change in their way of life had its inevitable effect on their religious thought, practices, and literature. The old *mantras*, produced by their immediate ancestors were already there, though in a scattered condition. Many of these were being revised and refined and generally given a fixed literary

form. New *mantras* also were being produced. But what was perhaps most significant in this connection was that the Vedic poet-priests now thought of collecting together all the old and new *mantra* material and organise and arrange it properly. This tendency to collect and arrange the large mass of scattered *mantras* only reflects the comparatively stable, settled, organised way of life which the Vedic Indians had developed by this time. All the old and new *mantras* were first brought together into two collections according to the character of the *mantras*—the *mantras* relating to cosmic-worship, fire-worship, and hero-worship formed one collection or *saṁhitā* and the *mantras* relating to magic, witchcraft, etc. formed the other collection or *saṁhitā*. It is needless to add here that we can speak of such classification of the *mantras* only in a very broad sense and only for the sake of the convenience of understanding. It may, however, be emphasized that the characterisation of the *mantras*, included in the two collections, as belonging to one kind of religious pattern or the other is by no means exclusive; it is necessarily representative. Incidentally it may be pointed out that even the term, 'religion', employed in this context is, strictly speaking, not quite apposite. A critical student of the history of human thought—particularly in so far as it pertains to man and his place in the universe—knows very well that that thought has, until now, developed through three distinct stages—the stage of magic, when man regarded himself essentially as a part of and not apart from the universe; the stage of religion in which man and universe (that is, spirit and matter) came to be differentiated from each other and both made subservient to a third entity, namely, god; and, finally the stage of science, which has again emphasized the peculiar kind of identity of the differentiated entities, namely, spirit and matter. However tantalizing this subject might be, I can hardly be justified in allowing myself such digression. I shall, therefore, only say this much, namely, that the early Vedic thought seems to oscillate between magic and religion—and now revert to my main theme. The bringing into being of the two collections of *mantras*—this process is technically known as the *saṁhitīkaraṇa*—must be said to represent the second period of Vedic literature. It is the *saṁhitā*-period succeeding the *mantra*-period—both logically and chronologically. The *saṁhitā*, which was mainly a collection of *mantras* relating to cosmic-worship, etc.—in other words, relating to the religious ideology which had developed among the classes of poets, priests, and warriors—was called the *Ṛgveda*; and the *saṁhitā* which was mainly a collection of *mantras* relating to magic, etc.—in other words, relating to the religious ideology of the masses—was called the *Atharvaveda*. It was, of course, natural as also inevitable that some *mantras* of one kind should have come to be included in a collection of the other kind—that the so-called Ṛgvedic prayers should have been included in the *AV* and the Atharvanic magical formulas included in the

ṚV. It is, therefore, only in a representative and not an exclusive sense that the *ṚV* can be characterised as the Veda of the classes and the *AV* as the Veda of the masses. Within these *saṁhitās* also, the *mantras* were not collected in a haphazard manner. A definite scheme was evolved and more or less scrupulously stuck to. The *mantras* in the *ṚV* which were grouped together to form various hymns, were first classified according to their authorship. It is interesting to note how, in this respect also, a feature of the life of the Vedic Indians has significantly influenced their literary activity. The scattered *mantras* in the *mantra*-period were regarded as essentially belonging to the community as a whole. This was just as it should be when people lived a truly communal life. After their early settlements in Saptasindhu, and, perhaps, as a result of these however, the Vedic Indians seem to have developed a new pattern of social life in which family, in a larger sense, became the recognised social unit. It was, therefore, the authorship of a particular family which served as the criterion for classifying the hymns of the *Ṛgveda*. These hymns were no longer regarded as belonging to the community as a whole ; they now came to be recognised as the literary production of specific families of Vedic poet-priests. The *ṚV-saṁhitā*, accordingly, came to be divided into ten family books (which are called *maṇḍalas*). Within these *maṇḍalas*, again, there was further a fixed order of arrangement of hymns—technically known as the *maṇḍalādiparibhāṣā*—which is governed by the consideration of the *devatās* and the extent of the hymns. We can speak of such *saṁhitīkaraṇa*, which implies the collection and the arrangement of the scattered *mantras* according to certain fixed criteria, only in respect of the *ṚV* or the Veda of the classes. It is well known that what is known as the family-consciousness is not so very predominant among the masses. The principle of family-authorship has, therefore, not been applied to the *AV* or the Veda of the masses. The names of two ancient seers, Bhṛgu and Aṅgiras, are, no doubt, closely associated with that Veda. But a careful study will show that it is not so much to assert the authorship of their families that the names of Bhṛgu and Aṅgiras are organically connected with the *AV*; it is rather to emphasize the fact that the *AV* embodies the two types of magic which had been traditionally associated with the names of Bhṛgu and Aṅgiras—the wholesome (that is, *bhaiṣaja*, *śānta*, and *pauṣṭika*) magic of the Bhṛgus and the black or exorcistic (that is, *ghora* or *ābhicārika*) magic of the Āṅgirasas. It is indeed on account of this two-fold magic that the *mantras* of the *AV* can claim to possess the power ' to bless, to appease, and to curse '.

The *saṁhitā* period saw the growing prosperity of the Vedic Indians—both in political and social spheres. Their original tribal settlements assumed, in course of time, the form of territorial states and monarchical kingdoms. Prominent among these latter were the kingdoms of the five tribal leaders—Puru, Anu, Druhyu, Turvaśa, and Yadu. The political

prestige of these five kingdoms indeed became so great that the entire Vedic Indian community—as against the original inhabitants of Saptasindhu—came to be characterised as *pañca janāḥ*—the five peoples—that is to say, the peoples coming under the political domination of the above-mentioned five states. At the same time, new and more adventurous tribes of immigrants were still pouring into the land of the seven rivers. One such tribe was the tribe of the Bharatas, who were making rapid progress under the military leadership of Sudās and the priestly guidance of Viśvāmitra. Sudās was a very ambitious person. It was his ambition to bring all the earlier Vedic Indian kingdoms and settlements, including the five ones of Puru, Anu, etc., under the political supremacy of the Bharatas. Between the newly founded settlement of the Bharatas and the earlier five kingdoms of Puru, Anu, etc. there lay the powerful principality of the Tṛtsus, who, presumably, were once closely connected with the Bharatas. Sudās, who was a great military leader, was also a shrewd politician. He soon realised that, if he could win over the Tṛtsus to his side as his military and political allies, his campaign against the five states would be considerably facilitated and the chances of his dream of political supremacy coming true would be brighter. He, therefore, started taking steps in that direction. The most influential personality among the Tṛtsus was their *purohita* (or priest), Vasiṣṭha. Sudās offered Vasiṣṭha the office of the *purohita* of the valiant tribe of the Bharatas and in return demanded the political and military alliance of the Tṛtsus. To cut a long story short, Sudās eventually dismissed his original *purohita*, Viśvāmitra, and appointed Vasiṣṭha in his place. As the result of this strategy the Bharatas and the Tṛtsus came to form a single political and military unit with Sudās as their leader and Vasiṣṭha as their *purohita*. The germs of the notorious antagonism between the families of Vasiṣṭha and Viśvāmitra are, perhaps, to be found in this ancient episode. Viśvāmitra was naturally enraged at this summary treatment given to him. He was certainly not a man to take things lying down. He, accordingly, went over to the five older kings and prepared them strongly to resist the aggressive plans of Sudās. A military confederation of ten prominent kings was eventually formed for this purpose—a confederation, which comprised Vedic Indian as well as non-Aryan Indian elements. The battle between the Bharatas and the Tṛtsus on the one side and the confederation of ten kings on the other is traditionally known as the *dāśarājña-yuddha* (or, the battle of ten kings). In this battle, which constitutes an important landmark in the early political history of the Vedic Indians, Sudās was ultimately victorious and the Bharatas attained political domination—a domination, which, incidentally, they continued to enjoy for a long time afterwards and which, perhaps, gave India her name, Bhāratavarṣa. It was claimed that it was not only the military might of Sudās that was responsible for this victory. Far more efficacious, perhaps, in this connection was the

magical potency of the *mantras* of Vasiṣṭha (*satyā ṛtsūnām abhavat purohitiḥ—RV VII.* 83.4). All these and allied details regarding the battle of ten kings have found their rightful place in the *ṚV*.

Far more significant, from our present point of view, than these political developments was the marked change in the social and economic life of the Vedic Indians. Agriculture and cattle-breeding were vigorously practised and these eventually paid good dividends. People as a whole were becoming generally rich and contented and their way of life also was becoming more complex. The new economy created in them a sense of security and, what is more pertinent, afforded them enough leisure. As is well known, it is this sense of security and leisure which helps to make a simple religion complex. That is exactly what happened in respect of the Vedic religion. The religion of the *saṁhitā*-period—both of the classes and of the masses—must indeed be said to have been comparatively simple, particularly so far as its practices were concerned. But the changed conditions in the life of the Vedic Indians did not fail to react on the character of their religion. The character of the religion of a people is determined by the way of life of that people. Accordingly, the sense of prosperity and security newly achieved by the Vedic Indians and the ample leisure which they had now at their command encouraged them to make their older simple religion more elaborate and complicated. As a matter of fact, quite a new religious cult came to be evolved —the cult of Vedic sacrifice, which gradually superseded the religion of cosmic-worship, hero-worship, etc. It must be emphasized, at this stage, that the concept of sacrifice as such was not new to the Vedic Indians. Like all other primitive peoples they too had their own kind of sacrifice. What, however, they did in the latter part of the *saṁhitā*-period was to load the institution of sacrifice with innumerable and exceedingly complicated details relating to such items as the number of sacred fires, the number of officiating priests, time and place of the performance, formulas to be recited, oblations to be offered, utensils and other material to be used, etc.—details, which were, indeed, quite unheard of in connection with the primitive Aryan sacrifice and which were governed more by the rules of magic than of logic. They thus transformed the ancient ritual into a kind of mechanical sacerdotalism. This new, complex institution of Vedic sacrifice naturally demanded a literature of its own—a literature, that is to say, which would be devoted more or less exclusively to the discussion of the theory and practice of Vedic ritual. And such literature had, indeed, been in the making and it soon dominated the literary world of the Vedic Indians. It comprised the *Yajurveda* and the *Sāmaveda*, which, though traditionally characterised as *saṁhitās*, are, so far as the main trends and tendencies of their contents are concerned, actually subservient to Vedic ritual, and more particularly the *brāhmaṇas*. It is after these latter texts that I propose to call the third period of the history of the Veda as the *brāhmaṇa*-period. The

brāhmaṇas, as literary works, are as complex and complicated in character as the theme with which they deal, namely sacrifice. In them, all the minute details of sacrifice were marshalled and discussed thread-bare—and this with such egregious earnestness as to imply that nothing else mattered in the world. And, in a sense, nothing else but sacrifice did, indeed, matter so far as the Vedic Indians, in that period, were concerned. For, sacrifice had become almost the centre of their entire social life. It was no longer regarded as a means to an end ; it became the end in itself. The authors of the *brāhmaṇas* seem to wax eloquent when they have to debate even a petty point relating to the sacrificial procedure. Indeed, the pettier the point the more eloquent and earnest was the discussion about it. But, as a matter of fact, in the way of thinking of the Vedic poet-priests of this period, nothing relating to sacrifice could at all be petty or trifling. For, according to them, a sacrifice could either be perfect and blameless in all its minutest details and thus became completely efficacious or it could be deficient in one single minor detail and thereby became not only a failure, negatively, but positively operated as a source of danger and disaster. There was, in this respect, no half measure. It was because they failed to appreciate this peculiar ideology of the Vedic poet-priests that scholars like Max Müller were tempted to remark, that the *brāhmaṇas* were a twaddle and, what was worse, they were a theological twaddle. And does such a remark not ignore other significant features of the *brāhmaṇa* texts, such as, for instance, those which pertain to the literary history of ancient India ? It seems to have been the claim of the authors of the *brāhmaṇas*—a claim, which, incidentally, it is impossible to uphold—that almost every Vedic *mantra* was primarily intended for being employed in connection with some or other item of sacrifice. While, therefore, discussing the ritualistic purpose, which the various *mantras* were expected to serve, the authors of the *brāhmaṇas* have incidentally given their own interpretations of those *mantras*. Tendentious though these interpretations may have often been, the fact cannot be gainsaid that, in a sense, the *brāhmaṇas* constitute the earliest commentaries on the *saṁhitās*. Another significant feature of the *brāhmaṇas* is that, with the *Yajurveda*, they represent the first specimens of Sanskrit prose. The fact that the *brāhmaṇas* have been written in prose is easily understandable ; for, prose is often found to be more suitable for complex hair-splitting. The importance of the *brāhmaṇas* as a repository of ancient legends must also not be overlooked in this context. For our present purpose, however, it is the consideration of the social repercussions of the institution of sacrifice and of the *brāhmaṇa* texts that is more important. Sacrifice had been loaded with so many details and its procedure had become so very complex and elaborate that it became absolutely impossible for an ordinary person to master those intricacies of ritual and adopt it as a form of worship on his own. The natural consequence of this was that an independent class of priests

gradually came into being. The character and functions of these new ritual-priests were obviously different from those of the poet-priests of the *mantra* and the *saṁhitā* periods. These new ritual-priests now assumed the position of the inevitable intermediaries between man and god. A worshipper (or, to be more precise, a sacrificer) was now more or less a passive factor in the entire sacrificial procedure. Preparations for the sacrifice were made, formulas were recited, and oblations were offered by the various officiating priests, while the sacrificer himself was there only in name, for, all this was apparently being done in his name. As has been already pointed out, sacrifice had become almost the centre of the social life of the Vedic Indians in that period. In some ways, therefore, sacrifice may have promoted various other social activities incidental to it. But all that was only incidental. The more serious repercussions of this all-pervading power of sacrifice are indeed to be seen elsewhere. The master-key to the whole sacrificial system was in the exclusive keeping of the newly arisen class of priests, who indulged vociferously in the intricate details of that cult and who must have, in their own interest, continued to multiply those details. It was, therefore, but natural that, in course of time, this class should have dominated and, to a certain extent, exploited the credulity of the other classes in the Vedic society. People were not entitled to ask questions regarding the validity or significance of the various sacrificial details. For, as the priests claimed, every one of those details was duly prescribed and sanctioned by the scriptures. And the correct interpretation of those scriptures was, of course, the one which the priests themselves offered. This state of things engendered among the people at large a sort of intellectual slavery—an attitude of blind acceptance. The *brāhmaṇa*-period thus saw the social and intellectual domination of the priestly class over the other classes of society.

The next period, namely, the *upaniṣad*-period, is essentially a logical consequence of the *brāhmaṇa*-period. History has shown us that the domination of one class of people over the other classes cannot continue for a long time. Sooner or later a violent reaction against that domination is bound to make itself felt. There did, accordingly, arise, in the *upaniṣad*-period, a band of new thinkers who boldly challenged the spiritual validity of the sacrificial system and even the authority of the scriptures, on which that system was claimed to have been based. The attitude of inquiry now prevailed in the place of the attitude of acceptance. The banner of free thinking was raised and people were encouraged to think for themselves and to ask questions. And questions they did ask with an exuberance which was but natural after a long period of intellectual confinement. Their questions extended from such näive ones as : ' if the cow is red, why should her milk be white ?' to such profound ones as those relating to the nature of man, universe, and the ultimate reality. Though the *upaniṣads* deal with these latter questions more

or less exclusively and thus mark, in a sense, the beginnings of the philosophical literature of India, they cannot be said to embody any system of philosophy in the strictest sense of the term. They indeed constitute but 'the songs before sunrise'. The teachers of the *upaniṣads* brought about the shifting of emphasis from the mere form of religion to the true spirit of religion. Brahmanical ritualism made place for upaniṣadic spiritualism. The teachers of this new spiritualism did not come necessarily from the older priestly class. Indeed, there were instances where members of the priestly class went over to the members of the non-priestly classes and the members of socially higher classes went over to members of lower classes for instruction and enlightenment. This certainly helped to liberalise, at least to a certain extent, the exclusive social order of the earlier period. In view of what has been said so far, and only to the extent indicated, the *upaniṣads* may be characterised as the harbingers of a social and an intellectual revolt. The upaniṣadic teachers threw open to all classes, without any distinction, the doors of philosophical knowledge and religious practice. In a sense, they may be said to have promoted what may be called a spiritual democracy.

So far, however, as the history of Vedic life and thought, as such, is concerned, all this achievement of the *upaniṣads*, remarkable as it is, seems to have been outweighed by certain peculiar weaknesses of their teachings. For one thing, the teachings of the *upaniṣads* cannot be said to have been quite adequate for the common man. For, their understanding and realisation demanded a high intellectual level and an austere spiritual discipline. The absence in the *upaniṣads* of any consistent system of thought and the generally mystic character of their teachings were hardly likely to appeal to the people. Again, the upaniṣadic teachings were far too individualistic to be able to hold people together even in a spiritual brotherhood. The upaniṣadic period did not produce any one single leader of thought under whose banner people could muster and forge ahead in their spiritual quest. A multiplicity of teachers and thinkers—all equally great—more often than not, proves a disadvantage. Similarly the emphasis put by the upaniṣadic teachers on abstract metaphysical thought and the ideal of renunciation made them entirely neglect the practical aspect of the spiritual life of the people. In other words, the *upaniṣads* gave to the people some philosophy but no religion. Though, therefore, what the *upaniṣads* aimed at and what they actually achieved was really great, their influence as a whole seems to have been short-lived. Consequently, from the point of view of the evolution of Vedic thought and life, the upaniṣadic period was followed by a break in the continuity—by an interregnum.

This interregnum saw the growth of what are usually called the heterodox systems of thought—particularly of Jainism and Buddhism. It is possible to trace the beginnings of many of the essential tenets of these systems to

pre-Vedic proto-Indian thought-complex. This latter, as we saw, was, in the meantime, superseded—though superficially—by the Vedic Aryan thought. Now, however, in the peculiar circumstances created by the upaniṣadic period, that thought began to assert itself in various ways and forms. The *upaniṣads* had already inaugurated an era of free-thinking. They had challenged the traditionally accepted authority of the Vedic scriptures. They had also helped to liberalise, to some extent, the exclusive social order sponsored by Brahmanism. This was indeed a most propitious background for the promotion of the heterodox systems of thought. These systems not only took advantage of that background but considerably strengthened their own position by avoiding the weak points from which the *upaniṣads* suffered. For instance, in contrast with the *upaniṣads*, they offered a more or less consistent teaching. By laying perhaps a greater emphasis on ethical conduct than on abstract metaphysical thought they made their appeal truly all-comprehensive. They had realised the importance of missionary activity in the field of spiritual life and, through their *saṅghas*, they approached the people at large with the message that religion and philosophy, in their broadest sense, do not constitute a preserve intended only for a select few but that every one, who possesses the necessary earnestness and faith, can avail himself of them. And, above all, these heterodox movements of thought had the unique advantage of the inspiring leadership of outstanding personalities like Buddha and Mahāvīra. The Vedic way of life and thought, which had, by then, developed up to the upaniṣadic period, suffered greatly on account of these new forces. Though it cannot be said to have been completely overwhelmed by them, it did receive a set-back. Apart from the growing strength of the heterodox systems of thought, this period of set-back also saw the reaction to the ideal of complete renunciation from this worldly life, sponsored by the *upaniṣads*, in the form of the enunciation of new ideals in polity and social regeneration.

But, after all, this period proved to be only an interregnum. There had still remained many enthusiastic adherents of the Vedic way of life and thought though they had become temporarily dormant. They now consolidated their forces with a view to resuscitating their ancient heritage. They had learnt from experience that, in order to accomplish this resuscitation, it would be necessary to reorganise, systematize, simplify, and popularise the entire Vedic way of life and thought. Fresh literary, efforts were, accordingly, made in this direction—efforts, which must be said to have inaugurated the fifth and the last period of Vedic literary history. The principal literary works of this period, which are obviously meant to be ancillary to the Veda, are characterised by the unique literary form which had been developed about this time, namely the *sūtra*-form. This period may, therefore, be called the *sūtra-vedāṅga* period. The Vedic teachers started by producing three kinds of *sūtras*—the *śrauta-sūtra*, the *gṛhya-sūtra*, and the *dharma-sūtra*, which may,

broadly speaking, be said to relate respectively to the religious aspect, the personal and domestic aspect, and the social and political aspect of the life of the Vedic Indians. They also produced several other works, which served as efficient aids to the study and understanding of the Veda. The history of ancient India shows that this comprehensive cultural movement, which was started with a view to reorganising, consolidating, and popularising the Vedic way of life and thought, yielded very striking results.

Such then are the extent, the nature, and the cultural background of the Veda. I have so far spoken of the various periods of the history of the Veda. Let me, however, hasten to add that these periods can by no means be demarcated in a hard and fast manner. I am, indeed, often tempted to compare the Veda with a rainbow. Just as it is not possible precisely to mark out where one colour of the rainbow ends and the other begins—one colour almost imperceptibly fades out into the other—even so it is not possible to say where one Vedic period ends and the other begins, for the trends and tendencies of one period, not infrequently, pass on to the next and then gradually become extinct. There is also another significant aspect of this metaphor. Does the Veda, like a rainbow, not constitute one of the most remarkable examples of unity in diversity ?

R. N. DANDEKAR

The Prodigal Daughter

IN a note on Horace's Cleopatra ode, published in *University of Ceylon Review* for July 1951, I attempted a musical comparison, suggesting that a theme stated keeps coming back with variations, like the fugues in a musical composition. The purpose of this note is to suggest that another of Horace's odes, the 27th of Book III, ' To Galatea Undertaking A Journey ', also has what may be called fugal passages—passages whose cumulative effect is not less powerful than in the Cleopatra ode.

In that ode, what recurs again and again is a theme of wine-drinking. The ode to Galatea has more than one recurring theme. In the third stanza Horace invokes the raven, omen of good weather, to forestall the crow's omen of stormy weather for Galatea's journey. Forty-four lines further on, Europē calls on hungry tigers to forestall devouring time in preying upon the crimson in her cheek. Each of these widely separated stanzas, the third and the fourteenth, opens on the word *antequam*. In the fourteenth is it recognizable as the same theme played in another key ?

Distinct from this is the figure of an arrow's flight. The theme is stated in the second stanza, *per obliquum similis sagittae*. When it comes again, in the seventeenth stanza, it is not merely the likeness, but the very arrow. Though there is no direct mention of one, the arrow's flight has been swift and sure—*remisso filius arcu*.

When arrow-like a snake darts across the road, its effect is to break off an imagined journey. When Cupid's arrow has slanted across, Europē's lamentation goes no further. Here is poise and counterpoise.

While the snake's dart across the road is distinct from the crow's prognostication of foul weather, each of these themes is but a variation of a still earlier theme—the theme indicated by the words *omen ducat* in the opening stanza. The crow omen repeats that in one key, and the snake omen in another; each in turn is an offshoot of *omen ducat*.

That primal *ducat* is, moreover, the progenitor of yet another strain of sequences. The first verb in this ode is *ducat*. It is a verb in the subjunctive mood, and its outlook is concessive, subordinated to something beyond. Let such omens, it says, convoy the wicked ; for Galatea there must be better.

It sounds again in the eleventh stanza, and this time it is *ducit*, in the indicative. Yet it tells nothing: it only questions: *an . . . ludit imago vana quae porta fugiens eburna somnium ducit ?* Is she, Europē asks, the dupe of a vain phantom ?

Duped she is: *lusit* in the eighteenth stanza answers the questioning *ludit* of the tenth. Here again is poise and counterpoise.

Europē is duped; yet what dupes her is no phantom vain: it is that which is most real when most it dupes. The answering *lusit* is potent, because in illusion lies the power of love. The world of prose subdued, the rational impulse hushed, Europē stands as one 'silent upon a peak in Darien'. Venus speaks only when her auditor is under the spell: *ubi lusit satis . . . dixit.*

The questioning *ludit* has been followed by an answering *lusit.* But waiting for answer still is Europē's questioning *ducit.* In the poem's end is the answer: when Venus speaks, her final word is *ducet. Ducet* brings back an echo of the forgotten, primitive *ducat* of line 2. *Ducet* answers the imploring *ducit* of line 42. And when the sad Europē hears it, she feels her journey's end is grander than she knows.

She has been prodigal of her affection—*modo multum amati cornua monstri.* As a prodigal's has been her parting from her father's home—*pater, o relictum filiae nomen pietasque.* Six stanzas have carried the prodigal daughter's despairing repentance; and two-and-a-half the rage of her absent father. In the broken seventeenth stanza are juxtaposed the royal-born, the barbarian mistress, the concubine—*regius sanguis, domina barbara, pellex.* Then the divine presence, the ambrosial utterance, briefer than the human has been, yet breathing a larger air.

'Larger' for several reasons, one of which is the altered diction. *Abstineto* following genitives, and *esse* without accusative subject, are not regular Latin constructions. What is the relevance of this Greek imitation at the close of the symphony?

What has Horace been driving at? Obviously Galatea is one for whom he wishes well. Playfully wishing her no ill omens, he reminds her of what befell Europē, and seems to be urging Galatea to let no such calamity overtake her. But he ends up by bringing in a goddess to tell Europē of her great **good** fortune. Could Galatea take **that** as a compliment?

Nocte sublustri, seeing darkly as through a glass, Europē sees *nihil astra praeter.* Beyond the furthest star Horace knew are now seen to be countless others. Worlds beyond worlds and suns beyond suns become apparent through a modern telescope. And bigger telescopes still, bigger perhaps than the pyramids, may yet be built to explore an even bigger universe. But what glass in what instrument can ever show aught *astra praeter?*

Nocte sublustri nihil astra praeter vidit et undas—does this fall far short of the famed 'pathetic half-lines of Virgil, with their broken gleams and murmurs

as of another world'?[1] Must the epithet 'Horatian' stand for ever synonymous of a poetry that 'consists in the versification, the tense, the neat, the witty, the felicitous versification' of what really is 'almost undiluted prose'?[2]

What is *scatentem beluis pontum mediasque fraudes*, the monster-bubbling sea where pales the bold beset with harms? Can it signify also the vicissitudes of this transitory life? Is it a *pontus* wide enough to cover all in sorrow, need, sickness, or other adversity, no matter what supposed taint of original sin or what supposed operation of karmic law has been their conduit hither? *Impios* is the word on which the poem opens: how far forward does it reach? And the last divinely spoken *bene ferre magnam disce fortunam*—how far does it extend?

Can the measure be formally defined? In Virgil's half-line the pathos hangs in the undefined. In this ode of Horace's, where fugue leads out winging fugue, what speaks more than its direct words is the orchestration, the inner harmony of developing themes. It is not that the meaning is unimportant. There certainly is for the gleaner a wealth of meaning in allegory beyond allegory. And it is not alien corn: it sustains the fugues in their homing path—from Hell and through Purgatory; from *impios ducat* through *somnium ducit*, on to *nomina ducet*.

* * *

Parenthetically, may I take the opportunity of suggesting an amendment in the reading of the last two stanzas of the ode? Is *nescis* in the last stanza Horace's word, or a mistake of the copyists? My suggestion is to read *nosces* instead, and alter the punctuation accordingly. Is this too bold to merit consideration? If it can be accepted, the concluding passage—the 'Paradiso' of this symphonic poem—will read:—

mox, ubi lusit satis: 'abstineto'
dixit 'irarum calidaeque rixae.
cum tibi invisus laceranda reddet
cornua taurus,

uxor invicti Jovis esse nosces;
mitte singultus, bene ferre magnam
disce fortunam; tua sectus orbis
nomina ducet'.

1. *Latin Literature*, by J. W. Mackail, John Murray (1945), page 112.
2. *A New Study of English Poetry*, by Henry Newbolt, Constable & Co., Ltd. (1919), page 106.

Below is the ode—as printed in Professor Page's edition—on which this article comments. As regards the reading of *nescis* in the last stanza, there appears to be no variation in the extant manuscripts.

1. Impios parrae recinentis omen
ducat et praegnans canis aut ab agro
rava decurrens lupa Lanuvino,
fetaque volpes.

2. rumpat et serpens iter institutum,
si per obliquum similis sagittae
terruit mannos: ego cui timebo
providus auspex,

3. antequam stantes repetat paludes
imbrium divina avis imminentum,
oscinem corvum prece suscitabo
solis ab ortu.

4. sis licet felix, ubicunque mavis,
et memor nostri, Galatea, vivas,
teque nec laevus vetet ire picus
nec vaga cornix.

5. sed vides, quanto trepidet tumultu
pronus Orion. ego quid sit ater
Hadriae novi sinus et quid albus
peccet Iapyx.

6. hostium uxores puerique caecos
sentiant motus orientis Austri et
aequoris nigri fremitum et trementes
verbere ripas.

7. sic et Europe niveum doloso
credidit tauro latus et scatentem
beluis pontum mediasque fraudes
palluit audax.

8. nuper in pratis studiosa florum et
debitae Nymphis opifex coronae
nocte sublustri nihil astra praeter
vidit et undas.

9. quae simul centum tetigit potentem
oppidis Creten : pater, o relictum
filiae nomen pietasque, dixit,
victa furore !

10. unde quo veni ? levis una mors est
virginum culpae. vigilansne ploro
turpe commissum, an vitiis carentem
ludit imago,

11. vana quae porta fugiens eburna
somnium ducit ? meliusne fluctus
ire per longos fuit, an recentes
carpere flores ?

12. si quis infamem mihi nunc iuvencum
dedat iratae, lacerare ferro et
frangere enitar modo multum amati
cornua monstri.

13. impudens liqui patrios Penates,
impudens Orcum moror. o deorum
si quis haec audis, utinam inter errem
nuda leones !

14. antequam turpis macies decentes
occupet malas teneraeque sucus
defluat praedae, speciosa quaero
pascere tigres.

15. vilis Europe, pater urget absens :
quid mori cessas ? potes hac ab orno
pendulum zona bene te secuta
laedere collum.

16. sive te rupes et acuta leto
saxa delectant, age te procellae
crede veloci, nisi erile mavis
carpere pensum,

17. regius sanguis, dominaeque tradi
barbarae pellex. aderat querenti
perfidum ridens Venus et remisso
filius arcu.

18. mox, ubi lusit satis : abstineto,
dixit, irarum calidaeque rixae,
cum tibi invisus laceranda reddet
cornua taurus.

19. uxor invicti Iovis esse nescis :
mitte singultus, bene ferre magnam
disce fortunam ; tua sectus orbis
nomina ducet.

A. C. SENEVIRATNE

*Linguistic Studies on the Brāhmaṇas**

(1) THE texts that have been preserved under the name of *Brāhmaṇa*, comprise in reality of two parts, inextricably mixed with each other, and of equal importance, namely : the *mantra* and the *brāhmaṇa*. The term ' mantra ', (derived from the root *man* -to think' with the addition of the primary suffix *-tra*), signifies in the RV : ' instrument of thought, sacred text, prayer, hymn chant '. In this primary meaning, the term mantra is almost synonymous with uktha, brahman, stoma and ṛc. In the technical sense, mantra signifies a vedic hymn, a sacrificial formula in prose or in verse, namely that portion of the Veda which contains the texts called ṛc (Ṛgveda), *yajus* (Yajurveda) and *sāman* (Sāmaveda) as opposed to the ' Brāhmaṇas ' and the ' Upaniṣads '.

In the historical sequence, the Brāhmaṇas are situated in a period of the Vedic literature posterior to that of the mantras. They consist of detailed and dogmatic explanations[1] of the great Vedic sacrifices, to which the mantras themselves refer—which fact makes understandable the profuse citations of the mantras in the Brāhmaṇas. The Brāhmaṇas, in short, perfect the external structure of the mantras. With the help of their lengthy commentarial explanations and exegeses they complete the somewhat inadequate picture drawn by the mantras.

(2) Although mantra-brāhmaṇa is thoroughly mixed up in the Brāhmaṇa texts, one can easily distinguish the one from the other; for, the mantras, for the greater part, are cited with the particle *iti*. The manner in which these mantras are cited in the various Brāhmaṇa texts is the same: i.e. in the process of the explanation of the procedure of some sacrifice, these mantras are cited, and it is laid down that they should be repeated by the officiating priest (or whomsoever it may concern) in that particular context.

In the Aitareya and Kauṣītakī Brāhmaṇas of the RV, the mantras cited are for the most part drawn from the RV, and more often than not, they are cited by the first few words only of the ṛc (the *pratīka*), than in their entirety. But at the same time, perhaps with the intention of emphasis, these texts sometimes may cite a verse in its entirety. The disciples of these two RV schools of brahmin theology, were perhaps expected to know the mantras of

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*Extract from: *Etudes Linguistiques Sur Les Brāhmaṇa.* Paris University thesis, 1951.

1. In the KB (also AB. VII. 2) one often meets with the phrase tasyoktaṃ brāhmaṇaṃ ' of this (mantra) the explanation (brāhmaṇaṃ) has already been given ', i.e. in an earlier occurrence. It is therefore clear from this phrase, that the word *brāhmaṇa* signified ' explanation '. Its use as a generic term signifying ' the brāhmaṇa texts ' is a later development.

the RV by heart, for which reason the citation of these mantras in their entirety was deemed to be superfluous, as also their detailed explanation. There exists another class of mantras of these two Brāhmaṇas, namely: the formulas in prose and in verse, which do not belong to the RV, and which, therefore, are cited in their entirety, the adherents of the school not being expected to know them by heart.

Thus, for example, AB. IV. 29.

> upaprayanto adhvaraṃ (RV. 1.74) iti prathamasyāhna ājyaṃ bhavat vāyav ā yāhi darśata (RV. 1.2.3) iti praügam ā tvā rathaṃ yathotayā idaṃ vaso sutam andha (RV. VIII. 68.1-3) iti marutvatīyasya pratipad-anucarau.

The mantras of the RV are here cited partially (pratīka) without any linguistic explanation whatsoever, with the sole object of specifying their sacrificial context.

One finds the same procedure in the KB :

> KB.XXV.7. pra te mahe vidathe śaṃsiṣaṃ hari (RV. X. 96.1-9) iti tasya nava śastvāhūya nividaṃ dadāti āviṣkṛdhi harayesūryāya (RV. X. 96.11) iti.

The AB and the KB very rarely give a literal commentary on their own mantras, even from the linguistic point of view. The Taittirīya Brāhmaṇa, like the AB and the KB, cite in an uniquely ritual perspective, but unlike in the two latter Brāhmaṇas, the mantras in the former are cited in theirentirety, but never repeated (as in the Śatapatha) with the substitution of new words.

> TB 1.3.6. devasyāhaṃ savituḥ prasave bṛhaspatinā vājajitā vājaṃ jeṣaṃ ityāha savitṛprasūta eva brahmaṇā vājamujjayati.

The mantra is not repeated in the gloss ; instead, a general gloss is given, in the third person, and in the same terms as in the original mantra.

With regard to the Taittirīya Saṃhitā, we may limit our observations to the sections of the Brāhmaṇa. The method employed here is the same as that in the AB and the KB with this sole difference : the mantras are cited in their entirety, phrase by phrase, each followed by a general gloss.

> TS VI. 4.5. devasya tvā savituḥ prasave iti grāvāṇamādatte prasūtyā aśvinorbāhubhyām ityāha aśvinau hi devānāmadhvaryū āstām pūṣṇo hastābhyām ityāha yatyai.

Each phrase is followed by a gloss which gives its ritual justification.

The Śatapatha Brāhmaṇa, or, at least, its first nine books constitute an explanation of the mantras of the Yajurveda.[2] As such, it proposes to give a complete justification of the great sacrifices. Thus the first khāṇḍa is an

2. See Macdonell : *Vedic Grammar*, p. 4.

exposition of the detailed rules relating to the darśapūrṇamāsa iṣṭi—the new and full moon sacrifices, while the second treats of the agnyādhāna, agnihotra, piṇḍapitṛyajña, āgrayaṇeṣṭi and the cāturmāsyāni sacrifices. The Brāhmaṇa reconstructs the procedure of these sacrifices on the basis of the first eighteen books of the YV, developing logically their sacrificial context, and interpreting them wherever their esoteric character had made them obscure.

Of the great majority of the mantras cited, the author (or authors) says nothing. The motive of his silence is not clear. Another class of mantras, though not explained literally—as one would wish they were—is followed by a general gloss. This gloss, often long and very arbitrary, explains at times the relation of that particular mantra to the 'ensemble' of the sacrifice, at times its usage in a particular rite, at yet other times its aim and its significance. This explanation is more often than not, from a ritual point of view, supported where necessary by a pseudo-etymology.

SB. 1.1.1.2. (VS. 1.5) agne vratapate vrataṃ cariṣyāmi tacchakeyaṃ tanme rādhyatāmiti agniṃ vai devānāṃ vratapatistasmā evaitat prāha.

This gloss explains only *why* the mantra is thus repeated by the officiating priest. The mantra itself is dismissed with the sole remark : nātra tirohitaṃ ivāsti 'there is nothing obscure here', and this in spite of the fact that the form śakeyaṃ, being an archaic and rare aorist optative demanded its modern equivalent.

Let us take another example :

SB. 1.1.2.12. (VS. 1.8) contains the obscure mantra : devānāmasi vahnitamaṃ sasnitamaṃ papritamaṃ juṣṭatamaṃ devahūtamam ahrutam asi havirdhānaṃ dṛṃhasva mā hvār iti.

The mantra itself is not explained, but is simply followed by the gloss: ana evaitadupastauti upastutādrātamanaso havirgṛhṇāmi iti : 'thus he eulogises the cart, hoping that he may obtain the oblation from the one thus eulogised and pleased'.[3] Ritual explanations of this sort often contain the formula : *tasmādevaitadāha* or *ata evaitadāha* '*that is why* he pronounces this mantra'.

(3) What then are the general problems posed by the presence of the mantras in the Brāhmaṇas ? For convenience, we may classify them under two heads : (*a*) linguistic problems and (*b*) ritual problems. The language of the mantras cited and that of the exegetical portions of the Brāhmaṇas do not both belong to the same strata of Vedic Sanskrit ; we know, from other sources as well, that the latter is separated from the former by a considerable period of time. The mantras are already archaic in relation to the Brāhmaṇas, as regards phonetics, morphology, syntax and above all vocabulary. Among

3. Translation of Julius Eggeling.

others, Arnold[4] has shown that in the Ṛgveda itself, one can distinguish between at least two linguistic strata: that of what he calls ' the Ṛgveda Proper ', being more archaic than what he calls ' the Popular Ṛgveda '.

' An examination of the distinctive grammatical forms as a whole, shows us that the hymns of the RV Proper record an earlier stage in the development of the Sanskrit language ; for they show that multiplicity of form in the stem-formation and flexion both of nouns and verbs, which marks the earlier history of all Indo-European languages. On the other hand, the language of the popular hymns, though enriched by certain sounds hardly known to the RV Proper, shows a tendency to uniformity, obtained by the steady progress of certain favoured types in destroying or assimilating their rivals '. This ' tendency towards uniformity ' which began in the RV becomes pronounced in the period of the Brāhmaṇas. But was this done in any systematic manner? In other words, was there a body of general linguistic principles which determined the explanations of the mantras by the authors of the Brāhmaṇas ? ' The steady progress of certain favoured types ' is well in evidence in the brāhmaṇa exegesis of individual mantras.

We have here to consider an important fact. Some mantras of the Vājasaneyī Saṃhitā cited in the SB are dismissed without comment, with the brief remark : *nātra tirohitamivāsti*—' in this mantra there is nothing obscure or hidden'. · This remark, when considered together with this other : *yathā eva yajustathā bandhuḥ*—' as is the formula, so is its bandhu ', i.e. ' there is nothing to explain ', becomes significant ; for, they give us an idea as to the task which the author of the SB fixed for himself. According to the first remark, it is clear on the author's own admission, that the mantras were considered as *tirohita* in his time. These yajus formulas could have been considered esoteric and unintelligible from many points of view : from the linguistic, semantic and sacrifico-ritual points of view. The author seems to have had all three aspects present in his mind, even if the third predominated.

When the author says, ' yathā eva yajustathā bandhuh', ' his essential aim being to explain the *bandhu*, he assumes this to be sufficiently clear in that particular mantra, and so dispenses with the need of commentating. What is the significance of this term *bandhu ?* The word is derived from the root *badh/bandh* ' to join, put in connection, bind ', and its popular meaning is ' connection, kinship, relationship '.[5] In its secondary abstract sacrificial sense it signifies : ' secret meaning, esoteric nature, connection of the mantra to the totality of the sacrifice'. This sense is almost synonymous with *ālambana, pratiṣṭhā, nidāna.* The value of the term appears clearly in the case of a mantra repeated for the second time and dismissed by the author with

4. *Vedic Metre*, by Arnold.

5. Cf. SB. II. 1. 4.17. eṣa anaḍuho bandhuḥ ' this (the fire) is the *kinsman* of the ox '.

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the remark *tasyokto bandhuḥ* ' I have already explained the bandhu of this mantra ', i.e. where it occurred for the first time. Returning therefore to the exegesis of the mantra in its first occurrence, one may reasonably expect that to be an exegesis of its *bandhu*. Thus SB. 1.1.2.22 cites the mantra : uru antarikṣam emi ' I direct myself along the wide aerial realm', as being recited by the sacrificer marching towards the north of the gārhapatya fire during the performance of the darśapurṇa-māsa sacrifice. The mantra is followed by the remark : sa asāveva bandhuḥ ' the bandhu of this mantra is the same as that given earlier ', i.e. in SB. 1.1.2.4 where it is followed by the very long gloss: antarikṣaṃ vānu rakṣaścarati amūlamubhayataḥ paricchinnaṃ yathāyaṃ puruṣo ' mūla ubhayataḥ paricchinno ' ntarikṣamanucarati tadbrahmaṇaivaitadantarikṣamabhayamanāṣṭram kurute : ' the rakṣas roam about the air rootless and unfettered in both directions, and it is in order that this man may move about the air rootless and unfettered in both directions that he by this very prayer renders the atmosphere free from danger and evil spirits '.[6]

What may one conclude from this ? It is clear that this is not a literal explanation of the mantra. It is rather the significance and the esoteric efficacy of the mantra that is given here. We must take this as the *bandhu*[7] mentioned earlier. From the above discussion it results that the aim of the author of the SB was to expose the ' hidden meaning ' of the mantras which he cites in the course of his descriptions of the great sacrifices. The linguistic interest of such explanations would at first appear to be feeble ; on the contrary, these glosses constitute a precious document even from the point of view with which we are here occupied. For, in the process of the explanation of the bandhu, the author is forced at times to analyse archaic grammatical forms. We must not be misunderstood as saying that the SB *analyses* archaic grammatical forms as is done by the grammarians in later times. The brāhmaṇa analysis generally takes the form of a simple repetition of the mantra with the substitution of a *modern* form for what would appear to be an archaic one. The study and the classification of these substitutions provides the most direct evidence one may have of ' that tendency towards uniformity, obtained by the steady progress of certain favoured types in destroying or assimilating their rivals', which was the characteristic of the period ; for, the absence of certain morphological forms in the language of the Brāhmaṇas would permit us to conclude that such forms had already fallen into disuse and become obsolete. The evidence, however would be negative. Where, on the other hand, the author deliberately replaces a given morphological form of the mantra with another, he provides us with direct and positive evidence that that form was

6. Translation of Julius Eggeling.

7. For a discussion of the philosophical significance of the term, see : Ranade and Belvalkar : *History of Indian Philosophy, Vol.* 2.

regarded in his time as obsolete. If only the authors of the Brāhmaṇas had been uniform and systematic in this procedure, i.e., if, for example, they had replaced all modal forms of the nonconjugational tenses with corresponding present tense modal forms—we would have had a complete picture of those aspects of the earlier language of the mantras which in the period of the Brāhmaṇas were considered obsolete by the authors of the Brāhmaṇas themselves. The absence of such an uniformity leads us to conclude that the process of simplification of the language was far from completed in the brāhmaṇa period, and that this is a period of transition and decadence, of which the SB represents only a phase.

(4) We might now classify the diverse methods employed by the Brāhmaṇas in their explanations of the mantras. Where the gloss has a linguistic basis, one can easily follow the mode of interpretation.

(*a*) Repetition of the mantra with substitution of one word for another. This is the most frequent occurrence. From the semantic point of view this substitution operates in the following manner :

(1) Archaic words of the ancient Vedic vocabulary, being considered unintelligible are replaced by modern words.

(2) A word though not archaic, being considered *rare* in occurrence, may be replaced by a more usual word.

(3) A word possessing many meanings (anekārtha) may be replaced by another which specifies its meaning in that particular context (ekārtha).

(4) Ritual words may be replaced by technical equivalents.

(*b*) Repetition of the mantra with substitution of one linguistic form for another.

(1) A form current in the language of the Brāhmaṇas may be substituted for an ancient form of the mantra.

(2) A form rarely used, though not archaic, is replaced by a form more usual.

(3) Substitutions are sometimes made without any linguistic motive.

(*c*) Repetition of the mantra with the addition of some other words in order to develop an ellipsis. In this case the order of words is rarely modified.

(*d*) Etymological explanations of words of the mantra, germ of the science of nirukti.

In the last instance, it is necessary to note those words which do not belong to any one of the above categories, and which, in spite of their obscurity and their difficulties, remain without any explanation—a fact which leads us to believe that the author of the SB was not guided by any general and uniform rules.

(5) Studied in their entirety, these brāhmaṇa explanations of the mantras supplement the evidence got from a study of the language of the brāhmaṇas themselves—evidence which amply demonstrates the fact that the brāhmaṇa language ' se caractérise par un appauvrissement des formes, qui va de pair avec une plus grande discrimination des emplois'.[8] Judging from the frequency with which these explanations are made in the individual texts, we may assert the particular importance of the Śatapatha in the historical sequence. The other Brāhmaṇas—Aitareya, Kauṣitakī, Taittirīya and the brāhmaṇa portions of the Taittirīya Saṃhitā seem to belong to the same period of Vedic exegesis, a period—if one may judge from the very small number of linguistic explanations occurring in these texts—which does not yet manifest the need of commenting on the mantras. The few instances where we do get a truly linguistic ' commentary ' in these texts, appear to be later additions to the ' ensemble ' of the text otherwise confined specifically to the ritual.

With the Śatapatha, however, we seem to reach a period already well advanced in Vedic exegesis. What is most in evidence, is the difference of style : ' le style raide, schématique pour ainsi dire, des premiers brāhmaṇa, aux phrases mal liées, cède la place, dans les plus récents (notamment dans le Śatapatha) à des phrases plus évoluées, à des constructions plus souples '.[9] The mantras are now definitely regarded as ' obscure ' (*tirohita*), and a sort of elementary ' bhāṣya ' develops itself with regard to them. One could see here the first tendencies towards the growth of the *vedāṅgas*. *Vyākaraṇa*, *Nirukti* and *Śikṣā*, (Kalpa left aside), seem already developed in the Vedic schools,[10] and in the Śatapatha, the tendency to give up archaic and rare words and forms in place of more recent and usual ones becomes most evident. There are no detailed discussions on Vyākaraṇa as such in the SB ; but the substitutions in question presuppose a grammatical development with which the author was well acquainted. The same is true with regard to Nirukti, which is still in a very elementary stage of development. Nevertheless, during this time, the principle of derivation from primary verbal roots was well known, though not constituted in theory.

Mahīdhara, if one may judge from the great number of citations from the śruti in his commentary on the Vājasaneyī Saṃhitā, apparently considered the SB as a sort of primitive *bhāṣya* on the mantras of the VS. It is also possible that the *nighaṇṭu*, and the works which preceeded it, now lost, were influenced by the lexicographical comments of the SB; and, hence, the frequent similarity between the two texts. Yāska and his predecessors in the science of nirukti (etymology) may have sustained the same influence. The essential

8. Louis Renou : *L'Inde Classique:* 78.
9. ibid.
10. Whitney : *Sanskrit Grammar*, p. xii.

procedure of the SB is the repetition of the mantra with the substitution of terms ; Yāska, proceeds in the same fashion :

Nirukta : 1.4. ' vṛkṣasya *nu* te puruhūta *vayaḥ* '
vṛkṣasya *iva* te puruhūta *śākhāḥ*

Other phenomena, such as the suppression of an ellipsis, the breaking up of nominal compounds and the general paraphrase, reproduce a technical commentary already developed in the SB.

M. H. F. JAYASURIYA

Inanimate Plural Suffix -val in Sinhalese

THE origin of this plural suffix *-val* which is never met with until the end of the 10th century A.D. and found even after that date extremely rarely in inscriptions, though so common in the modern language, is very obscure indeed, and it has provided a number of scholars with a fertile ground for speculation. Ed. Müller while seeing no objection on phonological grounds to its derivation from P. *vana-* (forest) as Childers suggested, doubted its possibility sementically, and incorrectly thought that the 10th century A.D. inscriptional form *var*, (which he wrongly derived from Sk. *vṛddhi-*, ' increase '), in *dā-var* and *gaman-var*, was its prototype. As an alternative to this, he further suggested a possibility of the Sinhalese people borrowing this suffix from Tamil plural suffix *-kal*, in their ' further increasing apathy . . . in every respect '.[1] Geiger assuming that it must mean something like ' mass ', ' multitude ', appears to be tempted first to accept Childer's suggestion of identifying it with "*val*, 'forest' = P. *vana*", only to abandon it immediately in favour of following Müller in tracing it to *var* in instances like *dā-var* and *gaman-var* which he incorrectly translates as ' days ' and ' errands ' respectively. Geiger unlike Ed. Müller derives this *var* from Sk. *vāra-*, ' multitude '.[2]

There are thus three suggestions made as to the origin of the pl. suffix *-val*, viz. (i) Sk. P. *vana-*, ' forest ', (ii) *var* < Sk. *vāra-*, ' multitude ' and (iii) Tamil pl. suffix *-kaḷ / -gaḷ*.

(i) There is a Sinh. word *val* meaning (adj.) ' wild ', ' savage ', ' beastly ', ' wicked ' ; (substantive) ' forest ', ' jungle ', ' thicket ', ' underwood ', etc., apart from the pl. suffix *-val*. Thus in the inscriptional instance, *val-val-ä*, ' in the forests ',[3] the first *val-* (subst.) means ' forest ' and the second *-val-* is the inanimate pl. suffix. And *val* in the adjectival sense is found in such modern expressions as *val aliyā*, ' wild elephant ', *val satā*, ' wild animal ', *val mṛgayā*, 'wild beast', 'beastly creature', 'wicked fellow'. The derivation of this word *val* from Sk. P. *vana-*[4] and its identification with the pl. suffix *-val*[5] are highly doubtful. In spite of Childers, Müller and Geiger there are phonological objections to its derivation from Sk. P. *vana-*, according to Geiger's

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1. Edward Müller : *Ancient Inscriptions of Ceylon*, London, 1883, pp. 9-10.
2. W. Geiger : *A Grammar of the Sinhalese Language*, Colombo, 1938, § 111. *An Etymological Glossary of the Sinhalese Language*, Colombo, 1941, § 2352.
3. *Epigraphia Zeylanica* (*E.Z.*) III, p. 77, C 33.
4. Edward Müller : op. cit., p. 9.
   W. Geiger : *A Grammar of the Sinhalese Language*, Colombo, 1938, § 60, 1.
5. W. Geiger : ibid., § 111.

own phonological laws. For, as he correctly states the original 'bisyllabic stems ⏑ ⏑ (i.e., consisting of two short syllables) remain bisyllabic' in Sinhalese,[6] and hence it is doubtful that *vana-* consisting of two short syllables could be reduced to a single syllable *val*. Secondly, the implied change of *-n-* > *-l* in Sinhalese at that time appears to be very doubtful, although Geiger thought so, on the seeming evidence of two or three questionable examples. Besides *val*, only examples he mentions in support of his contention are *palaň-dinu*, 'to put on (an ornament)' (P. *pilandhati*, Sk. *pi* + √ *nah-*) and *asal*, 'near' which he derives from Sk. P. *āsanna-* through *asan*.[7] The change of *-n-* > *-l-* in *palaňdinu* is obviously pre-Sinhalese, because it is already found in P. *pilandhana-*. The other example *asal* according to Helmer Smith is derived from Tamil *acal*, 'vicinity', 'neighbourhood', and not from Sk. P. *āsanna-*.[8] Hence both the examples given besides *val* to prove the change of *-n-* > *-l* are very unsatisfactory. As a matter of fact the inherited form of Sk. P. *vana-* (from which Geiger derives *val*) is found in Sinhalese as *vana* in the disyllabic form. Cf. also Sk. P. *jana-* > *dana*, 'people'; Sk. *stana-*, P. *thana-* > *tana*, 'breast'.

In my opinion Sinh. *val* (wild, jungle) < Mid. Ind. *vāla-* (cf. P. *vāla-*) < Sk. *vyāla-* (adj.) 'wicked'; 'vicious'; (subs.) 'beast of prey'; 'vicious elephant'; 'snake'; 'lion'; 'tiger'; 'hunting leopard'.[9] Though in Sanskrit it does not mean exactly 'forest', it is possible to see how this semantic development could have easily taken place from the meanings given to it in Sanskrit. In all the above meanings given to Sk. *vyāla-*, there is the association of forest in its vicious aspect as constituting danger and terror to man. In this semantic development we seem to have an instance similar to that of metonymy. For, a common name for a number of wild beasts which are an attribute of the forest appears to be substituted for the 'forest' itself. Sinh. noun *val* thus appears to have first meant 'forest' or 'jungle' with association of ideas hostile to man, rather than just a multitudinous growth of trees, and later extended to mean 'jungle' in general, as well as 'thicket', 'underwood', 'tangled growth of vegetation', etc. This view is supported by the meanings given to this word when it is employed as adj., e.g., 'wild', 'savage', 'wicked', 'beastly', etc.

There is no evidence to support the conjectured identification of this Sinh. word *val* with the pl. suffix *-val* which Müller rejected and Geiger aban-

6. W. Geiger: ibid., § 29.
D. J. Wijayaratne: *Morphology of the Noun in Sinhalese Inscriptions up to the Tenth Century A.D.*, London University, Ph.D. thesis, 1950, § 6*a*.

7. W. Geiger: *A Grammar of the Sinhalese Language*, Colombo, 1938, § 60, 1.

8. Helmer Smith: *Wilhelm Geiger et le vocabulaire du singalais classique, Journal Asiatique*, 1950, Fascicule 2, § 1, p. 180.

9. Monier-Williams: *A Sanskrit-English Dictionary*, vide *vyāla*.

doned in preference to tracing it to the 10th century A.D. *-var*. For, there does not seem to be any plausible reason why *val* meaning ' jungle ', ' underwood ', ' thicket ', etc. should be used with the inanimate noun at this time as a pl. morpheme.

(ii) The second derivation of this suffix *-val* is really still worse and cannot be accepted for the following three reasons: First, following Müller, Geiger has misunderstood the meaning of *-var* in the quoted instances. This *-var* occurs not only in *dā-var* (in the text it is *tun-dā-var*) and *gaman-var*, but also in expressions like *mal-var*, ' flower-turn ',[10] *kiri-var*, ' milk-turn ', *tel-var*, ' oil-turn ',[11] etc. Professor Wickramasinghe explains the significance of *var* as ' service by turn ', deriving it from Sk. *vāra-*, ' turn '.[12] Dr. Paranavitana too has the same view.[13] This sense seems to fit in with all the relevant occurrences according to the context. The two instances that Müller and Geiger refer to occur in the following: *tun-dā-var mut pohomagul āy sesu-var no gatä yutu*, excepting the three days' ' service by turn ' no other ' service by turn ' such as that at the uposatha festival shall be exacted ;[14] *gaman-var giya salayak-haṭ*, to a servant who goes on errands.[15] In the above rendering Professor Wickramasinghe has abbreviated the sense of *gaman-var* which should have been strictly rendered as ' errand-service by turn '. It is impossible to regard *-var* in *tel-var kiri-var* as pl. suffix, as *tel*, ' oil ' and *kiri*, ' milk ' cannot have plural. Secondly, apart from their mistaking the sense of this word, Müller and Geiger are historically inaccurate when they say that *-var* is earlier than *-val*. For *-dā-var* and *gaman-var*, quoted by them, occur in the Tablets of Mahinda IV (1015-1031) where as pl. suffix - *val* - in *val-val-ä*, ' in the forests, occurs in the Badulla Pillar Inscription[16] of the reign of Udaya III (1003-1011) who reigned earlier than Mahinda IV. The third objection is on the grounds of phonology. For, as far as I know, there is no evidence anywhere that *-r-* > *-l-* in Sinhalese about this time. As a matter of fact there is abundant evidence to show that Sk. *-r-* remained *-r-* in Sinhalese. But only in a very few rare instances like *kuluṇu*, ' compassionate ', ' compassion ' (AMg. *kaluṇa-*, Sk. *karuṇa-*) Sk. *-r-* is represented as *-l-*, owing to the influence of Eastern Prākrits such as Ardha Māgadhī.[17] In such words the change of *-r-* to *-l-* appears to be pre-Sinhalese.

10. *E.Z.* I, p. 96, 35.
11. *E.Z.* III, p. 104, C 5-6.
12. *E.Z.* I, p. 105, fn. 3.
13. *E.Z.* III, p. 112 ; ibid., IV, p. 191, fn. 2.
14. *E.Z.* I, p. 93, 44.
15. *E.Z.* I, p. 95, 24.
16. *E.Z.* III, p. 77, C 33.
17. P. B. F. Wijeratne : *Phonology of the Sinhalese Inscriptions up to the End of the Tenth Century A.D.*, London University, Ph.D. thesis, 1944, § 45, 3.

(iii) The third suggestion that the pl. suffix *-val* is a loan from Tamil pl. suffix *-kaḷ / -gaḷ* is also not free from doubts and difficulties. It is true that there is a remarkable resemblance of this scheme of pl. inflexion to that in Dravidian. Caldwell observes ' They (i.e., pl. suffixes) are added directly to the crude base of the noun and are the same in each of the Obl. cases as in the Nom. The signs of case are the same in the plural as in the singular, the only real difference being that in the singular they are suffixed to the crude noun itself '.[18] This observation will equally well describe the same phenomenon in modern Sinh. inanimate nouns of the type, *raṭa*, ' country '. The resemblance of this mode in Sinh. to that in Tamil is brought home strikingly in the comparison of the following typical examples :

	Sinh. *ge-*, ' house '		Tamil *manei-*, ' house '	
	sg.		pl.	
	Sinh.	Tamil	Sinh.	Tamil
Nom.	gē, ge-y-a ;	manei	ge-*val* ;	manei-*gaḷ*
Acc.	gē, ge-y-a ;	maei-y-ei	ge-*val* ;	manei-*gaḷ*-ei
Inst.	ge-y-in, ge-n ;	manei-y-āl	ge-*val*-in	manei-*gaḷ*-āl
Dat.	ge-ṭa	manei-y-ikku	ge-*val*-aṭa	manei-*gaḷ*-ikku

etc., etc.

In spite of the striking resemblance in the method of employment of the two pl. suffixes, Sinh. *-val* and Tamil *-kaḷ / -gaḷ*, there are difficulties in identifying the first as a loan from the second. Dr. Paranavitana objects to this identification on orthographical grounds saying that *-l* in the Sinh. suffix is dental and in the Tamil it is cerebral *-ḷ*.[19] If this is the only objection it is not a very serious one, considering the fact that there is no evidence that the words borrowed from Tamil or other Dravidian sources were treated in Sinh. orthography with such fine accuracy. In fact, the evidence is really to the contrary. There are instances of words borrowed from Dravidian sources which have been very loosely treated in inscriptional orthography as well as in later Sinh. orthography, particularly when they contained sounds unfamiliar to the Sinhalese. Further more, this is admitted by Dr. Paranavitana himself when he says elsewhere in connection with the treatment of Tamil cerebral *ḷ* as a Sinh. dental *l* : ' This irregularity in spelling is a marked feature in words of Tamil origin '.[20] Note the treatment of Tamil *ḷ* in *ulvāḍu*[21] and *uḷvāḍu*[22]

18. R. Caldwell : *A Comparative Grammar of the Dravidian Languages*, London, 1875, p. 131.
19. *E.Z.* III, p. 97.
20. *E.Z.* III, p. 144.
21. *E.Z.* III, p. 139, C 8.
22. *E.Z.* III, p. 76, B 42.

< Tamil *ulpāḍan*, 'a temple official entrusted with temple funds, etc.'[23] Tamil *puḷḷi*, 'spot' is written in mod. Sinh. as *pulli*. There is no difference between *ḷ* and *l* in pronunciation in Sinh. and the distinction maintained in orthography is only an artificial convention of scholars not supported by any distinction in pronunciation. In such circumstances it is not surprising if Tamil cerebral *-ḷ* were represented in Sinh. orthography as dental *-l*.

As far as I can see, the real phonological difficulty of the identification of T. *-kaḷ / -gaḷ* with the Sinh. suffix *-val* lies in the presumed change of *-ka- / -ga-* to *-va-* in its position. For, to my knowledge, there is no definite evidence that *-ka- / -ga-* in that position following a consonant (in consonantal stems) or any vowel except *a* (rarely), *i* (rarely) and *u* ever became *-va-* elsewhere. I, therefore, find it very difficult to connect the Sinh. suffix *-val* with the T. suffix *-kaḷ / -gaḷ*, on phonological grounds. Apart from this, it should be borne in mind that morphemes are not borrowed from other languages unless they are found in a large number of loan words from those languages. Cf. the process by which suffixes like *-age*, *-ess* were established in English words, e.g., *espionage, garage, cellarage, bondage, breakage ; countess, poetess, goddess,* through the analogy of loans from French containing these suffixes. I know of no other language which has borrowed morphemes alone from a foreign language, apart from their being introduced through the analogy of loan-words containing those morphemes. It is possible, however, that there is a functional loan from Dravidian in the formation of this sort of pl. in the Sinh. inanimate nouns. For this mode of forming the plural by a special suffix is not Aryan, but has remarkable affinity with Dravidian as can be seen in the illustrations given above.

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23. *E.Z.* III, pp. 94-95 ; 144.

Climatic Controls in Ceylon[1]

CLIMATE has been defined as, ' the average state of the atmosphere at a given place within a specified period of time '.[2] The state of the atmosphere at any time or place, termed the weather, is the result of the interaction of various atmospheric phenomena, such as temperature, moisture, wind movements, etc., and is of a specific nature. Climate, on the other hand, involves a composite idea and has an abstractness about its concept; the former is directly sensible to the human being, the latter is not. Weather, being phenomena associated in terms of specific moments of occurrence, is easily understandable; climate, on the other hand being a generalization—the averaging of weather phenomena over specified times and over a particular place—is not easily understood; the latter assumes a sense of unreality as weather conditions do not accord with the average state. Weather is a time variability, while climate is a place variability.

However, in the understanding of the climate of any place, the atmospheric phenomena play a vital role, because it is their interactions that produce the weather phenomena. But these atmospheric phenomena, in turn, are the result of certain primary features, both geographical and meteorological. These features are termed climatic factors or more correctly, controls.[3] Thus, climate differs from place to place, because controls are different. They may be planetary and local.

Planetary Controls

Climate is relative to a place and thus the geographical location is fundamental (Plate I). Ceylon is situated within ten degrees north of the Equator and is therefore influenced fundamentally by equatorial atmospheric phenomena. The immediate influences are the thermal features, which in turn affect pressure, winds, precipitation, humidity and other aspects of weather. The latitudinal position of the island hence warrants it high temperatures. The high solar intensity is produced by the high angle of incidence of the solar rays all times of the year.[4] However, despite this high solar intensity, a process—the direct result of the heat intensity and indirectly that of the latitudinal position—

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1. For a fuller understanding of the implications of this paper, reference may be made to *Climates of Ceylon*, by George Thambyahpillay, (M.A. Thesis; University of California, Los Angeles, 1952), 258 pp.

2. Helmut Lansberg, *Physical Climatology* (Pennsylvania : State College, 1941), x.

3. Glen T. Trewartha, *An Introduction to Weather and Climate* (New York : McGraw Hill, 1943), 6.

4. Elsie K. Cook, *Ceylon—Its Geography, Its Resources, and Its Peoples.* Rev. by K. Kularatnam (2nd Ed., London : Macmillan, 1951), 103.

serves to counterbalance the high temperature effect. The processes of convection, adiabatic cooling and resulting condensation are responsible for both the high per cent. of humidity (average 80 to 90 per cent.) in the lower atmosphere and the ever present cumulus clouds.[5] These features help in the absorption and reflection of the incoming solar radiation. They also lead to the marked development of the land-sea breeze characteristic weather phenomena of the island.

The small areal extent of the island is also a factor responsible for the absence of features of continentality. It is therefore no surprise that except under extraordinary circumstances, no part of the island exhibits average temperatures exceeding 85°F. The distribution of land and sea areas also tends to modify the latitudinal effect. The island, slightly over 25,000 square miles, does exhibit marine influences (lower temperatures, land and sea breezes[6]) as is to be expected. However, despite its insularity, Ceylon is not insulated from continental influences. Since the island is merely the southern appendage of the Indian sub-continent of one and a half million square miles, and separated from it by the narrow Palk Strait, from the climatic standpoint, Ceylon is affected by continental influences.[7]

Another result of its latitudinal position is the lack of the characteristic four-seasonal features of the mid-latitudes. The only seasonal effect is that produced by the apparent migration of the sun and the thermal Equator with the accompanying wind-belt shift, causing the wet and the dry seasons. Planetary control is also reflected in the pressure conditions. The solar movement is reflected in the northward and southward shift of the Equatorial Low Pressure systems (Doldrums). Thus, the effect of the moisture-laden Trade Wind systems is felt in the island in the form of winds and rainfall. From the above considerations, one would except the island to experience an equatorial type of climate ; uniform high temperatures, heavy precipitation from convection and Trades and a vegetation of the Rain Forest type. This is not the case due to the operation of other controls of a non-planetary type.

Local Controls

Certain local climatic controls are able to exercise dominancy over the planetary controls, in some aspects ; thus an otherwise hot, wet 'steaming' tropical island has been rendered favourable climatically for human habitation by civilized groups at least since 500 B.C.

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5. Thambyahpillay, op. cit., 47-53.

6. Land and Sea breezes are the typical features of Ceylon's weather phenomena and are less operative only when the Monsoonal circulation attains full intensity.

7. Thambyahpillay, op. cit., 59-65.

One of the most significant controls is that of altitude, especially upon temperature.[8] The central mountainous area of the island, with a maximum elevation of little over 8,000 feet (Plate II), experiences average annual temperatures about 28°F lower than those in the coastal lowland areas.[9] A map of isotherms (of actual temperatures) drawn for the island reveals the close altitude-temperature relationship (Plate III). This has an important bearing both upon vegetation-agriculture and human habitation. The varied surface configuration of the highlands, with deep valleys and high peaks, produces pronounced micro-climatic characteristics,[10] which modify considerably the macro-climatic aspects of the island and of the highland in particular. Anabatic (up-valley) and katabatic (down-valley) wind movements, temperature inversions, exposure (i.e., aspect) of slopes to wind and rainfall, are some of the micro-climatic features that greatly alter the concept of the ' normal ' climate of highland tracts.

Another effect of altitude is reflected in the ' barrier-role '; the highlands in general exhibit a north-south trending axial ' ridge ' extending from about the Knuckles, through Pidurutalagala, the High Plains (Moon, Elk and Horton Plains) and Kirigalpotta to the edge of the Southern Escarpment. From this ' ridge ' the slopes descend fairly steeply in all directions except in the north. This ridge acts not only as a physical divide but also as an effective climatic ' divide '.[11] It demarcates the drier from the wetter parts of the highlands during the respective Monsoons. The most noteworthy are the sheltered positions of the mountain slopes contrasting with those on the exposed sides (i.e., the leeward and the windward sides respectively). This is reflected in the rainfall distribution during the respective Monsoons (Plate IV). During the period of the Southwest Monsoon the wet-dry divide clearly demarcates the wetter Hatton Plateau from the drier Welimada Plateau. During the period of the North-east Monsoon, however the contrast is not so distinct, because of the direction of the Monsoonal ' streamlines '. Nevertheless this physical divide acts as an effective divide of seasonal precipitation.[12] The demarcating isohyet of 20 inches (Southwest Monsoon) coincides almost perfectly with the ' highland divide '. This relief feature plays a still further dominant climatic role. The Southwest Monsoonal moisture-laden winds are compelled to deposit their content west of the highland divide, because of exposure ; orographic ascent results

8. Thomas Blair, *Climatology* (New York : Prentice Hall, 1943), 76-78.

9. Lowland coastal average temperatures 85°F ; highland average temperatures 57°F. Thambyahpillay, op. cit., 25-39.

10. When the Ceylon University Meteorological Station is established with the co-operation of the Colombo Observatory and the Department of Geography, the writer proposes to undertake micro-climatic investigations in the University Park.

11. Blair, op. cit., 81.

12. Thambyahpillay, op. cit., 92-98.

in cooling and condensation of water vapour. The same winds as they cross the highland divide are bereft of their moisture content and are thus dry winds. But as they descend the eastern slopes of the highland divide (Plate V), they are adiabatically warmed which only induce further ' drying '. It is these *katabatic* winds[13] that are responsible for some of the extremely dry and scorching winds in the Batticaloa area in August,[14] during the dominance of the Southwest Monsoon.

Of major importance as a climatic control is the Monsoonal feature, (Plate I) the direct result of the proximity of the island to the sub-continent of India. In terms of the nature of the distribution[15] as well as intensity, the rainfall on the southwest side of the island during the months of May and June[16] contrasts markedly with the early morning and late afternoon showers produced by the convectional currents during the inter-Monsoonal months of March-April and October. The former rainfall is continuous and heavy, hardly abating for hours. The Southwest Monsoon dominates the scene from about May to August-September.[17] The climatic control of the distribution of land and sea surfaces and the consequent disproportionate heat coefficients of the two bodies is clearly reflected. ' The Monsoon climates manifest a dominance of geographical influences over those of the planetary '.[18] During the months of November, December and January, the Northeast Monsoon prevails to exercise control. The heavier rainfall along the eastern littoral of the island is significant evidence. The continuing northeast persistency of the Upper air currents over the island[19] further helps to determine the onset of the Northeast Monsoonal ' streamlines '. Tropical Revolving Storms[20] and shallow depressions with their accompanying sudden, short period, highly regionalised distribution of

13. W. G. Kendrew, *Climatology*, (Oxford ; Clarendon, 1949), 306-312. These occur in different geographical areas and are thus regionally named ; e.g., *Foehn* (in the Rhone Valley, Mediterranean), *Chinook* (east of the Rockies; in Alberta, Montana and Wyoming), *Sirocco* (Sahara), Berg (South Africa), *Bohorok* (Sumatara).

14. H. Jameson, ' The Batticaloa Kachchan ', *Royal Met. Soc.*, 67 (Jan., 1941), 55.

15. Thambyahpillay, op. cit., 92-115.

16. A. J. Bamford, ' On the Intensity of Rainfall in Ceylon ' *Memoirs, Colombo Observatory*, I (1941), 22-27.

17. However in reality the picture is not as simple as here envisaged. The onset of the Southwest Monsoon is preceeded by the pre-Monsoonal showers. For detailed considerations refer Thambyahpillay, op. cit., 76-83.

18. Emmanuel de Martonne, *Traite de Geographyie Physique* (Paris: Colin, 1925), 245.

19. *Weather in the Indian Ocean*, II, 6 B., M.O. 492 (Gt. Bt.: Met. Office), 134.

20. These are distinct from the ' cyclones ' of the mid-latitudes. This term is adopted from the accepted usage by the British Meteorological Service. The interactions of ' Convergences ' and the Intertropical Fronts are related to the formation of these Depressions and Cyclones. The Jaffna Cyclone of November 30th, 1952 is a striking example of one of these cyclonic ' inroads '.

rainfall exercise their climatic control notably during the period of the Northeast Monsoon as well as during the inter-Monsoonal periods.[21] Out of a total of forty-eight cyclonic ' inroads ' observed over the island between 1925 and 1944, thirty-seven occurred between October and January !

Thus the climatic controls, planetary and local, acting severally or in combination, contribute their share to produce those weather elements that interact over the island. The weather phenomena so produced eventually determine the island's climatic characteristics.

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*The names of the Meteorological Stations (indicated by dots) on Plates II, III and IV have not been inserted because of cartographic problems. They may, however, be easily located from among the following :—

Anuradhapura	Jaffna
Badulla	Kandy
Bandarawela	Kurunegala
Batticaloa	Mannar
Colombo	Nuwara Eliya
Galle	Puttalam
Hakgala	Ratnapura
Hambantota	Trincomalee.

GEORGE THAMBYAHPILLAY

21. Thambyahpillay, op. cit., 87-90.

MAJOR CLIMATIC CONTROLS over CEYLON

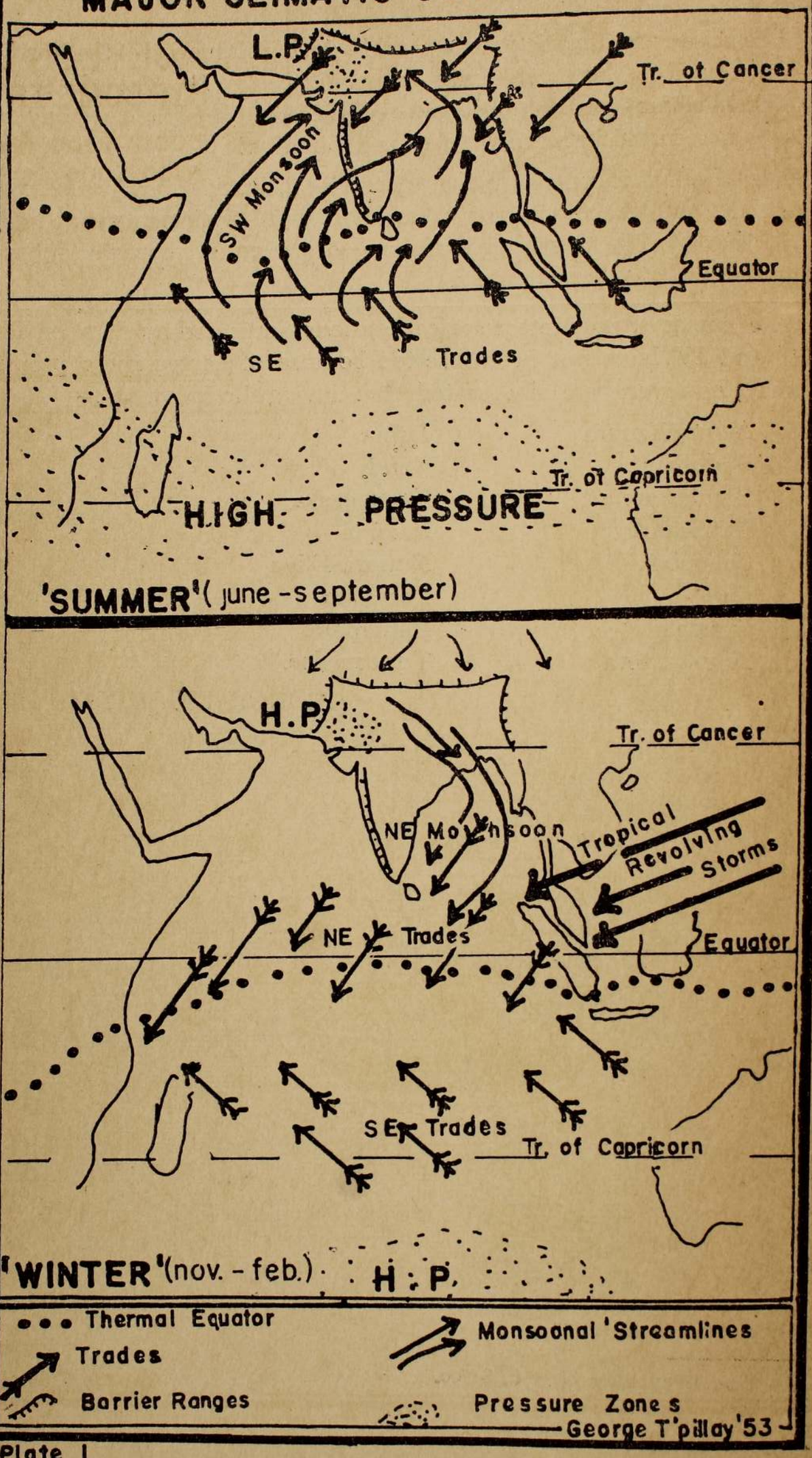


Plate I

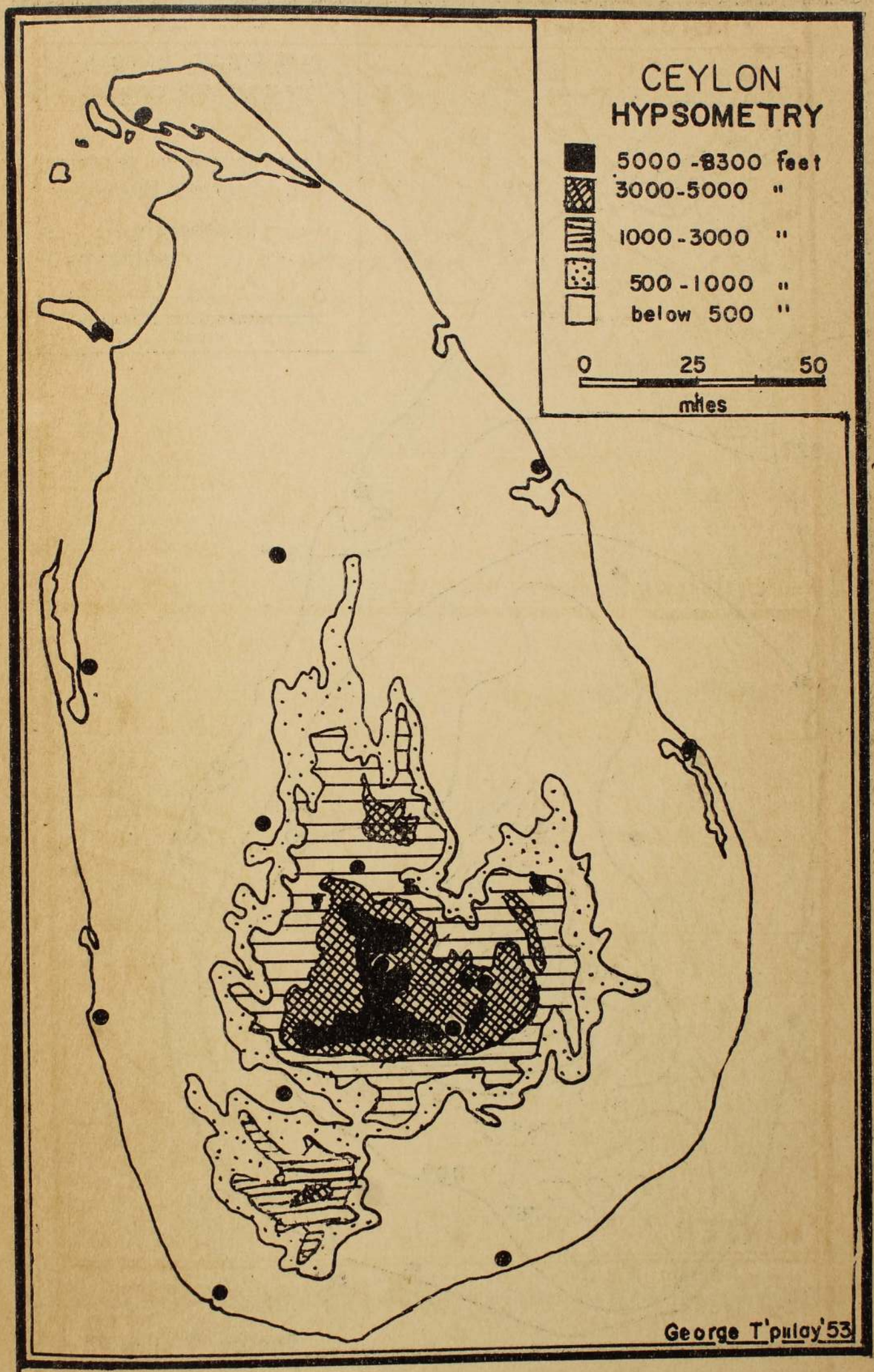

CEYLON
HYPSOMETRY
5000 - 8300 feet
3000 - 5000 "
1000 - 3000 "
500 - 1000 "
below 500 "
0
25
50
miles
George T'pulay '53

Plate II

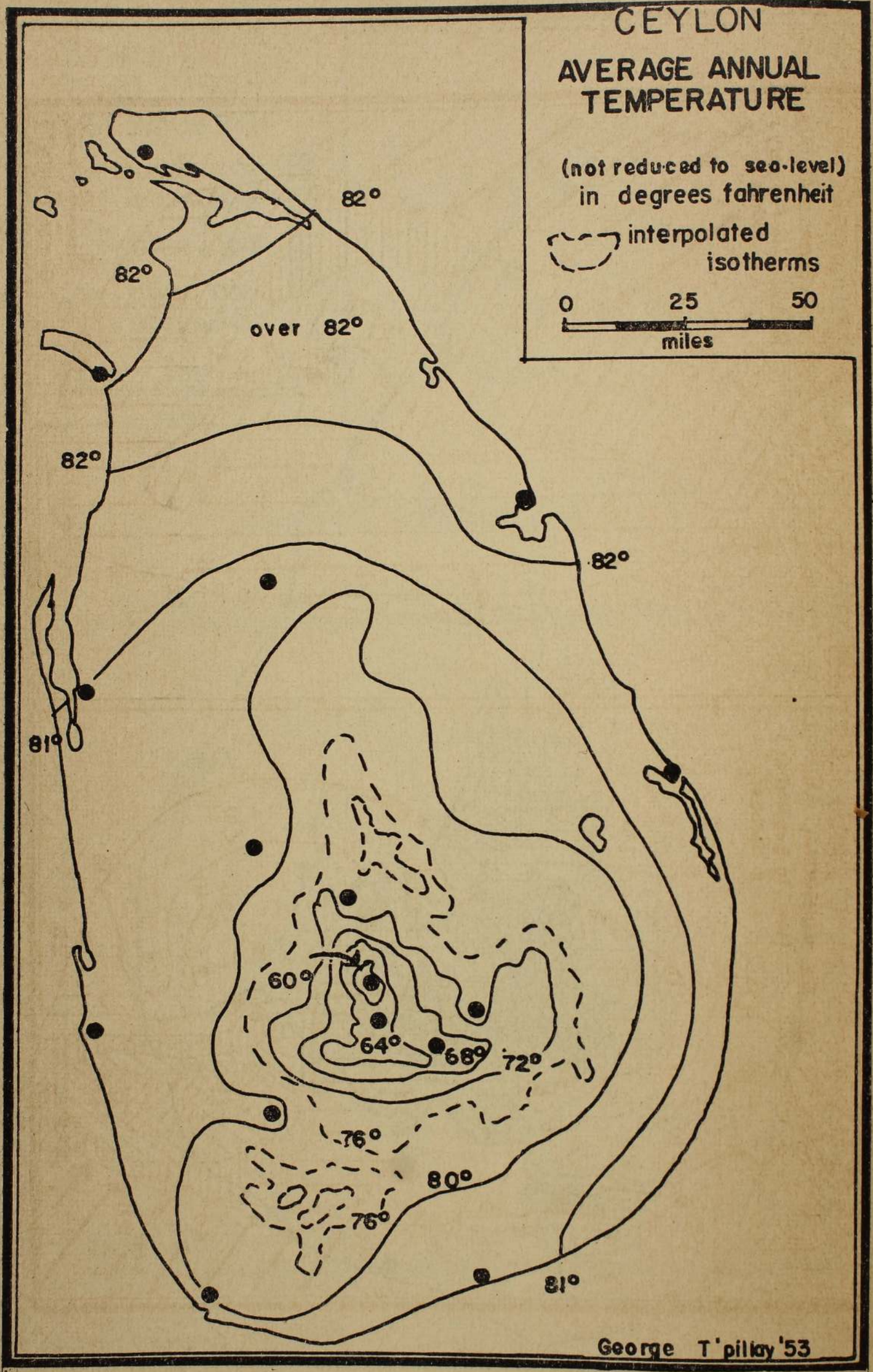

CEYLON
AVERAGE ANNUAL TEMPERATURE
(not reduced to sea-level)
in degrees fahrenheit
interpolated isotherms
0 25 50
miles
82°
82°
over 82°
82°
82°
81°
60°
64°
68°
72°
76°
80°
76°
81°
George T'pilkay '53

Plate III

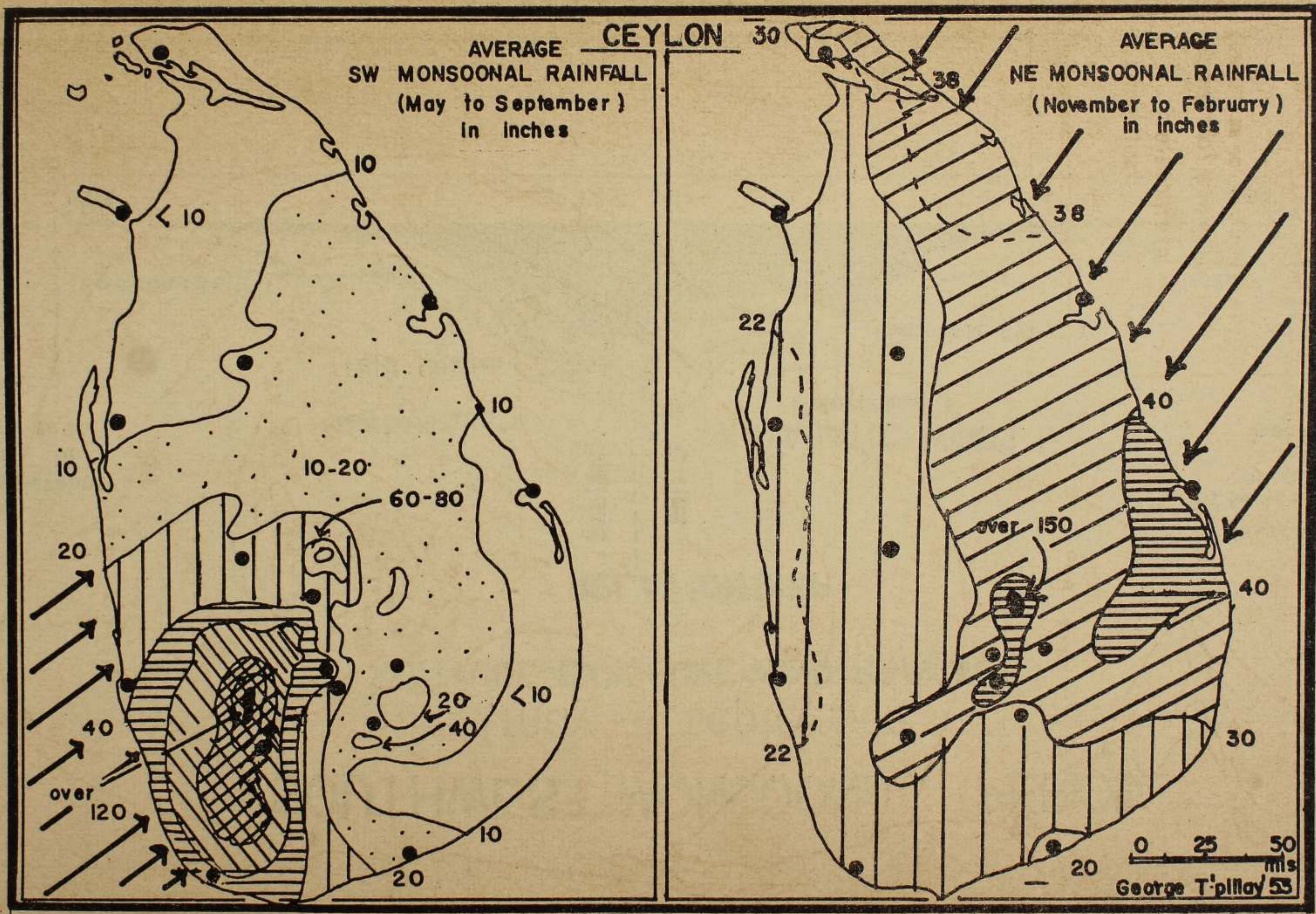

CEYLON
AVERAGE
SW MONSOONAL RAINFALL
(May to September)
in inches
10
< 10
10
10
10-20
60-80
20
40
over 120
20
40
< 10
10
20
AVERAGE
NE MONSOONAL RAINFALL
(November to February)
in inches
30
38
38
22
40
over 150
40
30
22
20
0 25 50
mls
George T'pillay/53

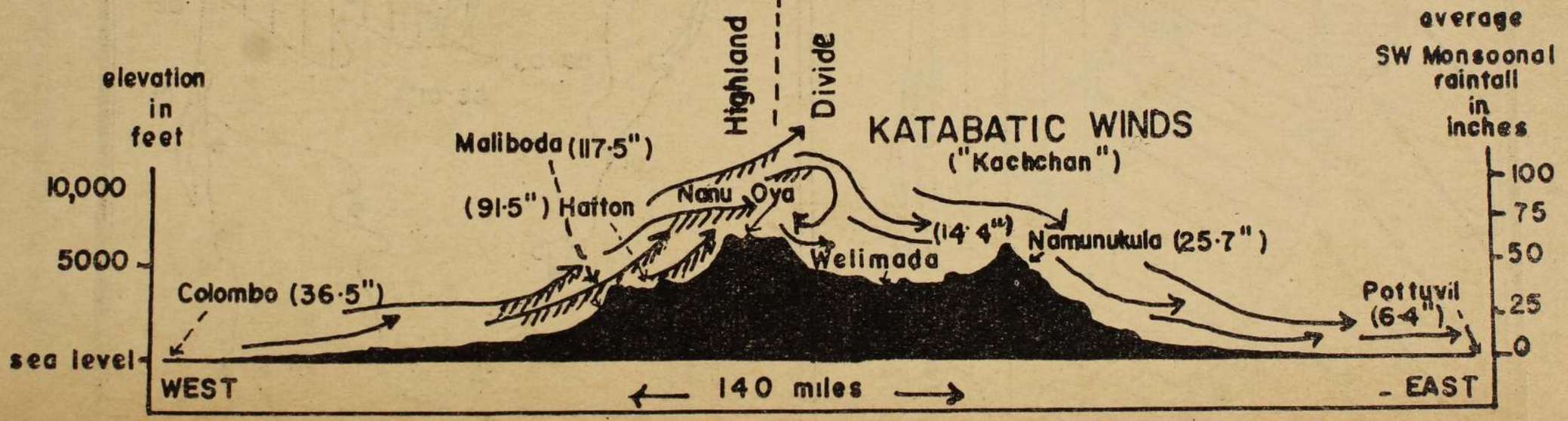
Plate IV

SOUTHWEST MONSOONAL PERIOD

(may — september)

ALTITUDE-EXPOSURE-WIND-RAINFALL

RELATIONSHIP



George T'pillay'53

Plate V.

*Knowledge and Belief**

PLATO, in the fifth book of the Republic, makes a distinction between what he calls ἄγνοια, δόξα and ἐπιστήμη (or γνῶσις). They are all powers or potentialities, like sight and hearing, but have different objects. The object of ἄγνοια is 'non-being'.[1] By ἄγνοια (or ἀγνωσία)[2] Plato means the state we are in when we have nothing before the mind and when our mind is a blank, as we say. We are in a condition of ἄγνοια when so far from knowing, or believing, we are not even entertaining, a proposition.[3] ἐπιστήμη or γνῶσις has 'being' for its object[4] and by 'being' he means εἴδη or Forms which exist without changing.[5] The objects of δόξα are those things that lie between 'being' and 'non-being', i.e. things that exist but change—sounds, colours, shapes, bodies, actions[6] and such aesthetic and moral judgements as are generally passed by the generality of men.[7] It is not my intention to give an exposition of Plato's theory of knowledge. I am not concerned with the state of mind he calls ἄγνοια but only with ἐπιστήμη (or γνῶσις) and δόξα. I shall take seriously the distinction he makes between ἐπιστήμη and δόξα and consider whether a similar distinction can be made between what we call 'knowledge' and what we call 'belief'. I shall then ask a second question: 'What are the objects of knowledge and what are the objects of belief?' In answering this question it may be necessary for me to show that the word 'know' is used in more than one sense in English and to refer briefly to the different kinds of knowledge.

I shall use the word 'belief' in a fairly general sense. I shall not attempt to make a distinction between opinion, conviction, what is strictly called belief and other similar states, as Cook Wilson has done.[8] When I speak of belief in opposition to knowledge I shall use the word 'belief' in such a way as to include in belief those cognate states to which Cook Wilson refers.

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*A paper read before the Classical Association of Ceylon.

1. Plato: Republic 477A, 478C.

2. ibid. 477A.

3. Mr. R. Sri Pathmanathan considers it wrong to say that Plato meant that we have nothing before the mind when we are in a condition of ἄγνοια. He thinks that the objects of ἄγνοια can be described by the Greek word ὕλη.

4. Plato: op. cit., 477B, 478A.

5. ibid. 479A, E.

6. ibid. 476A, B; 480A.

7. ibid. 479D, 484D, 493A.

8. Cook Wilson: *Statement and Inference.* Oxford, 1926. Volume 1. Part 2. Chapter 3, pp. 98-113.

Plato implies that there are three differences between ἐπιστήμη and δόξα. First, ἐπιστήμη is infallible; δόξα is not infallible.[9] Secondly, δόξα is darker than γνῶσις (or ἐπιστήμη); it is brighter than ἄγνοια.[10] Thirdly, the objects of δόξα are different from the objects of ἐπιστήμη; it is impossible for the same thing to be an object of δόξα as well as an object of ἐπιστήμη.[11] I shall take separately each of the three differences which, according to Plato, exist between δόξα and ἐπιστήμη and ask myself whether these same differences exist between what we call ' knowledge ' and what we call ' belief '.

Plato says that ἐπιστήμη is infallible while δόξα is not infallible. This distinction is applicable also to knowledge and belief. We can believe true as well as false propositions. But we cannot know propositions that are false. I can believe either the proposition ' Brutus killed Caesar ' or the proposition ' Caesar killed Brutus '. But I cannot know the proposition ' Caesar killed Brutus ' if Caesar did not kill Brutus. It is logically possible for a person to assert ' Perera believes that Caesar killed Brutus but Caesar did not kill Brutus '. But one cannot, without self-contradiction, say ' Perera knows that Brutus killed Caesar but Brutus did not kill Caesar '. It is not tautologous to say ' Perera believes that Brutus killed Caesar and it is true that Brutus killed Caesar '. But to say ' Perera knows that Brutus killed Caesar and it is true that Brutus killed Caesar ' is to assert a tautology.

Any proposition, whether true or false, can be believed but only true propositions are knowable. Knowledge is infallible and belief fallible in the sense that while one can believe even a false proposition one cannot know any proposition that is false.

Plato says that ἐπιστήμη is ' brighter ' than δόξα and that δόξα is ' darker ' than ἐπιστήμη. Is there any sense in which knowledge is brighter than belief? Can we say that knowledge is brighter than belief in the sense that what is known is more clearly and distinctly apprehended than what is believed? The proposition ' The interior angles of a triangle are equal to two right angles ' may be as clearly and distinctly apprehended by A as well as by B in the sense that it is equally intelligible to both. Yet A may know the proposition and B only believe it. Therefore if knowledge is brighter than belief it cannot be in the sense that what is known is more intelligible, or more clearly and distinctly apprehended, than what is believed.

For Plato the ' brightness ' of ἐπιστήμη in relation to δόξα and the darkness of δόξα in relation to ἐπιστήμη was dependent partly at least on the nature of the objects of ἐπιστήμη and the objects of δόξα.[12] He thought

9. Plato: op. cit., 477E.
10. ibid. 478C, D.
11. ibid. 478A, B.
12. ibid. 511E.

that the objects of δόξα were different from the objects of ἐπιστήμη. But we should not be justified in asserting that the believable is always different in nature from the knowable. To us it seems that sometimes at least what is believed is identical with what is known. We can say either 'We know that Ceylon is an island' or 'We believe that Ceylon is an island'; here the very same proposition 'Ceylon is an island' seems to be an object of belief as well as an object of knowledge. If we are going to say that knowledge is brighter than belief and belief darker than knowledge it cannot be for the reason that the objects of knowledge are different from the objects of belief. For sometimes at least what is believed seems to be identical with what is known.

We have now found that we cannot say that knowledge is brighter than belief or belief darker than knowledge either because the objects of knowledge are necessarily more intelligible, or more clearly and distinctly apprehended, than the objects of belief, or because what is believed is different in nature from what is known. Is there then any sense in which we can say that knowledge is brighter than belief and belief darker than knowledge? It seems to me that there is. Belief is darker than knowledge, and knowledge brighter than belief, in the sense that an element of doubt is always present in belief while knowledge is characterised by an absence of doubt. I can say without self-contradiction 'I believe that Winston Churchill is the present Prime Minister of England but perhaps he is not'; or 'I think it is going to rain but it may not rain'; or 'I may be wrong but I think that Matugama is in the Western Province'. But I contradict myself if I say 'I know that Colombo is the capital of Ceylon but perhaps it is not'; or 'Perera knows that Dutugemunu killed Elara but he may not have killed Elara', or 'I know that Hitler is dead but there is a chance that he is alive'; or 'I know that there is a tavern in Uswetakeyyawa but I am doubtful whether there is'; or 'I know that I am sober but it is just possible that I am not'. When a person knows a proposition he does not feel even the slightest doubt about its truth. One may believe a proposition and yet be prepared to grant that one's belief may be mistaken and that the proposition that one believes may be false. But one can be said to know a proposition only if one feels certain that it is true and refuses to grant that it may be false. Belief is attended with doubt, misgiving and a lack of conviction that the proposition believed is true, while one of the conditions of knowledge is that the knower should feel certain that the proposition he knows is true. In this sense, and in this sense only, are we justified in saying that knowledge is brighter than belief and belief darker than knowledge. When in English we speak of a 'shadow of doubt', implying that doubt is shadowy, we use a metaphor similar to that employed by Plato when he described δόξα as darker than ἐπιστήμη.

I have shown that a feeling of doubt is present in belief and that when one knows one is certain that the proposition that one knows is true. But A. E. Taylor, in a paper entitled ' Knowing and Believing ',[13] expresses the view that we can believe a proposition with complete confidence in its truth, and that therefore we are not justified in saying that the difference between knowledge and belief is that belief is more or less doubtful while knowledge is characterised by an absence of doubt. He writes: ' The impossibility of identifying knowledge with confident belief of what is true in particular, is well illustrated by the example Plato has selected in the *Theaetetus*, the effect of advocacy on a jury. Skilful advocacy will frequently lead a jury to pronounce with complete confidence on a question of fact where the evidence is patently incomplete. Indeed, we may imagine a case . . . in which such evidence as there is all points in one direction, and yet the jury are induced to return an unhesitating verdict in the opposite sense by clever and eloquent but wholly irrelevant appeals to sentiment and prejudice. And in a case of this kind it may well happen that such a feeling is in accord with fact ; the available evidence may have pointed unmistakably in one direction and yet have been misleading '.[14] He gives two examples to show how a jury may be made to feel certain that a proposition is true when the available evidence is not adequate to establish its truth or when there is no evidence at all to show that the proposition is true. He then adds : ' if the appeal to sentiment and prejudice were sufficiently adroit and eloquent, every member of the jury might leave the box without a shadow of hesitation in his mind, and yet it would be monstrous to call this unqualified conviction knowledge '.[15] Appeals to sentiment, our prejudices, hopes, wishes and fears may make us feel certain that a proposition is true even when the evidence is not conclusive, and the proposition may in fact be true. But such a condition should not be confused with knowledge. When we know we not only feel certain that the proposition known is true but also examine the evidence and decide that that the proposition is true, and the evidence is adequate to establish its truth. When we feel certain that a proposition is true without considering the evidence for its truth it would be misleading even to say, as A. E. Taylor does, that we believe that the proposition is true. For then so far from knowing we do not even believe that it is true. I shall call such a condition ' unreasoning faith ' in order to distinguish it from ' belief '. ' Unreasoning faith ' differs from belief in being emotional rather than intellectual. One who is in a condition of ' unreasoning faith ' entertains a proposition and, without weighing the evidence available to him, takes up an emotional attitude towards it. As long

13. A. E. Taylor : *Philosophical Studies.* Macmillan & Co., Limited, London, 1934. pp. 366-398.

14. ibid. p. 376.

15. ibid. p. 376.

as we have ' unreasoning faith ' and do not consider the evidence for the truth of a proposition we shall never get to know that the proposition is true. Belief, on the other hand, may be a stepping-stone to knowledge. When we believe, just as when we know, we examine the evidence for the truth of a proposition and, though the evidence is inadequate and we do not feel certain that the proposition is true, decide that the proposition is true. But when we know we not only consider the evidence and make up our minds that the proposition is true ; the evidence is also adequate to establish the truth of the proposition, the proposition is in fact true and we feel certain of its truth.

For Bertrand Russell not only belief but even knowledge is uncertain. In ' Human Knowledge Its Scope and Limits '[16] he makes knowledge a sub-class of true belief ;[17] on his view there is only a difference in degree and not in kind between knowledge and belief, knowledge being merely less uncertain than belief.[18] He says : ' all that we count as knowledge is in a greater or less degree uncertain, and there is no way of deciding how much uncertainty makes a belief unworthy to be called ' knowledge ', any more than how much loss of hair makes a man bald '.[19] I have been urging that when we know we feel certain that the proposition we know is true. Certainty has no degrees; we are either certain or not certain. But there can be degrees of uncertainty in the sense that we may feel more or less doubtful about the truth of a proposition. ' It is only when we want to make a distinction between opinion, belief and strong conviction, that we have to consider degrees of uncertainty. I have been using the word belief in such a way as to include under it all these states and activities because I have been concerned with showing the difference between belief in general and knowledge. The difference between belief in general and knowledge is not one of degree but of kind. As long as we feel the slightest doubt about the truth of a proposition we do not know, but only believe, the proposition ; there can be no uncertainty at all in knowledge.

I have examined two of the distinctions that Plato makes between ἐπιστήμη and δόξα. I shall now examine the third and consider whether that too is applicable to knowledge and belief.

Plato holds that the objects of δόξα are different from the objects of ἐπιστήμη.[20] According to him it is impossible for objects of δόξα to be objects of ἐπιστήμη. We must grant that there are some believables which are not knowable. We may believe either a true or a false proposition.

16. Bertrand Russell : *Human Knowledge, Its Scope and Limits.* London. George Allen and Unwin Ltd., 1948.

17. ibid. p. 170.

18. ibid. pp. 444, 445.

19. ibid. p. 113.

20. Plato : Republic 478A, B.

When a belief is false that which is falsely believed can never become an object of knowledge. False propositions are believable but not knowable. Sometimes therefore it is impossible for what is believed to be known. But are the objects of belief always different from the objects of knowledge? Is it impossible for what is truly believed to be known? Here we should really ask ourselves two questions:—(*a*) Can an individual know that which he himself truly believes?, (*b*) Can one individual know what another individual truly believes?

It looks as if an individual cannot know that which he himself truly believes. Let us assume that Brutus did actually kill Caesar. If Perera believes that Brutus killed Caesar then his belief is true. But can Perera believe that Brutus killed Caesar and at the same time also know that Brutus killed Caesar? We have decided that a condition of knowledge is the certainty that what is known is true and that such certainty is absent from belief. The certainty that characterises knowledge is produced by the adequacy of the evidence. If Perera having examined the evidence and decided that Brutus killed Caesar feels certain that Brutus killed Caesar so that no further evidence is necessary to produce in him the certainty that Brutus killed Caesar, if Brutus did actually kill Caesar, and if the evidence is adequate to establish the proposition that Brutus killed Caesar, then Perera knows that Brutus killed Caesar. But the evidence cannot be adequate and also at the same time inadequate. He cannot feel certain that Brutus killed Caesar and also at the same time lack this certainty. Therefore if Perera knows that Brutus killed Caesar he cannot at the same time believe that Brutus killed Caesar, and if he believes that Brutus killed Caesar it is impossible for him at the same time to know that Brutus killed Caesar. Of course an individual having known a proposition may cease to know and later only believe it; or he may get to know subsequently what he previously only believed. Thus I may now know the proposition that the square on the hypotenuse is equal to the sum of the squares on the other two sides in the sense that I am able to prove it. But after some years I may forget the proof. I shall then have ceased to know and only believe it. When Perera was a schoolboy and had not yet read the authorities he believed, but did not know, that Brutus killed Caesar. But having studied the evidence as an undergraduate he ceased to believe and came actually to know it. Although an individual may believe at one time what he knew at another and come to know at one time what he only believed at another yet he cannot know that which he himself believes at the same time as he believes it.

We have now seen that an individual cannot know that which he himself truly believes. Is it also impossible for one individual to know that which another individual truly believes? In a court of law when one witness, A,

says ' I know that the accused stabbed the deceased ' and another witness, B, says ' I believe that the accused stabbed the deceased ',[21] the statement made by B would, in the absence of evidence to show that he is lying, be held to corroborate the statement made by A, however weak that corroboration may be. The fact that B's statement is held to corroborate A's makes it probable that, when A knows and B believes that the accused stabbed the deceased, the object of B's belief is identical with the object of A's knowledge. It would seem therefore that it is possible for one individual to know that which another individual truly believes.

Plato held that the objects of δόξα are different from the objects of ἐπιστήμη.. He would probably not have denied that those things that are objects of ἐπιστήμη for the guardians can be objects of δόξα for auxiliaries and workers. He would perhaps have said that it was possible for auxiliaries and workers to believe that Forms exist while only the guardians had knowledge of their existence. In one place he implies that the auxiliaries have ὀρθὴ δόξα or ' correct belief ' about what ought and ought not to be feared.[22] Plato then would probably not have denied that what the guardians knew could be believed by auxiliaries and workers. But on his theory those things which are properly the objects of δόξα can never be objects of ἐπιστήμη. According to him things we perceive through the senses, for example, can never be objects of ἐπιστήμη. We can at the most have true beliefs about them.

Two modern philosophers, A. E. Taylor and H. H. Price, agree with Plato in thinking that the objects of belief are different from the objects of knowledge. We must now examine their views.

A. E. Taylor, in the article to which I have already referred, says that there are some things which from the nature of the case are capable of being known even though they may be only believed and not known ; and that there are other things which, again from the nature of the case, can be believed but not known.

He thinks that if we do not make the distinction between knowledge and belief depend on the difference in their object we shall have to make the distinction psychological and say that when we know a proposition we feel certain that it is true and that such certainty is absent from belief. But if we do so we shall, according to him, not be able to distinguish true belief from knowledge ; for we may feel certain that a proposition is true even when we only believe and do not know it.[23] He then points to the effect of skilful

21. It has been pointed out to me by Mr. V. A. Murugesampillai that it is only when an opinion is expressed by an expert that it is accepted as evidence in a court of law. Let us therefore suppose that witness B is an expert.

22. Plato : op. cit., 430B.

23. A. E. Taylor : op. cit., pp. 375-6.

advocacy on a jury and shows how a person can be made to feel certain that a proposition is true when the evidence is incomplete or in the absence of evidence. I have already shown that the condition in which we feel certain that a proposition is true even when the evidence is inconclusive should not be called ' belief '. Such a condition is also not knowledge. The feeling of certainty that a proposition is true is not the only characteristic that distinguishes knowledge from true belief. When we know a proposition not only is the proposition true and not only do we feel certain of its truth ; we also examine the evidence and decide that the proposition is true and the evidence is adequate to establish the truth of the proposition. Therefore in order to distinguish true belief from knowledge it is not necessary to assert, as A. E. Taylor does, that the objects of knowledge are different from the objects of belief.

For A. E. Taylor there are some believables which are not knowable. Judging and inferring are not knowing ;[24] judgement and inference belong to the domain of belief. Knowledge is a kind of vision, and has the directness characteristic of our apprehension of sensible fact and of ultimate indemonstrable principles. He writes : ' And it is this kind of direct and immediate apprehension of truth which we should regard as the type of true knowing. All that we commonly call our scientific knowledge is an endeavour, never fully successful, to recapture for our mental vision of facts this immediacy and obviousness from which we begin by passing away, the moment judgement supervenes on sense-perception '.[25] ' Vision ' is the ideal type of knowledge and vision in its completeness is impossible for us. Historical insight into the individual is genuine knowledge.[26] ' We can, if we will, succeed in knowing, not merely opining or thinking, what the historical Plato, or Cromwell or Shelley was . . . '.[27]

A. E. Taylor says that knowing is a kind of vision and asserts that we can have knowledge of individuals who have lived in the past. We can remember individuals whom we have met and when we remember them we have a direct, i.e. non-inferential, knowledge of them. Individuals we cannot remember we can know only indirectly and by inference either from their work or from what is said and written about them. When A. E. Taylor says that we can have knowledge of individuals who have lived in the past he is not thinking of memory-knowledge. For he says that we can know Plato or Cromwell or Shelley—individuals we have not met and therefore cannot remember. It is

24. A. E. Taylor : op. cit., p. 385.
25. ibid. p. 386.
26. ibid. pp. 391, 392.
27. ibid. p. 392.

difficult to see how we can have knowledge, in the sense of ' vision ', of individuals who have lived in the past and whom we cannot remember. It seems to me that we can have only inferential knowledge of them.

What we call scientific knowledge is, according to A. E. Taylor, not really knowledge ;[28] here again he is in agreement with Plato. He writes: ' such " science " as is possible to beings as temporal as men . . . is never quite identical with " knowledge " '.[29] Yet, in the way in which we use the word ' knowledge ', we can say that we know that an eclipse of the sun will take place at some distant date or that the earth is not flat or that butter melts when heated. A. E. Taylor is thinking of ' the type of true knowing '[30] and ' the ideal of knowledge '.[31] He admits that it cannot be attained by men. Instead of trying to find out by a logical analysis how the words ' knowledge ' and ' belief ' are actually used he has been telling us how he thinks they ought to be used. He seems to think that the word ' knowledge ' ought to be used by us in more or less the way in which Plato used the word ἐπιστήμη and Aristotle the words ἐπιστήμη and νοῦς; and that our use of the words ' opinion ' and ' belief ' should be more or less similar to Plato's use of the word δόξα and Aristotle's use of the words δόξα and ὑπόληψις. He has been making value-judgements rather than statements of fact.

H. H. Price too, like Plato and A. E. Taylor, seems to hold that the objects of belief are different from the objects of knowledge. I have only notes I made at his lectures. I hope I am not misrepresenting him. In knowing we are, according to him, in direct contact with reality or the facts themselves ; in believing the fact itself is not present to the mind ; even in true belief the fact which makes the belief true is not present to the mind. On this view the objects of knowledge are facts ; facts are never the objects of belief. But unfortunately for this theory we can speak not only of knowing facts but also of believing them. We can say ' He refused to believe the facts ' or ' A knows, but B only believes, the fact that Lawrence wrote Lady Chatterly's Lover '. So presumably facts can be believed and not merely known. There does not seem to be sufficient reason for urging that facts are different from true propositions. The words ' fact ' and ' true proposition ' are used in pretty much the same way. We can say ' It is a fact that Colombo is hot ' or ' It is true (or a true proposition) that Colombo is hot '. As A. D. Woozley points out in his book *Theory of Knowledge*, ' fact ' and ' true proposition ' (' true ', ' truth ') are normally identical in *descriptive* meaning, i.e. what would be

28. A. E. Taylor: op. cit., p. 386.
29. ibid. p. 395.
30. ibid. p. 386.
31. ibid. p. 397.

asserted in the one case is the same as what would be asserted in the other '.[32] Therefore when A knows, and B truly believes, that Colombo is hot, we cannot make the object of A's knowledge different from the object of B's belief by asserting that what A knows is a fact and what B believes is something other than a fact, e.g. a true proposition. Facts do not seem to be different from true propositions and can apparently be believed as well as known. We cannot hold with H. H. Price that the objects of belief, even when belief is true, are different from the objects of knowledge on the ground that what we know are facts and what we believe when we believe truly are true propositions.

There seems to be no good reason for saying that there are some believables which can never be known. The history of knowledge shows that propositions which have only been believed by the people of one age have become known to people of subsequent ages. We know more than the ancient Greeks or those who lived in the nineteenth century. Certain propositions which were believed by them are known to us. It is probable that propositions which we today only believe will be known in the next century. One should not therefore assert that there are certain propositions which from the nature of the case can only be believed and can never be known by any mind.

Having examined the distinction which Plato makes between ἐπιστήμη and δόξα we have found that it does not exactly correspond to the distinction we make between knowledge and belief. Objects of δόξα can never become objects of ἐπιστήμη. But true propositions can be believed as well as known. We must now ask the question : ' What are the objects of belief and what are the objects of knowledge ? '

What is believed is always a proposition, whether true or false. We do not believe things ; we do not, for example, say ' Perera believes Adam's Peak '. Persons also are not objects of belief. It is true that we sometimes speak of believing a person. A judge in a court of law might say that he believes witness A. But what he really means is that he believes the statements made by witness A. We may also speak of believing in a person. But what we then mean is that we believe certain propositions about him. When we say we believe in a person we mean that we believe that he will keep his word and that he is capable of doing something. Only propositions can be the objects of belief.

Before we attempt to answer the question : ' What are the objects of knowledge ? ' we must distinguish three kinds of knowing. The first is *knowing that* x is y, i.e. knowledge of propositions. The second is *knowing* x where x is a person or thing ; this kind of knowing I shall call *acquaintance*. The third is *knowing how* to do something. I shall deal individually with these three kinds of knowing.

32. A. D. Woozley : *Theory of Knowledge*. Hutchinson's University Library, 1949, p. 172.

When we know that something is, or is not, the case what we know is a proposition. We have already seen that only true propositions can be known. The question we must now ask is: ' What kind of true proposition can we know ? '

The objects of ἐπιστήμη, according to Plato, are εἴδη or Forms. He seems sometimes to have thought of them as universals and at other times as universal propositions. Can we know only universal or general propositions ? In the way in which we use the word ' know ' we can say that we know not only that ' All crows are black ' but also that ' This book is red ' or that ' Smith is a twerp ', or that ' Some cats are white '. Our use of the word knowledge is different from Plato's use of the word ἐπιστήμη. For we say that we know general as well as singular and particular propositions.

Plato's εἴδη or Forms exist without changing.[33] He thought of them as propositions and as changeless. Can we say that only propositions which are changeless in the sense of being necessarily true can be known and that contingent truths can only be believed and not known ?

I shall first try to explain the distinction I am making between necessary and contingent (or empirical) truths. The proposition ' 2 + 3 = 5 ' is necessarily true in the sense that it cannot be denied without self-contradiction. We use the symbols 2, 3 and 5 in such a way that we transgress the rules of formal logic if we deny that 2 + 3 = 5. Similarly the proposition ' If all men are mortal then some men are mortal ' is necessarily true in the sense that it is logically impossible to assert that all men are mortal and at the same time to deny that some men are mortal. One has only to know the meanings of the words ' all ' and ' some ' and to understand the sentence ' If all men are mortal then some men are mortal ' in order to realise that the sentence expresses a truth. One can know that the proposition expressed by the sentence is true without examining actual men, or even being acquainted with actual men. Necessary truths are true at all times and in all places. Contingent truths, unlike necessary truths, can be denied without self-contradiction. The proposition expressed by the sentence ' All leopards are carnivorous ' is, if true, a contingent truth. If we deny the proposition and say that all leopards are not carnivorous the assertion we make may be false but is not self-contradictory. We may understand the sentence ' All leopards are carnivorous ' but we cannot know whether the proposition expressed by it is true without observing particular leopards. The proposition is not one that we can say must be true at all times and in all places. The proposition may be true today. But if tomorrow even one single leopard, because it is unable to find animals on which it can feed, turns vegetarian and ceases to be carnivorous then the proposition expressed by the sentence ' All leopards are carnivorous ' will be falsified.

33. Plato : op. cit., 479A, E.

We use the word ' know ' in such a way that we can speak of knowing not only necessary but also contingent truths. I can, for example, say ' I know that some dogs bite ' or ' I know that I am writing this sentence '. The certainty that accompanies our knowledge of necessary truths I would call logical certainty. I am logically certain that if A is greater than B and B is greater than C then A is greater than C, because the sentence ' If A is greater than B and B is greater than C, then A is greater than C ' expresses a necessary truth I cannot with logical certainty know a contingent truth. But it does not necessarily follow that that our knowledge of contingent truths is not marked by a feeling of certainty. Having being bitten by dogs myself and having seen other people bitten by dogs I feel certain that some dogs bite, and no further evidence can increase my confidence in the truth of the proposition expressed by the sentence ' Some dogs bite '. Therefore there is no valid reason for saying that only necessary truths can be known and that contingent truths can only be believed but not known. All truths, whether necessary or contingent, are knowable.

We have dealt with *knowing that.* We must now consider that kind of knowing which, for want of a better name, I have called *acquaintance.*

To be acquainted with something is to apprehend it directly. By apprehending something directly I mean being aware of it without knowing, believing, or even entertaining, a proposition about it. I can apprehend something directly either through the ' inner sense ', i.e. by introspection, or any of the outer senses. I can, for example, be acquainted with a thought, feeling, colour, shape, sound or smell. Acquaintance is very often accompanied by belief, and acquaintance with a thing may often give us knowledge of one or more propositions about it. But being acquainted with a thing is different from entertaining propositions about it. For not only can we be directly aware of something without entertaining propositions about it ; we can also entertain propositions about something with which we are not acquainted. I can think about the Pyramids even though, at this moment, I am not touching, seeing, smelling or tasting them, and even though I have never seen, touched, smelt or tasted them, i.e. it is possible for me to entertain propositions about the Pyramids without being acquainted with them.

I am using the word ' acquaintance ' differently from the way in which it is used in everyday speech. We usually say we are acquainted with a person we have once met even when we are not seeing, hearing or touching him. Thus I have met The Provost of The Queen's College Oxford and can claim acquaintance with him even though at this moment I am in Colombo and he in Oxford, and even though I am not hearing his voice over the telephone or radio. We usually use the word ' acquaintance ' in such a way as not to exclude reference to the entertaining of propositions about that with which we say we

are acquainted. But I am departing from ordinary usage. By acquaintance I mean the direct, i.e. non-propositional, awareness of what I am seeing, touching, smelling, hearing, tasting, feeling, remembering or introspecting at any given moment.

Certain philosophers have asserted that all knowledge is knowledge of truths, that there is no such thing as acquaintance, and that acquaintance is psychologically impossible. 'Should auld "Acquaintance" be forgot And never brought to min' ' because some philosophers have doubted its existence? Is acquaintance a myth? The question has been discussed in two symposia entitled 'Is there Knowledge by Acquaintance?' in the Supplementary Volumes of the Aristotelian Society.[34] Some of those who contributed to these two symposia have urged that there is no such thing as acquaintance. As in this paper I am concerned with knowledge in general and not with acquaintance only, I shall not examine their arguments in detail. I hope that I shall be indirectly meeting their arguments when I give my reasons for thinking that there is such a thing as acquaintance. Many of their arguments have been directed not so much against acquaintance as against Bertrand Russell's statement of the case for acquaintance. I shall criticise Bertrand Russell myself but I shall urge at the same time that, in addition to *knowing that* and *knowing how*, there is also another kind of knowing which I, like Bertrand Russell, call acquaintance.

We cannot, in my opinion, find out whether there is such a thing as acquaintance by asking ourselves what happens when we see or hear something. For, the moment we ask the question: 'Am I entertaining a proposition about what I am now seeing?', I begin to entertain propositions about it. That it is possible to apprehend something without entertaining propositions about it is shown by what often happens when a person asks a question about something that one has seen in the past. Let us suppose that a friend asks me what Miss Jones wore to The Queen's College Ball. I had vaguely seen Miss Jones at The Queen's College Ball but as I was not particularly interested in her I had not given a thought to the clothes she was wearing. When my friend asks me what she wore to The Queen's College Ball I try to recall the sense-impression I then had of Miss Jones. My friend helps me by asking me questions. 'Was her dress long or short?' I say: 'Long'. 'Was it silk or cotton?' I answer: 'Cotton'. 'What was the colour of her dress?' I reply: 'White'. Then, having succeeded in recalling the sense-impression I had of Miss Jones, I assert the proposition: 'Miss Jones was wearing a long, white, silk, sleeveless and strapless dress'. We know from our own experience that we have often seen or heard something without naming, describing, or entertaining propositions about what we have seen or heard.

34. Volume 2, 1919, pp. 159-220 and volume 23, 1949, pp. 69-128.

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There is, then, such a thing as acquaintance. There is also knowledge by acquaintance in the sense that acquaintance may give us knowledge of propositions about that with which we are acquainted. I may see something and say: ' I see a red circle '. If what I am seeing is both red and circular, then the proposition ' I see a red circle ' is true. If the proposition is true and I am certain of its truth, then I have knowledge of it and this knowledge is based on my acquaintance with the red circle.

Having shown that there is knowledge by acquaintance we must now ask: ' Is acquaintance itself a kind of knowing ? ' When we are acquainted with something we may not entertain, and therefore may not know, propositions about it ; but it does not necessarily follow that we have no knowledge of it. We often observe something, e.g. a colour, without knowing what it is in the sense of being able to make statements about it. But we seem to have some knowledge of it even though we do not know any propositions about it. For later we may see a colour and then say: ' This is the colour I saw on the previous occasion and was not able to describe '. The fact that we are able to recognise a colour that we have seen in the past but not named or described seems to imply that we have a non-propositional knowledge of that with which we are acquainted. Acquaintance therefore can be considered a kind of knowing.

I have defined acquaintance and given reasons for thinking that there is such a thing as acquaintance. I have shown that acquaintance is a kind of knowing. I must now ask the question: ' What are the objects of acquaintance ? ' In *The Problems of Philosophy*[35] Bertrand Russell says that we cannot be acquainted with physical objects[36] or other people's minds ;[37] we can only know truths about them. We have acquaintance with sense-data,[38] ' such things as colours, sounds, smells, hardnesses, roughnesses, and so on '.[39] We are acquainted with things we remember, ' what we have seen or heard or had otherwise present to our senses '[40] and with things we are aware of in introspection[41]—' thoughts, feelings, desires, etc. '.[42] One is acquainted with the ' I ' or with one's self.[43] One is also acquainted with ' abstract ideas ', ' universals ' or ' concepts '.[44]

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35. Bertrand Russell: *The Problems of Philosophy*. The Home University Library of Modern Knowledge, Oxford University Press, 1945.
36. ibid. pp. 74, 81.
37. ibid. p. 81.
38. ibid. pp. 73, 75.
39. ibid. p. 17.
40. ibid. p. 76.
41. ibid. p. 76.
42. ibid. p. 80.
43. ibid. pp. 78-80.
44. ibid. pp. 76, 81.

I am in agreement with most of what Bertrand Russell says about the objects of acquaintance. I disagree with him on two points. He thinks that we cannot be acquainted with physical objects ; I think we can. I also think that he is wrong in saying that we can be acquainted with universals. I shall deal with these two points in some detail.

Bertrand Russell is not acquainted with the physical object which is his table. ' I am acquainted ', he writes, ' with the sense-data that make up the appearance of my table—its colour, shape, hardness, smoothness, etc. ; all these are things of which I am immediately conscious when I am seeing and touching my table '.[45] Sense-data are ' the things that are immediately known in sensation '.[46] The sense-data which we associate with the table are not identical with the table. He writes: ' we cannot say that the table *is* the sense-data, or even that the sense-data are directly properties of the table '.[47] Elsewhere again he says that ' the physical object is different from the associated sense-data, and . . . the sense-data are to be regarded as resulting from an interaction between the physical object and ourselves '.[48] The relation of sense-data to the physical object table is that of effect to cause. For he says : ' The table is " the physical object which causes such and such sense-data " '.[49] According to him we are acquainted only with sense-data and not with the physical object table ; sense-data are different from the physical object.

If this theory is true we are not entitled to say anything more about physical objects than that they are the cause of sense-data. The fact that we have ' sense-data—brown colour, oblong shape, smoothness, etc.—which we associate with the table '[50] will not justify us in asserting that the table itself is brown, oblong and smooth. For a cause need not be like its effect. Bertrand Russell himself gives an example which helps to establish the point I am trying to make. Referring to dreams he says that ' a door banging . . . may cause us to dream of a naval engagement. But although, in this case, there is a physical *cause* for the sense-data, there is not a physical object *corresponding* to the sense-data in the way in which an actual naval battle would correspond '.[51] On the view that sense-data are different from physical objects, that physical objects cause sense-data, and that we are acquainted only with sense-data and not with physical objects, we shall not be able to say anything more about physical objects

45. Bertrand Russell: *The Problems of Philosophy*, p. 73.
46. ibid. p. 17.
47. ibid. pp. 17-18.
48. ibid. pp. 132-133.
49. ibid. p. 74.
50. ibid. p. 17.
51. ibid. p. 35.

than that they are the cause of sense-data. As we shall not be able to compare sense-data with physical objects we shall not know whether physical objects correspond to sense-data.

In opposition to Bertrand Russell I hold that we can be acquainted with physical objects and that it is precisely because we are acquainted with them that we are able to describe them. When we see something we do not see first a shape and then a colour. We see a coloured shape (or shapely colour). In one and the same act of perception I see a particular shape of a particular colour. The particular coloured shape (or shapely colour) that I see may be unnamed and unrecognised. Later on I may entertain propositions about it. I may describe it as a black rectangle (or rectangular blackness) and call it a blackboard. Because the process of naming and recognising comes afterwards it does not necessarily follow that what I first saw was not the physical object that is the blackboard but something else. The sense of sight gives us acquaintance with coloured shapes (or shapely colours), i.e. with physical objects. Bertrand Russell was wrong in holding that we cannot be acquainted with physical objects.

It may be urged that we can be acquainted at the most with only parts or aspects of physical objects and that we should not therefore say that we are acquainted with physical objects. When I look at something, e.g. the black rectangle which is in fact the blackboard, I may be aware only of one side of it. It may be said that I should therefore not claim acquaintance with the physical object which is called the blackboard. But we usually say that we are seeing something even though in fact we are seeing only a part of it. I may assert that I am seeing the Town Hall when I am seeing only the front of the Town Hall and not the top or the back or the inside of it. In the same way I think that I am justified in saying that I am acquainted with a physical object even though I am actually acquainted with only a part or aspect of it.

I have given reasons for thinking that we can be acquainted with physical objects. I shall now try to show that we cannot have acquaintance with universals.

Bertrand Russell says that we can be acquainted with both particulars and universals,[52] ' general ideas such as *whiteness*, *diversity*, *brotherhood*, and so on'.[53] Among universals he thinks that we have acquaintance not only with ' sensible qualities '[54] like ' white, red, black, sweet, sour, loud, hard, etc., i.e. with qualities which are exemplified in sense-data '[55] but also with relations.[56] We can

52. Bertrand Russell : *The Problems of Philosophy*, p. 76.
53. ibid. p. 81.
54. ibid. p. 159.
55. ibid. p. 158.
56. ibid. pp. 159-161.

be acquainted with space and time-relations, the relation of ' resemblance or similarity '[57] and ' greater than '.[58] Explaining what he means by acquaintance he says that ' we have *acquaintance* with anything of which we are directly aware, without the intermediary of any process of inference or any knowledge of truths '.[59] In the sense in which the word acquaintance is used by him it is doubtful whether we can be acquainted with universals. I shall try to show that we cannot be acquainted with universals which are ' sensible qualities' and it will follow *a fortiori* that we cannot be acquainted with universals which are relations.

Before we attempt to understand what Bertand Russell means by acquaintance with universals it would be helpful for us to see what he does not mean when he claims that we are acquainted with them.

That he does not mean that we are acquainted in sensation with universals is clear from his definition of ' particular ' and ' universal '. He writes : ' We speak of whatever is given in sensation, or is of the same nature as things given in sensation, as a *particular* ; by opposition to this, a *universal* will be anything which may be shared by many particulars, and has those characteristics which . . . distinguish justice and whiteness from just acts and white things '.[60] He is right, I think, in holding that universals are not ' given in sensation '. We are acquainted in sensation with particular qualities and particular relations. I may see a particular colour-patch which is in fact red. I cannot be aware of the colour-patch as an instance of redness without entertaining propositions about it. I cannot assert that the particular colour-patch is red without recognising that its colour is similar to the colour of other objects which are described as red. I cannot in sense-perception be acquainted with universals in the sense that I cannot, without entertaining propositions about the qualities and relations that I see, become aware that universals are exemplified in them.

By acquaintance with universals he does not mean acquaintance with an image of a particular thing. I may have an image of a particular white object but in having this image I am not being acquainted with the universal ' whiteness '. The particular object of which I am having the image is of a particular shape. But ' whiteness ' is a characteristic that is present in a number of objects of different shapes. An image I may have of a triangle is different from the universal ' triangle '. The triangle of which I have an image is equilateral, isosceles or scalene ; but triangularity is common to all triangles. We may also know a universal without being able to have an image of one of its instances. We cannot have an image of a particular chiliagon but we know

57. Bertrand Russell : *The Problems of Philosophy* p. 101.

58. ibid. p. 161.

59. ibid. p. 73.

60. ibid. p. 145.

the universal ' chiliagon '. If in a Radio Quiz the question were asked : ' What is a chiliagon ?' a school-girl, if she had a knowledge of Greek, would reply : ' A chiliagon is a figure with a thousand sides '. Knowing a universal is therefore different from having an image of an object characterised by the universal.

Bertrand Russell's theory of universals, as stated in *The Problems of Philosophy* is, I think, different from Plato's. But Plato too, like Bertrand Russell, seems to have thought that we can be acquainted with universals. Plato meant by the word εἶδος or Form partly at least what we mean by the word ' universal '. Forms, according to him, are apprehended by intuitive, and not by discursive, thinking. We are therefore justified in saying that he thought that we can have acquaintance with Forms in Bertrand Russell's sense of being directly aware of them ' without the intermediary of any process of inference or any knowledge of truths '.[61] Among universals Plato seems to have paid attention to qualities and to have ignored relations.[62] For, though he says that there are Forms corresponding to universals which are named by nouns and adjectives, he does not in the Republic at least assert that there are Forms corresponding to universals expressed by prepositions and verbs. He says that there is a Form ' good ' and a Form ' beauty '. But he does not say, for example, that there is a Form ' being to the left of ', a Form ' resemblance ' or ' similarity ', or a Form ' being greater than '. According to Plato's theory universals exist independently of minds and independently of sensible objects. He would say that particular good things are good because they all partake of the Form ' good '. On this view not only would particular goods resemble each other ; they would also resemble the Form ' good '. If, in order to explain the resemblance between particular goods we say that there is a Form ' good ' in which they all participate, it will be necessary for us to account for the resemblance between particular goods and the Form 'good' by asserting that, in addition to particular goods and the Form ' good ', there is also something else in which particular goods and the Form 'good' all participate. Thus, if we accept Plato's view of universals, we shall be faced with an infinite regress. In *The Problems of Philosophy* Bertrand Russell asserts that universals exist independently of minds,[63] but he does not appear to think that they exist independently of particulars. When he says that we can be acquainted with universals he does not seem to mean, as Plato did, that we can be acquainted with objects which would exist even if there were no minds to apprehend them and even if there were no particulars in which they are exemplified.

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61. Bertrand Russell : *The Problems of Philosophy*, p. 73.

62. From Plato's reference to ' the many doubles ' (τὰ πολλὰ διπλάσια) in Republic 479B it looks as if he would have granted the existence of a Form ' double '. Doubleness is a relation and not a quality. But Plato may have thought of it as a quality.

63. Bertrand Russell, op. cit., pp. 152-156.

By acquaintance with universals we have seen that Bertrand Russell does not mean either acquaintance with an image of a particular thing or with objects which exist independently of minds and independently of particulars. Having seen what he does not mean by acquaintance with universals we must consider what he does mean when he says that we can be acquainted with them. He writes: ' It is obvious, to begin with, that we are acquainted with such universals as white, red, black, sweet, sour, loud, hard, etc., i.e. with qualities which are exemplified in sense-data. When we see a white patch, we are acquainted, in the first instance, with the particular patch ; but by seeing many white patches, we easily learn to abstract the whiteness which they all have in common, and in learning to do this we are learning to be acquainted with whiteness. A similar process will make us acquainted with any other universal of the same sort '.[64] He says that we become acquainted with ' whiteness ' by seeing many white patches and abstracting the whiteness which they all have in common. To abstract the whiteness which white patches have in common we shall have to compare them with one another ; and we cannot do this without entertaining propositions about them. Once we have abstracted the whiteness which the white patches we see have in common he seems to think that we become acquainted with ' whiteness ', i.e. that we become directly aware of it ' without the intermediary of any process of inference or any knowledge of truths '.[65] It is doubtful whether, in this sense of the word acquaintance, he can be acquainted with ' whiteness ' if he does not mean by the universal 'whiteness' either a particular white patch, or an image of a particular white patch, or an object which exists, like Plato's Forms, independently of minds and independently of particular white patches. When we say that we know universals what we usually mean is that we know propositions about them.[66] If a child is asked what ' red ' is and replies ' Red is the colour of post boxes, of the lipstick on that woman's lips, and of the ties worn by communist members of parliament ' we can say that she knows the universal ' red '. The school-girl who says that a chiliagon is a figure with a thousand sides has knowledge of the universal ' chiliagon ' even if she has never seen, or had an

64. Bertrand Russell, op. cit., pp. 158-159.

65. ibid. p. 73.

66. The expression ' knowing a universal ' is systematically ambiguous. When we say we know a universal we may mean that we have been, or are, acquainted with a particular instance of a universal. The school girl who has seen a red tie knows the universal ' red ' in this sense. Or we may mean that we know the meaning of a word or a combination of words that is the name of a universal. The universals ' centaur ' and ' Sinhalese queen of England ' have no instances. But we know them in the sense that we know the meaning of the word ' centaur ' and of the phrase ' Sinhalese queen of England ' and are able to use them.

image of, a chiliagon. Bertrand Russell was wrong in thinking that we can be acquainted with universals, i.e. be directly aware of them without knowing propositions about them.

I have dealt with two kinds of knowing—*knowing that* or *knowledge of propositions* and *acquaintance*. We must now consider the third kind of knowing which I have called *knowing how*. This kind of knowledge some have called dispositional. But ' believing ' and ' knowing that ' are also dispositional. A person can be said to believe or know that something is the case even when he is not entertaining or asserting a proposition or trying to show that a proposition is true. The school-girl can be said to believe that twice two are four even when she is not going through the multiplication table. The Professor of Mathematics may not be engaged in proving the proposition that the square on the hypotenuse is equal to the sum of the squares on the other two sides. He may be sleeping and dreaming that he is eating an ice cream. But he knows the proposition if he can prove it when called upon to do so. ' Believing ' and ' knowing that ' are dispositional in the sense that they are persistent states rather than activities. ' Knowing how ' is also dispositional in this sense. A person who has learnt how to ride a bicycle can be said to know how to ride it even when he or she is not actually engaged in riding it. In order to distinguish ' knowing how ' from ' believing ' and ' knowing that it would be better to call it ' practical ' knowledge, as H. H. Price does.

The expression ' know how ' seems to be used in two ways. I can say I know how to go to Horton Plains in the sense that I know the way to Horton Plains. In order to know how to go to Horton Plains it is not necessary for me to have gone there. I may never have gone to Horton Plains but I can say ' I know how to go to Horton Plains ' if I can find my way there by following the directions that some one has given me. We also say that we know how to do something when, by actually doing it, we have acquired a certain skill and have learned to perform certain bodily movements. We can say we know how to swim. But we do not usually say so unless we have entered the water and practised certain bodily movements which we call ' swimming '. I can read a map and say that I know how to go to Horton Plains even though I have never been there. But after I have read a book on swimming I am not entitled to say that I know how to swim unless I have swum and can swim. I can read a book on swimming and get to know the ' theory ' of swimming. But knowledge of theory is not ' knowing how ' but ' knowing that '. When I know the ' theory ' of swimming I know certain propositions about swimming ; but I may not know how to swim. When we say that we know how to do something we mean that we have learnt to perform certain actions and are able to perform them. I contradict myself if I say ' I know how to swim but I can't ' if what I mean by saying I can't swim is that I have not learned to perform certain

bodily movements and for that reason am not able to perform them. Of course in one sense of the word ' cannot ' it is not contradictory to say that we know how to do something but cannot do it. I may ask a girl at a party whether she knows how to dance the Tango. If she replies : ' I know but I can't ' she is not necessarily contradicting herself. What she would mean is that she has learnt to perform certain movements which we call dancing the Tango but that there are certain circumstances which prevent her from doing so. It may be that she is ill, or tired, or has worn the wrong shoes, or that her mother is present and disapproves of her dancing. Similarly in French I can say without self-contradiction ' Je sais nager mais je ne peux pas nager ' which would be a translation of the English ' I can swim but can't '. When I say ' Je sais nager ' I mean that I can swim in the sense of knowing how to swim. When I say ' Je ne peux pas nager ' I mean that I can't swim in the sense that there is something that prevents me from swimming. The circumstance that prevents me from swimming may be that the water is too cold, or that there is a crocodile in the water, or that I am having pneumonia. When I say I know how to do something but cannot do it I contradict myself only if I mean that what prevents me from doing it is the fact that I have not learned to do it. It is doubtful whether we can speak of ' knowing how ' as having objects. ' Knowing how ' consists in the ability to perform certain actions. It is different from *acquaintance* and *knowing that* because it is usually concerned with activities that are physical rather than mental. It is more often than not the ability to perform certain bodily movements as opposed to perceiving, remembering or thinking, though sometimes we speak of knowing how to think. In order to distinguish *knowing how* from *acquaintance* and *knowing that* we may adopt the practice of H. H. Price and say that *acquaintance* and *knowing that* are cognitive whereas *knowing how* is practical.

I have examined the distinction that Plato makes between ἐπιστήμη and δόξα and found that it does not exactly correspond to the distinction we make between knowledge and belief. I have asked the question : ' What are the objects of knowledge and what are the objects of belief ? ' In answering this question I have shown that the word ' know ' is used in three ways and that there are three different kinds of knowing. I shall now state, as briefly as possible, the propositions I have been trying to establish in this paper.

(*a*) Plato says that δόξα is not infallible and that ἐπιστήμη is infallible. Belief is fallible and knowledge infallible in the sense that though even false propositions may be believed only propositions that are true can be known.

(*b*) Plato says that ἐπιστήμη is ' brighter ' than δόξα and that δόξα is ' darker ' than ἐπιστήμη. Knowledge is ' brighter ' than belief and belief ' darker ' than knowledge in the sense that an element of doubt is always present in belief while knowledge is characterised by an absence of doubt.

(*c*) Plato holds that the objects of δόξα are different from the objects of ἐπιστήμη. False propositions are believable but not knowable. True propositions can be known as well as believed. A. E. Taylor and H. H. Price are wrong in thinking that the objects of belief are always different from the objects of knowledge.

(*d*) Knowledge is not a sub-class of true belief. The difference between knowledge and true belief is not one of degree.

(*e*) The objects of belief are propositions, whether true or false.

(*f*) There are three different kinds of knowing—*knowing that* or *knowledge of propositions*, *acquaintance* and *knowing how*.

(*g*) The objects of the kind of knowing which I have called *knowing that* are true propositions. We can know general as well as particular and singular propositions, contingent as well as necessary truths.

(*h*) *Acquaintance* is direct, i.e. non-propositional, awareness of something. We can be acquainted with colours, shapes, sounds, smells and things we remember and introspect. We can be acquainted with physical objects but not with universals. Bertrand Russell was wrong in thinking that we cannot be acquainted with physical objects and that we can be acquainted with universals.

(*i*) The expression *know how* is used in two ways. When I say I know how to go to a certain place I mean that I know the way there even though I may never have been there. Or when I say I know how to do something I may mean that by doing something I have acquired a certain skill and am able to do it. We cannot speak of *knowing how* as having objects. It consists in the ability to perform certain bodily movements.

G. H. WIKRAMANAYAKE

Reviews

The Experience of Poetry in School, edited by Victoria V. Brown. Oxford University Press, Mount Road, Madras 2. Rs. 8/9/—.

This is a collection of 'SIX ESSAYS ON VARIOUS WAYS OF PRESENTING POETRY IN SECONDARY SCHOOLS', written 'out of the experience of various practitioners' whose common aim is 'to give children a pleasurable experience of poetry'. Teachers of English in the Middle School will find this book helpful and stimulating.

If the initial feeling registered is one of disappointment, it is because of the expectations set up by the word 'Experience' in the title; the Introduction and the first Essay, which set out to define this 'experience' get the book off to a stumbling start, from which it only recovers when subsequent essays are taken for what they are: not attempts to probe the nature of the 'poetic experience' in children, but accounts of the methods by which various teachers have tried to make the 'poetry class' pleasurable and interesting to children in the Secondary Modern School, who are 'between eleven and fifteen years, most of them of average ability, a few above average, and many below' (p. 136). In this context 'poetry' can hardly be considered in relation to some high-sounding 'poetic experience'; it is only *verse* suitable for children.

It was (I think) a mistake not to define clearly and hold to this limited objective, instead of talking about 'creating the conditions' in which may take place a 'poetic experience' which is described so inadequately and inaccurately (p. xi). There is a general confusion regarding what poetry for children is and what it can do for them. The word 'poetry' is used, without discussion or qualification, to include anything written in verse, and the specific 'experience of poetry' that a child may have is never even approached.

The first essay, TALKING ABOUT POETRY, is (in my opinion) the least satisfactory. The writer, it is clear, distrusts the discussion of poetry. She finds that it is a problem 'to decide what aspects of a particular poem can be talked about without destroying its unity or distorting its meaning'. The treatment of imagery is naive. The writer is an uncritical admirer of Dr. Edith Sitwell's 'critical writings'. She quotes approvingly some of Dr. Sitwell's elucidations of her own imagery: for instance, that when she wrote 'the wooden flowers that 'gin to cluck', she was thinking of 'the hard-looking flowers that dip and bend beneath the rain with a movement like that of hens when they cluck'! The writer certainly does not avoid the great danger she is aware of in all such work, 'that it can foster the belief that imagery is merely decoration, and develop the attitude that awards good marks to the poet for mere ingenuity'. Some good points are made. One can agree that 'the conscious exercise of the art of discrimination . . . is difficult to use with profit in the Secondary Modern School, chiefly because it demands of the children a degree of self-confidence in their critical powers which few can achieve'; and that, 'In work on poetry the training of taste takes place imperceptibly, largely at first by infection from the teacher, and by familiarity with plenty of good poems; evaluation goes on all the time as poems are discussed and examined; . . .' But the Essay does little to help the teacher who would like to train taste.

II. SPEAKING POETRY and III. ACTING POETRY are accounts of the methods and experiences of teachers who have tried to substitute something lively and pleasurable for the usual learning by heart, paraphrasing, doing comprehension exercises on poems, etc. There is no doubt that ballads and songs written for music could be made to come

alive by the method of solo or choral speaking and singing. ACTING POETRY is a very thorough account of methods of dramatising poems and includes a section on Puppets. Acting Poetry can be associated with Choral Speaking and Drama, and can lead to creative work by the class : free dramatization of the whole or part of the story of a poem, beginning with improvisation and ending with script-writing. In neither essay is poetry treated as poetry (most of the material is not poetry but verse), though the authors believe that they are helping children to ' experience poetry '. But other useful skills are certainly taught through pleasurable activity : comprehension, clear and expressive speaking, miming, impersonation and acting. The ' poetry class ' is brought into relation with speech-training, music and drama. And this is all to the good.

IV. ILLUSTRATING POETRY is an excellent account of how the Art Teacher (it is written by an Art Lecturer) can get his pupils to translate the experience of a poem into some other medium : drawing, painting or sculpture. The writer is aware of difficulties and limitations : ' So it is usually impossible to set a whole class to illustrate a poem ; much better to offer illustration as one of several alternative activities '. It is only very rarely that this method would evoke an illustration which could be regarded as ' intensifying the child's experience of poetry '. In general, one has to regard Illustrating Poetry as one method of teaching art rather than as a means of intensifying poetic experience. For, the kind of poems that a boy or girl could illustrate are simple in theme ; it is possible to enjoy the full poetic experience without being able to illustrate it ; those who can illustrate a poem significantly have already had the poetic experience ; and, finally, the illustration should, if significant, have an interest independent of the poem. Illustrating Poetry is an interesting way of relating the work of the English and Art teachers rather than a method of experiencing poetry.

The Essay which I think is most relevant to the teaching of poetry as poetry and not as a means to something else is V. WRITING POETRY. It is also, in my opinion, the best essay in the book. From the beginning the Essay induces faith in this writer's judgment and ability as a teacher of poetry. Here are a few extracts : ' There is a danger in the approach which hesitates to apply a critical faculty to the subject, but prefers to rely entirely upon feeling '. ' This relationship of poetry to the stage of development and age of the children is of great importance when one considers what to expect from them when they are writing themselves '. ' I have found no surer road to the true appreciation of poetry than by verse-writing '. ' There are at least two schools of thought about the subjects of poetry. To some people certain subjects are poetical—an autumn day, a sunset, a flower. To others everything in life, beautiful or ugly, may be the material of poetry. I subscribe to the latter view, and this influences my choice of subject for children ; anything within their experience may be the subject of a lesson in verse-writing, as long as it is within, or at least touches at some point, their everyday lives '. The examples of children's poetry are fascinating, and the writer demonstrates the success of his methods conclusively.

The last Essay, LEAVING IT ALONE, suffers from careless formulation and uncertainty of approach, but makes some sensible points. The writer, looking back on some of the earlier essays, recognises ' the danger that, in the multitude of enjoyable and exciting pursuits encouraged by the teacher, children may by-pass the very theme of the lesson, the poem itself, . . . ' ' In choosing poetry for children one does not say : " Here is a poem suitable for choral speech "—for acting, or illustration, or discussion. The teacher feels that the time has come for certain children to meet a certain poem, and uses some—or none—of these methods with only one aim in view : the experience of the poem as a poem,

not as an agent '. But she has an exaggerated distrust of comment and analysis, at any rate at this stage : ' I do not intend to punctuate the poem with commentary, nor shall I hold an inquest on it after the reading '. She has even the curious notion that ' at some stages it becomes a positive technique of poetry-teaching to withhold explanation of a word or reference, whether in advance or in retrospect '. She has the good sense however to round upon herself with the comment : ' We do not want to confirm the sensible child's suspicion that " poetry is daft ". More important, we must not pay poets the undesired compliment of supposing that their art is too perishable to bear exposure to our examination '. One can, I think, put down the writer's stress on ' Leaving it alone '—' the whole duty of the teacher of poetry is to make a judicious and catholic collection of books accessible, and leave the children alone with them '—to a considerable experience of bad teachers. ' The things that matter are teachers ' understanding of children, and the quality of their own taste . . . Rather than entrust it to an indifferent or sentimental teacher, however, I should indeed ' leave it alone '—I should leave the children without poetry, necessary though I know it to be ; better to starve a little than be fed on dandelion clocks and fairies at the bottom of our garden. Teachers must read poetry for themselves if they are to teach poetry ; and I am certain that a rich experience of poertry which only adults can usually appreciate, such as the more difficult poems of Donne, is the best of personal preparations for teaching poetry to children. This is a sensible note on which to end.

H.A.P.

Some Characteristics of the Indian Constitution, by Sir Ivor Jennings, *Q.C.* Oxford University Press, 1953.

This book is an expanded form of the Sir Alladi Krishnaswami Aiyer lectures delivered by the author in March, 1952. Within the limits set, it is ' impossible to do justice to so vast a subject as the Indian Constitution '. (1). Even so, there can be no doubt that this is one of the most thought-provoking books on the subject so far written. ' The function of a university lecturer ' writes Sir Ivor, ' is to make people argue, for by argument they reach understanding '. (7). His book has succeeded admirably in this respect.

' The peculiarity of the English constitutional lawyer is his emphasis upon institutions rather than on legal principles '. (3). In his comments on the Indian Constitution, Sir Ivor has attempted to understand legal provisions in terms of social and economic life. This is indeed a practice which it would be most desirable for all constitutional lawyers writing on the subject to follow.

Sir Ivor argues that the Indian Constitution is essentially individualistic. (22). The fathers of the constitution generally worked on the assumption that powers of government should be rigidly limited by law. (19). Not only was the Constitution made rigid by means of a difficult process of amendment thereby raising to a height of sanctity the politically dominant views of 1949 in India, the Constitution itself is also so inordinately long. This is important, says Sir Ivor, since governments enter into social and economic life and every ' constitutional provision relating to an organisation is a fetter upon its action whether it prescribes its membership or its procedure '. (15).

The individualistic nature of the Indian Constitution is seen further in the ' Fundamental Rights '. ' What the Indian Constitution seems to do is to prevent encroachment on this liberty, or in other words not to create fundamental rights but to protect fundamental liberties '. (38).

Even so, Sir Ivor notes that the ' almost complete disregard of the minority claims is one of the most remarkable features of Indian Federalism '. (64). Nor does he omit to emphasise that in other Federations like U.S.A. a Bill of Rights is more often 'used by vested interests to protect their anti-social behaviour '. (49).

Within the rigid limits set by three lectures he has attempted to interpret the ' dry bones ' of law in terms of institutions and he has succeeded in pointing out some of the directions future scholars should follow. Some day one hopes that a scholar would do for the Indian Constitution what Charles Beard did for the American Constitution.* Perhaps, then, the explanation of a constitution where ' powers of government are rigidly limited by law ' includes a vast array of emergency powers for the President may be understood more clearly. If, as many hold, minority claims are at bottom economic ones, such a study would explain the ignoring of minority claims.

Charles Beard argued that in the U.S. constitutional convention the great majority were to a greater or less extent economic beneficiaries from the adoption of the constitution. Sir Ivor discovered that those who are making most profit from the inclusion of prerogative writs in the Indian Constitution were his own students. (26). Yet if one follows Sir Ivor's method a little deeper and works more leisurely, one might discover greater beneficiaries in economic terms and appreciate the true significance of this longest written constitution in the world.

I.D.S.W.

Scientific Research. By W. A. E. Karunaratne (Colombo Apothecaries' Co., Ltd.).

This is an expanded version of the presidential address delivered before the Ceylon Association for the Advancement of Science in 1946. In publishing it in book form, the author has made available to a larger audience the mature observations of one who has devoted a lifetime to scientific research on the ideals and principles that should animate one who seeks to adopt a scientific career. One hopes that not only those working in scientific specialities will read this book, but also all educators and students in the university and in the higher forms of our secondary schools. Written in an easy style, but with all the qualities of lucid and terse expression characteristic of scientific writing, this book is a valuable addition to the number of first class books, unfortunately so few, produced in our own country.

In addition to giving the author's own observations on the qualities that are needed for success in scientific research, the importance of observation, experiment, accurate measurement, manipulative skill, imagination, the role of genius and hard work, etc., he has enriched the book with a wealth of quotations from the works of the great masters of science on the above subjects, so that it has become a ready reference book to the thoughts of these masters. Over 140 references are listed in the bibliography which includes almost all writers of importance of the past as well as of the modern era. ' In order that the reader might be enabled to make his own interpretations, the *ipsissma verba* of eminent and representative scientists have been presented to a greater extent than would have been the case had the author wished merely to express his own judgements ', he quctes from Lecte in explanation.

Of the subject matter of the book it is impossible to give a brief review, each page is so full of important observations. The emphasis, throughout the book, is on the importance of the proper mental and spiritual equipment of the worker in the field of scientific

*Charles A. Beard : An Economic Interpretation of the Constitution, 1913.

research, and the numerous examples he has quoted will no doubt inspire many a worker so to equip himself. The author, however, has not failed to draw attention to the need for the state and society to create the correct atmosphere in which the pursuit of scientific research can flourish. Although the workman is more important than the tools, the contrary fallacy that tools do not matter should be avoided. Properly built and equipped laboratories, the provision of adequate library services, freedom in work as well as freedom from financial worry and insecurity are essential for the best efforts in scientific research. That this is being recognised in all progressive countries is illustrated by the example quoted that in 1948 the British Government devoted £ 68,000,000 to experimental and research work in addition to special research grants to the universities amounting to £ 11,000,000. One hopes that Ceylon will show a similar awareness of the need for supporting scientific research.

The book is well printed and well got up and has a useful index of names and a full bibliography.

P.B.F.

The Law of Delict. Fourth Edition. By R. G. McKerron, Cape Town and Johannesburg: Juta & Co., Ltd., 1952 (XLI + 353 pp.).

This work, is its as sub-title states, a treatise on the principles of liability for civil wrongs in the law of South Africa. The fact that the work is frequently cited in our courts is evidence both of its authoritative character and of the similarity in this branch of the law between the legal systems of the two Roman-Dutch law countries.

The present edition contains references to some one hundred and sixty new cases, about a dozen of which have been incorporated in the text and to recent publications, notably *Negligence in the Civil Law* by Professor Lawson, whose views on the principles of tortious liability are shared by the author. As the preface states, no major alterations have been made, substantial alterations appearing only in the sections on negligence, nuisance and defamation. Changes in the section on negligence consist of a reference to the two-fold purpose of the requirement of a duty of care and the incorporation of two new cases. In regard to nuisance, the changes in the text are due to the adoption of the definition of a private nuisance as ' any unreasonable user of land which injuriously affects the use or enjoyment of neighbouring land '. In the section on defamation two or three passages have been altered and the interesting case of *Die Spoorbond vs. S.A.R.* (1946) *A.D.* 999, in which the Appellate Division held that the Crown cannot sue a subject for defamation, incorporated.

South Africa has evolved a law of delict based on Roman-Dutch principles, with the *actio injuriarum* and the Aquilian action as its foundation stones. Resort to English law has thereby ceased to indiscriminate and is now regulated by the application of those principles. The theoretical foundation is admirably explained in this work, commencing with an historical account of the two actions, the requisites of liability in each and an exposition of the Aquilian action as it functions in South Africa at the present day. The conditions of liability in the Aquilian action of South Africa are still matter of controversy. That the question is not free from difficulty would appear from a consideration of the statement of those conditions at p. 21 of this work. They are stated to be (1) ' a wrongful act by the defendant, (2) patrimonial loss resulting to the plaintiff, (3) fault on the part of the defendant '. It appears to the reviewer that this statement involves a tautology, at any rate in regard to damage caused through negligence, because fault is defined as consisting

of either 'dolus' (wrongful intention) or 'culpa' (negligence), and negligence as 'the breach of a legal duty to use care'. Since the breach of a legal duty is necessarily wrongful, the first of the above requirements would appear to be superfluous. The same would apply to intentional damage, if by wrongful intention is meant intention which is legally wrongful.

In England, important statutory changes have been made in the law of tort, in South Africa there has been some legislative activity, while Ceylon has remained static. Even in South Africa, the very reasonable principle of apportionment of damage in cases of contributory negligence has not as yet been adopted, with the result that the English law doctrine of the last opportunity, which is regarded as being almost obsolete in the country of its origin, appears to be still good law in South Africa, and the section in this book on contributory negligence is largely devoted to the examination of that doctrine.

The book is well got up, the printing good and easier on the eye than the previous edition. A few errors have been noticed. 'Resulted' at p. 97 should read 'result'. The reference to the case of *Van Eck N.O.* and *Van Rensberg N.O. vs. Etna Stores* at p. 23 is incorrect. *Die Spoorbond's case* referred to above does not appear in the Table of Cases. At p. XIII, the case of *Bishop vs. Cunard White Star, Ltd.* commences at page 22 of (1950) 2 A.E.R. and not at page 26. There are a few other errors of this kind. The important Privy Council decision in *Perera vs. Peiris* (1949) A.C. 1 appears to the reviewer to merit more than mere references. A defect which should be remedied in subsequent editions is that whole topics are dealt with without any sub-headings or marginal notes, e.g. 'Foundations of liability' runs on thus for 9 pages, 'Commission and omission' for 10 pages, 'Contributory negligence' for 20 pages. The reader has therefore to read through several paragraphs in order to ascertain whether a paragraph continues a point or commences a new one.

B.C.A.