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A 19th century Thai medical treatise manuscript from central Thailand.
(Courtesy of British Museum)

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Preface

The International Association of Buddhist Universities, IABU, is a new grouping in the world of Buddhist Studies and higher education. It is only a year old and still in its formative periods. The IABU was born of sustained collaborations between Buddhist leaders and scholars from all over the world who began meeting in 2004 in Bangkok to mark the United Nations Day of Vesak, UNDV, celebrations.

Mahachulalongkornrajavidyalaya University, MCU, of which I have the honour of serving as its rector, has been privileged to witness, in fact, play a crucial part in initiating and subsequently hosting the UNDV for four years between 2004-2007. The UNDV has brought the Buddhist world closer than before. For this, we thank the Thai Supreme Sangha Council of Thailand for its blessings and guidance. We are also grateful to the Royal Thai Government for its constant support.

Apart from the UNDV, Mahachulalongkornrajavidyalaya University has also taken the responsibility to host the Secretariat of the IABU and finance its operation for the first year. In January 2008, in its first regular meeting, in Bangkok the IABU Executive Council decided to hold an international conference on ethics and Buddhism and a summit during that conference and to publish an annual academic journal of high standard.

Here I am pleased that the first volume of the IABU Journal is published, with the financial grant from my university, in time for the conference and summit in September 2008. The issue of this journal indicates the determination, support and quality of the collaborations we have within the IABU family. I hope this journal will make a significant contribution to the Buddhist Studies worldwide.

This journal would not have been possible without the hard work of dedicated scholars and staff. I wish to thank all members of the Executive Council and the Editorial Committee for their dedication. I am also grateful to the MCU academic team and the MCU Printing Press for their good work. Many others also contribute their time and experience to make this journal a success.

Particularly, I thank Venerable Dr. Khammai Dhammasami of the Oxford Centre for Buddhist Studies for editing and overseeing the whole process; Dr. Phra Suthithammanuwat, Asst. Prof. Dr. Phramaha Hansa Dhammahaso, Dr. Phramaha Somboon Vutthikaro and Dion Peoples of MCU, Phra Wichit Vicitto of the Oxford Buddha Vihara and Dr. Sarah Shaw of the Department of Continuing Education, University of Oxford for their valuable assistance.

The Most Ven. Prof. Dr. Phra Dharmakosajarn
Chairman
IABU

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Asanga Tilakaratne[2]

Introduction

Studies in Buddhist ethics is growing in popularity among Buddhist scholars. A survey in more recent literature shows some new trends in the field. Traditionally studies in Buddhist ethics has been focused on the Pāli canon. An early instance of using the term 'ethics' in relation to the Pāli canon is the translation of *Dhammasaṅgaṇī* in 1900 by Mrs C.A.F. Rhys Davids into English as *A Buddhist Manual of Psychological Ethics*. Among those who pioneered studies in Buddhist ethics as a full fledged subject are scholars such as S. Tachibana, O.H de A. Wijesekera, K.N. Jayatilleke, and H. Saddhātissa. While Tachibana and Saddhātissa were more interested in developing the basic principles and categories of Buddhist ethics, the other two scholars, in particular, Jayatilleke,

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[1] A keynote speech delivered at the IABU Conference on Buddhism and Ethics at Mahachulalongkornrajavidyalaya University Main Campus, Wang Noi, Ayutthaya, Thailand in September 2008.

[2] Asanga Tilakaratne, PhD. (Hawaii), was Director of the Postgraduate Institute of Pāli and Buddhist Studies, University of Kelaniya & is currently Senior Professor at the Department of Pāli and Buddhist Studies, University of Colombo, Sri Lanka..

was interested in clarifying the meta-ethical issues. More recently D.J. Kalupahana, Winston L. King and P.D. Premasiri have continued with the *Pāli* tradition as their focus. G.S.P. Misra, Gunapala Dharmasiri, Dameon Keown, Peter Harvey, Charles Prebish, Mark Tatz and several others have gone beyond the limits of *Theravāda* tradition and incorporated *Mahāyāna* Buddhist ethics and have tried to see the field as a comprehensive whole. Moving somewhat away from the descriptive approach to the subject, these scholars during the last two decades have combined their meta-ethical interests with normative approaches to social, political and bio-ethical issues.

Although reviewing this rich store of literature is a rewarding exercise I am not proposing to do that here. What I would be looking at is some specific issues connected to the foundations of Buddhist ethics and the nature of justification of ethics in Buddhism. The two areas themselves are not totally new for almost all scholars who have dealt with Buddhist ethics also have discussed the basic assumptions and philosophical bases of it. In spite of such efforts by scholars still there are some issues needing more reflection. For example, the relation between *puñña/kusala* on the one hand and *sīla* on the other seem to require more sharply defined. With the *sīla* itself there is lack of clarity regarding the nature of monastic sīla and lay *sīla*. The paper begins with some exercise in conceptual clarification and will be concluded with some observations on foundations and justification of Buddhist ethics.

Buddhist Ethics or Buddhism as Ethics?

A primary matter to be clarified is a problem connected to determining the proper location of ethics in the field of Buddhist studies. In western philosophy ethics is one area of study studied on its own, as an independent and dissociated subject. Discussions on Buddhist ethics as a separate area of study are clearly owing to this adherence to western philosophical categories. Consequent studies in ethics in Buddhism too appear to be done as a separate subject. While such a study within limits may be justifiable this fragmentary approach can pose difficulties in understanding the overall nature of the teaching of the Buddha. There is a wealth of material in the teaching of the Buddha dealing with what we consider today meta-ethical issues. It would, however, be a serious misrepresentation

if we consider Buddhism solely as a meta-ethical system. The primary emphasis of the teaching is the practice. The analysis is there only in so far it facilitates practice. Once we place the whole soteriological enterprise of the Buddha in its proper context this matter becomes clear.

The fundamental problematique, which the Buddha set upon finding a solution for was human suffering understood in a very deep sense. In a traditional *Theravāda* story we are told that the Prince Siddhartha saw an old man, a sick man and deceased body in three consecutive trips to his pleasure garden before he finally saw a religious person which suggested to him the way out of the human suffering he witnessed in its very concrete form. A more philosophical representation of what he witnessed is described in the following words by the Buddha:

> Bhikkhus, before my enlightenment, while I was still a bodhisattva, not yet fully enlightened, it occurred to me: Alas, this world has fallen into trouble, in that it is born, ages, and dies, it passes away and is reborn, yet it does not understand the escape from this suffering [headed by] ageing and death. When now will an escape be discerned from this suffering [headed by] ageing and death?[3]

It is by seeing this deep rooted suffering that Prince Siddhartha decided to search for a solution for it. An understanding of human situation as characterized by unsatisfactoriness is behind this soteriological quest.

In the *Ariyapariyesana-sutta* of the *Majjhima-nikāya* the Buddha describes the purpose of his renunciation of worldly life as *"kiṃ kusalagavesī anuttaraṃ santivarapadaṃ pariyesamāno"* ("in search of what is wholesome, seeking the supreme state of sublime peace")[4] . The emphasis is on what is wholesome and what is peaceful as goals. The term *'kusala'* as we will see in the subsequent discussion is a key term in the teaching of the Buddha. It is given as both a means and an end. "The supreme state of sublime peace' referred to here articulates the ultimate goal in value-laden terms. The life in *kusala* is prescribed as leading to the highest state of peace

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[3] Saṃyutta-nikāya (tr. Bhikkhu Bodhi 2000 p.601).

[4] Majjhima-nikāya I p.163.

which is better known as *nirvana*, or the termination of suffering. This *nirvana*-orientedness of the entire teaching is often highlighted by the Buddha in the following words: Bhikkhus, before and even now I teach only suffering and its cessation.[5] Furthermore, the entire teaching has been described as having only one taste, namely the taste of liberation (*vimutti-rasa*), which is the cessation of suffering. The following statement occurring in the *Dhammapada* (183) is meant to capture the essence of the teaching of the Buddha:

Not doing any *pāpa*, practice of *kusala*, and purification of one's mind –this is the message of the Buddhas.

All three aspects of behaviour mentioned here are the domain of ethics. They constitute the normative ethics taught in Buddhism. The meta-ethical discussions available in the discourses are to elucidate the theoretical issues involving normative ethics. Simple elucidations and descriptions of ethics constitute a significant segment of the discourses of the Buddha. This explains why it is not altogether right to discuss ethics as standing out on its own independently of the system. In fact the entire system can more accurately be described as a system of ethics.

Understanding key concepts

With this broad context in mind we may now turn to what is usually being discussed as Buddhist ethics. Two key concepts *pāpa* or evil (deeds) and *kusala* or wholesome deeds were referred to in the *Dhammapada* stanza quoted above. The pair of *puñña* (*punya*: Sanskrit) and *pāpa* are pre-Buddhist concepts that basically refer to religious activities believed to produce good results in the life after death. These ideas have been absorbed to Buddhism, and lay people, in particular, were encouraged to abstain from *pāpa* and engage in 'meritorious' activities, and such behaviour was expected to make the *samsaric* journey smooth. The concept of *kusala* and its opposite *akusala* do not seem to have been known before the Buddha. The concepts of *kusala* and *akusala* seem to be the unique contribution of Buddhism to the ethical discourse. What is meant by the concept is wholesome behaviour which is devoid of attachment, aversion and delusion (*lobha/rāga, dosa* and *moha*). The distinction between

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[5] Saṃyutta-nikāya IV p.384; Majjhima-nikāya, I. p.140.

the two sets of concepts, *puñña/pāpa* and *kusala/akusala* has been comprehensively studied initially by P.D. Premasiri (1976 and 1990) and subsequently by scholars like Damien Kweon (1992), and hence I am not going to discuss this matter in detail here except for making a few comments. What may have been clearly defined at the early stage of Buddhism seems to have got intermingled subsequently. Gradually the distinction seems to have got blurred. Consequently the two pairs of concepts were sometimes used interchangeably. Initially at least while *puñña/pāpa* seems to have represented the *samsaric* dimension *kusala/akusala* may have represented the *nirvanic* dimension. Initially there seems to have been a clear distinction between *sīla* and *puñña*. Subsequently however the former was included within the latter as the second aspect along with *dāna* and *bhāvana* in 'three meritorious deeds'. The significance of this inclusion is that *sīla* was primarily seen as a kind of *puñña-kamma* (meritorious act).

The three-fold meritorious action in the *Theravāda* tradition includes *dāna*, *sīla* and *bhāvana*. When *sīla* was included within *puñña* the emphasis is on observing *sīla* as a means of acquiring merits. It is the same with *bhāvana*. Both these aspects were originally meant to constitute the 'three tarinings' (*tisso sikkhā*), namely, *sīla, samādhi,* and *paññā*. The last two are to be achieved by means of *bhāvana* which is divided into two as *samatha-bhāvana* (calm-meditation) and *vipassanā-bhāvana* (insight-meditation) producing respectively *samādhi* (serenity) and *paññā* (understanding). Under the *puñña* category, however, both *sīla* and *bhāvana* were taken out of their original soteriological context and were made *puñña*-generating activities which have direct relevance for one's *samsaric* existence. The much discussed distinction of *kammatic* and *nirvanic* Buddhism, I believe, is not irrelevant. At least in the early form of Buddhism the practice characterized by the three meritorious deeds was meant for the householders whose main function was to provide the *saṅgha* with requisites (*dāna*) .[6] Their *sīla* constituted in addition to the five basic precepts, observing higher *sīla* on *uposatha* days. *Bhāvana* for them also seems to have meant something done occasionally. In the *Kandaraka-sutta (Majjhima-nikāya 51)* we have Pessa's evidence

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[6]   In the later Buddhist tradition we have inscriptional evidence of monks at times serving as dayakas.

that they too were engaged in higher religious activities from time to time (*kālena kālam…*). Thus practicing *dāna*, *sīla* and *bhāvana* as *puñña* was basically meant for the householders. The opposite category of *pāpa* too was applicable for the laity. Technically this cannot have been applicable to monks and nuns who were supposed to be away from *pāpa* behaviour by the very nature of their life. According to the *Siṅgālovada-sutta* (Dīgha-nikāya 31), it was one of the functions of the religious people to keep laity away from *pāpa* (*pāpa nivārenti*).

Sikkhā is a broad term which includes the entire process of training in the Path leading to *nirvana*. In the concept of '*tisso sikkhā*' we know that all three aspects of the Path, *sīla*, *samādhi* and *paññā* are included, thus allowing a very broad spectrum for the concept. In the discourses, *sikkhā* has been given as synonymous with *kiriyā* and *paṭipadā* (*anupubba-sikkhā, anupubba-kiriyā, anupubba-paṭipadā…*[7]), terms indicative of ways of behaviour and action. The trem '*sikkhā-pada*' refers to the specific articles of behaviour understood as rules regulating the ethical behaviour. The five precepts (*pañca-sīla*) of the lay people and the rules of *Patimokkha* are examples for *sikkhā*-padas. Thus *sīla* is subsumed under *sikkhā* and understood as specific ways of physical and verbal behaviour characterized by abstinence from evil acts and practice of virtues.[8]

The *sīla* as the basis or the beginning point of the Path refers primarily to the behaviour that is conducive for the final goal. It is the basic rationality that one behaves in such a way that it would promote his final goal and will not be detrimental to it. In this sense we can talk about validity of *sīla* without referring much its ethical value. What I am talking here is very similar to the validity we know in the context of an argument. We say that an argument is valid only insofar as it follows logical rules and the conclusion is derived from its premises. In the same manner we can talk about the validity of *sīla* if it is conducive for attainment of the final goal and the nature of the final goal may be deduced from the overall character of the *sīla*. We know that a logically valid argument does not necessarily mean that it is also a sound argument. The soundness of an argument

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[7]   Aṅguttara-nikāya IV p.201.
[8]   An excellent discussion of *sīla, sikkhā and sikkhā-pada* is available in J.D. Dhirasekera (1982) which unfortunately does not seem to have got its due attention.

depends on extra logical factors, and if the premises are true the conclusion drawn too has to be true and we take such an argument to be sound. The truth value of a premiss is a very complex issue involving theories of truth and the very definition of what it means to be true. Those who hold that ethical statements are mere expressions of emotions of the speaker (emotivists) would not even grant meaningfulness to such statements, let along truth-value. Although there may be an emotive element in ethical statements, the type of hard-core emotivism being not fashionable any longer, we need not worry about it. Nevertheless, the question still remains: are there any true grounds for ethical statements? When we examine, for instance, statements of the nature "it is good/bad…", or "thou shalt not…" or "I undertake to observe…" it is obvious that inquiring about their truth-value is out of place. Nevertheless, we need some kind of justification for these statements. Is this justification with reference to some true state of affairs? Or is the justification coming only from some internal consistency of the system? What I mean here is coherence of a particular statement with the totality of statements within the system. But the problem is that coherence does not say much about a state of affairs as truly existing out there. The *sīla* appears to be in need of some objective basis for its justification. We will come to this issue toward the end of this discussion.

Going back to *sīla* as the basis of the Path (in *tisso sikkhā*) what is meant by *sīla* in this context is what has been described as *cūla-sīla, majjhima-sīla* and *mahā-sīla* (minor, medium and great morality) in the key discourses such as *Brahmajāla, Samaññaphala* etc. of the Dīgha-nikāya and many other discourses. The focus of this *sīla* is the monastic life. In the context of the monastic life the *sīla* has been organized into the four divisions known as 'the four purificatory virtue' (*catu-pārisuddhi-sīla*). The four kinds of *sīla* included under this category are: i. *Sīla* of restraining according to the *Patimokkha* rules (*pātimokkha-saṃvara-sīla*); ii. *Sīla* of restraining faculties (*indriya-saṃvara-sīla*); iii. *Sīla* of purification of livelihood (*ājīva pārisuddhi-sīla*); and iv. *Sīla* associated with acquisition and use of requisites (*paccaya-sannissita-sīla*). The first contains the basic set of rules to be observed by a fully-admitted (*upasampanna*) monk or a nun, 220 for the former and 304 for the latter (excluding 7 *adhikaraṇa-samathas*). This provides the basic

system of rules (*abhi-samācarika-sīla*) to be observed, starting from the most serious category of defeats (*pārājika*) to *sekhiyas* involving minor matters of behaviour. Violation of these rules involves punishment. The rest of the three *sīlas* do not have rules the violation of which involves punishment in the organizational or legal sense, but are directly related to the proper way of living a goal-oriented monastic life.

Why should one follow these rules or observe this *sīla*? The answer is provided in the discourses. For example, the story of *Raṭṭhapāla* (occurring in the *Raṭṭhapāla-sutta* of the *Majjhima-nikāya*), says that when the young and rich householder listened to the Buddha's teaching highlighting that life is characterized by suffering caused by craving for pleasures and that one must get rid of this craving in order to achieve a life of happiness and freedom from suffering he becomes convinced; and decides that in order to realize this goal the monastic life is the most conducive. This is how he becomes a *bhikkhu* who by the very cat of becoming a *bhikkhu* is committed to observing the *sīla* discussed above. The question one can raise on this *sīla* is whether or not this particular behaviour is consistent with the goal of freedom from suffering through freedom from craving, or whether or not it leads to such a goal?. If the answer is 'yes' then it is rational for one to adopt a way of life characterized by the fourfold *sīla* mentioned above. The criterion against which one has to test this *sīla* is the ultimate goal.

By analyzing the content of the *Pātimokkha-saṃvara-sīla* this point may be made clearer. The most serious category of violations called 'defeat' comprises sexual intercourse, killing a human being, stealing, and pretending nonexistent spiritual attainments. Of these four rules we can understand without much reflection why killing a human being has been counted among the most serious violations. Causing death is the most serious offence one can commit against another human being for the point of life is nothing other than living itself. To deprive a fellow human being of this basic possession is surely abominable. Stealing too can be understood in a manner similar to the above. But what about having sex? How can it be such a serious offence as causing loss of one's membership with the *Saṅgha* (the community of monks/nuns)? If we look at the act of having sex

from a neutral point of view we can see that there is nothing right or wrong about it. Only how one does it could make it socially acceptable or not or a crime or otherwise. In the Buddhist monastic discipline the sexual act has been taken as one of the most serious offences. The seriousness has been determined with reference to its stake on the final goal. When getting rid of all the desires is a crucial aspect of the means of achieving the goal one can understand why sexual behaviour forms one of the most serious offences. The rule has to be understood with reference to consistency to and coherence with the path.

It is useful to examine the relationship between violation of a monastic *vinaya* rule and *pāpa/akusala*. Of the four *pārājikas*, killing any living being which forms the first of the physical pāpa acts is clearly a *pāpa*. Killing a human being is both a *pāpa* and a *vinaya* violation of the highest degree. Killing anyone other than a human being is a lesser *vinaya* offence for a fully admitted monk. Stealing and pretending which is a form of lying too are *pāpa*. The case with the first *pārājika* is different. Although having sex is an offence of the highest degree it has not been described as a *pāpa*. Having violated the first rule if a monk or a nun were to continue to pretend to be a monk or a nun they can be guilty of *pāpa* behaviours of different sort. But having committed the first *pārājika* if the particular person were to vacate the *Saṅgha* he is only guilty of being week and inefficient but he is not guilty of committing a *pāpa*. One could say that although having sex is not a *pāpa* it could be an *akusala* for any act done with *lobha*, *dosa* and *moha* is akusala. While this is true we have also to remember that almost all forms of behaviour of ordinary unenlightened people come under this category.

The tradition, however, makes a distinction between *lobha* and *abhijjhā* and *dosa* and *vyāpāda*. What is considered to be *pāpa* is acts motivated by *abhijjhā* and *vyāpāda*, severe forms of *lobha* and *dosa*. Having *lobha* and *dosa* accompanied by *moha* is considered to be the ordinary human nature. The samsaric behaviour in general is taken as motivated by these three factors. Although they are *akusala* in the broad sense the ordinary life driven by these characteristics is not considered a life of *pāpa* although as a whole such a life is samsaric and not nirvanic; and does not lead to *nirvana*. In other words,

all *akusala* is not *pāpa* although all *pāpa* invariably qualifies to be akusala for both categories are driven by *lobha, dosa* and *moha*. A *puñña* act performed with desire to be born in a divine abode is one basically driven by *lobha* and *moha*, and hence it cannot be a *kusala*. On the other hand, although driven by *lobha* and *moha* the act itself requires even temporarily a state devoid of *lobha*, *dosa*, and *moha*, thus making the particular act to be qualified as a *kusala* act. *Vipassanā* meditation is a candidate for a *kusala* act which is not a *puñña* in the sense of being relevant to samsaric existence. With this admixture of both *kusala* and *akusala* elements a *puñña* act at best is a mixed act. Thus we are led to conclude that although all *kusala* acts are not *puñña* acts all *puñña* acts have an element of *kusala* in them.

Going back to our discussion on the *vinaya* rules we can see that certain offences considered most severe are not really *pāpa*. Such rules need to be understood only within the soteriological goal of the monastic life. In this context it is useful to introduce a broad distinction available in the *Theravāda* tradition. According to this distinction offences or forms of wrong behaviour are classified as wrong by their very nature (*pakati-vajja*) and wrong because the Buddha has established so (*paññatti-vajja*). The first category of behaviour is also called '*loka-vajja*' or behaviour so considered in the world. Under the first category acts such as killing, stealing etc. are included. It is under the second category that most of the monastic *vinaya* offences come. Discussing this distinction in the context of ten precepts (*dasa-sīla*) (usually observed by *sāmaṇeras*), the commentary to the *Khuddaka-pātha* describes the first five as 'arisen from definite *akusala* thoughts' (*ekanta-akusalacitta-samuṭṭhānattā*…), and thereby allow us to have some idea as to why certain forms of behaviour were considered 'wrong by nature'. Killing, stealing etc. are treated under this category for they originate from *lobha*, *dosa* and *moha*. The last five of the ten precepts such as using high and valuable seats, taking meals at improper time etc have been described as *paññatti-vajja* for they are considered wrong because the Buddha has established them as so.[9] Discussing this division in connection with *vinaya* rules the same commentator calls them '*loka-vajja*' and says that it is these rules that the Buddha meant when he said that his disciples would

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9   The Khuddaka-pātha (PTS) p.24.

not violate them even if they were to lose their life. Then he refers to rules involving sharing the same bed by two monks, and building monasteries etc., calls them *paṇṇatti-vajja* and indicates that the violation of such rules is less serious[10] . In the *Samantapasādikā*, the commentary to the *vinaya-pitaka*, Budhaghosa describes the *loka-vajja* offences as 'harmful' (*antarāyika*) for both heaven and nibbāna, and *paṇṇatti-vajja* violation as not harmful in either manner (*anantarāyika = na+ anatarāyika*) [11].

The above commentarial analysis in general goes along the line of *pāpa* and *akusala* discussed above. There is, however, some difference. In the above-analysis the *Khuddaka-pātha* commentator seems to include sexual behaviour and taking intoxicating liquor among the *pakati-vajja* offences. Even if we set aside the dubious case of taking liquor the inclusion of sexual behaviour (not sexual *mis*behaviour as in the case of the usual five precepts –*pañca-sīla*- meant for lay people) within this category is problematic. If this is correct then layman's life amounts to something 'definitely motivated by *akusala'*. This goes against the social values articulated by the Buddha in clear terms in discourses such as *Siṅgalovada*. Therefore I tend to differ from the commentator in maintaining that sexual behaviour, involving violation of a defeat, should be included among the *paṇṇatti-vajja* and not among *pakati-vajja*. (The commentator in fact does not specify the kind of *vajja* involved in the first *pārājika*.) Violation of such rules is not considered as *pāpa* per se. But they could amount to *pāpa* depending on one's subsequent attitude and bahaviour toward them. But the *pakati (loka)- vajja* offences are considered to be *pāpa* without any doubt. The most familiar classification of such behaviour outside monastic *vinaya* is the 'ten *akusala* acts' comprising killing, stealing, sexual misconduct, telling lies, engaging in malicious gossip, harsh words, and empty talk, severe craving, severe anger and wrong views.

The distinction between *pakati (loka)-vajja* and *paṇṇatti-vajja* offences looks similar to the distinction we make between morality as virtuous conduct and ethics as specified conduct. The concept of

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[10]   Ibid. p.190.
[11]   Samantapāsādikā , Vol.VII. p.1319.

professional ethics has been there in many societies for a long time[12] . Certain 'do's and 'don't's count only insofar as one is within a certain professional group. Once he is out of that profession one is not bound by such ethics. This concept of professional ethics is quite similar to the concept of *paṇṇatti-vajja* as discussed above. A good number of *vinaya* rules come within the purview of ethics simply because they have been prescribed by the Buddha for those who enter the *saṅgha*. When one makes the choice to enter the Organization one becomes bound by these rules. They make sense basically within the system, not barring the fact that some of these rules may become valid even in more general social contexts too. Thus the *paṇṇatti-vajja* aspect of the *vianya* can be described as monastic 'professional' ethics. The other category, namely, *pakati (loka)-vajja*, is considered as valid in general, thus providing an example for universally valid moral behaviour.

Foundations of Buddhist ethics

If we think along the lines of pakati *(loka)-vajja* and *paṇṇatti-vajja*, we can see that the latter classification finds it meaning and significance within the Buddhist monasticism. The specific mode of conduct exemplified by *paṇṇatti-vajja* category is conducive to the *nirvanic* goal. Once one justifies the desirability of the goal, the relevant behaviour insofar it is consistent with the goal, does not require any further justification. What one needs to justify is the goal. Once it is done only matter to be settled about behaviour is whether or not it is consistent with the goal. But there are some preliminary matters to be settled. For instance, in order to accept the Buddhist soteriology one has to be convinced that the world/reality is such that to adopt this way of life is the most rational thing to do. How does one get convinced of this-is it simply a matter of accepting what the Buddha says, or does it require anything further?

It is clear that one needs to have accepted certain basic propositions for him to opt for following the Buddha. For example if one is not convinced about the basic unsatisfactory character of human existence, or in other words, if one does not see the point of

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[12] The *Kurudhamma-jātaka* (# 275) refers to a prostitute who won the praise of others for her keenness on observing ethics of her profession despite the fact the moral status of the profession itself was questionable.

the first two noble truths, namely, suffering and how it arises, one is not likely to become a follower of the Buddha. This has to be seen by oneself and it cannot be forced on anyone. Except for a very small number of people who entered the *saṅgha* at a very early age of their life or for some exceptional cases such as Nanda who could not say 'no' to the Buddha, all the others can be reasonably judged to have entered the *saṅgha* preceded by this understanding. However, once they became the followers of the Buddha it seems that at least some of them had a tendency to develop a mentality of dependence on the Buddha characterizing unconditional willingness to accept what he said. For instance, the following occurs in a number of suttas: when the Buddha inquires from his disciples on certain matter they would respond to him with these words:

> Venerable Sir, we have the Fortunate One as the root of the dhammas, (we are) to be guided by the Fortunate One, we have the Fortunate One as the refuge; therefore let the Fortunate One himself comprehend this; having listened from the Fortunate One the bhikkhus will learn [13].

The instances of this nature betray a mentality of total dependence on the Buddha. But, on the other hand, as the *Kīṭāgiri-sutta* of the Majjhima-nikāya reveals, the following attitude, namely, "The Fortunate One is the guide, and I am the follower; the Fortunate One knows and I don't[14]" marks a salutary stage which has to be passed on the way to realization. Based on this one can still claim that this dependence is only for providing guidance for the Path and not for the basic conviction that *saṃsārā* is suffering and that one must follow the Path in order to overcome this suffering.

In the well-known *Kālāma-sutta*, the Buddha advises *Kālāmas* who were some sort of skeptics, to not accept anything unless they are convinced that it is morally good, or that what is said does not generate *lobha*, *dosa* or *moha*. But the *Kālāmas* were clearly not an immediate group of disciples. The *Vīmaṃsaka-sutta* of the Majjhima-nikāya (47) provides us with a different example. In

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[13] *Bhagavaṃmūlakā no bhante dhammā bhagavaṃnettikā, bhagavaṃpaṭisaranā. Sadhu vata bhante bhagavantaññeva paṭibhātu etassa bhāsitassa attho. Bhagavato sutvā bhikkhū dhāressantīti. Aṅguttara-nikāya* IV p. 158

[14] *Satthā bhagavā, sāvako'ham smi; jānāti bhagavā, nāhaṃ janāmi. Majjhima-nikāya* I p.480.

this sutta which was addressed to his immediate monastic disciples the Buddha says that anyone who cannot read other's mind[15] must investigate the Buddha to make sure whether or not the Buddha is fully enlightened. In the like manner the Cūḷahatthipadopama-sutta of the Majjhima-nikāya (27) emphasizes that one must not rest assured till one has direct personal experience on what one tries to establish. These instances should show that acceptance of the Path and the resultant goal is not a matter of course. Such understanding/conviction has to be based on evidence. However, once one is convinced about the Path and the goal that provides sufficient basis and justification for accepting and following the *vinaya* rules relevant to *paṇṇatti-vajja*.

The concept of *pakati-vajja* seems to pose some interesting questions regarding the overall nature of Buddhist ethics. If some act is wrong by its very nature, or if some behaviour is 'intrinsically' wrong then one does not need any extra justification to accept it as so. The term pakati, the Sanskrit form of which is 'prakrti', is well known in Indian philosophy, and in the Samkya system, means the fundamental universal reality from which 'purusha' or individual atma originates. Although the commentator uses this metaphysically laden term he gives a psychological interpretation to it. As we saw in the above discussion why certain offences were called *pakati-vajja* is because they originate from unmistakable *akusala* (*ekanta-akusala -samuṭṭhānā*). This connection of pakati to familiar akusala-mūla makes it unnecessary for us to go into search for metaphysical nuances of it.

The very term '*loka-vajja*' highlights the fact that what is considered as immoral or unethical is what is accepted to be so in the world, i.e. in the society in general. This weight put on the world/society poses the problem of relativity of ethics versus some kind of absolute set of ethics. If the criterion of good and bad is the world or the society this effectively means that it is the people in a particular society, their history and their tradition and conventions that serves as the foundation of ethics. Societies differ in their ways of thinking and 'world making', thus making a case for multiplicity of ethics in

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[15] I translate "parassa cetopariyam ajānantena" (M I 318) as "anyone who cannot read other's mind" which contradicts the usual translation as referring to one who *can* read other's mind. Although the long 'a' in '*aajanantena*' does not support my translation the opposite is not supported by the context.

which it is quite possible that there are two mutually contradictory systems of ethics simultaneously at two different places. But then the use of such a strong term as '*pakati-vajja*' seems to indicate quite the opposite. The commentators do not seem to have analysed these usages thoroughly. It seems that they held a view to the effect that what is wrong by its very nature is so accepted by the world, and hence their equation of the two terms *pakati* and *loka*.

The division of *pakati* and *paṇṇatti-vajja*, nevertheless, is a useful one. It is also useful in understanding the Buddha's attitude to his own *vinaya* rules. Was the Buddha uncompromising about his own *vinaya* rules? The *vinaya* literature makes it very clear that the Buddha was not hesitant to change and modify certain *vinaya* rules depending on the context. But rules revised by the Buddha exclusively belong to the category of *paṇṇatti-vajja*. Even in this category it is clear that he did not make modifications in what was considered to be the most serious. All the currently available *Vinaya* traditions belonging to eight different schools testify to the fact that the four *pārājikas* and thirteen *saṅghadisesas* remain unchanged[16] . This, to all probability, is valid across all the Buddhist traditions, known and unknown. But the fact that some rules were revised is significant. It is recorded in the *Mahāparinibbāna-sutta* (of the Dīgha-nikāya) that the Buddha on his death-bed gave permission to the *saṅgha* to change minor rules. This suggests that the Master was not absolutist regarding the proper monastic behaviour. But when we examine the actual instances of revision made by the Buddha for the vinaya rules what we really see is that he was concerned about the practicality of what he prescribed. When what is related to *paṇṇatti-vajja* does not involve any *akusala* per se what the Buddha had to consider was the issues of practicality. When he found, for instance, that not wearing foot-ware was not convenient in remote areas he was not hesitant to revise the rule barring wearing foot-ware. To present this as an issue of relativism versus absolutism is to misconstrue it. The real issue was whether any rule was practical or not. It is relevant in this context to remember that the Buddha

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[16] Mahisāsaka, Mahāsaṅghika, Dharmaguptika, Sarvastivada, Mulasarvastivada, Kashayapiya, Sammitiya, and Theravada-all these traditions are one in having 4 *pārājikas* and 13 *saṅghādisesas* for the bhikkhus.

while appreciating *sīla* rejected irrational adherence to such rules and practices (*sīlabbata-parāmāsa*). What we need to keep in mind is that these modifications were done with regard to *paṇṇatti-vajja* offences and not with regard to *pakati (loka)-vajja* offences.

It is clear that the *vinaya* rules involving latter kind of offences that amount to *pāpa* have been treated differently: there was no bargaining on the basis of practicality. Coming out from the context of *vinaya* rules and positioning ourselves on the larger territory of morality with *puñña-pāpa* dimension we see the same attitude of the Buddha. *Pakati-vajja* originating from *akusala*-mūla has to be wrong under any circumstance.

Now *pakati-vajja* is based on the familiar psychological explanation which is quite well known. Looking at the Buddhist ethics as a broad system, not merely as a set of *vinaya* rules, we need to inquire whether there is any broader 'universal' basis for its ethics assumed in the teaching of the Buddha. A prominent candidate for such a basis is *viññu*-purisa. When determining what is good and bad the Buddha very often put considerable weight on '[the view of] wise people' – *viññu purisa*. The well-known *Mettā-sutta* says that one should not do even a small thing censured by the wise (*na ca khuddaṃ samācare kiñci yena viññu pare upvadeyyuṃ*). Acts are judged on whether they are censured (*viññu-garahita*) or praised (*viññu-pasattha*) by the wise. His teaching is to be understood by such people individually (*paccattaṃ veditabbo viññuhi*).*Viññu* seems to refer to knowledgeable, intelligent and wise people noted for their integrity among their fellow members of society. On who *viññu* is K.N. Jayatilleke says the following:

> The *viññu* represented for the Buddha the impartial critic at the level of intelligent common sense and the Buddha and his disciples sometimes introduce the '*viññu puriso*' or the hypothetical rational critic when it seems necessary to make an impartial and intelligent assessment of relative worth of conflicting theories (v. [see] M I 430ff., 515ff.[17])

But at the same time it is clear that there is no exact objective criterion to determine whether or not one is counted as *viññu-purisa*.

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[17] Jayatilleke (1963/2004) pp.229-230.

There can also be differences of opinion among different *viññu-purisas*. In particular when we think of various religious teachers lived during the time of the Buddha and also about the presence of various *sramana* and *brahmana* groups with divergent views determining who the *viññu-purisa* could have been a pretty complex issue. Nevertheless the fact that *viññu purisa* is referred to often as the basis of determining right and wrong conduct suggests that there was a general consensus among the learned and the intelligent during the time of the Buddha on social morality in spite of their ideological differences.

The reference to *viññu-purisa* mentioned above is certainly not given as the sole criterion. Since application and utility of morality assumes a society of people, the Buddhist morality seems to derive its justification mainly from certain fundamental commonalities shared by all living beings, not merely human beings. These commonalities are established based on certain considerations which are empirical in character.   For example, the first precept in the *pañca-sīla*, namely, refraining from killing, is justified on the love all beings have for their life. This universal nature is described in the *Dhammapada* in the following manner:

> *Sabbe tasanti daṇḍassa   sabbe bhāyanti maccuno*
> *Attānaṃ upamaṃ katvā   na haneyya na ghātaye*
> *Sabbe tasanti daṇḍassa   sabbesam jīvitaṃ piyaṃ*
> *Attānaṃ upamaṃ katvā   na haneyya na ghātaye*
> (Dhammapada 129-130)

"All fear punishment; all fear death. Comparing with oneself, one should neither harm nor kill.

All fear punishment; life is dear to all. Comparing with oneself, one should neither harm nor kill."

The first couplets of the two stanzas articulate the premise, namely the self-protective tendency all beings have for their life. The conclusion we derive from this premises is that we should neither harm nor kill any being. The same argument has been presented by the Buddha in commenting on a conversation King *Kosala* had with his queen, *Mallikā*. The King asked the Queen whether she had anyone she would love more than she would love herself. To this

question the Queen answered in the negative. On being asked by the Queen the King too gave the same answer. Later when the King reported this conversation to the Buddha he said the following:

> Even if one were to survey all directions by mind one would not discover anyone dearer than oneself. In this manner for each person oneself is dearer. Therefore one who loves oneself should not harm others[18].

The conclusion drawn from self-love (*atta-kāmā*) is that one should not harm another who has a similar self-love (*tasmā na himse param attakāmo*). Similarly that beings love happiness (*sukha-kāmāni bhūtāni…*)[19] and that they love happiness and despise pain (*sukha-kāmā dukkha-paṭikkūlā…*)[20] have been mentioned as a common characteristic of all beings. This too may be understood as supporting the same universal tendency.

In addition to this self-love existing in all beings, the discourses of the Buddha refer to some other characteristics of human nature which could be interpreted as proving the commonality of all beings. For instance, intimately connected with the self-protective tendency of all beings is their need for food or nutriment (*āhāra*). The Buddha says that "all beings subsist on nutriment" (*sabbe sattā āhāraṭṭhitika*[21]), and makes a comprehensive analysis of nutriment on which beings subsist. According to the Buddha there are four kinds of nutriment, namely, edible food (*kabaḷīkāra-āhāra*), contact (*phassa-āhāra*), mental volition (*mano-sañcetanā-āhāra*) and consciousness (*viññāṇā-āhāra*). A glance at this classification shows that beings do not live by 'bread' alone. They need contacts for their senses, namely, for eye, ear, nose, tongue, body and mind they need forms, sounds, smells, tastes, tangible objects and mental phenomena (concepts). Mental volition is what lies behind human action for without volition (*cetanā*) there is no action. The last is consciousness which again arises based on the five sensory faculties plus mind as the mental faculty. While we consume edible foods for the sustenance of our physical body we consume all the time without stop food for our emotional and intellectual satisfaction.

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[18] Saṃyutta-nikāya I p.75.
[19] Dhammapada 131
[20] Majjhima-nikāya I p.341.
[21] Khuddaka-pātha p.?

Going further deep the Buddha explains:

> Monks, these four kinds of nutriment have what as their source, what is their origin, from what are they born and produced? These four kinds of nutriment have craving as their source, craving as their origin, they are born and produced by craving[22].

In this analysis beings consume food because they are driven by craving which, in turn, is the main cause of suffering. All (unenlightened) beings are one is undergoing suffering. And in their desire to end suffering and attain happiness too ultimately all beings and all human beings in particular share an identical emotional universe, confirming thereby the universally shared nature of all beings.

Based on these universal characteristics of all beings in general and human beings in particular we can derive the five precepts (*pañca-sīla*), the most basic and fundamental of moral life. Refraining from taking life (and any other lesser harm) can be directly derived from the emotion of self-love present in all beings. Stealing always involves something that belongs to someone other than oneself. Sexual misconduct has been defined as illicit relationship with someone else's husband or wife or a woman who is under protection. Lying is to cheat someone else. In this manner all the vices associated with the first four precepts can be established as so on the assumed universal commonalities of all beings including their self-love. The fifth precept, one involving taking intoxicating drinks, is considered unacceptable presumably not because it is wrong in itself but because it plays a crucial role in causing the rest of the four vices. These five precepts are given as mandatory *sīla* for anyone becoming a follower of the Buddha. One moves to higher *sīlas* only subsequently.

The *Raṭṭhapāla-sutta* of the Majjima-nikāya (82) lists four observations of reality and human nature understanding of which is believed to result in more radical forms of renunciation. When young and wealthy Raṭṭhapāla leaves behind all his wealth and opts to become a monastic follower of the Buddha the ruler of the area

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[22] Saṃyutta-nikāya II pp.11-12 [tr. Bhikkhu Bodhi, 2000. p.540].

becomes puzzled. Questioned by him Raṭṭhapāla says that he made his decision having seen four things taught by the Buddha about the world. They are: The world is unstable, it is swept away (*upaniyyati loko addhuvo*), the world is without protection, and without Over Lord (*attano loko anabhissaro*), the world has nothing of its own, everything has to be left behind (*assako loko sabbaṃ pahāya gamaniyaṃ*), and the world is incomplete, insatiate, and slave to craving (*ūno loko atitto taṇhā-dāso*). The first statement asserts that nothing in human life is certain or permanent. This is to affirm impermanence, the first characteristic of reality in the teaching of three signata (*ti-lakkhana*). The second asserts that there is no God to protect anyone in the world and that in this sense no beings have any real protection (from outside). The third is a corollary of the first, and says that one has to leave behind everything and has to depart from this life finally. The last most importantly asserts the incomplete –ness of all human beings which is the direct result of craving or 'thirst' (*taṇhā*). When further questioned by the King, Raṭṭhapāla establishes the validity of these claims with reference to King's own life. He gets the King to see that each of these assertions is true and valid with reference to his own life. Therefore the assertions are not meant to be accepted as dogmatic truths. The verification of these assertions is one's life itself which, in other words, means one's own personal experience. What the King sees as valid for his own life is presented in the discourse not as individual-based truths but as truths to be applicable to all living beings. What is applicable to one person, or what seems to be applicable to all the known living beings at any given moment is considered to be applicable to all. In this sense we may take these assertions as inductive generalizations confirmed by experience.

For Raṭṭhapāla seeing these four realities was behind his decision to renounce his worldly life and assume a life of a mendicant working for freedom from samsaric suffering. Whether everyone who listened to the Buddha would have made the same decision is not a matter of logical necessity. The conclusion does not derive from the premises as a logical necessity. In fact one could even draw a conclusion totally opposite to that of Raṭṭhapāla from these premises. But the premises have been presented as universally available. The rationality of the choice depends on the overall attitude

to life one has developed. Speaking from a Buddhist point of view we may say that such a decision as that of Raṭṭhapāla comes from the maturity in spiritual preparation in the *saṃsārā* and it seems natural, given the raw character of ordinary puthujjanas, that only Raṭṭhapāla made this choice at this particular occasion. *Raṭṭhapāla's* decision was quite radical in terms of things he had to sacrifice and the changes he had to make in his own life as well as disruption it caused in the lives of others who associated with him. There may have been many others who were equally convinced of the truthfulness of this state of affairs of the *samsaric* life but were not able to make a similar decision. Yet, consequent to this understanding, they must have made adjustments of lesser degree in their ways of thinking and modes of life. Whether one were to follow the Path as a bhikkhu or as a householder, or not follow the Path at all, seems to have depended not necessarily on understanding but also on factors such as social circumstances, level of their own spiritual maturity and the like. Whatever these peripheral states of affairs the morality itself, as revealed in the above discussion seems to be based on certain shared characteristics of reality. Such characteristics are understood as subsumed in the 'three universal characteristics of reality', namely, impermanence, unsatisfactoriness, and no-soulness. Although the Buddhist morality may not be absolutist in theistic sense it is clear that within the conceptual universe governed by the understanding of three characteristics (*ti-lakkhana*) *Raṭṭhapāla's* decision has been given as undoubtedly correct.

The foundations of morality were thus expected to be seen by oneself in relation to one's own life and the nature of life in general. It is clear that the ethics/morality advocated by the Buddha did not come as inviolable injunctions similar to those in a theistic religious system. The general attitude of Buddhism to authority, personal or non-personal, and the attitude of the disciples toward the Buddha himself have been discussed in detail by scholars[23] . What has been discussed mainly in the context of epistemology seems relevant in ethics. Thus one who follows the Path is expected to do so not because one has special obligation for the Buddha, or because one is scared of violating a rule prescribed by the Buddha. The function of *karma* as taught by the Buddha has nothing to do with the Buddha

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[23]   K.N. Jayatilleke (1963): see chapters iv and viii.

or any other person for that matter [24]. It works subject to the law of dependent co-origination (*paticca-saṃmuppāda*). Following the Path as a *bhikkhu* by observing the *pāṭimokkha* rules or living the life of a householder observing the five precepts is understood as a voluntary act. The Buddha does not come to the picture either as inflictor of punishment or a dispenser of rewards. In other words, there is no such a thing as 'sinning against the Buddha' in the Buddhist tradition. By violating a moral precept of the nature of the *pañca-sīla* one is only violating a promise given to oneself and it is a moral act the consequence of which one has to bear by oneself alone. Violation of *vinaya* rules by *bhikkhus* and *bhikkhunis* is dealt with by the *Saṅgha* as a matter of *vinaya*. The function of karma has no connection to this 'legal' procedure.

Does this seemingly ultra-rational attitude prevail all the time? Does Buddhism reject the need for an authority altogether in one's moral life? The answer does not seem to be a simple 'yes' or 'no'. The emotion of fear (*ottappa* or *bhaya*) is known to play a role in religious life. It does not seem to be different in Buddhism too. The idea of 'fear for the *saṃsārā*' (*saṃsārā-bhaya*) is an emotion valued in the tradition. *saṃsārā* includes various types of dangers one will have to undergo in the samsaric journey including being born in where there is no happiness (*apāya/niraya* =hell [*apa+aya/nir+aya* = place without income]). The discourses refer to four kinds of fear relevant for this context [25]. They are the fear of being censured by oneself (*attanuvada-bhaya*), the fear of being censured by others (*parānuvāda-bhaya*), fear of punishment (*daṇḍa-bhaya*) and the fear of bad destiny (*duggati-bhaya*). All these four fears are described as sentiments that help one to stay focused in one's spiritual life. It is interesting to note that the commentarial tradition defines the term '*bhikkhu*' with reference to the fear for the *saṃsārā* [26]. It is this fear that motivates one to follow the Path properly as

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[24] The concept of Yama as the king of the hell responsible for punishing the wrong-doers has been accommodated in the discourses with some unease for the presence of someone over and above the karma causation does not go well with the Buddhist *karma* theory. The *Devaduta-sutta (*Majjhima-nikāya: 130) makes a good compromise by maintaining that Yama, by being himself condemned to condemn others, is undergoing the result of a bad *karma* committed by himself. See Tilakaratne (2003) for a detailed discussion.

[25] Aṅguttara-nikāya II pp.121-3.

[26] *Saṃsāre bhayaṃ ikkhatiti bhikkhu*: A bhikkhu is one who perceives fear in the saṃsārā. Visuddhimagga p.3.

a *bhikkhu/bhikkhunī*, or live a simple religious life as a householder. The difference in this emotion of fear and that of God or any other supernatural being is whereas the former has no reference to a person, the latter is centred on a person. Along with fear is mentioned moral scruple (*hirī or lajja*=sense of shame), and the two have been described as 'divine qualities' (*deva-dhamma*) for their crucial role is one's moral life.

The concept of superiority (*adhipateyya*) plays a similar role in the field of morality. In a way this concept answers the question: why should one lead a moral life? The moral life in this context is not exclusively that of a *bhikkhu*, but the moral life in general. The Dhamma gives three reasons, namely, the superiority of oneself (*atta-adhipateyya*), the superiority of the world (*loka-adhipateyya*), and the superiority of the Dhamma (*dhamma-adhipateyya*)[27]. In the absence of any superior divine power from where laws originate one is at one's own initiative to lead a moral life. But there are forces to be recognized as providing safeguards for one's moral life. The first is to reflect on one's own status as one who has dedicated one's life for the practice of the Path and make a resolution to stay focused on the Path. One's own conscience which blames one when one behaves wrongly too has been mentioned in the discourses as a moral safeguard. The second is the religious people with developed faculties and powerful divine beings who are capable of penetrating one's mind. In a broad sense this refers to the external world which observes one's behaviour. For example, for a *bhikkhu* this could be one's own community of fellow *bhikkhus* or the lay society that supports him. The *viññu-purisas* of the society too may be included in this category. Of the fears mentioned above the first and the second, namely, fear of being censured by oneself and others seem to correspond to these two kinds of superiority. The last is the Dhamma taught by the Buddha. This could also mean what is right and good in a universal sense. When taken from this broad sense, it has been said that one should rather lose one's life than violating the Dhamma[28]. This last seems to provide the ultimate basis for the moral life.

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[27] Aṅguttara-nikāya I pp 147-150.
[28] *Dhanaṃ caje aṅgavarassa hetu – aṅgaṃ caje jīvitaṃ rakkhamāno Aṅgaṃ dhanaṃ jīvitaṃcāpi sabbaṃ – caje naro dhammamanussaranto* (Visuddhimagga, p.47) (let one leave wealth for the sake of physical limbs. Let one leave physical limbs for the sake of life. Let one leave everything, wealth, physical limbs and life, for the sake of Dhamma.)

The former two also seem to rest on the last for the basis on which one's own self or the world blames someone is the Dhamma. The significance of this classification is that it shows that Buddhism does not reject the idea of superiority or the need to have a sense of being subordinate to some higher authority in one's moral life. According to this analysis one needs to obey some authority as providing check on one's moral life. But this authority is not any particular person, nor is it a god capable of inflicting punishment on those who violate such rules.

Conclusion

In a theistic system the sense of fear toward the creator God and his possible punishment work as a deterrent against violating rules. At the same time possibility of reward from the same source works as an incentive for good behaviour. It is clear that these concepts do not operate in the same manner in Buddhism. But the concepts of superiority and fear mentioned above appear to be playing a similar role in the moral life of one who follows the Path. For example, being born in a *duggati* is the 'punishment' one receives for being immoral. The karmic causation however is a natural process for which personal intervention is not needed. This way of understanding shows that for the Buddha mere observance of morality without right view (*sammā-diṭṭhi*) is of not much use.

As our preceding discussion showed *sīla* as ethics is an integral aspect of the path leading to *nirvana*. When one moves higher in the Path one takes it along and does not leave it behind. The completion of the Path is the culmination of *kusala* by shedding all *akusala*. Any form of existence or *bhava*, be it the bhava of pleasure, fine materiality or immateriality it is a result of *lobha* which is a root of *akusala*. The ultimate goal is to be free from all forms of existence. During the time of the Buddha it seems that all or majority of those entered the *saṅgha* strived to achieve the final goal in their very life itself. Consequently to be born in a pleasant destiny (*sugati*) was not an option for them. Hence they were not interested in practicing meritorious deeds such as *dāna*, *sīla* and *bhāvana* or to put it more accurately, they did not practice these three as meritorious deeds. There is evidence in the discourses to the effect that those who lived the holy life for the sake of worldly pleasures were laughed at by

their fellow practitioners. The case of the householders was different. For them the goal was to live a good life here in this world and hope for a good destiny after death. (According to the *Sigalovada-sutta*, one of the 'duties' of the religious people toward the householders, who supply them with requisites, is to teach the way to heaven.) The distinction of *puñña/pāpa* was more meaningful with this way of life. The co-existence between *nirvana* as the immediate goal and the lay life were not considered to be an easy task. The best form of life for one who is intent on *nirvana* was to leave home and move into homelessness. In the story of Raṭṭhapāla discussed above his parents remind him that he can both live a good life (life of pleasures) and engage in meritorious deeds with his vast fortune. His wives inquire about the divine damsels for the sake whom, they presume, Raṭṭhapāla was to leave them behind. The attitude of parents and wives represent the samsaric dimension of observing morality. But for *Raṭṭhapāla saṃsāra* was not an option. Hence he was not interested in *puñña*; nor was he interested in divine damsels he was to get in return for his *puñña*. Nevertheless, a person who is devoted to a life of *puñña* is undoubtedly an ethical/moral person. Likewise a person who observes the basic five precepts also is an ethical/moral person. But *kusala* captures a different dimension. This is purely the nirvanic dimension, and if our present ethical discourse cannot adequately capture it the problem is not with this radically different ethical category. It is true that the path of the Buddha in its proper sense is one leading directly to *nirvana*. But the practical reality starting from the time of the Buddha himself was that there grew up a group of lay people who, while ideally participated in the ideal of *nirvana*, had to strive to have it both ways. What we find mostly in the traditional Buddhist societies today, among both the lay people and the monks and nuns, is the practice of *puñña* with the wish that it will bring about the final goal *nirvana*, of course as the very final thing after enjoying all the imaginable pleasures both human and divine!

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Science, Ethics and
the Buddhist University[1]

José Ignacio Cabezón[2]

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The founding of the International Association of Buddhist Universities is in many ways an historic event, and it is an honor to be able to share some of my thoughts with you. I would like to begin my remarks by briefly reflecting on the notion of a Buddhist University, and on the opportunities and challenges that lie ahead for these institutions. After this brief preamble, I will to turn to my assigned task of speaking more specifically about science, Buddhism and ethics.

Schools – corporate institutions where teachers train students – have of course been around since the beginning of recorded history[3]. But formal institutitons of higher learning – the types of institutions that produce a specialized, scholarly elite, what today we would call "universities" – date back, both in Europe

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[3]   In China this might include the famous Shang Hsiang Academy in the second millenium BCE; in Greece, the Academy of Plato (5th-4th century BCE); and in India, Takṣaśīla, a center of Vedic learning since at least the 4th century BCE, turning also into a center of Buddhist learning after the time of the Buddhist emperor Aśoka.

and in Asia, to around the fifth century CE. Some of the great universities of the ancient world were Buddhist monastic institutions – Nalanda and Vikramaśīla being perhaps the most notable examples[4]. As the influence of the great Buddhist academies was waning in their Indian homeland, this tradition was being passed on to other portions of the Buddhist world, like Tibet, where new monastic universities were being created modeled on thier Indian precursors.

While all of this was taking place in Asia, similar institutions were of course developing in Western Europe. For over 1000 years, however, Buddhist and Western universities have evolved in almost complete isolation from one another, and it is only in the past few decades that Buddhists have come to conceive of (some of) their educational institutions as universities in the modern, Western sense of the term[5]. It is still too early to say what the desgination of Buddhist institutions as "universities" means for the future of Buddhism and for the future of higher education generally. That future may well be determined in large part by the members of this organization and by those present at this meeting.

The idea of the "modern Buddhist university" presents Buddhists with unprecedented opportunities, but it also presents us with challenges. First the opportunities. Having the status of "university" in the modern world – and being a professor, student or

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[4]   Nālanda was founded in the fifth century CE, Vikamaśīla was founded in the eighth century. Several other famous Buddhist Universities were known in India, most notably Odantapūri (founded in the seventh century), Somapura (founded in the ninth century), Jagaddala (founded in the eleventh century), Vallabhi (founded perhaps in the fifth century). In Karnataka Banavasi and Nagarjunakonda appear to have been important centers of Buddhist learning.

[5]   It is unclear when the term "university" was first used for a Buddhist institution. The honor may go to Ryukoku University (originally founded as the Gakuryō educational faculty in 1639) was designated a university (daikyōkō) in 1876. Mahāchulalongkornrajvidyalaya University was established in 1887 by His Majesty King Chulalongkorn (Rama V). Chulalongkorn University (officially founded in 1917) was not considered an institution that was specifically Buddhist. Throughout European-colonized Southeast Asia various institutions were established as branches of (or modeled on) secular Western universities, but they were not considered particularly Buddhist institutions. In Sri Lanka, for example, University College (affiliated with the University of London) was established in 1913, and in Myanmar Rangoon College was established in 1878 (an affiliate of the University of Calcutta). The University of Indochina (founded in 1906, and today called Vietnam National University) was established under French colonial rule. Dongguk University, the largest Buddhist university in South Korea (originally the Myeongjin School, founded in 1906), was not designated a university until 1953; and Wonkwang University (Won Buddhism), originally established as the Yuil Hakrim School in the 1940s, was designated a college in the 1950s, and accredited as a university in the 1970s. The Preah Sihanouk Raja Buddhist University was founded by King Norodom Sihanouk in 1954.

graduate of such an institution – brings with it a considerable degree of social legitimation, and in many instances financial benefits as well. Because of the prestige associated with being an accredited university and of having a university degree, institutions that see Buddhism as integral to their identity have an unusual opportunity to contribute Buddhist ideas and values to society at both the local and global levels. Not all professors who teach at Buddhist universities are of course Buddhist, but many are. By providing an institutional home for intellectuals committed to speaking from Buddhist perspectives, Buddhist universities afford such scholars a stable site from which to engage in scholarship, and a site from which to intervene in society so that the vision and values of Buddhism come to be represented in the culture at large. Likewise, while it cannot be assumed that every student studying in a Buddhist university will be Buddhist, many will be. And those who are, being educated according to Buddhist principles, are given the wherwithall to represent the tradition through their educational formation. These then are some of the opportunities that Buddhist institutions of higher learning provide us. But with these opportunities also come challenges. Here are some of the challenges that come immediately to mind:

1. Even in the Western world, where our notion of the university was formed, there is probably no single vision of what a university is, or of the role that it should play in society. That being said, there is a good deal of consensus concerning the nature and function of these institutions. As they engage in the process of self-definition, will Buddhist universities simply adopt Western (for example, secular) models for their institutions, or will they contribute something uniquely Buddhist to the vision of the university? If the latter, what will that be? In what ways will Buddhist ideas and values inform an institution's educational mission?

2. As colleges and universities are presently conceived, in North America at least, undergraduate education is seen as providing a student with broad training in a variety of subjects – the so-called "liberal arts" model. Specialization in a given field takes place at the graduate level[6]. Given the demand for breadth in undergraduate education, how will Buddhism be incorporated into curricula so as to

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[6] Most British and British-heritage universities call this stage "post-graduate."

ground students' educational experience in Buddhist values? For example, will there be requirements related to Buddhist doctrine, conduct/ethics and practice? At the graduate level, where specialization in a given field normally takes place, how will Buddhist universities accomplish the goal of exposing students to a Buddhist worldview in fields that in principle have nothing to do with Buddhism – like mathematics and science? Put more simply, how will Buddhist universities balance the "Buddhist" and "university" aspects of their identity, preserving a distinctive Buddhist character in the face of the demands that come with being institutions of higher learning as these have come to be defined in the West? Or, alternatively, are there models other than the Western model of the university that are uniquely Buddhist?

3. How broadly will Buddhist universities define their Buddhist identity? Will it be in expansive terms that incorporates the heterogeneity that is currently found in the Buddhist tradition worldwide? Or will it be in narrow – national, sectarian and lineage-specific – terms? For example, will there be room in a Tibetan Buddhist university for students and faculty who self-identify as Theravāda? Will students in a Thai Buddhist university be exposed to Mahāyāna thought? Will Chinese Buddhist universities allow their faculty to teach courses in Tibetan Tantra? Will professors in a university founded by Master X be allowed to teach a form of Buddhism in the lineage of Master Y? How, in other words, will Buddhist universities balance their historical heritage and the demands of local consitutencies and patrons with the fact that Buddhism is a highly heterogeneous tradition?

4. Here one might also ponder the issue of whether and how other (non-Buddhist) religious traditions will be represented in the curriculum, if at all. In Western countries students in religiously affiliated universities – at least in liberal ones – are routinely exposed to other religious perspectives. Will the same be true in Buddhist universities? It appears that there is precedent for this even in ancient India. For example, the Chinese Buddhist monk traveller Yi-jing reports that at the ancient Buddhist monastic university of Vallabhi monks were taught the Brahmanical (*āstika*) six-systems of Indian philosophy (*ṣad-darśana*) as part of their training. Will modern

Buddhist universities be similarly committed to the inclusion of non-Buddhist religions in their curricula?

5. These last two questions bring up the issue of academic freedom. A cornerstone of Western higher education, academic freedom means that faculty and students have a great deal of (though not unlimited) liberty to hold and to express their own views, even when those views differ from those of the university or the society at large. Moreover, these freedoms are guaranteed (for faculty at least) in the form of the institution of tenure, an institution that guarantees that dissentors cannot be dismissed from their academic positions simply because of the views they hold or disseminate. But not all institutions uphold the same degree of academic freedom, even in the West. Some religiously affiliated universities in the Western world – the more conservative ones – require their faculty and students to profess specific religious beliefs and to live their lives according to quite specific codes of conduct, or else fear expulsion/dismissal. Which direction will Buddhist institutions of higher learning take? Will they follow the model that gives broad-ranging academic freedoms and rights to its members? Or will they insist that, as Buddhist institutions, they have the right to insist that faculty and students must publically profess and act in accordance with the norms of Buddhism? And if the latter, who will have the final say about what constitutes orthodox Buddhist beliefs and conduct?

6. This brings us to the issue of science as a case study. Like Buddhism, "science" is not a single thing. That being said, modern science often holds views – views about the universe, about society, and about the person – that are antithetical to the doctrines of Buddhism. Will the views of science, when they contradict Buddhist doctrine, be tolerated within the Buddhist university or not? Will Buddhist institutions take the road of inclusivism, encouraging competing viewpoints and critical engagement, or will they take the path of exclusivism by limiting the free expression of ideas and thereby *discouraging* debate? Many conservative religious universities in the West, as I have mentioned, have taken the latter route, insisting that in order to create individuals steeped in their respective traditions they must limit students' exposure to scientific ideas (like the theory of evolution) that they see as contradicting their

scriptures. But this policy of banishing competing views has met with disapproval from the Western academic community at large, a community that (mostly) insists that the best education is the result of critically engaging a wide range of views, even those (perhaps *especially* those) that contradict one's own. This notion – that one learns most from views that are least like one's own and from the people who hold such views – is not of course unknown in the history of Buddhism. Ancient Indian Buddhist universities, we know, were often very intellectually diverse institutions. For example, we know that at these ancient centers of learning monks of different Buddhist sects lived, studied, debated and practiced side by side. At the same time, none of these ancient universities (so far as we know) had Brahmanical scholars or Cārvāka materialists living in their midst. So there were obviously limits to Indian Buddhist institutional inclusivism. Nonetheless, the culture of medieval India was such that the professoriate of Buddhist universities had to be open to challenges (debates) from non-Buddhist intellectuals[7], something that bespeaks a commitment to critically engaging a tremendous diversity of perspectives.

The issue today, it seems to me, is not simply a question of whether Buddhist institutions are willing to be challenged by the world beyond its walls, but rather whether Buddhist universities will include these diverse perspectives – for example, science – into the fabric of the institution, even when such viewpoints are antithetical to the Buddhist worldview. Will we privilege only Buddhism, or perhaps one very specific form of Buddhism, with the goal of providing students with an education that is coherent, solidly Buddhist, and narrowly traditional, or will we privilege intellectual diversity, exposure to other viewpoints, and critical thought. Note that we have here two competing visions of education, both of which have a Buddhist pedigree – the inculcation of tradition through the delimitation of the curriculum, what we might call *the dogmatic model*, and the enhancement of students' analytical abilities through exposure to competing views, what we might call

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[7] See José Ignacio Cabezón, "The Narratives of the Great Buddhist Debates," *International Journal of Argumentation*, forthcoming.

the critical model.[8] Note also that each model has precedents, that each is defensible, and that each has its advantages and also its limitations. While I admit to being a partisan of the critical model, I realize that the questions here are far from simple.

Whether and how science fits into Buddhist higher education will depend on which model is adopted. A more narrowly dogmatic, tradition-focussed perspective will tend to marginalize "new" fields (like science) or will incorporate them only to the extent that they do not challenge the Buddhist doctrine. The critical perspective will actively seek out those fields (like science) that highlight differences and will foster critical engagement with disparate views.

On Buddhism and Science

As already mentioned, both Buddhism and Science are heterogeneous fields that have a great deal of internal texture and diversity. Given the great variety of views that we find in each, it is not surprising to find areas of similarity. Recent conversations between Buddhists and scientitsts have tended to focus on these areas of similarity. In what follows I intend to examine some of these similarities. But my reasons for this are not what one might expect. I will argue that beneath surface similarities are usually quite radical differences, differences that in the final analysis come down to the fact that Buddhism is a religion with a quite distinctive worldview (*lta ba*), grounded in ethics (*spyod pa*), stressing the practice of mental cultivation (*sgom*), and having the transformation of the person as its goal (*'bras bu*). This by no means implies that Buddhism and science cannot or should not be in dialogue or that they cannot benefit from mutual exposure to one another, but it does mean that, for the dialogue to be successful, the differences will have to be acknowledged and confronted head-on, rather than simply swept under the rug, as is too often the case in the Buddhism/science dialogue today.

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8   Georges Dreyus, in his *The Sound of Two Hands Clapping: The Education of a Tibetan Buddhist Monk* shows how this type of tension is found, albeit not in precisely the same terms I am dealing with here, within Tibetan Buddhist monastic institutions. Similar issues have also been debated by university professors in the United States, see Allan Bloom, *The Closing of the American Mind*, E. D. Hirsch, *Cultural Literacy*, and the responses to these works by various critics.

1. Similarities in Method

It has often been noted that both Buddhism and science are emprical (and in some readings even empiricist) enterprises, implying a similarity in their *methods*. Certainly, there is something to this. The Buddha's famous "come and see" (*ehi passiko*), the privileging of direct sense perception (*pratyakṣa*) and of perception-grounded inference (*anumāna*) as a way of knowing (*pramāṇa*) by the Buddhist logicians could be cited as examples of a commitment to an empirical method of sorts. So similarities there certainly are. But it would be wrong to stop there and not to also note substantial differences. Consider in this regard how much the Buddhist tradition simply takes for granted and how much it does *not* ground in direct perception: mind as separate from matter, the existence of past and future lives, realms and beings beyond the ken of ordinary humans, the doctrine of karma, etc. While it is true that Buddhist scholars through the ages have on occasion attempted to prove these various doctrinal claims on "first principles" – that is, without relying on the authority of scripture – for the most part, these "truths" are simply taken for granted in Buddhist societies, both by elite intellectuals and by nonspecialists. It hardly needs mentioning that most of these Buddhist presuppositions would be totally unacceptable to scientists. So while there is no denying that Buddhism and science share certain empirical orientations, it would be foolhardy to conclude that Buddhism and science share an identical methodological stance.

2. Buddhist and Scientific Cosmologies

Cosmology is another field where there is some agreement. For example, concerning the origin of the universe, neither Buddhist metaphysics nor Western physics presupposes the existence of a creator God, seeing the evolution of the cosmos instead as a process that is driven by natural causes. This does not imply, however, the identity of Buddhist and Western cosmology, and we should be careful not to push the comparison too far. Consider what happens when we begin to explore below the surface of the notion of "natural causes." For scientists, "natural" means "physical." Scientific cosmology is a form of inquiry elaborated strictly in physicalist/materialist

terms. It is a program whose goal is to push the "prior limit" (*pūrvānta, sngon kyi mtha'*) of physical causality earlier and earlier; and also to inquire about the ultimate fate of the universe at the end of time (*aparānta, phyi ma'i mtha'*)[9]. In any case, mainstream scientific cosmology never considers any causes or effects beyond physical ones. For example, the question of what leads to the big bang in the first place is simply not a question that scientists entertain. Buddhist speculation, on the other hand, is committed to explaining the physical causes of the universe's creation and destruction in terms of non-physical ones, claiming that the origin and dissolution of the material universe is due to karma. Hence, behind the impersonal physical causes there lies a personal and mentalistic force – the prior volition-driven collective actions of sentient beings[10]. Once again, major differences lurk just beneath the surface similarities of Buddhist and scientific cosmologies.

3. Theories of Matter

Or consider the example of scientific and Buddhist theories of matter. Both traditions have physicalist or materialist dimensions – they elaborate distinctive views about the physical constituents that make up the material world and the relationships of these fundamental elements to one another. Both traditions also elaborate a theory – or more accurately theories – of particles.

Whereas Buddhist speculation concerning the nature of matter begins as a materialist theory, however, Buddhist philosophy quickly bring mind into the picture[11]. This is because, on the one hand, mind is seen as having a role in the construction of the world, including

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[9] The current thinking is that our universe will continue to expand until it dies a "cold death." in the words of T. S. Eliot, the universe ends "not with a bang but a whimper." See Michael D. Lemonick, June 25, 2001, "How Will the Universe End?" *Time Magazine*.

[10] See, for example, the account of the cyclical process of universe creation found in the *Aggañña-sutta*.

[11] A few physicists (very few) have even considered the role that consciousness might play *vis-a-vis* the ontology of the material world, but such theories – the ones that bring consciousness into the picture – have usually been marginalized by mainstream physics, which has discouraged this type of speculation by claiming that no proof has been offered by the mentalists. See, for example, Roger Penrose, *The Emperor's New Mind* and his *Shadows of the Mind*, to take just one example. The theory of Penrose and his collaborator Stuart Hameroff that consciousness is the result of quantum effects in so-called "micro-tubules" has been criticized in a number of scientific papers. See also the article in Wikipedia called "quantum mind" where it is stated that "this approach is considered a minority opinion in science"; http://en.wikipedia.org/wiki/Quantum_mind.

the world of material objects, and on the other because Buddhist theories of the material world are elaborated in the service of mind – that is, with mental transformation (liberation/enlightenment) as their purpose or telos. Both of these facets of the Buddhist theory of matter are important to understanding how Buddhism and science differ.

We have already touched upon the role that karma is said to play in the Buddhist theory of the origin of the material world. According to Buddhism, there would be no material world in the first place were it not for *karma*, and since *karma* depends on mind, there would be no material world were it not for mind. Now regarding the ontology of the material world, the Buddhist philosophical schools differ – running the gamut from realist to idealist to nominalist/constructionist. The realist schools maintain that once it comes into being[12], the external material world (at least at its most fundamental level) exists independently of mind. Even these realist schools, however, believe that gross material shapes and forms – the kind of matter that is visible to the eye and identified by us as bodies, houses, pots and so forth – are constructions of mind[13], albeit constructions that have real material particles as their fundamanetal building blocks. The Mahāyāna schools go even farther, claiming either (a) that there is no external matter whatseoever[14] (the idealist view) or else (b) that things lack any existence apart from that attributed to them by language and conceptual thought (what I call the constructionist or nominalist view). According to the Madhyamaka, the school that maintains this latter perspective, matter, even at its most subtle particulate level, is a mental construction whose existence depends upon (but is not identical to) mind.

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[12] Of course, even the realist schools maintain that the material world is originally brought into existence by the force of karma, and therefore by the force of mind.

[13] For example, the Buddhist school known as the Vaibhāsikas claim that the physical world is composed of "spatially partless particles" that are distinct from and not reducible to more fundamental physical constituents, much less to mind. And while the other realist school, the Sautrāntikas, eschew the notion of a directionally or spatially partless particle – believing instead that particles have spatial extension – they too believe that material particles are the basic building blocks of the material world, and that these too are not reducible to or dependent on mind for their existence.

[14] This is the position of the Yogācāra or Cittamātra (Mind-Only) school, that denies the existence of any external objects, including fundamental particles (*paramāsu, rdul phran phra rab*).

The Buddhist views as a whole are in stark contrast to the mainstream view of physics, a tradition that is materialist, realist and objectivist through and through[15]. For the vast majority of scientists matter exists, both in its gross and subtle forms, and it exists independently of mind. So whether realists, idealists or constructionists, Buddhists have a quite different ontology of matter from that of Western scientists.

Mind, for Buddhists, not only plays a pivotal role in the theorization of the material world, it also plays a role as the *raison d'être* for the theorization of matter in the first place. Not content to create an abstract theory of matter as an end in itself, Buddhist scholars explain the nature of matter believing that this is an indispensable part of the project of human flourishing. The Buddhist theory of matter, therefore, is motivated by ethical or soteriological concerns. It is important to understand matter, Buddhist theorists claim, because we err in our perception and/or conception of the material world. Moreover, Correcting that misperception (or misconception) is a necessary condition for freeing oneself from bondage. So long as we *mis*perceive the material world, we will continue to suffer, and we will be unable to truly help others. By contrast, when we correct our perception of matter – when we come to a correct view of the nature of the physical world – we cease to respond to the world incorrectly, the mind is slowly purified, and the individual can begin to serve as a source of others' hapiness and welfare. Mind is therefore not only a crucial element in initial Buddhist theorizations of the material, it is also the telos or endpoint of those ontologies, the reason for their elaboration in the first place.

And once again, this is in stark contrast to Western scientific rationales for the investigation of the material world. Why does physics theorize matter? Broadly speaking, one might think of two responses to this question: (1) because knowledge of the physical world is a valuable end in itself; and (2) because understanding

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[15] Objectivism has been challenged by such philosophers of science as Thomas Kuhn, but as far as I can tell Kuhn's challenge to positivism – his so-called "paradigmatic relativism" – has had little impact on the objectivist views of scientists themselves. In any case, the claim of "theory-ladenness" is a far cry from the type of mind-dependence that Buddhists posit. And of course, there has been a challenge to paradigmatic relativism on the part of "realist" philosophy of science. For a good overview of these various positions, see the Introduction to William M. Kurtines, Margarita Azmitia and Jacob L. Gerwitz, eds., *The Role of Values in Psychology and Human Development*. 1992.

matter allows us to manipulate it to our advantage. The first reason is, in fact, no reason at all, but simply the assertion of knowledge for its own sake. The second reason is utilitarian. Science seeks to understand matter for its technological implications and applications[16]. This is not of course to deny that there is an ethical code of conduct in science, nor is to deny that *individual* physicists may have (extra-scientific) ethical motivations for the work they do, but it is to say that physics as a field of inquiry lacks ethics (much less a notion of human liberation) as its telos[17]. As Bertrand Russell once said, "science has nothing to do with values[18]."

To recap, to the extent that they are conscious about their motives at all, scientists largely pursue the analysis of matter motivated either by "knowledge for its own sake" or else by the pragmatic, physicalist implications of their theories – e.g., by the technological innovations that such analysis may yield. Buddhist theologians, on the other hand, eschew the notion of "knowledge for its own sake[19]," and while not averse to technological innovations, do not see these as being the most fundamental reason for theorizing matter. Rather, Buddhist thinkers jusitfy their speculation on ethical or soteriological grounds: on the belief that human beings err, on the conviction that this error can be eliminated, and on

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[16] While this second motivation for theorizing matter – technological innovation – could have an ethical overtone to it, it need not. In any case, it is far from clear that most theoretical physicists see themselves as engaged in their research with the goal of improving the material lot of humanity, seeing the latter as at most a side-effect of their research program.

[17] The fairly recent movement known as Science, Technology and Society – mostly a pedagogical movement, as far as I can tell – has attempted to bring the issue of ethics and values (e.g., the impact of science and technology on everyday life) into science education. See "Science, Technology, Society and Environmental Education," at http://en.wikipedia.org/wiki/Science_%2C_technology%2C_society_and_environment_education.

[18] Bertrand Russell, *Science and Ethics*, 1961, ch. 3. And he continues, "Questions of value... lie outside the domain of science, as the defenders of religion emphatically assert. I think that in this they are right." Of course, not all scholars would agree with Russell (or with me) on this point. See, for example, Jacob Bronowski, *Science and Human Values*, 1965: "Those who think that science is ethically neutral confuse the findings of science, which are, with the activity of science, which is not."

[19] I realize that this statement is rather bold. And there is a strain within especially Buddhist Mahāyāna scholasticism that stresses the importance of knowing all things. If buddhas are omniscient, and if our goal is to become buddhas, then we must also know all things. But there is also a more prominent counter-move that makes exactly the opposite claim: namely that we must be selective in the knowledge that we seek. As the eleventh century Indian Buddhist scholar Atiśa states, "The human lifespan is short, the objects of knowledge are many. Be like the swan who can separate milk from water"; the verse comes from Atiśa's Satyadvayāvatāra, see Richard Faust Sherburne, S. J. *The Complete Works of Atisa*, 2000. In other words, knowledge for its own sake is futile. The only knowledge worth having is knowledge that can aid one in spiritual transformation.

the presupposition that part of the process of eradicating error involves the theorization of the material world. Even the most abstract forms of Buddhist speculation are seen as necessarily having soteriological implications, giving them an ethical valence that is built into their very fabric, as it were. So once again we are witness to how surface similarities give way to substantial differences between Buddhism and science.

4. Psychoogy

While convergences in methods, or similarities in field like cosmology or fundamental physics may indeed be largely superficial, it might be claimed that the dialogue between Buddhism and psychology is based on real and substantive similarities. Aren't both Buddhists and psychologists interested in consciousness, after all? And doesn't psychology have ethical underpinnings similar to Buddhism's – the lessening of human mental suffering?

Let us consider the latter claim first, the claim that both Buddhism and psychology share a common ethical basis. Two things are worth noting here. (1) While some branches of psychology – e.g., clinical psychology – may indeed be grounded in an ethics of altruism, this is not true of the field of psychology as a whole. For example, one finds little reference to compassion or altruism as a motivation for research in cognitive science[20], the field of psychology that has been one of Buddhism's chief dialogue partners to date. (2) And even if some notion of altruism exists as a motivation for research in certain subfields of psychology, or among individual psychologists, the sense of altruism operative in Western psychology is quite different from that found in Buddhism. Here one has only to think about what altruism means for Buddhists. In the Mahāyāna, for example, having an altruistic (*bodhicitta*) motivation commits one to a program of radical self transformation for the sake of others, something that is quite foreign to Western traditions of psychology, clinical or otherwise.

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[20] When Alvin Goldman, for example, considers ethics in his *Philosophical Applications of Cognitive Science*, 1992, pp. 125ff, he is analyzing how cognitive science can contribute to understanding human ethical reasoning. This is quite different from what is being discussed here – the ethics that motivates the field of cognitive science.

And what of the first claim, that Buddhists and psychologists share a common interest in this thing called "mind" or "consciousness"? While there is obviously some truth to this, once again, below the surface similarities there are fundamental differences. Let me point to just one. Traditional Buddhists are committed mind-body dualists, which is to say that they see the mind and the body (including the brain) as non-identical. Most cognitive scientists, by contrast, are either monists (mind is identical or reducible to body/brain) or else they maintain an agnostic or neutral attitude in regard to this issue.

Conclusions

Now my goal in pointing out these quite profound differences between Buddhism and science is not to discourage dialogue between the two, but to argue for a more realistic dialogue that does not shy away from the real differences. We should not be content with a conversation that perpetually takes place at the level of surface similarities, something that has often motivated the dialogue between Buddhism and science. Instead, we should dig deeper. When we find that the superficial parallels give way to fundamental differences, we should confront these head-on. Difference, in fact, is the precondition for a fruitful dialogue. (Think: what do two people who think exactly alike have to say to one another? Obviously, not much.) A dialogue founded upon the acknowledgement (and when possible the resolution) of differences is so much richer.

As such a more realistic dialogue evolves, will Buddhists have anything to learn from scientists? Potentailly they have a great deal to learn, it seems to me. As I have argued above, Buddhist doctrine is elaborated in the service of mental transformation. Now the richer the doctrinal elaboration, the richer the meditation, and the richer the insight[21]. To take a concrete example, a meditation on momentariness that utilizes the insights of physics can only be the richer for it. This is just on example. Science can potentially offer Buddhism a great deal in this regard by (*inter alia*) filling in

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[21] For example, in Madhyāmaka literature there is a discussion of the differences between śrāvakas and bodhisattvas' understanding of reality. While both kinds of adepts are said to have an understanding of emptiness, bodhisttvas' insight is said to be more profound *because it relies on more extensive reasons*.

the Buddhist doctrinal gaps with empirical findings that have never been explored in the history of Buddhist philosophy.

What can scientists learn from Buddhists? This question has often been answered by the single word "meditation." By meditating, scientists can learn to calm their minds; they can learn techniques of introspection; they can become attune to the so-called "first-person" or subjective perspective, and in the process perhaps even learn that human experience has greater breadth and depth than they once thought. Now as a Buddhist I obviously believe that *everyone* can benefit from a more disciplined and concentrated mind, and from being in touch with the full range of human experience. So I do not deny that this is useful to people, including to those people we call "scientists." That being said, I am less sanguine that what Buddhism really has to offer the scientific community is more concentrated minds or access to the variety of human experience. Rather, I believe that a more significant contribution that Buddhism (and perhaps that religion generally) can make to science might have to do with ethics[22]. Why engage in this enterprise called science in the first place? Shouldn't scientists pay greater attention to questions of motivation – why they do what they do? Shouldn't they be more cognizant of the impact that their work has (or may have) on others and on the world? When answers to these types of questions are not forth-coming from science itself, is it unreasonable to think that a religion like Buddhism, where these types of questions have long been pondered, might be of some help? None of this is to imply that Buddhism can or will in any simple way serve as science's missing ethical ground. But at the very least traditions like Buddhism may help scientists to confront questions of motivations, and help them to think through the moral implications of the work they do and the way in which they do it.

The notion that Buddhism and science can learn from one another is based on a model of the interaction between Buddhism and science that I have elsewhere called *the model of complementarity*.[23] In this model, each field provides the other with something that it

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[22] I am not, of course, the first to make such an observation, which can also be found in the work of a variety of writers on Buddhism and science. For a review of this literature, see my "Buddhism and Science: On the Nature of the Dialogue," in B. Alan Wallace ed., *Buddhism and Science: Breaking New Ground*, 2003, pp. 55-56. .

[23] See Cabezón, "Buddhism and Science," pp. 35-68

lacks. Science provides Buddhism with greater empirical grounding for some of its doctrinal claims, and Buddhism provides science with questions (and perhaps even with some answers) about the ethics of the scientific enterprise as a whole. While this may well be a potential mode of collaboration between the these two fields, as a firm believer in "the culture of mutual critique" it seems to me that even more interesting than the "collaboration based on complementarity" mode of interaction is the model of "confrontation based on mutual critique." Science and Buddhism will most significantly influence one another, it seems to me, not because of surface similarities, and not even because of the way they complement one another, but because of the way they challenge one another – because of the radically different perspectives on the world, on human beings and on the mind that these two traditions offer us. It is inevitable that the dialogue between Buddhism and science will reach impasses on a host of issues. A few of these issues we might be able to hash out, but not all of our differences will be resolvable. We should not only be prepared for this, we should welcome it, for even when we reach such deadlocks, we cannot help but be transformed by the process of the dialogue itself. We grow simply by being confronted and challenged by views radically different from those we hold; we mature by having to respond to such views, even when no reconciliation is possible. If this is true, as I believe it is, then the most significant interaction between Buddhism and science may not be as partners or collaborators, but as one another's staunchest critics.

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Globalizing Education
or Educating Globalization?

David R. Loy[1]

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The English word *education* originally derives from the Latin *e-ducere*, 'to draw out, to draw forth.' To draw forth what? For the sake of what? Etymology already draws us into the essential issue: why do we educate? Why do we believe that education is so important? Needless to say, final agreement has never been reached, and very likely never will be. Today many people in different parts of the world believe that their educational systems are in a state of crisis, but there are very different ideas about what that crisis is, and what is needed to make education better. Those questions become even more important when we consider the double impact of globalization on education, and of education on our globalizing world.

Perhaps it is no coincidence that our educational systems have become so problematic at the same time that we have become preoccupied with globalization. Outlining the larger historical context for both will help to clarify their interconnection.

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Usually the economic aspects of globalization are most emphasized, which became possible not only because of economic conditions but because of political events. The collapse of communism removed capitalism's competition, so there is no longer any other organized system to interfere with its spreading everywhere. The internal logic of its own expansion means that a capitalist economy seeks access to resources and markets everywhere, without restraint on the commodification process that tends to incorporate everything else into market exchange and monetary valuation. How inevitable and beneficial this transformation is remains controversial, of course (e.g., Dunning, 2003), but if economic globalization can therefore be understood as the global extension and acceleration of capitalism, we can benefit from a simple model that Karl Polanyi (1957) suggested half a century ago to understand how the industrial revolution changed Europe. Today we can use the same model to understand how globalization is transforming the rest of the world.

In most pre-modern and non-modern societies, economic activity is subordinate to social relationships. Although we tend to view the profit motive as universal and rational (the benevolent 'invisible hand' of Adam Smith), it is not traditional to most traditional societies. Instead, market exchange usually played a very circumscribed role, being viewed warily because of its tendency to disrupt social relations. Another way to put it is that such societies make no clear distinction between economic and social activities. Pre-capitalist man 'does not act so as to safeguard his individual interest in the possession of material goods; he acts so as to safeguard his social standing, his social claims, his social assets. He values material goods only in so far as they serve this end.' In capitalist society, however, 'instead of economy being embedded in social relations, social relations are embedded in the economic system' (Polanyi, pp. 46, 57).

The industrial revolution, by freeing land, labour and capital from traditional societal controls, enabled them to interact freely, which gave an extraordinary boost to capital accumulation. But at a price: the 'side effect' was gradually subordinating the needs and norms of the social system to the demands of the economic system.

As the last two centuries have shown, capitalism is extraordinarily dynamic, and communities need to keep re-adjusting to the social changes that dynamism creates. Today the logic of globalization involves extending this same transformation to the furthest corners of the earth and to the most remote human society.

There is another aspect of this historical development that needs to be noticed, indeed emphasized: the changing role of religion in the modern world. It is, again, no coincidence that capitalism developed as the world secularized. Along with nationalism (the nation-state developed at the same time), economic values sprang up to fill the secular space left as religion became more privatized and the Christian God began to disappear into the clouds. I have argued elsewhere (Loy 1997, 2002) that our economic system can also be understood as our religion. If the function of religion is to ground us by teaching us what this world is, and what our role in the world is, the traditional ways of doing this have been largely supplanted by other belief-systems (especially science) and value-systems (moneytheism, consumerism).

This gives us some insight into the tension that exists today between economic globalization and less modernized societies that retain more traditional religious values. Globalization makes c apitalism into a missionary religion that accepts no limits on its mission. This is especially problematic for Islamic societies, since Islam does not accept the secular/sacred distinction that is fundamental to the modern West and its economy. Unlike Jesus and the Buddha, Muhammad was a social and political leader as well as a spiritual adviser, and his legacy includes detailed instructions on how to incorporate one's religious commitment into the social and economic practices of everyday life. For traditional Muslims, our daily life is not secular in the modern Western sense, because our activities in this world are much more structured by divine regulation.

In the developed (I prefer 'economized') societies, however, the success of the Protestant Reformation meant that the sacred has been largely privatized (when it survives at all), which has allowed secular values and pursuits – such as making money – to become liberated from traditional religious controls. As a result, many of those societies are now experiencing a different problem, a tension

between production values and consumption values. There is a basic contradiction between the production values of hard work and deferred gratification, and the consumption values of increasing consumerism. The problem is that our economic system needs both. Earlier societies had a ruling class that soaked up whatever surplus might accumulate; developed countries today, which have developed very efficient production technologies, have more of a problem with selling all the things they can produce. The greater economic challenge, in the economized countries, is how to stimulate ever more consumption among the people who have the money to buy. Hence the enormous resources devoted to marketing, advertising and public relations.

The reason I emphasize this tension here is because the same tension exists in our educational systems, especially in the economized nations. The economic idea of education is to train future workers in the skills they need to make them efficient producers, but at the same time young people are the targets of a large industry that works very hard to make them into consumers, by acculturating them as early as possible into a pop culture involving lots of consumption – music, clothes, style, etc. 'Teenagers' as a special social grouping/stage of life were invented in the US in the 1950s, to soak up the considerable disposable income they were gaining as America became affluent. I have often heard older people complain about young people today, and perhaps I am becoming like them, for many of my students do seem unmotivated and self-indulgent; but if that is true we should be cautious about blaming *them* for that. That is because their lifestyle and values have been manufactured like the products they consume, for the purpose of increasing corporate profits and national GDP. If this is making the values of young people more schizophrenic, it is because we, their elders, are making them that way. Globalization spreads both production and consumption values, of course, so we should expect this tension to increase, as more countries develop a sizable middle class.

All complex societies need an acceptable way to sort young people, to decide who will become factory workers and who will become administrators. Traditionally, this was usually decided by

birth: your parents determined your occupational caste in India, and your social class in Europe. Yet this is no longer officially acceptable in democracies, which, in principle at least, justify themselves as meritocracies. So how is merit to be determined? Initially, by educational success, which explains the increasing importance placed upon examinations, especially the all-important one that finally determines university entrance. In Japan, for example, where I taught for many years, all education is focused on this exam, or follows from it (which means, among other things, that if anyone is serious about changing the Japanese educational system, university entrance exams are the place to start). Because of what those exams test, pre-university education in Japan involves mostly memorization that does not encourage any deep understanding of how things fit together, but rather emphasizes committing to memory information that can be regurgitated for computer multiple-choice tests and then safely forgotten.

Such exams are problematic in several ways, perhaps most of all because it is not clear – at least to me -- what understanding or skills they are testing *for*. In one way, however, that is not the important issue: what is needed is only *a socially acceptable* way to classify young people which, sorts them, into different, hierarchically-ordered, boxes. To do that, however, it is not necessary that the sorting process actually measures anything of value, as long as most people *believe* that it does. The social effect, so far as I can see, is mainly to encourage and reward those who are good at memorizing and following orders, which of course has enormous consequences for the whole educational system and thereby the whole of society. This may also mean, as I suspect, that some of the brightest and most creative young people are lost in the process, because they cannot fit in or refuse to fit in. Even for those who do not drop out, the self-esteem of those who are poor at memorizing is often scarred for life, as they internalize society's view of them: they are *losers*.

By no coincidence, the 'subtext' for this kind of educational system is exactly the same as the subtext for our globalizing economic system: both presuppose and reinforce a particular view of our human nature that has been called *utilitarian individualism.*

Educationally and economically, the emphasis is on individual competition rather than cooperation; the most important thing for me is to use my school/job to advance myself, promoting my own self-interest by doing better than you. In both cases this tends to reduce the sense of community and group responsibility – the feeling that we are all in this together, that by working together we can solve the common problems that we share. Instead, students, like workers, are challenged as individuals, and the result is also individual: one's own upward mobility. In education, too, something like Adam Smith's 'invisible hand' is assumed: that when students do their best to promote their own self-advantage, studying and memorizing as much as they can, then this contributes to the common good of all students, and to the common good of the educational system as a whole, including teachers and administrators; and thereby to the common good of society as a whole. But is this true? Perhaps the defect of this assumption is easier to see as it applies to education, for I, like other university professors in Japan, had to cope with the wreckage left by this exam-orientation.

By the time students get into university, what have they actually learned? A lot of facts, of course, many of which are quickly forgotten. But that is not the main thing that this system teaches them. Most of all, it seems, the lesson they have learned is that (memorizing, exam-oriented) education is stressful, difficult, and boring -- in short, something they are not interested in pursuing any more than they have to, because they are exhausted and need to relax before graduating and going on to perform their (also stressful, etc.) productive roles in society. Just at the time they are (or should be) mature enough to start thinking about the most interesting things – such as contemplating the really important questions for understanding themselves and their society – students are not interested. This is more than unfortunate: it is a personal and social tragedy with enormous consequences, especially now when Japan, like many other societies, is looking for answers to deep-rooted economic and social problems and having difficulty finding them.

I do not mean to imply that Japanese education is unique in these respects. The globalization of education means that this model of individualistic, memorizing, exam-oriented schooling is

becoming more widespread, indeed the accepted standard, because this understanding of education is most compatible with the new international economic order that is being globalized. There is less and less difference between the Japanese model and the educational systems of China, South Korea, Taiwan, Singapore, and Thailand, to mention only some familiar Asian examples. (Those living in the West can provide their own examples.) Is it a coincidence that the economic systems of these nations have also been converging?

Another way to express my discomfort with this type of educational system is by looking at the 'means-ends reversal' that is built into it by the increasing focus on exam results. Is an exam valuable because it encourages us and helps us to learn, or is learning useful because it helps us do well on the exam? This old-fashioned question reveals my naïveté and nostalgia, I know; insofar as the emphasis of an exam-oriented system is on social sorting, one's exam results are more important than anything one might actually learn in the process. What should be noticed, however, is that this *approach ends up commodifying education in the same way that globalizing capitalism tends to commodify everything else*. Even as nature is raw material for manufacture, and manufacture is for the sake of profit, so any knowledge gained in education is raw material for taking exams, and those exams are to qualify for top universities, and then for well-paid jobs. That is why exam-oriented education and globalizing capitalism fit so well together, each contributing to the success of the other.

Even as our economic system is not 'natural,' so there is nothing 'natural' about this approach to education. It is natural only in the sense that it is the type of education that seems to provide what our globalizing economies need. From that perspective, educationalcrisis–thefactthatsomanypeoplebelievethereissomething very wrong with our approach to education today -- provides us with another way to raise questions about how 'natural' economic globalization is. A century ago, Max Weber pointed out that capitalism is an almost perfect example of means-ends reversal: accumulating capital should be the means to a more fulfilling life, but instead it leaves many of us so preoccupied with profit-making that we are unable to appreciate the world here and now. The same

reversal explains why education has become both stressful and boring, despite the genuinely natural inclination of young people to want to learn about the world around them. If we ask why students seem to enjoy learning less and less, why they find their joy in consumption instead, perhaps it is because their education has become another commodified product.

Education as work: Most people do not do their jobs because they like them. They do it for the paycheck. The payback for students is the job they hope to get, not anything they might learn in the process. Education is treated as a means to economic growth and development. All schools, including universities, become job-training centers.

But there is another way to understand education: its *goal is to help the community, and each of its participants, to flourish*. Education should not just prepare us for our economic role; it is what helps us to become fully socialized and fully human. Even as humans without language (e.g., wolf-children) are not really human, so a society without education is not fully civilized. (This does not necessarily mean formal education in the sense of sit-down school buildings, and in fact education should be understood much more broadly, as Ivan Illich [1999] has shown.) In order to flourish, economic needs must be met, but those needs themselves are not the goal; according to this alternative understanding, *economic growth too is valuable insofar as it enables and encourages human flourishing*.

This involves a much larger role for the schooling process, because it means that education should become 'a more vigorous partner in the search for answers to our most pressing special, civic, economic and moral problems' (Boyer, 1996). This implies very different priorities:

- Instead of cramming facts for entrance exams, what students need most is awakening their desire to learn and then helping them gain the ability to learn; that is, they need to develop the analytic and theoretical skills necessary to investigate the world around them, to appreciate its interdependence and how it is changing.

- Instead of building partnerships with profit-oriented corporations and other market forces mainly concerned with making money, schools should be creating alliances with local communities, volunteer groups, NGOs – with what is sometimes called civil society – in order to better address local and broader social issues.

- Instead of indoctrinating students to make them good members who fit harmoniously into society, we need to encourage those who are able to diagnose social problems and who are committed to improving them, rather than being solely concerned about their own personal career success. If our societies have serious problems, why do we want to inculcate more conformity? We need people who can make the right kind of waves! The choice is not just between fitting in or being selfish. Some young people feel alienated for good reasons, because they sense what is wrong with their society. They are an important social resource, in any society that wants to become a better society.

Another way to make this argument is to look at contemporary cultures. Globalization is transforming the earth's great variety of cultures into consumerist cultures, increasingly a product of the economy, created by advertising and public relations. We forget that there is a difference between a culture and an entertainment industry. 'Culture' becomes distraction or recuperation – it is how we relax after work. We get caught up in a vicious cycle of working hard to get money and then spending that money to recover from work. This production-and-consumption cycle meets the needs of economic growth, but does it meet human needs? The original meaning of 'culture' was quite different, as the etymology of the word and its cognates reveals: *agriculture* involves *cultivating* the earth – again, helping something to flourish. But what does culture make flourish: the economy? To become cultured is to cultivate oneself, for self-development helps to make us more human. Isn't that why we study weird things like literature and philosophy?

William Butler Yeats expressed it well: education is not filling a pail but lighting a fire. When a mind is on fire, it burns to learn. Socrates, we are told, taught by harnessing this *eros* of yearning. Aristotle said that philosophy begins in wonder. Education flowers in fascination– consider, for example, Einstein's delight in trying to understand the mysteries of the universe. For him, curiosity was not a way to make money. He was not thinking about patents.

Let me conclude by suggesting that there is another reason why modern societies place such a heavy responsibility on education. In more traditional societies, religious institutions provide and support the agreed values, which ground the ways of living that make life meaningful. At their worst, religious values and institutions become a straitjacket, controlling what we are allowed to believe and do. At their best, though, religious traditions encourage a personal self-development and a collective social development, a maturation that involves more than inculcating nationalist or consumerist values.

The process of transmission of religious tradition is potentially the most confining among human institutions, creating for some a kind of cultural prison, or the most liberating because religious commitment permits the individual to stand within a tradition that calls into question all traditions, including ultimately aspects of itself (Williams, 2004).

With the decline of religious traditions in the globalizing contemporary world, however, more of that responsibility for *the tradition of questioning our own tradition* falls on education, which in addition to its economic role now also needs to provide the opportunity and the encouragement for society to ask the larger questions about itself. The educational process becomes one of the important ways within society that basic issues about the meaning and direction of human society are addressed. What makes a good life? What makes a good society? This means, among other things, that higher educational institutions remain among the few places left in developed, economized nations where economic globalization can be interrogated; where its contributions to human flourishing are evaluated.

It is no good replying that education cannot do this, that this is asking too much of educational systems already under enormous stress. Our globalizing civilization must find ways to consider these all-important issues, or it will eventually self-destruct. That is because the commodifying values most encouraged by economic globalization are focused on money, pleasure and power, but a society organized mainly on those principles cannot for long remain a healthy one. It will tend to break down, sooner or later.

If these reflections are pertinent, we end with the realization that a modern society's most important institutions are not economic but educational. They, not its GNP growth, are how a society should evaluate itself.

What role might Buddhism play in assisting such a re-valuation of education? Ultimately, Buddhism is all about education, in the deepest sense of the word, and obviously its teachings are quite consistent with the alternative view that I have outlined. The widespread economic emphasis on commoditization and consumption values can be understood as institutionalized greed, the first of the three unwholesome motivations (the others are ill will and delusion). Utilitarian individualism emphasizes competitive advancement and monetary values, which reinforce the dualistic sense-of-self that is at the root of our *dukkha*.

As Tamas Agocs implies in his article "*Buddhist Education and Modern Education: Compatible or Incompatible?*, the most important issue is the transformation of *motivations*. In place of the three unwholesome motivations, which only work to increase our discontent, a more enjoyable and successful way of life (in the long run) will emphasize generosity, compassion, and the wisdom that recognizes our interdependence.

To encourage this, an ethical foundation is important – for example, the five precepts (not harming, avoiding stealing, false speech, sexual misconduct and intoxicants). But more important is mindfulness training. Teaching mindfulness and other meditation practices – and an appreciation of those practices – at an early age can be the most helpful intervention of all. This could be a problem in some public schools, such as in the United States where church

and state are supposed to be strictly distinguished. But the Buddhist aspect of such practices does not always need to be emphasized: what is important is the training, not the label.

Someone who is more mindful is better able, and more likely, to ask the really important questions about the meaning of his or her life – including the meaning of his or her education. To ask such questions is already to take a big step on the path to spiritual liberation.

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Buddhism, Death and Organ Transplantation[1]

Damien Keown[2]

❦

Introduction

For my contribution to this first IABU Conference, the organisers asked me to speak about a book I wrote on this subject that was first published some thirteen years ago in 1995. The title of the book was *Buddhism and Bioethics*,[3] and my objective in this work was to grapple with some of the major issues that were—and still are—being debated around the world in the field of medical ethics. I divided the book into three parts. The first set out the theoretical basis of my approach to medical ethics. This was an attempt to construct a foundation from which Buddhism could address a range of issues consistently and engage in dialogue with medical ethicists from both secular and religious backgrounds.

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[1]   Presented at the IABU Conference on Buddhism and Ethics at Mahachulalongkornrajavidyalaya University Main Campus, Wang Noi, Ayutthaya, Thailand in September 2008.

[2]   Damien Keown, DPhil. (Oxford), is Professor of Buddhist Ethics at Goldsmiths College, University of London. His research interest is Buddhist ethics: theoretical foundations and normative applications, with particular reference to medicine and biotechnology. He is the founder/ editor of the Journal of Buddhist Ethics, available online.

3   Damien, Keown, *Buddhism and Bioethics*, (1995 (reissued 2001).

The second dealt with the beginning of life and issues which arise there (notably abortion, assisted reproduction and contraception), and the third with issues arising at the end of life (for example euthanasia, brain death, and organ transplantation).

Since the publication of this book the pace of scientific development seems to have accelerated. The birth of Dolly the sheep, the first cloned adult mammal, was announced shortly afterwards in 1997 and a few years later the development of stem cell research caused controversy when American President George W. Bush placed restrictions on the use of federal funds to support research on human embryonic stem cells in 2001. Since then, further—and some would say more fruitful—work has been done on adult stem cells which do not give rise to the same moral problems as the use of embryonic ones. By this time the thirteen-year Human Genome Project was well under way and was finally completed in 2003. During the same period, in contrast to scientific research aimed at curing disease, other work was being undertaken with the goal of enhancing human potential through the use of genetic modification, drugs, nano-technology and neurobiology to give our brains a boost and make us all smarter. Whether this will also make us happier, or help us find a shorter path to enlightenment, it is too soon to tell, but I am sure if the popularity of cosmetic surgery is anything to judge by there will be no shortage of candidates for the many forms of artificial enhancement that will soon be available.

These developments have been discussed extensively, and there is an abundant literature by scientists, futurologists, journalists, and social commentators of all stripes offering their viewpoints. Medical ethics, too, has spawned an enormous literature offering a spectrum of distinct ideological perspectives to the point where one wonders whether there is anything new left to be said. However, amidst all this clamour the voice of Buddhism has been little heard. I think I am right in stating that with one very recent exception my book *Buddhism and Bioethics* is still the only monograph on the subject of medical ethics from a Buddhist perspective. The one exception is a recent book by the Tibetan nun Karma Lekshe Tsomo entitled *Into the Jaws of Yama, Lord of Death: Buddhism, Bioethics,*

and Death[4]. The book draws heavily on traditional Tibetan customs and practices surrounding death and the journey through the *bardo* and around half of it is taken up with an exposition of these teachings, which unfortunately reduces the space devoted to bioethics. However, I was pleased to have the chance to review the volume recently for the *Journal of Buddhist-Christian Studie*s[5] and took the opportunity to revisit and update some of my own earlier thoughts on the question of death which I will set out in this paper.

An anecdote recounted on p.160 of Tsomo's book gives some cause for concern regarding the present state of the subject at least from a Tibetan Buddhist perspective. The author relates how she asked the spiritual director of a Tibetan centre in Honolulu whether he thought it was a good idea to donate one's organs at the time of death. He immediately replied in the affirmative. When asked if the removal of the organs would disturb the dying process, he responded that it would be 'OK' since the doctors could 'wait for a few days'. On being informed that the organs had to be removed immediately to save the life of the recipient he 'expressed alarm' and changed his mind, advising that for an ordinary Buddhist practitioner organ donation might not be advisable after all.

I'm not sure how typical this would be, but it suggests that there is a worrying lack of knowledge on the part of at least some Buddhist teachers about the basic facts of what is involved in the practice of modern medicine. To some extent this is understandable, since these matters are not part of the formal monastic education, but at the same time they are subjects of common interest which are discussed in many public forums, and which affect Buddhists as much as anyone else. Death is an important subject and has scientific, social, ritual, religious, legal and other dimensions. However, for the moment I plan to focus on just two interrelated issues: i) the problem of defining and declaring death, and ii) the ethics of organ transplantation. Although relatively few people will ever need an organ transplant, the subject may be of interest to ordinary Buddhists who wonder whether or not they should carry donor cards so their organs can be used after their death.

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4   Albany, NY: SUNY, 2006.

5 Forthcoming.

The concept of death

First of all we must be clear about our concept of death. In order to explore this question systematically with the aim of reaching practical and workable conclusions in harmony with Buddhist teachings and modern medical science I think, in common with other contemporary discussions of the subject, we need to be able to do three things. The first is to provide a Buddhist definition of death; the second is to establish the criteria for declaring death; and the third is to specify the empirical tests for death that will enable physicians to know when the criteria for death have been fulfilled. Tsomo does not approach the task quite so methodically and in her book no explicit definition of death or a defence of one is offered. In fact she seems to have little hope of reconciling Buddhist and scientific viewpoints on questions of the kind I have just identified. Tsomo seems to regard the main obstacle to determining when death has occurred as the absence of any scientific means of detecting the presence of what she calls the 'subtle consciousness. According to traditional Tibetan teachings death is believed to occur when this consciousness leaves the body to embark on its journey through the *bardo*, or intermediate realm. Tsomo seems to regard this as a point at which Buddhism and science must part company. However, I think this is unduly pessimistic, especially when we consider that religions such as Christianity have faced substantially the same predicament in terms of reconciling theological viewpoints on the relationship between soul and body with scientific beliefs about life and death, and have managed to evolve solutions that are consistent both with Christian doctrine and science. I could add in passing that the discipline of bioethics largely grew out of such efforts by Christian theologians in the 1960s to come to terms with the challenges that medical science presented to their beliefs on these and other subjects. The way forward, I suggest, is to do what Christian theologians have done and interpret the scriptures in the light of both reason and modern scientific knowledge in order to derive conclusions that are compatible with traditional beliefs and values.

Traditional teachings

Although Tibetan traditions surrounding death are rich and complex, there is an underlying continuity with their Indian counterparts in terms of what marks the difference between a living body and a dead one. The traditional Buddhist criteria are well know and are found in the *Majjhima-* and *Saṃyutta- nikāyas*. Here, reference is made to three criteria that distinguish a living body from a dead body. The three are vitality (*āyu*), heat (*usmā*), and consciousness (*viññāṇa*)[6]. The first two, vitality and heat, are said to be interrelated and compared to a lamp and its light[7]. For this reason I prefer to see them as representing a single phenomenon namely the process of vitality and the accompanying heat which that process generates. In modern terms, perhaps vitality would correspond to the metabolic processes that take place in the body, and heat to the energy that these processes liberate. The absence of vitality, then, can be detected by the absence of heat. Bodily cooling is a widely recognised concomitant of death and is known as *algor mortis,* the process by which the temperature of a body drops from its normal 37 degrees centigrade, assuming normal conditions, until it reaches the ambient environmental temperature. Further observable signs include skin pallor, changes in the eyes such as loss of pressure and marking of red blood cells, flaccidity in the primary muscles, lividity or *livor mortis* (the process of blood flowing downwards and causing a reddish-purple colour on the skin), *rigor mortis* which sets in 3-4 hours after death and lasts between 36-48 hours, and also, sometimes, spontaneous movements in the feet and legs caused by biochemical reactions which may have given rise to belief in spirit possession in some quarters.

Given the practice of the 'cemetery meditations', Buddhist monks must have observed many of these signs themselves, so it is interesting that the compilers of the Pali canon came up with such a restricted checklist—basically just the absence of heat—when determining death. I suggest that this has much to do with Buddhist meditational practice and the knowledge that individuals could enter trance-like states resembling death and remain there for some considerable length of time without respiration or heartbeat.

[6] S.iii.143.

[7] M.i.295

Examples of stories such as that of the elder Mahanaga who according to Buddhaghosa remained seated in trance while the meditation hall burnt down around him bear witness to this[8]. The *Mahavedallasutta* of the *Majjhima-nikāya* specifically addresses the question of the difference between a person who is dead (*mato kālakato*) and one who is in the state of cessation (*saññā vedayitanirodho*)[9], so this was clearly a point of concern.

Indeed we have an interesting canonical example of a wrong declaration of death being made in connection with the Buddha himself. Those familiar with the *Mahāparinibbāna-sutta* may recall that Ananda mistakenly pronounced the Buddha dead and had to be corrected by the Venerable Anuruddha. The text reports how the Buddha ascended through the eight *jhanas* and attained the state of *saññāvedayitanirodha* at which point the following brief exchange takes place:

> Then the Venerable Ananda said to the Venerable Anuruddha; 'Venerable Anuruddha, the Lord has passed away.' 'No, friend Ananda, the Lord has not passed away, he has attained the Cessation of Feeling and Perception'[10].

The Buddha then passed down through the *jhānas* to the first and again to the fourth at which point he expired. The text does not tell us how those present were sure the Buddha had actually died at this point. Perhaps clairvoyant powers came into play, or his body in due course became cold. Fortunately, in his case some rather dramatic confirmation was provided in the form of an earthquake and thunder, and it would be very convenient if such clear signs were given in every case. Unfortunately, they are not, and we are left instead only with the two criteria the texts provide to help us distinguish between life and death: one biological (vitality manifested in the form of heat) and the other metaphysical (the presence of *viññāṇa* or consciousness).

In fact what these early sources provide us with, in terms of my earlier distinction, is actually a *definition* of death, and an empirical test for death rolled up into one. The *Mahāvedalla-sutta*

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[8]   Buddhism and Bioethics, p.146.
[9]   M.i.296.
[10]   D.ii.156.

tells us that a body without vitality, heat and consciousness is like an unconscious piece of wood (*yathā kaṭṭhaṃ acetanaṃ*). In other words, it is a corpse. Accordingly we might *define* death in *religious* terms, as the permanent separation of the soul (or spirit) from the body. Buddhists might prefer a different form of words such as the separation of the immaterial (*nāma*) from the material (*rūpa*) components of the composite human individual. The *test* for death we are given to help determine when this separation has come about is the absence of heat in the body. So, the early sources have given us a start, but I think we can build further on these foundations. In particular, it would be good to evolve a definition which was less esoteric and could be accepted both by Buddhists and non-Buddhists. Let us see if we can make any progress towards such a definition.

The Buddhist definition of death

An important preliminary point to clarify here is whether our concept of death is one of the *death of the whole body*, or of the *death of the body as a whole*. The strictest definition of death would be the destruction of every single cell in the body, as happens in an atomic blast. But this is surely too strict a requirement and in general we are happy to accept that people are dead long before their bodies are destroyed or reduced to ashes in the crematorium. The same might be said of putrefaction. Buddhist monks have often contemplated decaying corpses in the charnel ground and know that this is a process that takes some time, and that individuals are dead long before the flesh and bones have turned to dust. I suggest, then, that the Buddhist definition of death is that of the *death of the body as a whole* rather than the death of the whole of its parts, since as already suggested death is equated with the disintegration of the unity of the five aggregates, not of their complete destruction.

I think the idea of disintegration must be a key element in any Buddhist definition of death. According to Buddhist teachings, the death of a human being occurs when the constitutive elements of the psycho-physical individual lose their integrity. In traditional terminology this is thought to be when the mind-body composite made up of the five 'aggregates' (*khandhas*) dis-integrates. Another traditional way of speaking about this is by reference to the dissolution of the elements of earth, water, fire, wind, and

consciousness. In this sense perhaps we could say that death marks the point of transition from unity to multiplicity, or from a functioning whole organism to a collection of body parts.

In its description of a dead body, the *Mahāvedalla-sutta* refers to the sense-faculties (*indriya*) as 'completely broken up' (*viparibhinna*). In other words, the senses of taste, touch, and smell etc have become disintegrated and their operation is no longer coordinated as they would be in a living self-regulating organism. It is this lack of integration that characterises death and distinguishes it from life. Frequent reference is made elsewhere in Buddhist texts to death the 'break up of the body' (*kāyassa bhedā*), and I suggest this concept of breakup and disintegration is at the heart of Buddhist thinking about death. Once the breakup of the body takes place, the five aggregates are sundered, and the individual is dead. Since physical disintegration is a fundamental part of this process, and since there cannot be human life if there is no functioning organic basis for it, it seems we can define death not just in spiritual but also in biological terms. If as a result of physical disintegration the biological conditions necessary to support life are not present, there can be no living being. Or to put it another way, if there is no body, there can be no mind-body aggregate. A definition of death in these terms might be (as I proposed in 1995): 'death is the end of the integrated functioning of an organism.'

It seems then, that we can have two definitions of death: an esoteric and an exoteric one, and I believe they are not incompatible. Perhaps we can think of them as two sides of the same coin. If *viññāṇa*, or what Tsomo call the 'subtle consciousness' is indeed an integrated part of the functioning human being as Buddhist teachings suggest, then the definition of death as the loss of integrated functioning will also include the disintegration of the elements which compose a human being, of which the 'subtle consciousness' is one. In fact we learn from Tsomo's book that just like modern doctors, traditional Tibetan physicians make use of tests which are purely physiological in nature, such as bodily heat, secretions, analysing the urine of critically ill patients, taking the 'death pulse', and ultimately bodily putrefaction. Although Tibetans may regard these as testing for the presence of the subtle

consciousness, it becomes clear on reflection that this is really only a corollary of what the tests show. Because death also occurs to entities such as vegetables (which according to mainstream Buddhist teachings do not possess consciousness and do not transmigrate) it is clear that life and death can be defined purely in biological terms independently of any reference to metaphysical entities.

My reason for providing an alternative exoteric definition of death based on physiological criteria is that it allows Buddhist to build a bridge with medical science and other religions. This alternative definition makes no reference to a subtle consciousness or other metaphysical phenomena. Accounts of the death process in terms of 'winds', 'humours' and the 'clear light of death' may well retain a place for insiders, as in the case of those who undergo near-death experiences (NDE), or of Christians who believe the soul separates from the body on death. Reflective believers, however, will generally accept that such accounts must dovetail with the biological phenomena which accompany death.

The criteria for death

Turning now to the criteria for declaring death, the problem is essentially one of specifying the physiological conditions that are a *sine qua non* for supporting the continuing relationship between the spiritual and material components (let us call them *nāma* and *rūpa*) of the unitary human individual. Or, to put it the other way round, in the absence of what conditions can we be sure that there is no subsisting relationship between the two?

The early sources provide us with a test for death, namely the loss of bodily heat, but we now need to ask what that test is telling us. In other words, what set of conditions or criteria are fulfilled when a human body loses heat, and why are these conditions are of importance? Is it the case, for instance, that a body loses heat at death because *viññāṇa* is hot, and when it goes the body cools? I would think not, so what we need is some further elucidation of the significance of this test in relation to our definition of death so that we can make the criteria for death more explicit. Given our earlier definition, our criteria for death should make reference to the point at which the basic life-support systems of an organism

have broken down and irreversibly ceased to function. This is the point at which the biological integrity of the individual has been lost, and the *rūpa* or material form of the human body will begin to deteriorate and not be renewed at the cellular level.

The criterion which is today almost universally accepted in modern medicine is that of brain death, either the death of the whole brain (as in the USA) or of the brain stem (as in the UK). This criterion was first proposed in 1978 and subsequently became established in the early 1980s.Tsomo is clearly unhappy with the criterion of brain death, and seems to assume that it once again leaves Buddhism out on a limb and in some way implacably opposed to science. I share her unease about brain death, as do others[11], a fact about which she herself seems unaware. In fact, a number of people, including doctors and philosophers, are sceptical about the brain death criterion, and there is a growing body of dissident literature which believes that the criterion is conceptually and scientifically flawed. The problem, then, is not that Buddhist metaphysical beliefs are irreconcilable with science, but that Buddhism simply disagrees with a particular criterion for death that has become established in modern medical practice largely, as many believe, in order to facilitate organ transplantation. My earlier reasons for accepting the standard of brain death in 1996 were that the death of the brain, including the brain stem, seemed to marks the point at which the human organism loses the capacity for self-regulation. However, in the intervening years I have had increasing doubts about the reliability of this criterion for several reasons. The first is that it places too much emphasis on a single bodily organ, namely the brain. There is clearly a tendency in the West to identify the self with the brain, and to reduce personal identity to the various states of consciousness which this organ generates in its twin hemispheres. Following a Cartesian or Lockean view of personal identity, some advocates of brain death would even equate the death of the individual with cognitive death, or the irreversible loss of consciousness in the upper regions of the brain. Thus even though the brain stem may be functioning, the heart beating, and the lungs breathing air, proponents of this dualistic view of human nature

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[11] E.g. M. Potts, P. A. Byrne and R. G. Nilges, *Beyond brain death : the case against brain based criteria for human death*, (Dordrecht; Boston, 2000).

would be prepared to declare a permanently unconscious patient dead. Vital though the brain is to the exercise of the higher cognitive capacities and the regulation of important bodily systems, it seems to be going too far to equate the life of a human being with the functioning of a single bodily organ. When all said and done we do not have two lives— a mental life and a physical life—as this dualistic view of human nature would pretend. One and the same life manifests itself in our thoughts and in our heartbeat, and throughout the psycho-physical unity which is a human being.

Moreover, we know that the brain is absent in the development of an early fetus. Because an early fetus has no brain, does this mean that it is not alive? Clearly not, for we have all passed through this stage of development and lived to tell the tale. Another problematic example concerns the case of brain dead mothers who have subsequently gone on to give birth, in one case 197 days after brain death was diagnosed. It seems strange to describe a body functioning as an organic whole in this way as 'dead', and if medical opinion is telling us that patients who are dead later go on to give birth it would seem to be out of step with the ordinary common sense understanding of what life and death involve. Finally, one might ask what would be the case if at a future time brain tissue transplants could be used to restore damaged brains. Would the recipient a successful transplant be described as having come back from the dead? For various reasons it seems too narrow to focus on the brain alone, and I suggest we need to take a more holistic, organic view of the human individual in life if we are to understand what is lost in death.

The tests for death

Turning now to the empirical tests for death, I have suggested that death is essentially a major systems breakdown. If so, how should we test for this condition? The classical Buddhist definition of death in terms of the loss of heat, of course, makes no reference to the brain at all, or to any other bodily organ. In other words it seems Buddhism is telling us that death is not to be equated simply with the absence of electrical activity in the brain or the absence of a functioning brain stem. However, this traditional Buddhist test for death can, I think, be associated quite successfully with the definition

of death I offered earlier, namely that death is the permanent loss of integrated organic functioning. The absence of heat (and I think we must assume that this condition prevails over a period of time) is simply one way of telling us that the internal self-regulation of the organism has been irreversibly lost and that the body's metabolic processes have ceased.

A problem with the Buddhist test of heat loss is that it takes rather a long time before death can be declared. Loss of heat on the skin takes from 8-12 hours, but the centre of the body takes about three times as long to cool down to the ambient temperature. If one wanted to wait for confirmation of death following the total loss of bodily heat, there would seem no

strong reason not to do so, subject to demands on hospital resources. After all, the dead are in no hurry. However, in practice I think doctors would not want to confine themselves simply to testing for bodily heat. There are traditional tests for death which have served them well long before the advent of the brain death criterion. Before then, the loss of heartbeat and respiration were the main tests used. Tests developed for brain death can provide additional confirmation and are relatively simple to carry out at the bedside (opinions differ on whether an EEG machine is required). Using a combination of these traditional tests one would know very soon and with a high degree of confidence that death had taken place. If we want to be more specific, a robust set of tests would seem to be one that referenced the cardiovascular, respiratory and nervous systems. The breakdown of these three major bodily systems appears to confirm the irreversible loss of structural integrity.

Organ transplantation

Normally, there is no problem about deciding if a person is alive or dead, and while doctors may occasionally make a mistake this happens very rarely. The problem of determining a precise time of death has arisen largely in the context of cadaver organ transplantation. For a successful transplant the organs must be harvested while they are freshly oxygenated, and this usually takes place between six and twenty-four hours after brain death has been diagnosed. In the interim, artificial ventilation is maintained and

respiration and heartbeat continue. The body retains its normal vital signs which include the presence of heat. If ventilation is discontinued and the body allowed to cool the internal organs would rapidly deteriorate and the prospects for a successful transplant would be greatly reduced.

Supporters of brain death claim that the loss of function in the brain stem is diagnostic of death, and prognostic of asystole (the stopping of the heart), an event conventionally accepted as evidence of death. However, between these two events, several bodily systems still function, including the circulatory and the respiratory: the ventilator simply introduces oxygenated air while respiration continues at the cellular level. The neural regulation of body temperature continues, and the spinal cord and peripheral nervous system still function, implying some level of continuing organic integration. To declare the patient dead at this point would seem premature, and to practise solid organ explantation—such as the removal of the heart, liver, kidney or pancreas from a beating-heart donor—would result in the somatic death of the patient. The fact that this is done with the intention of saving life may be a mitigating factor, but in Buddhist terms it still constitutes the killing of a living being and is a breach of the first precept. From a moral point of view, the fact that none of this is done in the patient's own interest gives further grounds for caution.

So where does all this leave us on the ethics of organ transplants? I think it all but rules out the possibility of cadaver solid organ transplants for those who hold to orthodox Buddhist teachings. For Buddhists to accept the practice, some early warning signal confirming the disintegration and irreversible breakup of the organic basis of the five aggregates (*khandhas*), would be needed, but it is hard to see what this could be. Loss of function in parts or even all of the brain would seem too uncertain an indicator on which to base judgements which could potentially involve the destruction of human life. There is no 'magic moment' at which life ends, and in the absence of earthquakes, thunder, or the appearance of Mara hovering nearby it seems safest to wait until events have conclusively taken their course. The caution of the early sources—which do not even accept cessation of respiration or pulse as proof

of death— needs to be taken seriously. The alternative criteria I have proposed, namely the breakdown of the three main systems—cardio-vascular, respiratory and nervous—would allow an earlier diagnosis of death but would also make organ transplantation impractical. The only acceptable form of transplantation would seem to be that of paired organs between living donors.

When all is said and done death remains a mystery and it would be unwise to assume certainty about the nature of the last moments we will have on earth. In such matters it is wise to proceed with caution, not from superstition or irrationality but out of respect for the dying as they prepare themselves for their transition to the next life. If there is doubt about precisely when death occurs, as I believe there always will be, the benefit of the doubt must be given to the dying patient. Inevitably this will lead to a loss of donor organs for transplantation, as a result of which lives will be lost. To compensate for this, efforts must be directed into the development of new drugs and alternative techniques that will avoid the need to gamble in an area in which there can never be certainty.

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Privacy, the Individual and Bioinformatics: A Buddhist Perspective[1]

Soraj Hongladarom[2]

Introduction

Bioinformatics is a new field of study in which the power of computer technology is harnessed to process biological information; thus the field is an interesting one where the two major technological trends of the early twenty-first century, namely biotechnology and information technology, are fused together. The application of computers and information technology in biological science has been necessary because biological information is exploding at an exponential rate, and there are many applications that the utilization of computer technology could lead to breakthroughs. One clear area of the application is of course the use of computers to sequence the human genome, which would not have been even conceivable if not for the use of a large amount of raw computing power to crunch through all the information that is available. Moreover, as of now

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sequencings of many more animals and plants are being completed at a very fast rate[3].

Applications of these attempts at sequencing the genetic structure of organisms are rich and varied. Chief among them, of course, is the potential of using the information available in medicine. As many diseases can trace their origins to the genetic structure of the body, knowing what these structures are like is a very important first step toward successfully combating them. Once the gene for a particular diseases is found, it is thought that the gene can be manipulated in such a way that the disease is prevented, at least within a population. Another area of development is pharmacogenetics, which is the use of the available information to create new drugs that would zoom in only on certain types of individuals who are susceptible to certain kinds of disease.

A central concern among these new developments around the use of biological information and its manipulation by coputers is on the individual and her relations to society around her. Bioinformatics has raised several ethical questions, and the discipline is a very interesting case that points to a possibility of an eventual merger of bioethics and computer/information ethics[4]. Since genetic data is obtained from an individual, or a group of individuals, there is the question of who possesses the information in question[5]. Another issue concerns pharmacogenetics—the development and use of tailor-made drugs geared specifically on certain type of individuals according to their genetic predispositions, which has raised concerns about discrimination and others. Another, no less important issue, is centered around the information pertaining to an individual. Privacy is rightly a serious issue in both information ethics and in bioethics. In the former, there is a concern whether the privacy of an individual is compromised when, for example,

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[3]   National Center for Genetic Engineering and Biotechnology (BIOTEC). 2001. *Bioinformatics and Computational Biology in Thailand: Outlook of Research and Infrastructure*. Available at http://knowledge.biotec.or.th/ doc_upload/20041717159.doc and http://www1.stkc.go.th/ stportalDetail. php?id=1560, [Accessed 24 July 2006].

[4]   See, for example, S. Hongladarom. "Ethics of Bioinformatics: A Convergence between Bioethics and Computer Ethics." *Asian Biotechnology and Development Review 2006*; 9.1: 37-44.

[5]   G. Palsson & P. Rabinow., "The Icelandic Genome Debate" *Trends in Biotechnol* 2001; 19.5: 166-171, p. 167.

the individual shares her personal information in a database, or when some information about herself or communicated by her is appropriated without her consent or knowledge. In bioethics, the concern is on the individual's biological data, and as computers have taken a more visible role in processing biological information, we are now seeing a convergence in information ethics and bioethics, as regards to the protection of the individual's biological information. It is a central concern of this paper to address this issue of privacy in the bioinformatic era.

Much work has been done on the topic of privacy in information ethics through cultural perspectives[6]. What I intend to do in this paper, however, is to present a group of questions that need to be addressed in order for one even to get off the ground in tackling the conceptual and normative questions surrounding privacy in bioinformatics. One of the most basic questions concern the status of the individual herself. Bioinformatics has indeed raised a very important metaphysical issue concerning the status of the individual. As it appears that the individual person is being reduced to a collection of bits of genetic information that could be stored and manipulated as any other type of data[7], there is the question of what an individual person is constituted by. Is it the case that the individual is constituted by the set of genetic and other type of information that uniquely identifies him or her?

Considering that privacy is almost always taken to imply, more or less, protection of information *about* a person or an individual from prying eyes of the public or the authority, there is naturally

[6]   See, for example, Ess, C., 2005, "Lost in translation? Intercultural dialogues on privacy and information ethics", in Charles Ess (ed), *Ethics and Information Technology*, 7, 1, 1-6; Capurro, R., 2005, "Privacy. An Intercultural Perspective", *Ethics and Inf. Technol*, 7, 1, 37-47; Hongladarom, S. Forthcoming., "Analysis and Justification of Privacy from a Buddhist perspective", forthcoming from *Information Technology Ethics: Cultural Perspectives*, Hongladarom, S., ed., Hershey, PA: Idea Group; Moor, J., 2002, "Toward a Theory of Privacy in the Information Age" in *Cyberethics: Social & Moral Issues in the Computer Age*, Baird, R. M., Ramsower, R. & Rosenbaum, S. E., eds. Amherst, NY: Prometheus Books: 200-212; Moore, A. D., "Privacy: Its Meaning and Value", *Am Philos Q*, 2003, 40(3): 215-227; and Kitiyadisai, K., "Privacy Rights and Protection: Foreign Values in Modern Thai Context", *Ethics Inf Technol*, 2005, 7: 17-26.
[7]   See, for example, Dougherty, S., "*On Genetic Programs and Feedback Networks*", Configurations, 2004, 12: 263–285; Thacker, E., "*Bioinformatics and Bio-Logics*", Postmodern Culture, 2003, 13.2. Available at http://muse.jhu.edu/journals/pmc/ toc/pmc13.2.html [Accessed 21 July 2006]; Wilson, J. C., "(Re)writing the Genetic Body-Text: Disability, Textuality and the Human Genome Project", *Cultural Critique*, 2002, 50: 23-39.

a question concerning what kind of information and how much should information should be allowed. This is related to the metaphysical question concerning the status of the individual, which needs to be adequately addressed, and which is a subject matter of the rest of this paper. Moreover, I will address this topic through a perspective of Buddhism, which has a very interesting and potentially useful theory concerning the individual and her ontological status. Basically, I shall point out that, according to the Buddhist theory of Non-Self[8], the individual is more accurately understood to be a construct, and not something existing in and of itself. And there is an important sense in which the individual is constructed out of the whose set of information that uniquely identifies her. Hence there is an intricate interconnection among the individual, information and privacy, and I shall address this issue through a perspective on the Thailand SNP Project, which is an attempt by the country to join the bioinformatics bandwagon.

Privacy and The Core Set of Genetic Information

How much genetic information should be allowed in the bioinformatic database in order that privacy of the individual is respected? In other words, in the attempt to gain the advantages that come with retrieving and storing genetic information of individuals in a computer generated database while maintaining the principle of privacy rights, how much information pertaining to a specific individual, or to a group of individuals in a community, should be allowed? On the one hand, there seems to be a motivation behind an idea that *all* and *any* such information should be allowed, in order to make full use of the advantages, such as the potentials in biomedicine or biotechnology that would presumably benefit humankind as a whole. There might be an argument to the effect that *how much* information should not be the issue; what is the issue should instead be whether there are any mechanisms in place which allow only authorized people to have an access to the information[9]. There does not seem to be anything related to how much information should be allowed.

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[8] Buddhist scholars will recognize that this is the *anatman* theory, and usually in literature on Buddhist studies such references to Sanskrit terms will often be made. However, I opted not to mention any Sanskrit terms in this paper, since this is not strictly speaking a Buddhist studies paper.

[9] J. Moor, *op. cit*. note 3.

However, there is a concern that such full allowance might lead to unscrupulous use of information, and the authority might find it tempting to use the information to their advantages, such as in genetic profiling and other discriminatory practices, or to seek political gains. If there were a core set of information that constitutes the heart of the individual, then such information should be handled with much care and sensitivity, for it is conceivable that this core information is nothing other than the very identity of the individual herself. Moreover, in case of groups of individuals, the issue is also a parallel one, for a particular group might have its own identity, some set of information that defines the group as a unique one. For such a group, then, the core information is that which is shared by its members and whose possession entitles an individual to belong to the group. In certain socio-cultural cases, the core information that defines a group could well be much more important and politically sensitive than that of an individual alone. And it is here that bioinformatics, as an attempt to deal with genetic information of groups of individuals, comes to the fore as a potentially politically explosive enterprise.

The point is that, if such core set of information does exist, then care needs to be taken when information is obtained from individuals or groups of individuals in order that their privacy is maintained. It seems, moreover, that there is at least a case for the existence of such core information. Perhaps a core set of information for a group might be easier to define than that of an individual. One has to bear in mind that a core set of information is the set of information that defines an individual or a group of individuals to be that particular individual or that particular group alone and none other.

Thailand SNP Research Project

Starting in 2003, a team of researchers from the Ramathibodi Hospital, Mahidol University, initiated the "Thailand SNP Discovery Project" (http://thaisnp.biotec.or.th: 8080/ thaisnp). The aim was to search for single nucleotide polymorphisms (SNP) in 64 selected general members of the Thai population (the number was then reduced to 32), in order to form a database on which other spin-off projects can be based, such as ones on pharmacogenetics,

anthropological studies, genetic susceptibility to certain diseases, and so on. According to the words of the Term of Reference of the Project:

> An SNP database will be completed of all genes identified in the whole human genome and their regulatory regions with allele frequency and LD block patterns in Thai and other (French, Japanese and African) populations. This database will also contain other information including genomic sequences, genomic structure, primer sequences, functional genomics etc[10].

The database of the Thai population would be part of an international effort in creating like databases among the world's population, which could spawn many further research works, both for clinical applications and for basic science, as well as further international collaborations.

In order to collect the blood samples for analysis, 32 'normal and healthy' Thai people were selected from around 6,000 volunteers. The selected underwent interviews of family history, health records, had some of their blood taken out, and the DNA from the blood samples were analyzed in a bioinformatics lab which was set up for the first time in Thailand as a part of this Project. It was hoped that some correlation might be found between the genetic structure available in the database and susceptibility to certain diseases, such as Thalassemia, which Thai people suffer more than the global population on average. There was also an interest in finding out "who the Thais really were" through physical anthropological research. Some of the samples were sent to France, which acted as the hub for the global SNP Project.

Essentially, the role of a SNP is to function as a marker for genetic disposition of a certain individual or groups thereof. A spin-off project of the Thailand SNP Project, as mentioned, is to find out whether there is a correlation between susceptibility to malaria and Thai people's genetic structure. According to the team:

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[10] National Center for Genetic Engineering and Biotechnology (BIOTEC), *Bioinformatics and Computational Biology in Thailand: Outlook of Research and Infrastructure, op. cit.* note 1.

[The] project aims to search for genes involved in genetic susceptibility to clinical malaria through genome screening linkage analysis. The study is based on a population from Suanpung village, Ratchaburi province, located near the Thai-Myanmar border. Its size is around 6,000, with 2,800 individuals having been followed up by the Faculty of Tropical Medicine, Mahidol University since 1994 for parameters related to clinical malaria and other confounding factors. Family structures were established. The familial cases in the population studied have allowed us to perform a genome screening linkage analysis (http://thaisnp.biotec.or.th:8080/thaisnp/project).

It is clear that there are ethical considerations in these endeavors. Firstly, the genetic profiling of the individuals in question need to be protected. In fact the research team has made sure that participants in their projects understood and signed their consent forms. However, there is another dimension regarding the amount of information that could be taken and stored that does not violate the principle of privacy. In this case, it is the aim of the project that provides a limit of the nature and the extent of information belonging to an individual that is obtained and processed. In the case of the malaria project, only the information pertaining to the individual's susceptibility to the diseases is relevant, and it would seem unethical to use the information in some other ways. However, since the individuals who participated in the project donated their tissue sample which naturally contains all the information about herself or himself, there is no natural barrier against the use of such information in some other ways. This perhaps explained why there are so many spin-off projects from the original SNP Discovery Project and this demonstrates the tremendous power of genetic information and computational biology. Ethical guidelines need to be in place in this matter, and they should be unambiguously enforced.

Now the question is: to what extent does the privacy of the individual is threatened when she participates such a project like this one and donated her tissue sample? Is only the information that specifically related to genetic susceptibility to malaria relevant?

Of course not, because there are many other diseases, and the genetic informational structure of the individual could point to other developments, such as a potential in developing tailor-made drugs, and so on. In most cases there is a delinking of the individual's social identity (her name, for example) and the genetic information belonging uniquely to her. But even though the information in question still is information *about* her, it uniquely identifies who she is. The information that uniquely identifies who she is as well as her identity is there. And in case of a group, the argument is similar. There should be a delinking of the identity of a group and the genetic information that identifies that particular group. For example, it is generally agreed nowadays that racial discrimination is ethically objectionable. However, genetic database might facilitate such discrimination through a system that links an ethnic group with certain genetic structure that belongs to individuals in the group. This linking is certainly not absolutely certain; it is always performed through statistical calculations—for example, this trait could identify this ethnic group if members of the group show a higher concentration of the genetic trait than an average population.

In what follows I shall argue that any information that uniquely identifies an individual or a group of individuals is the 'core' information of that individual or that group, and as such the information needs to be protected if the individual's privacy rights, or the rights of the group, are to be respected. I will also present a brief Buddhist perspective and also a metaphysical analysis of the matter too.

The Core Information and the Metaphysics of the Individual

A formal definition of the core information of a person, p, might be given as follows:

> A set of information, S, represents the *core* set of information regarding a person, p, just in case S uniquely identifies p.

Correspondingly, here is the definition for a group.

A set of information, S*, represents the *core* set of information regarding a group of persons, G, just in case S* uniquely identifies G.

Philosophers will immediately recognize this to be very similar to describing an essential property of an object or a group of objects. An essential property is just the property that uniquely identifies the identity of the object having it. The idea is as old as Aristotle. In the contemporary context of bioinformatics, the idea about essential properties could become that of the genetic information possessed by an individual. The very idea of being able to link genetic information to the identity of an individual at all is based on the notion that genetic property is an essential property. It uniquely identifies an individual and more than that it seems to indicate who he or she really is. According to Eugene Thacker, "[b]ioinformatics is both a suggestive trope and a material practice which provides an example of the ways in which the scientific body is currently being reconfigured and reorganized, largely through an intersection of developments in biotechnology and the Web."[11] What is reconfiguring and reorganizing the scientific bodies of human beings are precisely the tools enabled by bioinformatics, which utilize computer technology to manipulate bodily data. In this case, there is an intriguing interconnection between the individual and her set of information, so much as, as I shall argue later, that the very putative self of the individual can be found in the information itself.

This is what is potentially very sensitive and controversial about genetic information. The idea behind the Thailand SNP Project, for example, very clearly shows this belief in genetic properties as essential properties. The SNP Project people would like to find a genetic trait of the Thai population that serves to identify the population as Thai and not, say, Burmese or Vietnamese or Japanese. Genetic information determines the very ethnic identity of a population.

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[11] E. Thacker, op. cit. note 4.

Buddhism and the Individual

The distinction between essential and non-essential properties, or in the parlance of this paper, the core and the non-core set of information, has become suspect in recent days. Many philosophers, for example, have become disenchanted with the idea of essentialism and proposed arguments such that such a distinction is not based on objective facts at all, but instead on our own convenience in distinguishing things for our own purposes. Hence the distinction between what is essential and what is not depends more on whether we regard something as very important and indispensable (to our own context-bound agenda), or not. In this case, genetic structure that determines the identity of an individual thus is regarded more like something that serves the purpose of sorting individuals out based on genetic criteria, and not as a property that exists in perpetuity. The sorting is performed in a pragmatic and piecemeal fashion rather than in any sort of way that reflects objective reality.

This view is well in accord with that of Buddhism. A basic idea of Buddhism is that things in objective reality are 'empty of their inherent existence.' What is means is that there is no essence to anything. What a thing is, what separates it from other things, is just a result of human being's convenient designation through concepts and language. According to the Buddhists, there is just no real distinction between essential and non-essential properties and thus between the core and the non-core set of information that we have talked about. This, as I shall show, has a profound implication on what we should take privacy to mean and on any system of justification of privacy.

There being no essential property beyond convenient designation points to an interesting conclusion that justification of privacy is based, not on the traditional mode of metaphysics of the individual, in which an individual is an atomic autonomous unit to be accorded with a group of rights, including the right to privacy, but on a 'convenient designation' based on the realization that a society that respects privacy of the individuals is somehow a 'better' place to

live than the one that is not[12]. In this case the distinction between the core and the non-core sets of information remains. It is only how the distinction is understood and justified that is changed. And my view is that, understanding the core/non-core distinction in this way might serve better to formulate concrete policies or guidelines regarding privacy and data protection than with the traditional conception. And here the Buddhist contribution is a clear one.

According to Buddhism, what is understood to be the self is a result of causes and effects and the conception of self arises out of a kind of grasping onto these disparate and juxtaposed episodes of causes and effects, resulting in an illusion that the self actually exists while in fact it does not. This point, known as the Doctrine of Non-Self, is unique to Buddhism among all the religions in the world. A passage from the *Guide to the Bodhisattva's Way of Life*, one of the most celebrated texts in the Buddhist world, has it as follows:

> First, with your own intellect, peel off this sheath of skin, and with the knife of wisdom loosen the flesh from the skeleton.

> Breaking the bones, look inside at the marrow and examine for yourself, "Where is the essence here?"[13]

The idea here is that the essence of a person, or his or her individual self, is nowhere to be found. According to the passage, it is clear that the self, if it existed, is not something that can be directly perceived. In this case the self is clearly not identical with the body, but it is not identical with the mind either, for it is very difficult to pinpoint what exactly in the mind, which consists in series of mental episodes one occurring after another, that corresponds exactly with the self. Furthermore, in the *Fundamental Wisdom of the Middle Way*, another well known text, there is a passage describing how what is understood to be the self is analyzed:

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[12] Hongladarom, S., 2005, "Electronic Surveillance in the Workplace: A Buddhist Perspective", in *Electronic Monitoring in the Workplace: Controversies and Solutions*, Weckert, J., ed., Hershey, PA: Idea Group: 208 - 225.
[13] Santideva, 1997, *A Guide to the Bodhisattva Way of Life*, Translated by Vesna A. Wallace and B. Alan Wallace, V: 62-63.

> If the self were the aggregates,
> It would have arising and ceasing (as properties).
> If it were different from the aggregates,
> It would not have the characteristics of the aggregates[14].

Briefly, what this verse means is that, if the self were the same as the aggregates that all together constitute what is normally taken to be the self (one might understand the aggregates roughly to be the body and the mental episodes that make up a conception of a self), then the self would be subject to arising and ceasing.

However, this cannot be the case because one's own self does not just comes to be and ceases to be very rapidly, unlike what is in fact taking place in our bodies. When one understands the body to be one's own self, when one is pointing toward it, for example, what is being pointed to is then analyzed, and then a series of questions is asked. Is what is pointed to, which is understood to be the self, identical with the body? The answer is no because the body changes and replenishes itself in a relatively short period of time, whereas the self is taken to be constant. Then there is the question whether the self is identical with the mind, and the answer is again no because our mental episodes change even more rapidly than our own bodies. We think one thing a moment and then another thing in another moment, and it is characteristic of the mind in that it takes upon the characteristics of the things it thinks about. However, if one were to think that the self were different from the aggregates, one would also be laid in another dilemma because what is normally taken to be the self, what it actually is, is always in terms of body and mind, in other words in terms of the aggregates. Hence to understand the self to be separate from the aggregates is unacceptable either. Nagarjuna's conclusion is that the self does not actually exist, it only appears to exist due to our own grasping on to things. In any case, the Buddhist's conclusion is that what is understood to be the self is only a result of an illusion, not unlike the illusion one has when one sees a reflection on hot sand to be a pool of water.

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[14] Nagarjuna, 1995, *The Fundamental Wisdom of the Middle Way: Nagarjuna's* Mulamadhya-makakrika, Garfield, Jay., trans., New York: Oxford University Press: XVIII: 1.

Buddhism and Bioinformatics

Now, what relevance does this teaching have on the attempt to analyze and justifies privacy and data protection in bioinformatics? The idea of privacy is based on the notion that there is a self and that the self is constituted through a system of information about it which needs to be protected from prying eyes. However, if Buddhism teaches that the self does not inherently exists, then there seems to be a problem of how Buddhism could have a theory of privacy. Nonetheless, the idea that the self does not inherently exist does not imply that it does not exist at all. We can certainly refer to our own selves, only that in deeper analysis we find that such a self is merely a result of causes and effects and does not exist on its own. Nonetheless, that does not preclude there being such a self as a referent to normal use of language and normal understanding.

If this is the case, then for Buddhism there needs to be a system where the concept of privacy is analyzed and justified[15]. The idea is that there is a theory of privacy in Buddhism which is a pragmatic one. Privacy is justified through its role in furthering and fulfilling certain sets of goals that human communities find important. One of these goals, for example is that individuals in a society should be protected as regards to the set of information which they find dear to themselves and which they do not want to divulge to the public. This is a matter of respect for individuals. The same also applies to groups sharing more or less the same genetic traits; they need to be respected too. The question then is how such respect is justified, and in Buddhism this is justified through the fact that the respect in question plays a large role in enabling certain kinds of things that communities find enriching and satisfactory. Guaranteeing the privacy rights of the individual is part and parcel of a kind of society that respects individual integrity, where the authority is not given absolute power to do anything they please. And since these are now considered to be desired goals, and since it is a fact of the matter that privacy is necessary for furthering these goals, privacy is then justified according to Buddhism.

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[15] S. Hongladarom, *op. cit.* note 3.

In other words, Buddhism teaches that the individual self is a construct, which does not mean that the self does not exist at all. Since it is a construct it is so constructed out of certain type of material, and here the role of information in constituting an individual is very important. Individuals are constructed out of information, and if this is the case, then the attempts in bioinformatics to manipulate genetic information of an individual or groups of them would risk endangering their very selves and identities. Even though the individual self does not, strictly speaking, exist, there does clearly exist the information pertaining to an individual, and since some kind of information could be regarded as the core for a particular individual, this information needs to be protected. Hence the need for privacy in bioinformatics according to Buddhism. The problem then is, for Buddhist societies at least, how to protect the privacy of personal information while not necessarily compromising the need for scientific progress and development.

Information as Part of the (Conventional) Self

This need to find a balance between scientific progress and ethical, regulative requirements is as old as bioethics itself. Opponents to bioethics have pointed out that bioethics has raised false alarms, that they tend to cry out too loud when there is not so much danger, and so on. In the case of privacy, there is an obvious need to formulate clear guidelines and regulations on this issue, and it has been my purpose here to point that Buddhism has a role to play too. As the 'core' set of information is not, objectively speaking, out there (because since the individual is herself a construct, any differentiation of individual-constitutive information as 'core' or 'non-core' is a construct too), it exists nonetheless in the practical fashion out of the need to protect privacy. There seems to be a need to distinguish between what kind of information should or should not be allowed. And since it is ultimately the goals shared by members of a society that provide the final say, any such attempt should refer to these goals. More specifically, the Buddhist viewpoint is such that the individuals in question, whose genetic information is to be obtained and stored in a computerized database, should have a clear role to play in any kind of decision making on how such information is to be manipulated.

This point underscores the need for more democratization in decision making in bioinformatics. This is more than allowing the research participants the ability to 'recall' their own genetic information from the database as stipulated in some informed consent forms. Often this is not possible unless the scientists maintain a linking system that could link up bits of genetic information to their owner. In many cases decisions in scientific enterprises such as a research project involving bioinformatics are made by the investigators without even bothering to consult the individuals whose tissue samples were taken for information. It is indeed true that there is a requirement for these individuals to read and sign informed consent forms, whose idea is based on the notion of fully functioning, autonomous individual. This idea, however, is being criticized by many, especially those coming from cultures which do not have such a tradition[16]. According to the Buddhist perspective, although the individual self cannot be objectively found to be essentially there, this does not preclude the fact that such a self does indeed exist. There is an important distinction in Buddhist teaching between the 'ultimate truth' and 'conventional truth'; the former is the kind of truth at the level of immediate perception of reality without the distorting medium of conceptualization; the latter, on the other hand, is the kind of truth which is familiar and based on linguistic categories. For Nagarjuna, the two truths point to one and the same basic reality, and it is a mistake to take one to be more prior or more basic than the other[17]. What this implies in our case here is that there is indeed a self, conventionally speaking, and as a consequence such a self needs to be treated with respect. This is in accordance with another part of teaching of Buddhism, one that it shares with other religious traditions, on the dignity of the individual or the person. Since the information being manipulated in the bioinformatic database is part and parcel, indeed part of the very self of the individual whose

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[16] See, for example, Klitzman, R., "Complications of Culture in Obtaining Informed Consent", Am J Bioeth, 2006, 6.1: 2-21; Macpherson, C. C., "*Research Ethics Committees: A Regional Approach*", Theor Med Bioeth, 1999, 20: 161-179; London. L., "*Ethical Oversight of Public Health Research: Can Rules and IRBs Make a Difference in Developing Countries*", Am J Public Health, 2002, 92.7: 1079-1084; Turner, Leigh., "*From the Local to the Global: Bioethics and the Concept of Culture*", J Med Philos, 2005, 30.3: 305-320; and Walter, P., "The Doctrine of Informed Consent, A Tale of Two Cultures and Two Legal Traditions", *Issues Law Med*, 1999, 14.4: 357-375.

[17] Nagarjuna, op. cit. note 10, XXIV: 8.

tissue samples have been taken in the first place, it can be regarded that the information in the database consists of none other than the parts of the selves of these individuals. But if this is so, then the principle of respecting the individual self implies that this information needs to be respected, since it is the selves of the individuals, then they should have some roles to play in saying how these parts of themselves are to be processed and manipulated.

Putting the point differently, this implies that decision making regarding how genetic information is to be used should be more democratized. There should be a mechanism, beyond the traditional informed consent form, by which individuals who in some substantial way do exist as genetic information stored in the database are respected. What this means for privacy is also clear. If the selves of the individuals do exist in the database as information, then their privacy needs to be respected too. And as there is no hard and fast distinction between the 'core' and the 'non-core' set of information (because such a distinction would entail that the individual is an inherently existing substance), the distinction is then based on practical terms and the principle of democratization described above implies that it should be the individuals themselves who by and large decide on what is the core or the non-core set of their own information.

Conclusion

To conclude, the Buddhist teaching on the identitylessness of the individual points to the fact that, although the individual does not possess her own individual essence or substance, she is still entitled to privacy rights regarding her genetic information in the bioinformatic database because part of her being is constituted by the very information that is stored there. Moreover, the Buddhist viewpoint is such that this conclusion is strengthened; the reason is that even though there is no objective, substantial essence to the individual, her empirical, conventional self is still there and there being no objective, substantial self means that she can be constituted by a set of information. When there is no essence to be found, she can lay claim to the information in the database more forcefully because it is ultimately speaking the convention that determines the extent of her identity, and since values and norms are judged

in Buddhism more in reference to pragmatic goals rather than to objective, transcendent rules, there is a clear way to show that the information is part of her own being. A consequence is, of course, that her privacy should be protected accordingly.[18]

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The Music of Life:
a systems biology view of Buddhist
concepts of the self/no-self[1]

Denis Noble[2]

Abstract

Systems Biology is the study of the interactions between the elements (genes, proteins and other molecules) of living systems. Genes do not act in isolation either from each other or from the environment, and so I replace the metaphor of the selfish gene with metaphors, many of them musical, that emphasise the *processes* involved rather than the molecular biological components. This may seem a simple shift of viewpoint. In fact it is revolutionary. Nothing remains the same. There is no 'book of life', nor are there 'genetic programs'. The consequences for the study of the brain and the nature of the self are profound. They lead naturally to the concept

of *anatman* (Pāli: anatta), no-self, and to a better understanding of the relation between the microscopic and macroscopic views of the world.

Introduction

Twentieth century biology was characterised by the identification and characterisation of the molecular components of living systems: their proteins, genes and other molecules, such as lipids and metabolites. Almost as an extension of this approach it was assumed by many that the higher functions, such as consciousness, the will, the self, would also eventually be identified as objects, in particular as parts of the brain. I believe that this was a profound mistake and that the biology of the 21st century, Systems Biology, is set to correct this mistake.

But, before tackling the question of the self we must clarify what systems biology is: is it just a 'next step' development of molecular biology, as many of my scientific colleagues think, or does it represent a revolution in biology? My reply is that it concerns a profound revolution. The philosophy of systems biology is completely different from that of molecular biology. To use a musical analogy, if molecular biology is the identification of the notes in a score, then systems biology is the music itself. If the molecular components are compared to the instruments of an orchestra, or the pipes of a pipe organ, then systems biology is the performance. Whichever musical metaphor one might prefer (and I use several in my book, *The Music of Life*, each highlighting a different aspect of the difference between molecular and systems biology) the microscopic alone, i.e. the identification of the smallest components, is not sufficient to characterise its function.

To use Buddhist terminology, if genes and proteins are the rūpa-kalāpas of biological systems, then we need a systems approach not only to understand the processes that characterise a living system, but also to understand those rūpa-kalāpas themselves. (I call them rūpa-kalāpas in this context because they are clearly not the ultimate 'particles' (kalāpas) of reality, but then nor are electrons and protons, nor, in all probability, the strings of string theory: the ultimate microscopic nature of reality is still, and perhaps

always will be, a puzzle that physics struggles to unravel). Thus, the concept of a gene as a DNA sequence is in serious difficulty as a consequence of recent discoveries in the field of epigenetics. We need a systems approach even to assess what a gene is (Noble, 2008a).

Systems Biology is revolutionary

So, my first question is: why do we need a revolution in biology?

The turn of the century saw the ultimate achievement of the molecular biological revolution that can be dated as having its beginning in the discovery of the double helix by Watson and Crick in 1957. The announcement of the first drafts of the sequencing of the human genome was, appropriately, accompanied by governmental fanfares on both sides of the Atlantic Ocean. For it was a Herculean achievement. As DNA sequencing now becomes so common as to be used even in law courts, it will become progressively more difficult to remember how audacious and technically challenging the human genome project was when it was first proposed. Nevertheless, the acclaim was misplaced in a very important respect.

What was wrong with the acclaim was not any misjudgement of the scientific and technical achievement. It was rather the promises that were made as we were told that, at last, we could read the 'book of life'. Cures for diseases would come tumbling out of the reading of that book. At last, molecular biology would deliver on its promise to reveal the secrets of life. Francis Crick was even bold enough to claim that it would solve the great riddles of consciousness and the nature of the self. "You, your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behaviour of a vast assembly of nerve cells and their associated molecules" (Crick, 1994). Two decades earlier, another prophet of the molecular genetic revolution, Richard Dawkins, had also claimed that "They [genes] created us body and mind" (Dawkins, 1976). All these claims are false.

First, the genome is not a book. It is not even a programme, despite the colourful metaphor of "le programme génétique" introduced by Jacob and Monod (1961). It is a quite simply a database, used by the organism as a whole. It needs the highly-complex

eukaryotic egg cell to read it and to even begin to make sense of it. Focussing on it as containing the secret of life is almost as misguided as focussing on the bar code of a product in a supermarket. It is to mistake the, probably contingent, coding for the system itself.

Second, the level of the "nerve cells and associated molecules" is simply too low for attributes like personal identity, intentions and similar attributes of a person even to be comprehensible. The astonishing thing about the title of Francis Crick's book, *The Astonishing Hypothesis*, is that it could ever have been seriously formulated by a highly intelligent scientist.

Third, as Dawkins himself acknowledges elsewhere in his later books "genes" simply "aren't us" (Dawkins, 2003).

It is therefore re-assuring to find that even the architects of the human genome sequencing are vastly more cautious. In his fascinating biography, Craig Venter writes "One of the most profound discoveries I have made in all my research is that you cannot define a human life or any life based on DNA alone…...". Why? Because "An organism's environment is ultimately as unique as its genetic code" (Venter, 2007). Precisely so and, one should add, the environment is an open system.

John Sulston is also cautious: "The complexity of control, overlaid by the unique experience of each individual, means that we must continue to treat every human as unique and special, and not imagine that we can predict the course of a human life other than in broad terms" (Sulston & Ferry, 2002). Sulston also understands the immensity of the combinatorial explosion that occurs when one considers the number of possible interactions between 25,000 genes. As he says, "just a few dozen genes …… can provide an immense amount of additional complexity". Even more mind-boggling, as I write in my little book *The Music of Life* (Noble, 2006), "there wouldn't be enough material in the whole universe for nature to have tried out all the possible interactions, even over the long period of billions of years of the evolutionary process." (see also a later part of this paper for the actual calculations)

Sequencing the human genome has therefore brought us right up against the problem of complexity in biological systems. This is the challenge that 21st century biology faces. Its foundations must therefore be built on how to integrate our knowledge, rather than simply follow a reductive mode. Having broken life down into its molecular components, the greater problem is going to be how to put those components back together again and to understand the logic of life at all the various biological levels. This raises difficult questions. Could there be a general theory of biology at a systems level? Or are living systems so 'history-dependent' as evolution has careered through its billions of years on earth that there will always be a contingent, unpredictable aspect to life? This is one of the reasons I referred earlier to DNA as a kind of 'bar code'. I admit though that we do not yet know how necessary or contingent the development of that code might have been.

To address these questions, we cannot rely on 'next step' science. We need some bold re-assessments of where we are going. I suggest that these re-assessments will be of at least two kinds. The first kind will be philosophical and linguistic. We need to identify and neutralise the misuse of metaphorical language that has for too long paraded as the truth in biological science. The second kind will be heuristic. Integrative approaches will be needed, and they must be at least as rigorous as the successful reductive approaches that characterised the second half of the 20th century. My belief is that this means that the integrative approaches must necessarily be mathematical.

'Selfish' and 'imprisoned' genes

I will take as an example of the problems created by metaphorical language the comparison between 'selfish genes' and 'prisoner genes'. The gene-centered view, the 'selfish gene' view, is a metaphorical polemic: the invention of a colourful metaphor to interpret scientific discovery in a particular way. It has provided valuable insights and these have been used to advance biological science in novel ways. But it is nevertheless a metaphor. It is not a straightforward empirical scientific hypothesis. To demonstrate this I want to challenge the reader to a thought experiment. I will

first give you one of the central statements of the 'selfish gene' idea. I will then rewrite it so that each sub-phrase (except for one anodyne statement) is replaced by a possible alternative, based on an opposing metaphor: 'prisoner gene'. The challenge is to think of an empirical test that could possibly distinguish between these two diametrically opposed ways of seeing the relationship between genes and phenotypes.

> First, then, the original statement:
> **Now they** [genes] **swarm in huge colonies,**
> **safe inside gigantic lumbering robots** [that's you and me!],
> **sealed off from the outside world,** [an extension of the 'central dogma of biology']
> **communicating with it by tortuous indirect routes,**
> **manipulating it by remote control.** [a form of gene determinism]
> **They are in you and me;** [correct: this is the only empirical statement]
> **they created us, body and mind;** [more genetic determinism]
> **and their preservation is the ultimate rationale for our existence.**

And in case you didn't fully understand this statement, Dawkins added in a later book (Dawkins, 1982):

> "[readers] .. **Should imbibe the fundamental truth that an organism is a tool of DNA rather than the other way round"**

I would like the reader to think carefully about this statement to absorb its full import. Ask yourself whether you find the statement self-evident, shocking, implausible, likely, true, false, nonsense. Is it theory, fact, or neither? Form a view about it before you continue. Whichever of these views you hold (and all have been expressed by readers of *The Selfish Gene*) I believe you will find the test an interesting and even surprising challenge.

So, now let's see what happens when we replace each phrase, except for the empirical phrase 'they are in you and me', by an alternative written from an opposing viewpoint:

Now they are trapped in huge colonies,
locked inside highly intelligent beings, [you and me!]
moulded by the outside world, [I have reversed the central dogma of biology]
communicating with it by complex processes,
through which, blindly, as if by magic, function emerges.

They are in you and me; [yes, correct]

we are the system that allows their code to be read;
and their preservation is totally dependent on the joy we experience in reproducing ourselves. [our joy not theirs!]
We are the ultimate rationale for their existence.

We can also reverse the explanatory text:

> **The fundamental truth is that an organism is the only tool by which DNA can express functionality, by which the "Book of Life" can be read. DNA alone is inert – dead**

To many of my readers this test will appear strange and challenging. Such a different view of the same thing: surely scientists must already know which is correct? Yet, I have tried this test many times now, always with the same result, which is that no-one seems to be able to think of an experiment that would detect an empirical difference between the two statements. The statements cannot therefore be a matter of empirical science, except for the obviously correct statement 'they are in you and me', which is certainly empirical, but not a difference between the statements.
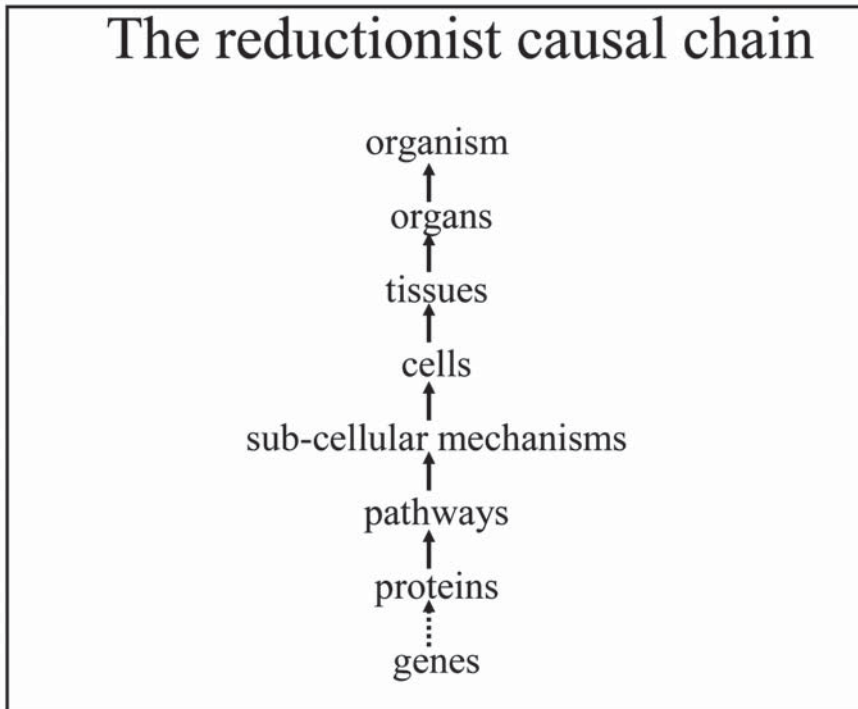
This reversal of perspective shows how easily one can take a completely different view. It is not for biological science to tell you which is correct. The social and ethical implications of your choice are, however, profound. Nature, of course, couldn't care less about such questions. They are rather like the old-fashioned version of this type of conundrum: 'which came first, the chicken or the egg?' Co-evolution is the obvious answer.

Nevertheless, it does seem to me more natural, and certainly more meaningful, to say that the rationale for existence lies at the level at which selection occurs. This is the level at which we can say why an organism survived or not. It is whole organisms that can live or die. So, it is at this level that we must search for the logic of life.

Biological functionality is multilevel

In order to characterise the philosophy necessary for such research we need to clarify the principles of systems biology. The first principle is that "Biological functionality is multi-level".

It is impossible to conceive biology without making reference to the concept of level. Between the molecular level of genes and proteins, and the level of the whole organism, we can distinguish between at least eight levels. From the reductionist viewpoint, the causal chain looks like this:

The reductionist causal chain

organism
↑
organs
↑
tissues
↑
cells
↑
sub-cellular mechanisms
↑
pathways
↑
proteins
⋮
genes

The chain runs upwards. It is a 'one-way' system, from the genes to the organism. The idea is that, if we knew all about the lowest level elements, genes and proteins, then everything about the organism would be clear to us. We could work out what happens at the higher levels, and explain it completely, in terms of our low-level knowledge. We could reconstruct the whole organism from the bottom up. The DNA sequences would be much more than bar codes. They would form a meaningful map of the entire organism – a 'book of life' indeed.

But this project is impossible. The molecular biologist and Nobel laureate, Sydney Brenner, has beautifully expressed this impossibility. "I know one approach that will fail, which is to start with genes, make proteins from them and to try to build things bottom-up" (in Novartis_Foundation, 2001 page 51).

One of the reasons is that the number of possible interactions between 25,000 genes is enormous. Let's first ask a somewhat absurd question: if two genes are required to co-operate to generate a biological function, what would be the number of possible functions. The answer is (25 000 x 24 999)/2 which is about 300 million!
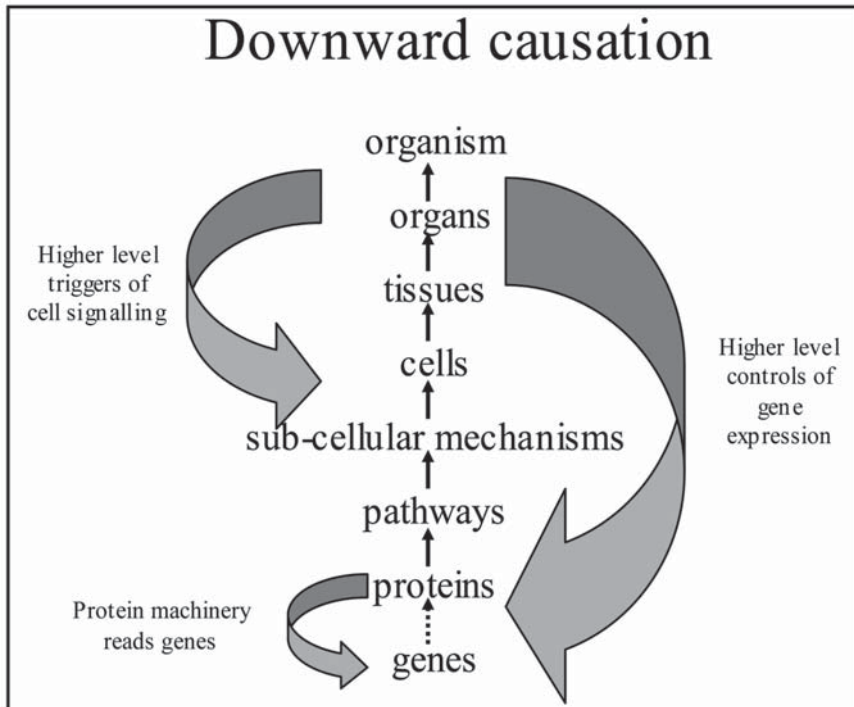
Now let's be a little more realistic: suppose that 100 genes are required for each function. What would be the possible number of functions that could be generated by a genome of 25,000 genes. The result is really gigantic: 10289! And what would happen if we removed the restriction of 100 genes and allowed any combination to generate a function? We would then have 2 x 1072403 possibilities (Feytmans et al., 2005).

These numbers are so large they are almost unimaginable, and certainly unattainable by evolution within the universe itself. There are thought to be 'only' 1080 atoms in the whole universe.

Downward causation

But combinatorial explosion (which is the technical term for this kind of problem) is not the only reason. My second principle is the existence of downward causation. Downward causation exists between all the levels between which there are feedbacks. Events at

higher levels can trigger cell signalling, all the levels are involved in the control of gene expression, it is protein machinery that reads genes to ensure their expression, and all levels can determine epigenetic marking. This marking is very important. It consists of another level of information and control superimposed on the DNA: a kind of chemical pattern carried by the DNA and which differs according to the cell type. It is this marking that ensures the correct gene expression patterns are transmitted from generation to generation in the tissues of the body in multicellular organisms. There are many forms of downward causation. For example, triggering of cell signalling, the control of gene expression by higher levels, and epigenetic marking by all levels.

Downward causation

organism

organs

tissues

Higher level triggers of cell signalling

cells

sub-cellular mechanisms

Higher level controls of gene expression

pathways

proteins

Protein machinery reads genes

genes

Inheritance is not determined by DNA alone

The third principle is that DNA is not the sole transmitter of inheritance.

DNA does not come to us in a 'pure', unalloyed form. It must necessarily be inherited together with a complete egg cell. From the viewpoint of systems biology, the genome is incomprehensible as a 'book of life' unless it is read and translated into physiological functions by cellular mechanisms, beginning with the egg cell. I maintain that this functionality is not to be found at the level of genes. It is impossible because genes are blind to what they do, just as are the proteins and higher-level structures such as cells, tissues and organs.

To these I want now to add two more important points. Proteins are not the only molecules in biological systems that determine function. Function is also dependent on the properties of water, lipids and many other molecules that are not coded for by genes. The lipids are essential for the construction of membranes and intracellular structures like mitochondria, ribosomes, the nucleus, the reticulum.

Moreover, a lot of what their products, the proteins, do is not dependent on instructions from the genes. It is dependent on the poorly understood chemistry of self-assembling complex systems. It is as though the genes specify the components of a computer, but not how they should be put together. They just do this by doing what is chemically natural to them.

The effects of this cellular environment on the genome are enormous. As we have seen, DNA carries a kind of chemical epigenetic marking that is different for each type of cell: heart, liver, pancreas etc.

No privileged level of causality

The fourth principle is that there is no privileged level of causality. This is necessarily true in systems with multiple levels and feedbacks downward and upward between the levels.

The fundamental point is that, to the extent that all the levels can be the point of departure for a causal chain, any level can be used as the starting point for a simulation. In biological systems there is no privileged level that dictates the behaviour of the rest of

the system. Moreover, the levels are not equivalent. The relations between them are non-linear. For this reason we need to model at all levels and we need to analyse the interactions between the levels. I sometimes call this principle a theory of biological relativity: a relativity of causation (Noble, 2008b). I find that there are interesting parallels of this idea in some Buddhist commentaries (e.g. Sahn_Master_Seung_Sahn, 1997 page 91). Some relativity theorists have also pointed this out (Nottale, 2000 page 111). In this context, it is worth acknowledging the ideas developed by Auffray and Nottale (Nottale & Auffray, 2008) on the relation between a particular form of relativity theory (scale relativity) and a possible theoretical basis for systems biology.

Gene ontology requires higher-level insight

The fifth principle is that gene ontology will fail without higher-level insight.

The majority of genes (and the modules of DNA that form them) are very ancient. Genes are a little like linguistic metaphors. Evolution repeatedly re-uses them for new functions. The genetic codes also share another aspect in common with languages. Even if, originally, the modules had simple functions (what we call meaning in languages), the system as a whole is far from simple. In fact, when one tries to unravel it, the first impression is that of a form of chaos. Evolution: that is the problem. As the genomes (or languages) have evolved, the functions (meanings) have changed. And they have often changed along routes that have little connection with their original functions (meanings). Half the genes found in a simple sea squirt correspond to ones that we humans have. But we have functions served by those genes that the sea squirt does not know about. 500 million years of evolution are responsible for these differences.

The genome is not a program of life

The sixth principle is that the genome is not a program that determines life.

It must be admitted that the idea of a genetic program, introduced by Monod and Jacob in the 1960s, has been very powerful.

At that time computers were machines that could not keep all the programs in their memory. One had to write the programs on paper tape, or later on punched cards, that were inserted into the reader of the machine each time one wished to do a calculation. So, the programs were a series of instructions completely separate from the machine itself.

But there is no reason at all why nature should have developed separate programs if this wasn't necessary. As Enrico Coen, the distinguished plant geneticist, put it in his lovely book, *The Art of Genes*, "Organisms are not simply manufactured according to a set of instructions. There is no easy way to separate instructions from the process of carrying them out, to distinguish plan from execution" (Coen, 1999).

There are no programs of life

The seventh principle is that there are no programs at any other level. Living systems are not Turing machines, they are interaction machines (Neuman, 2008).

My book, *The Music of Life*, was written a little like a detective novel. If the genome itself is not a program, where then is the program of life? Is there really a program, or are there programs, located somewhere in organisms? I lead the reader through all the levels. I hesitate a little at the level of the cell. Sydney Brenner said at a Conference in Columbia University in 2003, "I believe very strongly that the fundamental unit, the correct level of abstraction, is the cell and not the genome." But even at this level, so important, particularly in evolution, the reason for its importance is that many functions are integrated at the cellular level, and this is the level at which transmission occurs between the generations. But, the concept of a programme is superfluous. The cellular networks of interactions are themselves the biological functions necessary for life. Effectively, the 'music of life' functions without a conductor. Everything emerges by itself. The grand composer, evolution, was even blinder than Beethoven was deaf!

No programs in the brain

The eighth principle is that there are no programs, even in the brain, and with this principle I begin, at last, to approach the central question of this paper: how does Systems Biology help us with questions of the self?

I hesitated a little at the level of the cell. But some of my readers will already have concluded that there is an obvious answer to the question 'what controls the processes of the body?' Yes, the nervous system is certainly a central integrator and controller of some kind. The question is what kind. Must we go along with Crick, and many other biologists, in looking for a place in the brain where it all, as it were, comes together in a central consciousness? Could a bit of the brain, or any other part, do this?

For example, the claustrum, as Francis Crick proposed (see later).

And, if so, how does this conscious centre see what it sees, hear what it hears, feel what it feels? Does the nervous system serve up our sensations to it in a special form, converting the light, sound and pressure waves into special qualitative phenomena (some philosophers and scientists call them sense data or qualia) that exist inside our heads? This is an area where biology and philosophy strongly interact and, some would say, overlap. So how do biologists and philosophers think that we perceive the world?

My arguments against these ideas are difficult to explain briefly in an article like this. They depend on philosophical ideas developed during the 20th century, particularly by philosophers like Wittgenstein. In chapter 9 of my book I try to explain these ideas in relatively simple language by using dialogues and little stories. The essence of the argument is that biological interpretations that suppose the existence of a part of the brain responsible for central control resemble the mistake to which I have already referred, i.e. of imagining that there must be programs that determine functions in the body. There are no such programs, because the only networks that could correspond to such programs *are themselves the biological function*. If I play a piece of guitar, for example, neural networks are activated, of course, but these are not programs that

determine how I play the music. These networks, and the movements of my fingers, *are* me playing the guitar.

The self is not a neural object

The ninth principle therefore is that the self if not a neural object. It is an integrative process. It is the highest *process* of the body. The all-singing, all-dancing, ninth symphony of systems biology!

The mind is not a separate object. It seems to me that the idea that it is was based on an error that greatly resembles Descartes' error. Bennett and Hacker, in their masterly book *The Philosophical Foundations of Neuroscience* (Bennett & Hacker, 2003), use the term "mereological fallacy" to describe this kind of problem, which consists in attributing to a part of an object a property which cannot be ascribed other than to the whole of the object. At the level of the brain, the self is more a process than an object. And the brain contains only part of the processes involved.

Despite these philosophical problems, many biologists look in the brain to find the self, or consciousness. Thus, Ramachanran refers to a conversation with Francis Crick: "I think the secret of consciousness lies in the claustrum—don't you? Why else would this one tiny structure be connected to so many areas in the brain?" And as I have already referred in my introduction, Crick himself wrote "You, your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behaviour of a vast assembly of nerve cells and their associated molecules" (Crick, 1994).

The activities of the self, such as intentional actions, cannot be understood on the basis of neural activity alone without taking into account the social context in which intentionality can have any meaning. I tell a story to illustrate this problem in chapter 9 of *The Music of Life*.

It is interesting to note that western philosophy has taken a long time to reach these conclusions. But they strongly resemble the ideas of oriental philosophers, such as the Taoists and Buddhists, on non-dualism. Their ideas were formulated more than 2000 years ago.

While it is important to recognise and acknowledge these resemblances between my conclusions as a systems biologist and the conclusions of the Buddhist tradition, from its very beginning, it is important to note a very important difference in the way in which the conclusions have been derived. My route to these insights has come from long reflection on the nature of biological science. I started my biological research as a rather naïve reductionist as I analysed some of the lowest-level components of biological systems, the proteins that form ion channels in the heart (Noble, 2004). I developed my view of a systems approach through many years of interactions with philosophers and other scientists. I have been constrained in my thinking to abandon the reductionist approach as the only means by which we can analyse living systems by the very nature of biological science as I think it is developing.

The Buddhist tradition has used a completely different route: that of direct personal experience through meditation. As I understand it, *anatman* (Pāli: antta), the idea of no-self, is an *experiential* fact. Ultimately, however, our understanding of science and our direct experiences of ourselves must coincide. Whether we have reached that point of coincidence with the development of systems biology is a fascinating question.

Conclusions

In conclusion, systems biology is very different, both from a philosophical and from a heuristic point of view, from molecular biology, even though it greatly profits from the results of molecular biology. Reduction and integration are both necessary as tools to develop a good reply to the question "what is life?" Systems Biology requires a revolution in the way in which we study life. One of the important results of this revolution is that we cannot understand living beings on the basis of DNA alone, or the proteins. It is necessary to understand more than the molecular components. We must understand also how these components act in processes at the higher levels. The highest such process is the self, which should be analysed as a process that depends, like all other functions in living beings, on the environment, including the social environment.

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[Postscrip]

The Music of Life – Late Discovery and Revisions to Speech

I wish therefore to [present] a remarkable discovery that I made, while researching [material for the Keynote Speech], in the above work of the Korean monk, Won Hyo元曉（원효） (617-686).

The text below comes from the Kŭmgang sammaegyŏng ron 金剛三昧經論 (quoted in Kim, 2004: 119) where he uses a seed and the fruit to illustrate the application of four-cornered logic (derived I believe from Nagarjuna) to illuminate the concept of being/ non-being.

"The fruit and the seed are not the same, for they have different shape.
However, they are not different.
Besides the seed and the fruit are not annihilable,
for the fruit is produced from the seed.

However, they are not eternal,
for there is no seed when it is in the state of the fruit.
The seed did not enter into the fruit,
for the seed does not exist when it is in the state of the fruit.
The fruit does not extinguish the seed,
for the fruit does not exist when it is in the state of the seed.
Since it neither enters nor is extinguished, there is no arising.
Since it is neither eternal nor annihilable, there is no ceasing.
Since there is no ceasing, non-being cannot be proclaimed.
Since there is no arising, being cannot be proclaimed.
Since it is free from the two extremes [being and non-being],
it cannot be stated as both being and non-being.
Since it does not correspond to the middle,
it cannot be stated as neither being nor non-being.
Therefore it is stated that it is free from the four perspectives
and cut off from verbal expression.
As such the amala fruit transcends language."

This is a version of the main point in my comparison earlier in this paper of the two metaphors for genes (selfish genes and prisoner genes). To illustrate this, in the second version below I have replaced 'seed' with 'genotype' and 'fruit' with 'phenotype':

"The phenotype and the genotype are not the same, for they have different shape.
However, they are not different.
Besides the genotype and the phenotype are not annihilable,
for the phenotype is produced from the genotype.
However, they are not eternal,
for there is no genotype when it is in the state of the phenotype.
The genotype did not enter into the phenotype,
for the genotype does not exist when it is in the state of the phenotype.
The phenotype does not extinguish the genotype,
for the phenotype does not exist when it is in the state of the genotype.
Since it neither enters nor is extinguished, there is no arising.
Since it is neither eternal nor annihilable, there is no ceasing.
Since there is no ceasing, non-being cannot be proclaimed.
Since there is no arising, being cannot be proclaimed.

Since it is free from the two extremes [being and non-being],
it cannot be stated as both being and non-being.
Since it does not correspond to the middle,
it cannot be stated as neither being nor non-being.
Therefore it is stated that it is free from the four perspectives
and cut off from verbal expression.
As such the amala fruit transcends language."

In this form, his text could then appear almost as a modern text of systems biology! Anyone who understands this text will see that a strict distinction between the replicator (the genome) and the vehicle (the phenotype), which is the fundamental basis of the Selfish Gene theory, can illuminate only a part of the relation between the two. They are also totally interdependent.

Manuscripts and Education
in Northern Thailand and Laos (1569-1920)[1]

Justin McDaniel[2]

    Nissaya, *vohāra* and *nāmasadda* pedagogical genres reflect modes of thought, pedagogical techniques, and commentarial practices specific to a place and given time. These manuscripts have also influenced the way knowledge is assessed, organized, and written about in the modern period. An educational history based on methods and modal entities will emerge through a study of pedagogical manuscripts[3]. These texts cannot be placed into neat categories. They must be seen as particular moments in a history of articulations of Buddhism. They do not describe Buddhist thought systematically. They do not clearly represent a Buddhist episteme or a commentarial tradition. Instead they evince the ways local agents were reaching back and reaching towards Buddhism.

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[3] White, *Metahistory*, 1973.

Over the past six years, I have examined hundreds of *nissaya, vohāra*, and *nāmasadda* manuscripts in detail. Each manuscript I read is important not only for its content, but also as an socio-archaeological object that gives us clues to its socio-pedagogical context; namely, how it was composed, taught, copied, stored, initiated, and concluded. After reading a number of individual manuscripts I saw certain shared pedagogical methods, commentarial services and physical features. I came to see these individual texts not only important as idiosyncratic articulations, but as modal entities which help us define the content of the local curriculum and pedagogical techniques. Over time, these modal entities can be seen as defining the contours of the epistemic mode - the way this genre of texts influenced major trends in producing and teaching information. Seeing the individual text, the modal entity, and the epistemic mode together, we can trace the social history of the manuscript. This is small work. These are puzzle pieces. What do these manuscripts teach us? Simply put, they show us that Lao and Northern Thai teachers were not primarily concerned with transmitting whole canonical Pāli Buddhist texts, but drew Pāli terms and phrases from a wide selection of canonical and extra-canonical texts in order to teach their own idea of Buddhism. Instead of transmitting an integral and received tradition, they took bits and pieces of the received tradition in service of their own local rituals, ethics, and social concerns.

This selective appropriation and re-application of Pāli is characteristic of Buddhist communities across Southeast Asia. In order to understand the role of the individual intellectual agent in the region, it is necessary to understand the processes that guide, but not govern, the use of texts and language. Each teacher and student at a monastic school in seventeenth century Phrae or twenty-first century Luang Phrabang has brought his or her voice to the translocal text in hand. This detailed examination reveals what Bakhtin referred to as heteroglossia. Heteroglossia "implies dialogic interaction in which the prestige languages [Pāli, Sanskrit, Chinese, Arabic, Javanese, Classical Malay, Mon, Royal Thai, French, Russian, Dutch, etc.] try to extend their control and subordinated languages, try to avoid, negotiate, or subvert that control. 'Language is not a neutral medium that passes freely

and easily into the private property of the speaker's intentions... expropriating it, forcing it to submit to one's own intentions and accents, is a difficult and complicated process.'" Bakhtin emphasizes that all discourse "lives on the boundary between its own context and another, alien context. Each and every time it is uttered, a word is recontextualized, pulled in a slightly different direction, imbued with a different inflection... The [classical, translocal] word enters a dialogically agitated and tension-filled environment of alien words, value judgments and accents, weaves in an out of complex inter-relationships, merges with some, recoils from others."[4]

The study of pedagogy and curricular history below reveals this process of heteroglossia. It returns history to individual teachers and students who shaped Buddhist thought and practice in constant negotiation with the confines of the languages and pedagogical methods into which they were born. Or as Ernst Gombrich put it, "the language reacts back on the speaker." Language and the modes in which it is expressed always have a "creative share" with the individual motivations of the author[5]. Studying a curriculum means studying the way inherited language, pedagogical method, and epistemological attitude play together with shifting socio-economic and political contexts and individual intentions.

Nissaya, *vohāra* and *nāmasadda* are idiosyncratic lecture and sermon notes structured around the selected translation of words and passages from individually chosen canonical and extra-canonical Pāli texts. However, these pedagogical manuscripts while reflecting idiosyncratic translations and commentaries of individually selected Pāli source texts, are preserved in monastic libraries and may have been used by multiple teachers over time. The intention of the text is not the sole property of the original composer. It is spread across all the teachers who use texts and notes over time. And since these are lecture notes based on older, mostly Pāli, texts, the intention is spread across hundreds of teachers over many centuries. It may seem strange to use someone else's individually crafted lecture or sermon notes, but in a culture that places a high value of the physical

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[4] From Bakhtin's *The Dialogic Imagination*, 1982, in Allen White, Carnival, 1993): 136-139.
[5] Ernst Gombrich, "The Necessity of Tradition" in *The Essential Gombrich*, ed. Richard Woodfield, 1996:172-173. I thank Michael Feener for giving me this essay.

entity of a manuscript and the skill of a Pāli translator, and the relationship between student and teacher, every effort was made to preserve manuscripts. Even today in Laos and Thailand the same value of preservation and protection is seen for printed books. Children are taught from a young age in both countries that they should never place a book on a floor or physically mistreat printed material. Furthermore, in pre-modern Northern Thailand and Laos the literacy rate, especially in classical languages, was low. Therefore, manuscripts of idiosyncratic lecture notes, composed by literate monks, in a mixture of vernacular and Pāli languages were valuable because they were palm-leaf manuscripts, difficult and expensive to produce, "owned" by monks, and to many people they contained *de facto* the words of the Buddha[6]. The way manuscripts were stored, bound, titled, and anthologized shows that many monastic and lay archivists were either unable to read the script or language of the manuscripts or sometimes were concerned more with their value as objects than with their content[7]. This, of course, does not mean that content was unimportant; it just is not the only important aspect of a manuscript. The fact that there were genres of pedagogical manuscripts in both vernacular and Pāli shows a deep creative engagement with content and an understanding that individual teachers were not simply faithful stewards, but also creative interpreters, of the Buddha's words.

Describing these texts as idiosyncratic should not convey the idea that these pedagogical texts were completely individual reflections. These texts can be grouped into a genre based on certain common traits. First, because they are notes and glosses based on source texts, their authors were controlled in some ways by the source texts and languages that they drew from. While two manuscripts of a *Dhammapada Nissaya*, for example, composed by different authors can be very different, because of their shared source text, they will have certain similarities[8]. Second, the methods

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[6] *Bond, The Word of the Buddha*, 1975: 402-413.

[7] Pāli is often called a prestige language. See Reid, *Charting the Shape of Modern Southeast Asia*, 11; Lieberman, "Was the Seventeenth Century a Watershed," 242; Collins, *Nirvana*, 47; von Hinüber, *Untersuchungen zur Mündlichkeit früher mittelindischer Texte der Buddhisten*, 1994: 198-232. The importance of the exact pronunciation of Pāli in ordination ceremonies is well known, 1988.

[8] LaCapra, *Rethinking Intellectual History*, 1983; Todorov, Les genres du discours, 1978; Cesare Segre, *Introduction to the Analysis of the Literary Text*, translated John Meddemmen, 1988; Beebee, *The Ideology of Genre*, 1994; Duff, *Modern Genre Theory*, 2000.

of glossing and the commentarial services of nissaya, *vohāra*, and *nāmasadda* authors are similar. Third, since their function was to serve as notes to be used by a teacher or preacher, they must use common terms, tropes, and metaphors that are familiar to their respective audiences. Even though these manuscripts are an individual teacher's reflections on source texts they were also useful for other teachers and readers besides the original author (just as graduate students often use the lecture notes of their advisors when teaching a course and adapt them according to their own background and preferences). Also, lectures and sermons work because there are certain shared assumptions held by the audience and the speaker[9]. Working with these general assumptions, a later teacher could read these lecture notes and use them as a guide for composing his own. Pedagogical manuscripts are idiosyncratic, but general and useful to others besides the author or teacher.[10]

In this study "lecture" will refer to the lesson a monastic teacher delivers to monastic students in a classroom setting. "Sermons" are like lectures, but designed to be delivered to a broader audience including the laity. The differences between the terms "homily" and "sermon" are more complicated. These differences can be profitably applied to didactic traditions in Laos and Northern Thailand. In the European tradition, homilies differ from sermons in two ways. First, homilies are given in liturgical and ritual contexts, while sermons can be ad hoc, secular, and initiated without having a ritual, calendrical, festal, solemn, catechetical, or liturgical

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[9] While some *nissayas* and *nāmasaddas*, especially narrative *nissayas*, were specific triggers to general topics for a general audience, they were most often the basic texts of the serious monastic students' curriculum. However, *vohāras* were, and are, used as sermon notes on more general topics to both lay and monastic audiences. Audiences for *vohāras* would have been (and are today) mostly serious lay audiences sitting at public sermons. *Nissaya* and *nāmasadda* audience were more likely to be monks and novices in private classes.

[10] George Steiner describes each translator as having her/his own "private thesaurus...part of his subconscious, of his memories so far as they may be verbalized, and of the singular irreducibly specific ensemble of his somatic and psychological identity." Steiner, *After Babel*, 1992: 47.

occasion.[11]   Second, homilies are exegetical, while sermons can be given without reference to a passage of holy scripture. Modern English usage of these terms erased these two distinctions beginning in the seventeenth century. The distinction between the ritual locus and exegetical function of homilies and the *ex tempore*, non-ritual, and often secular character of sermons remains today among Catholics and Protestants. While a Baptist or a Lutheran "sermon" is the primary reason for a community gathering on Sunday, the Catholic "homily" is always embedded in ritual, and is certainly secondary (it is the only major section of the Catholic mass that is optional and is often removed in daily morning masses) to the transformative function of the formulaic ritual ceremony. Protestants go to the sermon hall or church to hear a sermon. A Catholic goes to mass where they may hear a homily as one part of the formal liturgy.

Following this lexical distinction, Lao and Northern Thai pedagogical texts, both in the pre-modern and modern periods, should properly be referred to as sermonesque. Creative didactic, often ethical, and occasionally political, sermons are common in the region. Sermons are given in a variety of contexts and styles. Most commonly a monk will offer a sermon, although this is never required as a duty, on *wan phra* (often referred to as the "Buddhist sabbath," occurring four times a month according to the phases of the moon). Here, the preacher begins by prostrating three times to

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11 Cunningham, *Preacher and Audience: Studies in Early Christian and Byzantine Homiletics* (Leiden: Brill 1998): 7-9; Jean Hamasse and X. Hermand, eds., *De l'homélie au sermon, histoire de la préducation médiévale*, in Actes du colloque international de Louvain-la-Neuve (9-11 juillet 1992) (Louvain-la-Neuve: Publications de l'Institut d'Etudes Médiévales, Textes, Etudes, Congrès, 14, 1993); Franco Mormando, *Überlieferung und Bestand des hagiographischen und homiletischen Literatur der grieschischen Kirche von den Anfangen bis zum Ebde des 16.Jahrhunderts*, 3 vols (Leipzig: Texte und Untersuchungen 50-2 (1937-52), rpr. 1999); Cynthia Polecritti *Preaching peace in Renaissance Italy* (Washington DC: Catholic University press, 2000) describe homiletic practice as limited to formal settings, most often a within a Eucharistic Liturgy at the end of the Liturgy of the Word (as distinguished from the Liturgy of the Eucharist in a standard Roman Catholic mass), and involved the exegesis of that liturgy's first (Old Testament) second (Epistle of St. Paul) and Gospel readings. This exegetical homily could be panegyric, catechetical, etymological, ethical, or even political, but was bound to the explanation, loosely referential or strictly literal, of the scripture read during the "liturgy of the word" section of the ritual mass. Today this remains the only idiosyncratic, mutable part of the Catholic mass. It is the only part of the mass, in which the priest speaks non-formulaically and can use direct speech. Furthermore, the priest has the choice of using multiple rhetorical techniques including anaphora, antithesis, repetition, diatribe, syncrisis, prosopopoeia, proem, etymology, or narrative digression. See McDaniel, "A Lao Homily?" *Etudes thématiques Lao* (forthcoming).

the image of the Buddha and to any senior monk in attendance, then gives a short benediction in Pāli of his choosing, perhaps followed by one or a selection of short Pāli and occasionally vernacular recitation, and then immediately offers a sermon that does not directly relate to any specific passage of scripture.

After the sermon, often a popular Buddhist narrative about an ethical question, or social issue, the preacher offers a short final benediction. The congregation is free to enter and leave as they please, and the preacher is not controlled by any external time restraints or ritual necessities. These sermons are not connected with the heavily ritualistic duties of the monk, such as conducting a funeral, reciting the *pātimokkha* during the *uposatha* ceremony, and morning and evening recitations (Lao: *tham vat xao, tham vat yen*). Sermons are an optional part of the monastic calendar. There are certainly formal aesthetic requirements, such as the prostration and the wearing of the saṅghāṭi (formal folded shoulder robe), but generally, the sermon is not part of standard Lao and Northern Thai Buddhist monastic rituals.

Furthermore, sermons do not need to be exegetical. The Pāli benediction and the selection of Pāli recitations chosen by the preacher are rarely mentioned or referred to in the sermon. Sermons define and explain Pāli words drawn from canonical and non-canonical texts. They also often summarize Pāli narratives and philosophical or ethical tracts found in the Pāli canon and commentaries. However, these texts do not have to be formally recited before the sermon or directly referred to in a literal and sequential manner. There is usually a disconnect between the sermon subject and the Pāli liturgy and sermons are not a part of daily Buddhist liturgies, indeed from my observations at some rural monasteries there are almost never any formal sermons today and we can assume safely that this was the case in the pre-modern period.

That said, research among the vast manuscript archives in Laos and Northern Thailand, reveals examples of that we can call "homilies." The *Nissaya*, *vohāra* and *nāmasadda* manuscripts that were based on Pāli ritual texts, like *Kammavācās, Parittas*, and even many *Abhidhamma* texts, demonstrate that there was a popular form of literature that was used as written guides to oral homilies - meaning

sermons that were given on ritual occasions and involved the exegesis and glossing of Pāli texts that related directly to the ritual in question. They work by drawing selected passages and terms from canonical and non-canonical Pāli source texts and explaining the semantic meaning, grammatical features, ethical import, and social context of the source according to their own political and social needs.

In this study, the terms "translation" or "gloss" are also troublesome. *Nissaya*, *vohāra* and *nāmasadda* lie somewhere between vernacular and classical texts. The authors of these pedagogical texts took Pāli source texts (although occasionally the source is locally produced), either physically present or in mind, and drew words and passages from the source for glossing. Sometimes these glosses are expansive and the author comments on the grammar, secondary and tertiary meanings of the term, or compares them to other known Pāli terms. *Nissayas*, etc., are rarely, if ever, close/literal translations of the classical source. They also do not translate the entire source. Most often, only selected words and short passages are selected and others are ignored. In this way, "invocation" is a better term in these instances than "translate." The vernacular and the Pāli play together on the leaves of a *nissaya* manuscript. Often vernacular words are glossed with Pāli terms not found in the invoked classical source. Like Dante's notion of Italian as the *vulgari eloquentia* that was more *illustris* (in the sense of illuminating) as a language for communicating with the masses, pedagogical manuscripts break down the notion of translation from classical into vernacular and undermine the inviolability and supremacy of Pāli.[12] The vernacular and the classical may better be seen as two octaves in the same musical score than a source text in a classical language and a secondary (i.e. once removed and less accurate and valid than the source) vernacular translation.

It would be prudent to elaborate on the way these authors understood language in general. *Nissaya, vohāra, and nāmasadda* authors could be classed as modist linguists or modistae. The modistae was a school of twelfth-to fourteenth-century European linguists who held the notion that "a word, once it has been imposed to

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[12] Eco, Serendipities, 2002: 30-31.

signify, carries with it all of its syntactical modes, or possible combinations with other words...words themselves are the product of a primary act of imposition by which a particular utterance is connected with some thing or property of a thing"... the word carries its *modi significanti* through a second act of imposition encoding all of the general syntactical roles it can play in connection with other words and expressions." There seems to be no question in the minds of Lao and Northern Thai authors that it was possible to gloss Pāli words and that there was a universal grammar that existed between the two languages. The source was open to manipulation, alteration, insertion, and expansion.[13] Everything that could be said in Pāli could be rendered in Lao or Northern Thai. This should not suggest that Pāli was or is seen as identical in status to the vernacular. In fact, the mere knowledge of Pāli terms and the ability to memorize, translate, and explain Pāli words is a mark of great prestige in the region. Pāli is understood locally as the language of the Buddha himself and holds certain powers in magical rites and religious rituals. Moreover, despite the fact that authors of pedagogical manuscripts believed that they could directly translate Pāli words without loss of meaning, some Pāli terms were given much more than a direct gloss. The expanded glosses and comments edified the audience, displayed the skill of the author, and provided a platform from which to offer a lecture on more general subjects. However, at the most basic level, our authors saw languages as translatable and understandable across grammatical and geographical barriers.

Nissaya, *vohāra* and *nāmasadda* reveal a tendency to invoke the whole of Buddhist source texts, but they only teach individual parts. Often, the source text is reduced to a title, like *Sattaparitta, Mūlakaccāyana, Mahāvagga*, etc., and a few passages or terms. The source text is not present in the *nissaya*, *nāmasadda*, or *vohāra*, it is neither accurately conveyed nor systematically addressed. The idea of the whole source text is invoked, but only a few of its parts are translated and taught. For Lao and Northern Thai monks Pāli texts were often things of reverence, prestige, wisdom, and beauty. The composers cite the first line of a source (often inaccurately, according to scholarly critical editions, which themselves are often inaccurate) and then move on to focus on

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[13] Ibid., *introduction*.

individual terms or phrases from one part of the source. These were triggers to help the audience and the teacher either remember parts of the text or to usher in a certain explanation based on the definition and commentary on that particular word or phrase. The idea of the whole text was invoked by these triggers and sustained by a selection of terms according to the needs of the teacher. However, the whole was rarely translated. The *nissayas*, *vohāras*, and *nāmasaddas* served as a detailed outline to a lecture or a sermon expanded upon in performance. Understanding they way these pedagogical genres work forces us to see vernaculars, not as a linear descendent of the classical, but hybrids that, in Bahktin's words, "interanimate" each other.[14] This approach will hopefully breathe new life into the lumbering debate between those who see the cultures of Buddhist Southeast Asia as either inextricably "Indianized" or deceptively autonomous.

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Human body, spirit and disease: the science of healing in 19th century Buddhist manuscripts from Thailand

Jana Igunma[1]

Introduction

Thai 19th century science of healing is a holistic discipline involving extensive use of indigenous herbal and massage/ pressure treatment combined with aspects of spirituality. Disease is not understood as a physical matter alone, but also as an imbalance of the patient with his spiritual and sometimes his social world. Therefore psycho-spiritual aspects are usually to be addressed along with medical aspects.

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Three categories of medical practitioners can be traced back to at least the 18th century: *mor luang* (หมอหลวง), "royal practicioners", *mor phra* (หมอพระ), "priest practicioners" and *mor baan* (หมอบ้าน), "village practicioners". Whereas *mor luang* practiced only among the royalty or nobles, and *mor baan* practiced among the common people, the mor phra played an in-between role and could treat all members of the society. Often the mor luang and mor baan were former Buddhist monks, who had left the Sangha but still were associated with their local or royal *wat* (monastery).

Thai manuscripts written during the 19th century give a broad overview of different methods of treatment and prevention, of the understanding and knowledge of the human body, mind/spirit and diseases. Although there is not much known about the origin and provenance of the manuscripts used for this research, it is assumed that some of them were written at Wat Pho in Bangkok, where a royal school of medicine was formally established in 1889.

Medical manuals and handbooks, *khamphi phaet*, or *khamphi phaetsaat songkhro*, describe the anatomy and physiology of the human body, diseases and their possible causes, diagnosis and treatment. Usually, these books are finely illustrated with human figures and diagrams, sometimes the human figures themselves appear like diagrams. Other manuals contain knowledge about medicinal herbs and recipes for the preparation and use of herbal medicines, *tamraa yaa samunphrai*. All these manuals were written and used by medical practitioners to keep track of their knowledge and experiences. Another purpose of these manuals was to educate younger specialists in the science of healing, which was based on a close one-to-one teacher-student relationship.

Manuscripts dealing with the broad field of spirituality include books on numerical and astrological *yantra*, *mantra* texts, astrological/horoscope handbooks as well as divination manuals, tattooing manuals and protective shirts. The two latter often are just a special form of *yantra*. These books, which also were mostly produced at Buddhist monasteries, addressed spiritual matters that could be related to or help to prevent and heal certain diseases and distress of the mind. Apart from *yantra* and diagrams, they usually include fine drawings and coloured paintings.

The human body and diseases

According to medical manuscripts, the human body is understood to consist of 42 elements, which belong to four groups of elements.

The first group is "earth" with 20 elements, which are hair, quills, nails, teeth, skin, muscles, guts, bones, tissues, spleen, brain, heart, liver, membranes, kidneys, lungs, large intestine, small intestine, stomach (new food), and excrement.

The second group is "water" and contains 12 elements, which are bile, sputum, lymph, blood, sweat, concentrated fat, solid fat, saliva, nasal discharge, marrow and urine.

The third group is "wind", which has 6 elements like breath, wind that blows within the blood vessels, wind that blows from feet to head (belch), wind that blows from head to feet, wind inside the abdomen cavities, wind within the stomach and intestines.

The fourth and last group is called "fire" and has four elements like heat that keeps the body warm, heat that unbalances the body, heat that burns the body up (ageing), heat within the digestive system.

If one or several of these elements are in disorder, it causes disease. The *mor* then would have to find out which element(s) are unbalanced, and why they are unbalanced, and then to restore balance within the elements of human body. This aim can be achieved by several methods, which include treatment with herbal/natural remedies, pressure points massage and body massage, as well as physical exercise (yoga) and dieting.

In the following, I will discuss some selected medical manuscripts from the British Library collections, which deal with the aspects mentioned above.

Or. 13992: Pressure massage manual
(early 19th century, Central Thailand)

This lavishly illustrated folding book is a manual for pressure massage in Thai language / Thai script. It gives a description of channels in the body terminated in the pressure points, as they are also known to us by way of Chinese acupuncture or Japanese Shiatsu. It is believed that the book was produced at Wat Pho, Bangkok, in the first half of the 19th century.

The book begins with a large gilded diagram of the human body that is not labelled. It gives an introductory overview of the network of channels within the body.

This diagram indicates the channels and main pressure fields of the body, stylistically represented by spiralling calligraphic lines. The one names *pingala*, for instance, begins at the navel and proceeds past the base of the right leg to exit via the back. Another one, the *susumanna* line proceeds from the navel into the chest, climbs through the body and exits through the tongue.

In almost all diagrams, the pressure points are named and their functions are described in detail. The fleshy areas of the body are all neatly labelled as such, so that the book also gives insight into the Thai understanding of the human anatomy.

Each illustration indicates the points of the body that can be treated with pressure massage, and what can be treated. The pressure point above the right eye, for example, is identified as the one for treating headaches and eye pains, dizziness, fevers, stomach-ache, and shooting pains in the back. In the middle of the forehead is a point for treating headaches, haemorrhage in the nasal passage or elsewhere in the head.
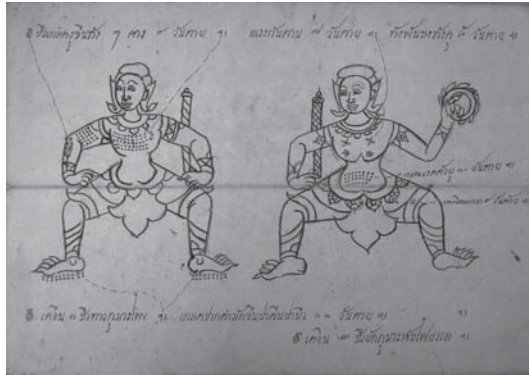
Or. 15374 Medical treatise
(19th century, Central Thailand)

This folding book in Thai language and Thai script with some captions in Khom (Khmer) script is dedicated to tumours. No date and title are given, but it is believed to be from the mid or second half of the 19th century.
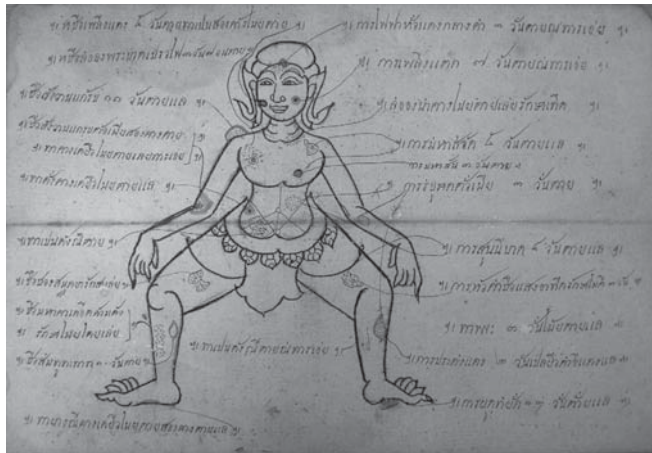
The illustrations in the book show numerous different types and shapes of tumours of the skin. All figures are labelled with interpretations of the tumours, which are often explained to be the visible part of an underlying invisible disease or imbalance of the human body.

Or. 14723 Medical treatise
# (dated 1893, Central Thailand)

This folding book is a handbook on herbal medicines, their preparation and their application. It is written in the Thai language / Thai script and dates back to 1893 A.D.

This folio presents recipes for the preparation of seven different kinds of *ya ta*, "eye medicines", *ya khiao*, "green medicine" and *ya daeng*, "red medicine".

Or. 14114 Medical treatise (19th century, Central Thailand)

Another folding book on tumours and their interpretation, written in Thai language / Thai script. It probably was produced in the second half of the 19th century.
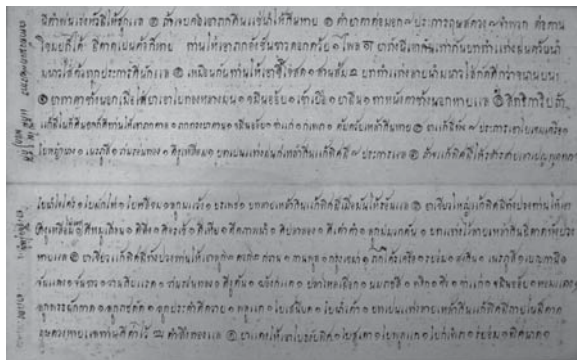
Instead of human figures, this handbook uses mascot figures for the interpretation of tumours. This folio shows the mascots figures for the fifth month, Yak Kumari, and for the sixth month, Yak Sakhuli. Both have multiple arms and legs and carry weapons. Yak Sakhuli has five heads. The malignancy indicated under his right arm, for instance, promises death in seven days, if not treated.

As one can see from the illustrations from this book, all marks and growths on the body were interpreted for their malignancy, depending on their location on the body and their time of appearance. The time of the year as well as the geographical location were reckoned to be essential factors in the occurrence of diseases.

The captions by the figure name the various indicated tumours on the mascot's face, chest, stomach, and legs, and tell how long one can survive them without treatment.

However, at the end of the illustrated section of this book, a text offers recipes for the treatment of the tumours, depending on the time they appear, and each tumour is named accordingly.

Spirit and well-being

Whereas the human body can be totally healthy, it is still possible that a person is not feeling well at all. In Thai science of healing it is believed that disease is not the result of the imbalance of the body elements alone, but can also be caused by a spiritual imbalance. A huge number of Thai manuscripts deal with this phenomenon.

One important group of written sources are *prommachat* folding books (from Pali: *brahmajati*), which deal with divination and astrology. Divination is an effective method of problem solving and creating peace of mind. Its prophylactic and therapeutic effects have been proven in many researches in the field of mental health and psychology. Thai divination methods are based on the belief in the ability of planetary and spiritual forces to influence people's lives. In everyday practice, divination is used to explain certain unexpected events (consolation), to foretell certain events (preparation) and to prevent or avoid certain events (empowerment).

Phrommachat manuscripts make extensive use of the (Chinese) twelve-year animal cycle, the lunar and solar calendars, palmistry, signs of the Zodiac, and identification of days with planets. Topics covered in *prommachat* books include: prospects for determining a woman's fecundity, determining the sex of an unborn child, proper handling of the placenta after birth, choosing names for children, discerning the general outlines of one's future or the prospects of an immediate undertaking, the significance of bodily signs, choice of a spouse, locating and building houses etc.

Another important category includes protective shirts/amulets and *yantra*. In theory, *a yantra* is understood to be an instrument designed to curb the psychic forces by concentrating them on

a pattern, and in such a way that this pattern becomes reproduced by the visualising power of a person. But it is also regarded as a visual expression of a *mantra*, an invocation containing a sacred syllable or set of syllables. When a *mantra* is uttered with specific rhythm, with sincerity of devotion, and purity of thought and action, and with phonetic and grammatical accuracy, it is believed to invoke a particular spiritual power and compel this power to assist the invoker to achieve a desired end. *Mantra* and *yantra* are often used in meditation, which helps to relief the psyche, to broaden the mind and acquire different perspectives towards problems, which put mental pressure on a person.

Or. 3593 Phrommachat
(early-mid 19th century, Central Tahiland)

This *phrommachat* folding book is written in the Thai language and Thai script and is lavishly illustrated. It is believed to be from the first half of the 19th century from Central Thailand.

Divination in this book is based on the year and the month of the person in question. The year of birth is reckoned in the Chinese twelve-year animal cycle. Each of the twelve birth years is illustrated with four forms of the animal for that year, like the pig shown on this folio. Then each year is personified by its mascot, associated with an animal that serves as its vehicle and shown next to the tree of that year, which is believed to be the abode of the spirit of persons born in that year. Each year also has its assigned element, like water, earth, wood, gold, fire, and iron. The text provides a short character summary for those born in this period. For every year, there is a group of six mascots, which represent the fortunes and fate of persons born in that year, or the prospects of marriage partners, depending on their month and day of birth.

Or. 16455 Phrommachat
(late 19th century, Central Thailand)

Another *phrommachat* divination manual written in the Thai language / Thai script from the second half of the 19th century. This is also lavishly illustrated.

This folio is dedicated to the year of the rooster, and therefore shows the mascot figure for that year on the top left side. On the right side again, one can see six mascot groups, which are used for the interpretation of a person's or a couple's fate and fortunes.

Or. 14722 Protective shirt
(dated 1923, Central Thailand)

The *yantra* on this protective shirt is written in Khom (Khmer) script and dates from 1923. It was usually worn in order to be impervious to various harms, physical or spiritual, and to guarantee invulnerability of the wearer. The ancient Khmer alphabet is considered sacred and therefore was often used to write down the invocations (*mantra*) in the shirt.

In the centre of this protective shirt one can see the image of the Garuda *nok khrut*, which is a symbol of righteousness, warmth, light and power. It is the opposite of the Naga, and represents the heavens, the sun, and the heavenly powers. It also stands for royalty.

The straight lines in the *yantra* symbolise its "bones", the continuous line that forms the frame of the *yantra* symbolises the umbilical cord of the Buddha. The letters in the small squares in each corner stand for a certain incantation for the protection of the wearer of the shirt.

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Digital Buddhist Texts and
Buddhist Universities[1]

Lewis R. Lancaster[2]

It is a great pleasure to be part of this meeting of the International Association of Buddhist Universities. I appreciate the invitation to speak today about the role of IABU and the work that has been done with regard to digital Buddhist texts. Bangkok is an appropriate place to discuss these issues because on 30 May, 1988, The Digital *Tipitaka* Development Team at Mahidol University Computing Center, Thailand announced the completion of the first major project to digitize Buddhist texts. The Siam edition of the Pali *Tipitaka* in forty-five volumes had been successfully digitized and released. It is now 20 years later and since that time new projects have come into existence including the Pali version of the *Chattha Sangayana* edition in Roman and Burmese script, the *Buddha Jayanti Tiptaka* of Sri Lanka, the Pali Text Society Edition of U.K., the Tibetan edition by the Asian Classics Input Project, Buddhist Sanskrit Text Project of University of the West and the Nagarjuna Institute

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of Nepal, Koryo Edition of the Chinese canon known as *Tripitaka Koreana*, and the *Taisho Issaikyo* edition available from CBETA at the Dharma Drum Buddhist College in Taiwan and SAT in Tokyo University. The digital versions of the Chinese, Sanskrit and Tibetan canonic material have altered the landscape of scholarship in the field of Buddhist Studies. This immense effort to produce the databases for the texts has also created a challenge and an opportunity for Buddhist universities.

If the digital age is to fulfill its promise, it requires a well-coordinated effort to avoid incompatible platforms, codes, categorization systems and unnecessarily repeated work. Over the past two decades, there has been no organization such as the International Association of Buddhist Universities, to help with this effort. The work of input and the creation of digital Buddhist materials has been done by institutions and individuals who have often worked alone and with only local funding. There are a host of indispensable issues that need to be addressed by educators within the Buddhist communities. One of the most pressing is the development of digital research and reference tools for the large datasets.

With the growing number of online resources, the Internet has become the first choice of many students and scholars. It is crucial that these online materials provide the best and most accurate information. This shift from paper to digital resources is already an established reality and concerted action in providing leadership for the creation and appraisal of this material will determine the success of the new medium. This moment in history calls for prompt and definite action from an organization such as the IABU.

There is a danger that we will become complacent about the digital Buddhist text material, feeling that the input has been completed and there is no need for further work. We must be aware that digital data is the most fragile format for information ever invented. It can disappear in an instant and beyond recovery. I think of digital data sets as being like a baby that never grows up, never moves beyond the need for support, never moves to a new location without extreme effort on the part of the creator, and is always susceptible to viruses.   We have these wonderful versions of the Buddhist texts in the computer and now we must think and plan

about maintaining them so they will be sustainable for the future. Librarians are the best candidates to do this archiving and preservation and Buddhist universities must take the lead in providing for this necessary effort if our data is to survive. Sustainability is dependent on the coding, software, and formatting of information. Every day thousands of pages of information disappear from the World Wide Web because a server is closed, a project has completed the funded period, individuals retire, campuses stop supporting older software, and no allowance has been made to move the data to new platforms. Who will make certain that all of the Buddhist text input is carefully placed in an archive that will assure it a long life into the foreseeable future? I believe this is a task that IABU must consider carefully.

Scholarship changes with the availability of digital information. Digital library initiatives around the world are providing an amount of data on the web that surpasses what most campuses have in printed books on library shelves. While the data is available, digital libraries have not yet created the tools for the referencing procedures. Our codex libraries have Reference Rooms with librarians who help the users find resources contained in those books. At this time, there is nothing comparable to a Reference Room in the internet environment and it shows in the problems that students have in assessing the value of the information found with a Google or Yahoo search. In order to give the best help possible, it will not be enough simply to point to acceptable sources.

Researchers will need to be given support in understanding the context of the information. This context implies answers to a number of generic questions such as "Where was it done?" "Who did it?" "When did they do it?" For librarians it means that digital material cannot only be indexed as an "object" as our books are catalogued in the codex library. A new kind of cataloging must emerge that marks up every "object" but considers that "object" as an "event." Consider a Buddhist text in digital form, it is important to know it by title and author or translator when appropriate. However, the text seen as an "event" must be marked up to show us the history of what we see on the screen. Which edition do we see, when was it made, where was it made, what version of the edition was used by

those who did the input, where was the input done, who was responsible, what software and procedures were used for the work, etc. The reference catalog for the digital canons will look very different from those of the former card catalogs. Because Buddhist material has its own context, it is going to be part of the task of librarians and scholars within the discipline of Buddhist Studies to provide this background.

As we have easy access to the input projects for the Buddhist canonic texts, users will want tools to aid them in managing the search results, finding images of the original manuscripts or prints where available, cross links between different language versions for the same text, built in dictionaries, and analytic software to determine patterns within the texts.

Our users will want to have more than individual sets of data that must be searched independent of all other sets of data. The word "silo" has been selected to describe the amassing of specific information in one site. In the future, we must have search engines that will find results across many "silos" without the user having to enter and exit each one individually. For Buddhist Studies, this will mean being able to search for a term in all of the canon databases at once and retrieving the information in a variety of forms.

I have been researching this problem for some time and have now developed a prototype interface. It is a prototype only and still has much work that needs to be done and I hope to find others who wish to participate in the effort. The prototype shows us a word or phrase search. (See Appendix I) When the results are returned, they are shown as an image where red dots appear representing the target word within a sea of blue dots that represent the text itself. Images allow us to see either the whole of the canon in one view or details limited by our interests. This immediate display of the patterning across the whole of the canon gives us an idea of whether our word is widely used, rarely used or only used within certain texts. The interface exhibits a window where we can go into the image and ask for the natural language text and we can then show a scanned image of the printed source or manuscripts. The pages of the canon images are shown to us so we can move back and forth between examples. (See Appendix II) If we add analytic software, we can

also see patterns displayed for us in a variety of ways such as one that shows the number of target words according to the time of translation of texts or structural patterns such as Ring Composition. Our context builder for the Chinese version can present the canon by time of translation, order of catalogs, translators, or place of translation. This is just one way to see context building. (See Appendix III)

Researchers will want to have a window in the interface that will allow the appearance of multiple versions of the same section. For example, with the Chinese canon we would like to have a scanned image for the *Taisho Issaikyo* printed page, the Koryo print from the blocks of Hae-in Monastery, manuscript images from Dunhuang, rock cut rubbings from Fang Shan in China, as well as the corresponding passage in Sanskrit, Tibetan, or Pali. For each version, the user may want to draw into the window images of prints, manuscripts, and fragments for any passage.

The capabilities described above will change the way in which we edit and translate texts. No longer will multiple footnotes at the bottom of the page indicating alternate readings be acceptable. With the computer, we will ask instead to see an image of the "witness" that shows a different reading. The user will be able to judge for themselves the variety of readings in a way that is much more complete and accurate than relying on notations from one scholar who had access to a number of resources. It has been nearly impossible for readers to challenge the footnotes of editions because there has not been easy or even possible access to the original documents used by the editor. With the new expanded interfaces, we will all have the opportunity to view for ourselves the images of these "witnesses" and for the first time have the ability to "falsify."

I look forward to the future and to the new insights which we can gain by using the computer to help us with pattern identifications that we have never noted before. The comparisons of canonic versions, witness imagery from both prints and manuscripts, and use of databases available to all other scholars opens us a new horizon. The International Association of Buddhist Universities will be an important part of these developments.

Appendix I

Converting the glyphs that are displayed from the fonts into colored forms.

Here we see a "page" of the material, in this case the 13th century printing block, and on it are 23 lines containing 14 characters. All of the material appearing on the more than 83,000 blocks has been digitized in full text. During the process of doing this work, each of the characters was marked up with a Unicode designation such as :



```
<Record
  vol="T09"
  title="n262"
  page="p0019"
```
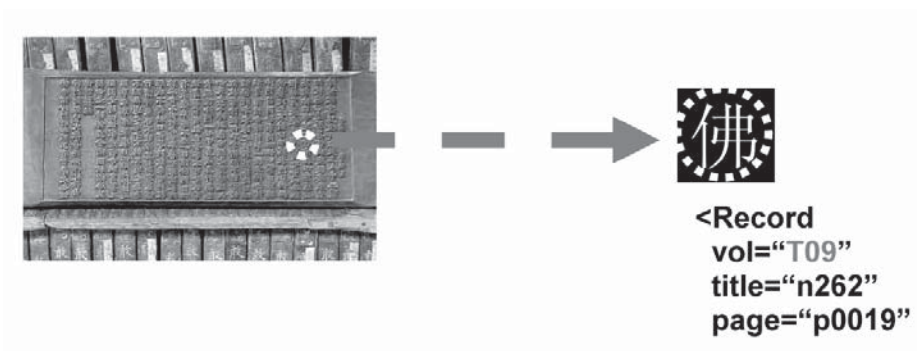
In the proposed project, these millions of glyphs will be converted into an image (a blue dot in this case) that will have the same metadata as the glyph.

Lewis Lancaster


```
<Record
  vol="T09"
  title="n262"
  page="p0019"
  col="a08"
  char="U+4F5B" />
    (MetaData)
```
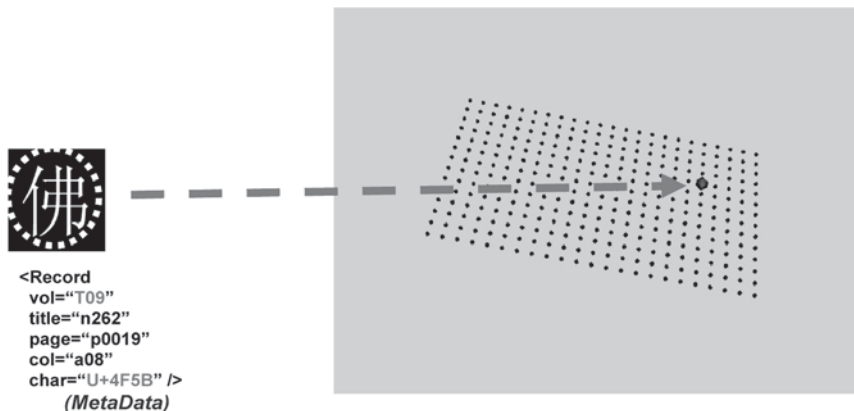
Because we have a digital catalogue of the set of texts, it is possible to create a link from each blue dot to the appropriate description of the text in which it appears. In this way, we keep the VR closely tied to reference works and context.
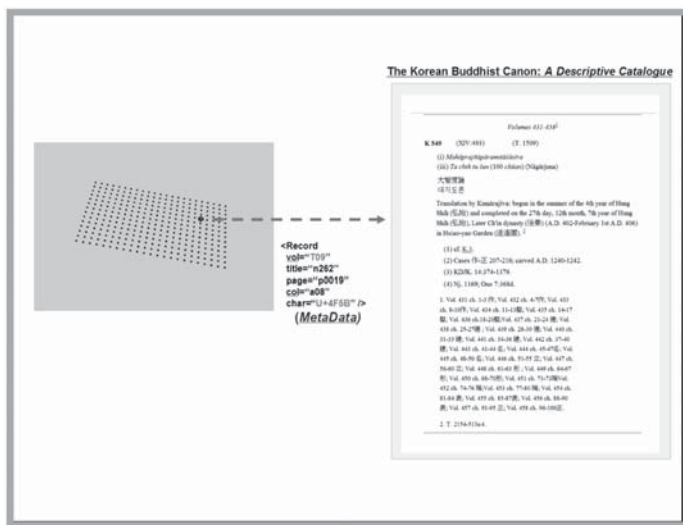
The blue dots representing the glyphs are then arranged in the order of appearance on "pages." Each panel represents a page and each dot a glyph in its proper order.
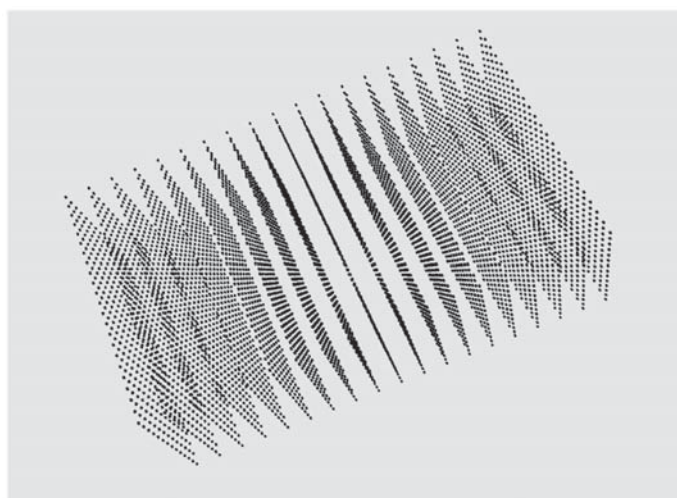
In this way the 3-D and VR software allows us to present these abstracted images of the canon in a recognizable arrangement for the user. At first, they can see "pages" and "columns" is the exact format of the print version. Since the original printing blocks are still housed in a library-like environment, VR can give an added dimension of allowing the user in an immersive environment to "walk" down the "aisles" of the Hae-in Monastery archives in Korea. When this is converted into the VR scheme of this project, users can move from the picture of the blocks directly to the abstracted blue dots representing the words contained on the surfaces.

Searching for terms in the VR presentation

The use of the blue dots for the search for patterns can start with a string search of the digital data. The result of such a search in VR will differ greatly from what we currently see as depicted below.


When a string search is made in the VR medium, the results are seen visually as "signals" on the "pages" as the blue dots of the target word are changed in color and size to indicate the presence of the target word.
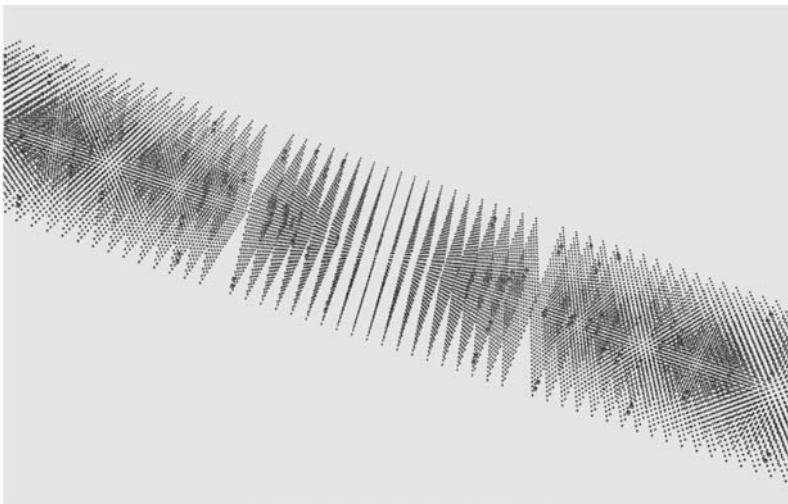
Identifying patterns in search results.

At this point, the user can "see" all of the places where the target word is found. Rather than moving directly to the glyphs that make up the printed version, we remain in the abstract arena for further exploration of patterns that can be presented in images. A first pattern can be word clustering. The user can spot places where clusters are visually apparent.
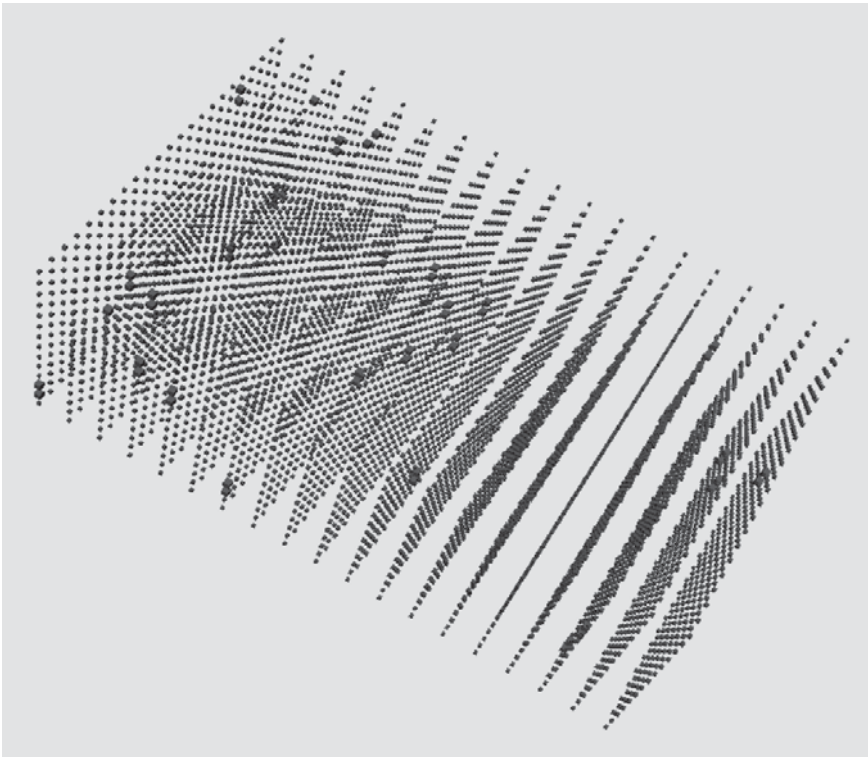
When we compare the Google menu resulting from a search with the VR dots imaging, certain patterns are easily seen in the latter. It can take many hours for scholars to use standard search results of lines of text references as data for identifying clusters.
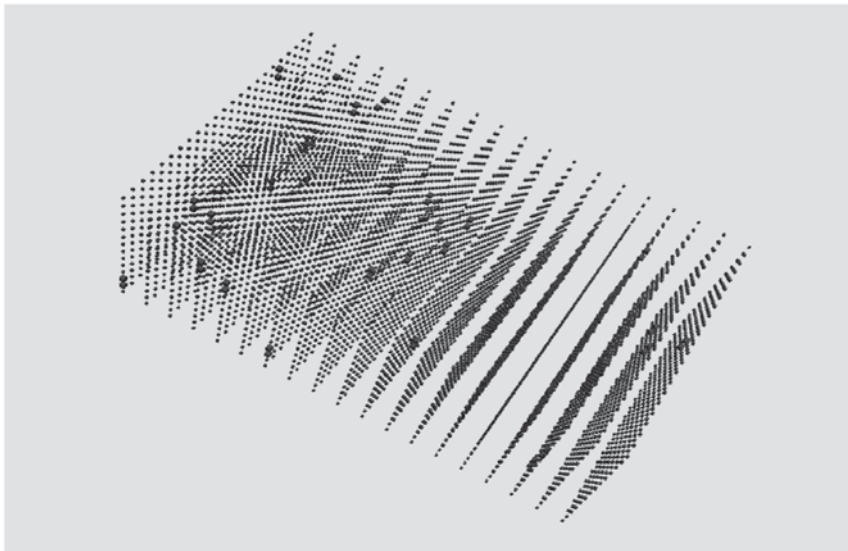
Appendix II

Chiasms and Ring Composition

From Biblical and Classical studies, we are aware that ancient literature exhibits chiastic structure, a repetition of the words in an inverted ordering. In this type of structure, the end corresponds to the beginning. It can be seen as A B C C' B' A'. From this we have "ring" constructions where the story starts, proceeds to a turning point, and then repeats the elements of the story in reverse order until one arrives at the end which is a corresponding or similar statement to the beginning. A recent volume by Mary Douglas Thinking in Circles: An Essay on Ring Composition points out the need to make cross-cultural studies of the particular literary phenomenon of chiastic structuring.

Using the search capacity of the digital version of the Buddhist canon, we can begin to create a VR image that includes the text locations where this ring structure appears. In the illustration below, we see the structure of the Ring Composition with three elements ABC that appear in the first segment and then repeat as CBA in the second. Located between the final element of the first segment and the initial element of the second segment C and C' we find the "kernel" or theme of the ring located at the turning point. When searching for a Ring Composition in the VR abstract format, we see the varied color of the dots in the Chinese reading order of lines from right to left and order of the individual glyphs from upper to lower. The software must search to find places where a phrase is repeated as in the blue dots of A and A'. The second element and third element B and C are discovered by looking for a serial duplication of phrases. The key to the ring structure is that the duplication must appear in reverse order. We see that this is the case in the Chinese text Blue dots (A) followed by Green dots (B) followed by Pink dots (C) with the turning point and "kernel" Orange dots (D). The order after the turning is Pink dots (C') followed by Green dots (B') and completed by Blue dots (C'). From the research on Ring Composition, we should pay close attention to the Orange dots (D) because they represent the theme or major concern of the structure.
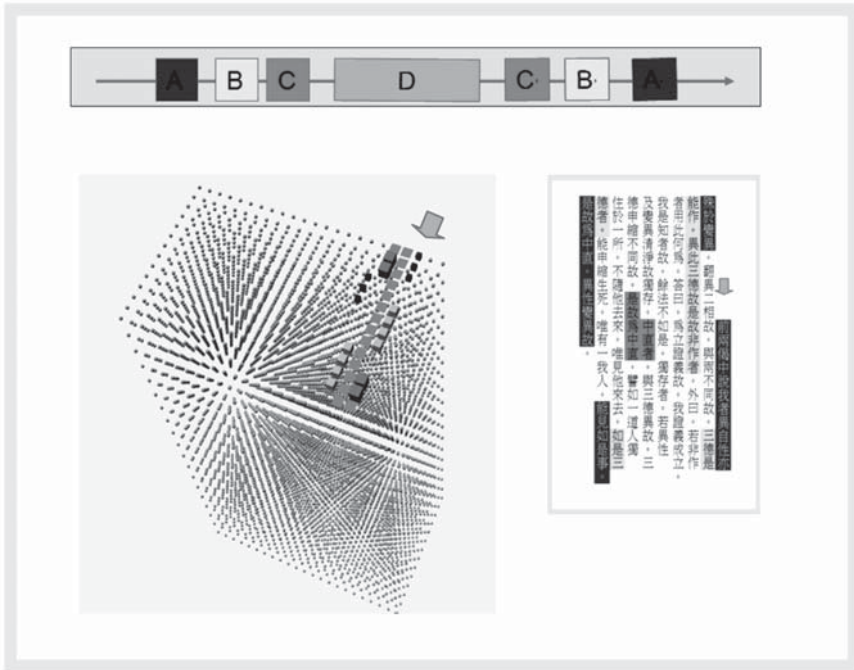
The significance of understanding this ring construction is now seen as crucial for our understanding of literary texts. Without seeing the rings, most ancient material can be misunderstood as chaotic collections of repetitive phrases. From the patterns found by such structure, we can also find a structure made up of a micro-structure composed of numerous minor rings.

Interpreting Ring Composition

Since the Ring Composition is composed of a series of words, concepts, minor rings that appear in a sequence which "turns" and all of the series is repeated backwards, we can look for target words in terms of placement within the structure. If a concept appears as one of the thematic words for the parallels of the ring that gives us an opportunity to deal with the concept in terms of its relationship to the other thematic words. That is, if the target word is B in the sequence of A B C C' B' A' within an identified ring, we can expect the word to have a special relationship to A and C. In order to see the Ring Composition in a clearer fashion, we have the opening statement as S and the repeat of it at the end as L (known

as the "Latch" phrase, or the one that binds the two ends of the ring). S and L are identical statements with different functions of starting and ending the ring. The two encircled elements, C and C' are the bounding that shows the turning of the ring and the delineation of the "kernel" element. We are able to identify the turn because C is the first element to be repeated.
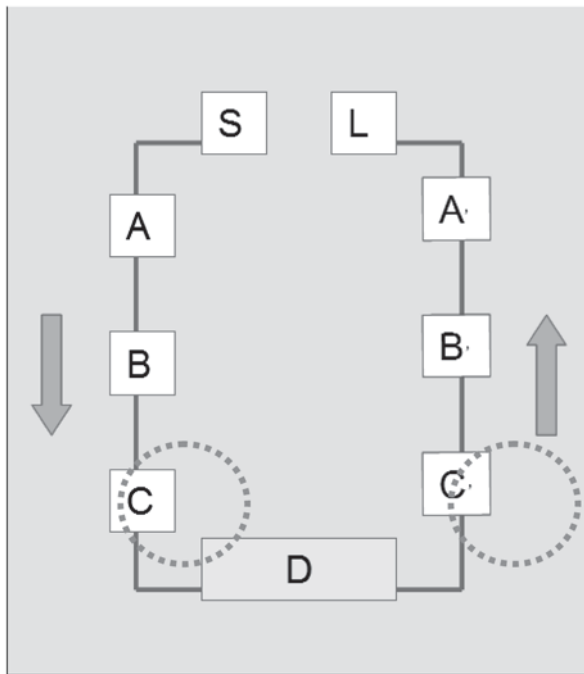
The ring structure has a beginning, a turning point, and an end. We can identify the turning point as the place between the last item of the first sequence and its repetition in the second sequence. That is we have A B C (turning point) C' B' A'. The turning point is the place where the general message of the ring is placed. In the space between the first repetition, we expect to find the "kernel" of the ring.

In the search for a target word, it would be of great interest to see if that word appears as the "kernel" (D) of a ring. That would give it greater weight than if it is just one of the thematic parallels (A B C). Below, we see the imagery where the analysis of the word placement shows us a possible Ring Composition because we find the space between a repeated phrase. Once this space has been located, it is necessary for the software to seek for the structure that exists within this boundary.

Appendix III

The figure below shows he draft interface layout. This interface integrates the various components of the data visualization. By looking at the sections of this interface, we document the progress in data collection and analysis.

Our first task was to Identify the target source for the data to be used and negotiate the full use of the Koryo Canon in both its ditgital full text as well as the scanned images of the rubbings of the more than 83,000 printing blocks. Having secured this raw data, we reformatted it into a repository suitable for our search engine. The text data comprises 100 MBs and the scanned images of the rubbings from the original printing blocks is 25 GBs in low resolution. Following the acquisition of the canonic material, we constructed out search engine. Based on the Suffix Array Technology, the search engine leverages our implementation from the collaborating group known as CBETA in Taiwan. The strategy in constructing the engine was based on the requirement to be able to make an exhaustive search for any string within the data. Once the repository of data was in place we developed the search engine activated from the first window of the interface.


The first function of the search engine brings up every occurrence with line, count and text title. This window can be viewed by the user but will not be automatically displayed in the interface.

In the illustration below, we show the display offered in the interface to the user.

We have converted Chinese glyphs from natural language form to abstracted "blue dots" each carrying the same metadata as the original glyph. In order to help the user, we arrange these "blue dots" in "pages." We have completed the task of creating a set of 52 million "blue dots" that represent the arrangement of the original Chinese characters for the Koryo printing of the Buddhist canon. These dots are presented in the form of "pages" which can be manipulated by the user.

The second level of linkage from the full text search to "Blue Dot" surrogates allows the depiction of the appearance of the target word as a "Red Dot" among the background of all the other characters shown as blue. The linkage is based on the structural metadata of the original text data in terms of text, page, line, position in line, and coding of glyph located in that position. For viewing of the dots, there is the button to the right for 3-D navigation control.

Translator	Documents
	K9, K132, K438, K549

413   672
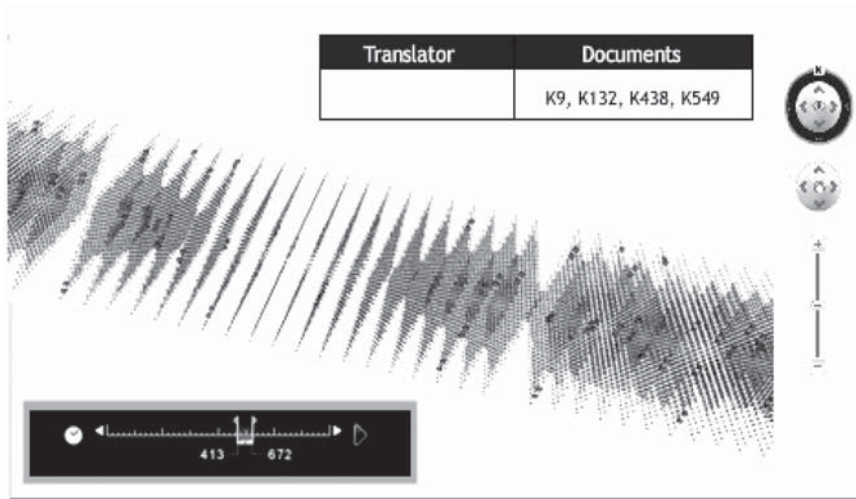
These displays can exhibit complex methods of searching:

Multiple string search (allowing for cluster identification) "String-Pair-in-Distance" (allowing for search where a second occurrence of the target may be distant by many lines in the text). Signature String (displays signal occurrences that may be related to such structure as Ring Composition)

Another way of display is to use the Histogram procedure which shows the relative number of occurrences over time. Usually, this is applied to the appearance of words in sequence within a text. However, with our time tagged metadata, we can show the outline of occurrence over the centuries. Scholars using this window can quickly see the pattern of how often a term was used in any given time period.

450 CE   890 CE

Distribution of occurrences
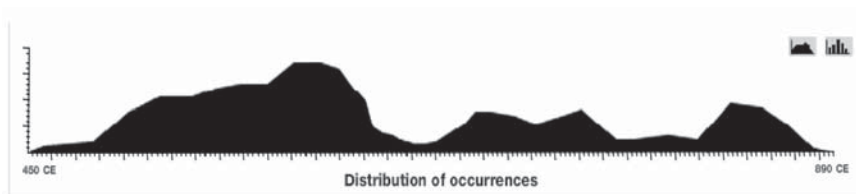
While viewing the abstract "Blue Dot" display, the next window opens to show the scanned image of the rubbing made directly from the 13th century printing blocks of Hae-in Monastery. While it is possible to view the same text in the digital version, we have chosen to display the original which was copied to make a new version for the computer. With our interface, the characters on the scan can be highlighted since we have established a link between each position in the original and the "Blue Dots." The advantage for the user is that any questions about mistakes made in the input of the digital version can easily be checked against the original.

Here is the image of the scanned rubbing from the original.
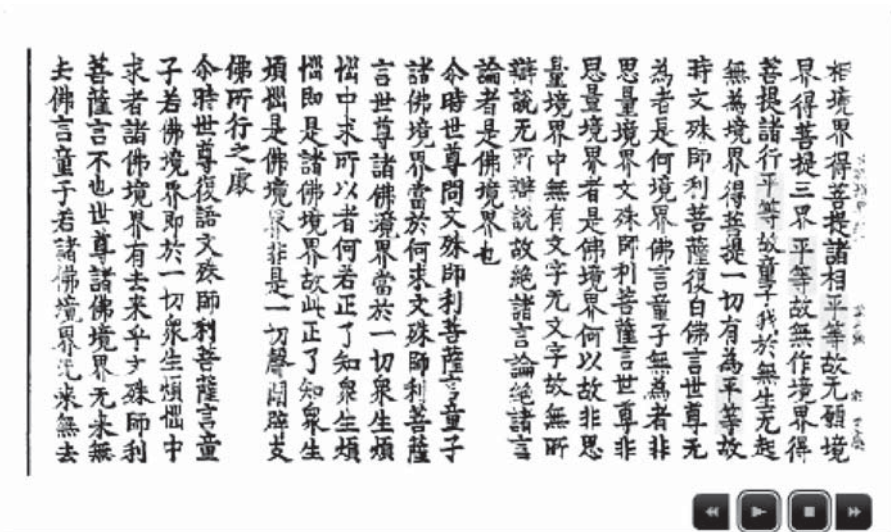
Here is the same page as it appears in the full text digital format. Users will be able to view this format as well as the scanned image shown above. The scanned image will be the default setting for display and the digital full text an on-demand element.
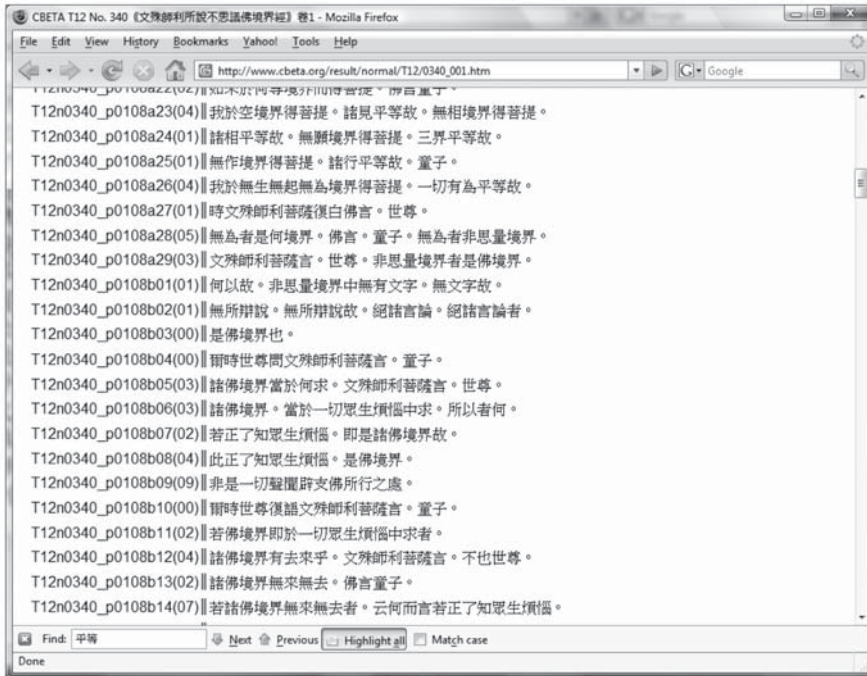
Our next widow is constructed to help give the user a context for the page being displayed in the image above. A Selection Window (shown in green) can be moved rapidly across multiple pages arranged as icons. The designated page appears above as a single page in the larger format of the main display box.

While we have shown all of the display panels opened on the draft interface, the user can control the number and type that are open at any time. The use for these buttons is enhanced by presenting an easily identified picture of the window..

In order to help the user define searches, we have the input box for the target word as described above. In addition, we have search fields for names of people associated with the text, place names, and the time of creation.   In this way, the "Blue Dots" can be rearranged according to who translated the texts or the place where the translations took place or the time of the translation.   With each new arrangement the "Red Dot" pattern changes to reflect the context of the search in terms of temporal and spatial elements.

Young People and Buddhist Ethics: Tradition or Sense?[1]

Munisha[2]

Come, Kālāmas. Do not go upon what has been acquired by repeated hearing; nor upon tradition; nor upon rumour; nor upon what is in a scripture; nor upon surmise; nor upon an axiom; nor upon specious reasoning; nor upon a bias towards a notion that has been pondered over; nor upon another's seeming ability; nor upon the consideration, 'The monk is our teacher.' Kālāmas, when you yourselves know: 'These things are good; these things are not blameable; these things are praised by the wise; undertaken and observed, these things lead to benefit and happiness,' enter on and abide in them.

The Buddha's teaching to the Kālāmas (A 3.65)

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[1] Presented at the IABU Conference on Buddhism and Ethics at Mahachulalongkornrajvidyalaya University Main Campus, Wang Noi, Ayutthaya, Thailand in September, 2008.
[2] Munisha (Catherine Hopper) is an education officer at The Clear Vision Trust, a charity established in the 1990s, and writes teaching materials on Buddhism for schools in Engand and Wales.

Introduction

In my presentation to the IABU conference on Buddhism and Ethics I use video to show how Buddhist ethics may be taught in schools in England and Wales using audio visual media. As such it cannot be represented fully by the written word. This paper is a more detailed look at the same topic, in three sections. First, I will describe the response to Buddhist ethics in English and Welsh[3] primary and secondary schools. Second, I will give an idea of the way Buddhism and Buddhist ethics are presented in English and Welsh schools, particularly through audio-visual media. And, finally, I will suggest that the way Buddhism is being presented in English and Welsh schools may provide a key to a fresh and effective presentation of Dharmic values for teenagers of Buddhist background, in Britain and in traditionally Buddhist countries.

I speak from ten years' experience as education officer at The Clear Vision Trust[4], a small charity established in the early 1990s to "promote Buddhism through the audio-visual media". Clear Vision is run by members of the Western Buddhist Order (WBO), a new Buddhist order founded in London in 1968 by the Venerable Urgyen Sangharakshita[5], previously a Theravadin bhikkhu. There are now 1,500 members of the Order worldwide; the much larger group surrounding the Order is known as the Friends of the Western Buddhist Order (FWBO)[6]. This is not the place for a lengthy description of the FWBO; I will simply say that though founded on the principles of early Buddhism, it draws on teachings of all three yānas and is characterised by an attempt to find new ways of living by Buddhist teachings in the modern world. As a Dharmacharinī, a female member of the Order itself, my ordination has the same status as that of my Dharma brothers; we are neither monastic nor lay.

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[3] The United Kingdom comprises England, Wales and Scotland (Great Britain) and Northern Ireland. England and Wales share an education system, while Scotland and Northern Ireland have one each. Buddhism is taught in Scottish schools, as part of Religious and Moral Education (RME). In Northern Ireland, Religious Education still places most emphasis on Christianity.

[4] See http://www.clear-vision.org

[5] See http://www.sangharakshita.org

[6] See http://www.fwbo.org

Clear Vision was founded to record the teaching and activities of the FWBO. However, in the early 1990s, changes in the teaching of Religious Education (RE) in English and Welsh schools meant that Buddhism was now one of six major faiths which could be studied. This was excellent news, but there were no suitable teaching materials and teachers trained to teach theistic faiths had no idea where to start with Buddhism. To meet this need, Clear Vision's film makers were joined by two Buddhist primary school teachers, Padmasri and Adiccabandhu. Their first video, *Buddhism for KS2*[7], was for 8 - 11 year-olds and released in 1994. It won an award[8] and is still one of our top-selling DVDs. We now sell seven Buddhist DVD packs for 4-18 year-olds to schools across Britain.

In addition to making these DVDs for schools, we provide RE teachers with training in presenting Buddhism in the classroom, and consultancy to government departments and other publishers of Dharma materials for children. We also run the highly successful school visits service for the Manchester Buddhist Centre[9], in which we have our offices. Since the late 1990s, we have welcomed one or two thousand schoolchildren a year and I have taught at least half of these.

In all this work, we seek to represent not just the belief and practice of our own tradition, but to convey that which is common to most Buddhist traditions and something of the diversity of the Buddhist world. Our ability to do this has grown as we have become better connected and more knowledgeable, in particular through active membership of the Network of Buddhist Organisations (UK)[10]. Where we do not show diversity, as in our DVD about the Manchester Buddhist Centre, *Buddhist Centre in the City*[11], we make it clear we are exploring one among many very different expressions of Buddhism.

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[7] See *Buddhism for Key Stage 2*, (DVD pack for 8-12 year-olds), The Clear Vision Trust, 1994.

[8] Highly commended, Sandford St Martin Religious Education Awards 1997.

[9] See http://www.manchesterbuddhistcentre.org.uk

[10] See http://www.nbo.org.uk

[11] *Buddhist Centre in the City: A Tour of the Manchester Buddhist Centre* (DVD pack for 8-14 year-olds), The Clear Vision Trust, 2002.

Clear Vision's are not the sole classroom materials for Buddhism in Britain. There are others, most of which have been created by non-Buddhists such as the BBC, RE teachers or commercial producers of teaching materials for all aspects of the curriculum. Some are sound and some display little or no understanding whatever. (Did you know, for example, that all Buddhists shave their heads and carry a needle and thread in their pockets to mend their clothes because they don't like shopping for new ones?) Our materials are among the most popular, much recommended by government advisers. It is very reassuring to note that many Buddhists like our materials as much as RE teachers do; although we are far better known among teachers than among Buddhists, such is the diverse and fragmented nature of the British Buddhist scene.

The response to Buddhist ethics in English and Welsh schools

Over the last decade, Buddhism has become very popular in English and Welsh schools, both with teachers and students. Most school pupils will encounter Buddhism with no previous experience of it, or, indeed with any other religion; in the overall UK population of 60.5 million people there are fewer than 200,000 Buddhists. In a country in which white people have largely abandoned religion, Buddhism has a very positive reputation as a peaceful path. The Anglican Church remains the established religion.

In particular, teenagers love Buddhism for its God-free ethics. They often think it just makes sense. Though not Buddhist, many of them demonstrate a strong ethical idealism which they find mirrored in Buddhism. Animal rights, fair trade and care for the environment are among the issues they care about. In the teachings of non-harming, karma and the Five Precepts many find what they consider clear, common-sense and valuable guidance: principles and guidelines, but not rules. In their words, Buddhism is "cool". At the Manchester Buddhist Centre we are starting to find people in their twenties attending introductory Dharma and meditation classes for adults because of what they learned at school in their teens.

Whether or not they agree with it, many English and Welsh teenagers find Buddhism gripping and challenging philosophically. Over the age of 14, when RE ceases to be mandatory, they are most likely to learn about Buddhism if they have chosen to take a GCSE or A level course in Religious Studies, courses publicly examined at age 16 or 18 respectively. At a recent A Level conference on Buddhism, a group of 17 year-old girls disrupted the talks with good questions, rudely expressed. Afterwards their teacher explained that they were completely fascinated by what they had heard and had gone back to school, arguing and discussing with great animation. All of them were Muslims, wearing the hijab.

However, it has to be said that teachers are often confused about Buddhism. On the one hand, our non-theism is easily mistaken for humanism; on the other, it may be overlooked or disbelieved. Mention Bodhisattvas or archetypal Buddhas outside time and space and teachers see God, the Father and creator. I have heard the profound significance of the teaching of conditionality or dependent origination swept away with the cheery assertion: "Yes, but it is obvious everything depends on other things. God made it like that. What's distinctively Buddhist about that?"

Though they may find it difficult to teach, all teachers have one particular reason to love Buddhism: every teacher is desperate for their pupils to learn that actions have consequences! Our DVD for 4-7 year-olds, *The Monkey King and other Tales*,[12] uses Jātaka tales and other stories, such as that of Siddhartha and the Swan, to teach ethical values through story. It sells remarkably well to Catholic primary schools.

The presentation of Buddhist ethics in English and Welsh schools

As I have said, there are many teaching materials available for the teaching of Buddhism in British schools. The worst of them present Buddhism superficially, as a list of rules and facile generalisations: e.g. Buddhists are not allowed to lie...; Buddhists have to shave their heads...; Buddhists believe that if they steal something they will come back as a frog in their next life..."

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[12] *The Monkey King and other Tales* (DVD pack for 4-7 year-olds), The Clear Vision Trust, 1997.

One could perhaps characterise this as the school of doing certain things in order to get something; "being good in order to get to Nirvana". (I did once come across a Buddhist-run web site which claimed it was easy to get to Nirvana; all you had to do was "be good". There followed an explanation of the Five Precepts.) This seems to me a crude and selfish version of the Buddhadharma. It's also an unattractive teaching method in schools.

In my view, the best materials present Buddhism, and ethics in particular, as a set of principles and guidelines enabling us to become far more than we are; principles variously interpreted and lived out in diverse practices, leading to deepening awareness and the gradual transformation of heart and mind for the sake of all beings. They give a sense of the diversity among Buddhists, each of whom is responsible for the consequences of their actions. Instead of using subjective terms like "good" and "bad", they define skilful behaviour in ways easily recognisable to young people: kindness, generosity, etc.

Of course this is an ideal. The very best Buddhist teaching materials for schools do not yet exist! Having described my own approach, I will look now at the way Clear Vision materials represent Buddhist ethics, starting with the educational context in which this happens.

There are differences in the style of provision of RE in England, Wales, Scotland and Northern Ireland. Clear Vision's materials are primarily designed for the syllabuses in England and Wales[13]. Here, RE teaching must allow pupils to do two things:

1. To learn *about* faiths: for example, developing knowledge and understanding of the life of the Buddha, his teachings and Buddhist practices and lifestyles

2. To learn *from* the faiths they study: for example to ask themselves, if I were practising Right Speech, what difference would it make?

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[13]   While the ethos for RE in England and Wales is set out nationally in such documents as the non-statutory National Framework for Religious Education (2004), the detail of what is to be taught in each school is set out in Locally Agreed Syllabuses, drawn up by Local Education Authorities in consultation with local faith representatives. To view the Framework, go to www.qca.org.uk/qca_7886.aspx.

The best teaching enables pupils to develop the capacity for reasoned argument, respectful consideration of different views, and imaginative engagement with the teachings of a given faith.

Clear Vision DVDs teach *about* Buddhism using video in various ways to explain the teachings, show holy sites in Asia or Britain, tell illustrated stories, interview Buddhists and show Buddhists living their beliefs at work, at home and at worship. In our DVD pack for 12-14 year-olds, *Living Buddhism for KS3*[14], for example, the Five Precepts are explained by five Buddhists who work at Windhorse: Evolution[15], a large Buddhist business in England, importing ethically-traded gifts from Asia and selling them in Europe to generate profits to support Buddhist projects.

Each DVD pack includes a handbook with background information sheets for the teacher and for the pupils, as well as discussion topics and activities to help the pupils learn *from* what they have seen in each video section. The teacher is free to use, adapt and add to the materials in any way s/he wants, but most of the materials follow a particular pattern: 1) discussion of existing views; 2) watching video; 3) further discussion and questions; 4) activities extending pupils' thinking and understanding.

Let us see how this is applied to teaching the Five Precepts. The materials suggest starting by asking the pupils to consider and then discuss any rules they live by. These may be formal rules, or the pupils may become aware of unspoken rules affecting their conduct. Where did they learn these rules? What are the consequences when they break them? After showing the video itself, the teacher will invite questions and discussion. To develop the pupils' understanding, the suggested activities include drawing up five guidelines pupils would like to see their school or community live by. Or they could try living by one of the Five Precepts for a week, keeping a record and reporting back in the next lesson on how it went: ethical dilemmas; how it felt; impact on relationships with others.

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[14] *Living Buddhism* (DVD pack for 12-14 year-olds), The Clear Vision Trust, 1996.
[15] See http://www.windhorse.biz

(I should say at this point that RE has to allow pupils the right of distance from the material being studied: we may not assume pupils assent to the teachings of any religion, neither may we require them to participate in religious observances. However, we can certainly encourage exploration of universal values such as generosity, compassion or awareness.)

We concentrate on this particular set of precepts because they are common to the widest range of Buddhists worldwide. Teaching Buddhism to those more accustomed to theism, we find it important to emphasise a distinction between theistic commandments and the precepts as ethical undertakings to be practised more and more deeply as awareness and commitment deepen, as far as circumstances allow. To paraphrase the Buddha's teaching to the Kālāmas[16], cited above, we practise the precepts not because we have been told to, or because they are traditional, but because we have found that they work; living by them, we find that we become wiser, kinder people. As I often ask in my own teaching with young people, in a world in which nobody is ultimately in charge, what kinds of behaviour bring about the greatest well-being for all? If your teachers failed to turn up to school one day, what kinds of behaviour would help you to help each other to be as safe and content as possible? Here we could bring in the novel, *Lord of the Flies*,[17] which tells the story of a school group marooned on an island without their teachers or sound ethics, and the terrible consequences.

In our DVD *Buddhist Pilgrimage: an Indian Spiritual Journey*,[18] the featured pilgrims visit the Diksha Bhumi, or Conversion Ground, at Nagpur. This is a modern pilgrimage site relating to India's new (Dalit) Buddhists, the first of whom converted to Buddhism here in 1956, taking the Three Refuges and Five Precepts after their leader Dr BR Ambedkar. The accompanying study materials emphasise the precepts as the outward expression of a Buddhist identity; of Taking Refuge in the Buddha, Dharma and Saṅgha.

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[16] The teaching to the Kalamas (Aṅguttara-nikāya, III.65) Quoted at the start of this paper.
[17] *Lord of the Flies*, William Golding, London, Faber & Faber, 1954.
[18] *Buddhist Pilgrimage: An Indian Spiritual Journey* (DVD pack for 8-14 year-olds), The Clear Vision Trust, 2006.

We also pair the precepts, phrased in the negative, with virtues to be cultivated;[19] e.g., instead of simply considering the necessity of avoiding taking the not-given, pupils are encouraged to consider the effect of cultivating generosity. This happens to fit with modern school practice of replacing traditional school rules (e.g., "Do not run in the corridors") with undertakings encouraging positive behaviour (e.g., "We will line up quietly when the bell goes."). Good psychology; sound Dharma.

Obviously, no study of Buddhist ethics makes sense without some exploration of karma and conditionality, appropriate to the age group. With small children our materials encourage a simple awareness of the way one thing leads to another, this becomes more sophisticated with older pupils. *Buddhism Today*[20] is our DVD for over-14s and looks at key ethical issues with the help of Buddhists from six traditions in Britain. Here, karma and conditionality are explained through a video visit to Holy Island, off the west coast of Scotland. The island has been developed as an environmental project[21] under the direction of Lama Yeshe Losal Rinpoche, a Tibetan Buddhist master in the Kagyu tradition.

We need to address the ethical issues facing teenagers today, which are also required by the syllabus. Thus, *Buddhism Today* also looks at the teaching of ahimsa through the stories of a Buddhist gynaecologist performing a sterilisation and a 15 year-old expecting her first baby[22]. A variety of Buddhists give their views on the ethics of abortion. There is no "Buddhist line" but we present the teachings which would influence any Buddhist in making a personal decision.

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[19] The Five Virtues: *maitri/mettā* (lovingkindness); *dāna* (generosity); *samthusti/santuṭṭhi* (contentment); *satya/sacca* (truthfulness) and *smrti/sati* (mindfulness). I have not been able to find a scriptural instance where all five are listed together; however, there are instances where the Buddha indicates that it is necessary not only to practise abstention from negative behaviour but also to cultivate its positive counterpart; e.g. Dīgha-nikāya, I: 4: "Laying aside the stick and the sword, he dwells compassionate and kind to all living creatures."

[20] *Buddhism Today* (DVD pack for 14-18 year-olds), 2000, The Clear Vision Trust.

[21] See http://www.holyisland.org

[22] British teenage pregnancy rates are "among the highest in Western Europe". Fifth Annual Report, Independent Advisory Group on Teenage Pregnancy, July 2008. The section of *Buddhism Today* described here is entitled 'Matters of Life and Death: The Sanctity of Life' and was highly commended in the Sandford St Martin Religious Education Awards 2001.

Elsewhere, we deal with the topic of **Right Livelihood**[23]. The video example here is a vegan cafe run by Buddhists in Manchester. The staff at Earth Cafe[24] are paid according to individual need rather than qualifications or responsibility. We ask the students to consider how they would feel if someone else were paid more than they were for the same work. Suggested classroom activities include collecting newspaper job advertisements and considering how far they might be considered Right Livelihood. Could nursing be a wrong livelihood if done in a persistently unskilful state of mind? Is butchering Right (or better) Livelihood if the cows are treated kindly first? The precepts are not presented in black and white; we encourage an engagement with them as the progressive expression of a Buddhist's deepening understanding of the teachings of *ahimsa* and *karma* and a desire to change.

Let us come now to the subject of **meditation**. All teachers would like their pupils to cultivate stillness and contentment, as much to develop pupils' concentration spans as for a bit of peace and quiet! Nearly all Buddhist traditions teach meditation, at least to monastics. Though the Threefold Way (ethics, meditation, wisdom) lists meditation after ethics, most westerners have come to Buddhism via meditation. I teach pupils, also, that meditation is about developing awareness, and awareness is vital in the practice of ethics. Without awareness we will not notice opportunities for ethical behaviour; with greater awareness we can make better ethical choices, with corresponding results.

There is a slight difficulty here, though. Though in the west meditation divorced from Buddhist practice is very popular in its own right, it could be viewed as a religious practice, which is not allowed in an RE lesson, at least up to age 14, where pupils may choose to move on from mandatory RE to optional Religious Studies (RS). So the standard term for an educational, non-religious meditative exercise is a "stilling exercise". Our DVD pack handbooks include written stilling exercises which teachers can use in the classroom. Our CD, *Stilling Exercises for Young People*[25], is also very popular. However, there really is nothing like

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[23] *Buddhist Centre in the City*, op cit.
[24] See http://www.earthcafe.co.uk
[25] *Stilling Exercises for Young People* (audio CD for 8-18 year-olds), 2007, The Clear Vision Trust.

the experience of sitting on mats and cushions in a Buddhist meditation hall, with a real Buddhist meditator to lead you. On group visits to the Manchester Buddhist Centre, teachers are repeatedly amazed by the unexpected stillness of even difficult classes.

So what is the difference between a stilling exercise and a meditation? Our stilling exercises vary in length and content, but typically involve some element of awareness of sounds, emotional states, body and breath and cultivation of a kindly attitude to oneself and others. For the over-14s, there is the option of doing a more formal practice of mindfulness of breathing (*anāpānasati*) or loving kindness meditation (*mettā bhāvanā*). Whichever we are doing, it is important to tell the pupils they are free to take part or just listen; if they are sitting quietly and respectfully nobody will know which they have chosen anyway.

A defining quality of ethics is compassion. Our materials mention the figure of the Bodhisattva as an archetype of the ideal human being; one motivated by perfect compassion. *Living Buddhism*[26] tells the story of Avalokiteshvara and links this to the humble and much-loved figure of Dhardo Rimpoche (1917-1990),[27] a Gelug and Nyingma teacher considered by many to be a living Bodhisattva, who for many years ran a school for Tibetan refugee children in Kalimpong, northern India. The suggested activities include pupils making up a poem or song describing their response to the world's suffering and what they might do about it.

As I have said, English and Welsh teenagers often love their encounter with Buddhism. However, they (and other westerners) do also find it offensive sometimes, particularly when they hear Buddhists who teach that everything which happens to us is the result of our own previous actions (*karma*); and that, for example, if people died in the tsunami, it was their *karma* to do so. In the west at least, this teaching is found particularly among Buddhists of Tibetan schools. Westerners hear this teaching as heartless and blaming; i.e., if you have cancer, it's your own fault. Perhaps because of the Christian teaching of Original Sin, they do

[26] *Living Buddhism*, op cit.
[27] *The Wheel and the Diamond: The Life of Dhardo Tulku*, 1996, Suvajra, Glasgow, Windhorse Publications.

not hear it as a simple statement of the nature of Reality, affecting everyone alike.

My own tradition looks to the Buddha's statements in the Pāli Canon that the view that all our experience is a result of our past actions is a wrong view;[28] and to Buddhaghosha's description of the Five Niyāmas of causation, of which just one is karma. Clear Vision's older teaching materials simply state that there are several types of causation;[29] however since I have become more aware of the teaching referred to above, (though I consider it false) I do mention that there is a diversity of views. I do this as much for the sake of fairness as to help those confused by varying teachings.

Schools are encouraged to meet members of the faiths they study; however, there is a shortage of Buddhists available to speak personally to pupils in schools. Our latest initiative at Clear Vision is a free online video service called Ask a *Buddhist!*[30] Here, a variety of Buddhists give short answers to pupils' frequently asked questions about all aspects of Buddhism, such as "Are Buddhists allowed to eat meat?" and "Are Buddhists allowed to have sex without marriage?" It's attracted a lot of interest, as much from Buddhists as from schools. Ideally all our products would be free, but there is virtually no charitable funding available for such work: in Britain most secular charities do not fund religious projects; most religious charities fund only their own religion's work; and most Buddhist funds support only the work of their own Buddhist tradition. Western Buddhist convert saṅghas do not have the centuries-old culture of Dharmadāna which we see in Buddhist Asia. Thus Clear Vision relies almost entirely on the sales of its materials for schools. Anyone who feels moved to offer dāna for our work is most welcome.

Why do we do this work? Certainly not for the money; Clear Vision staff are paid enough money for a dignified but simple life, according to need. Neither do we intend to make converts. In a secular school system, Buddhist materials must seek to inform and stimulate enquiry, not faith. My mission is to inspire young people

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[28] Majjhima-nikāya, II: 214; Aṅguttara-nikāya, I: 173.
[29] Atthasālinī, 854.
[30] See www.clear-vision.org/Students/AskaBud.aspx.

of all faiths and none to ask questions about meaning, purpose and ethics. The answers are up to them, of course.

Does the teaching of Buddhism in English and Welsh schools offer a model for Dharma teaching with teenagers in the traditionally Buddhist world?

I will now move on to my final topic: the exploration of the Dharma with young people at home or in places of worship.

It has become clear to me recently that, ironically, most teaching of Buddhism for young people in Britain is being done by and for non-Buddhists. Indeed, some of the best teaching of Buddhism for young people in Britain is being done by and for non-Buddhists.

A government grant[31] has enabled Clear Vision's current project: a free online interactive video with notes and activities, linking Buddhist teachings to matters of citizenship and social cohesion, roughly based on the Four Sangrahavastus (Saṅgahavatthus), variously translated as the Bases of Sympathy or Means of Unification of the Saṅgha[32]. This resource is not for schools but for young people of Buddhist background, or individual young people pursuing an interest in Buddhism. Made to the same standards as our materials for schools, it will take a similar approach.

When Clear Vision applied for this grant, we said we believed there were no teaching materials for young Buddhists, who were generally underserved. In making the DVD and meeting young people in several very different Buddhist traditions, I have learned just how true this is.

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[31] The Faith Communities Capacity Building Fund supported religious projects promoting social cohesion in England and Wales. See www.cdf.org.uk/POOLED/articles/bf_techart/view.asp?Q=bf_techart_212417.

[32] The Four Saṅghavatthus/Sangrahavastus are taught by the Buddha to Hatthaka, a young follower who is alone and wishes to draw others to the Dharma. (Aṅguttara-nikāya, VIII.24) They are *dāna* (generosity); *peyyavajja/priyavadita* (kindly speech); *atthacariyā/arthacarya* (beneficial activity); and *samānattatā/samanarthata* (same-goaledness/treating others as oneself/exemplification). In the Mahāyāna they are the means by which Bodhisattvas attract beings to the good, the "four expedients by which sentient beings feel themselves attracted by us"; Ch. 10; *Jewel Ornament of Liberation*, Gampopa, trs. H.V. Guenther, London, Rider, 1971.

Many Buddhist groups have no activities for young people. If they do, they tend to be once or twice-yearly national gatherings. Some have activities for children, but none for teenagers. Some of their activities are fun and engaging, but I suspect that most, if any, formal Dharma teaching is old-fashioned and didactic; nothing like the kind of teaching those young people may be getting at school. The only teaching materials may be home-made, or given away as Dharmadāna by generous Buddhists in traditionally Buddhist countries. These tend to focus on Jātaka tales and other stories, excellent for children but of little interest to teenagers.

The London Buddhist Vihāra (Sri Lankan Theravāda)[33] runs what is probably the UK's oldest and largest Sunday School, with young people ranging in age from about three to 18. Some of the teenagers there – boys and girls - are articulate and passionate about the Dharma. There is a group preparing for Sri Lankan public examinations in Dhamma, which require study of selected Pāli texts including the Abhidhamma. Beyond this, they are trying to establish a discussion group. However, they have no study materials apart from photocopied pages from the Pāli scriptures and some free story books which are far too young for them and do not address their lives as urban young people in Britain. As one of their mothers said of these books, "These aren't appropriate for our teenagers. They may have Sri Lankan parents, but they are also westerners."

I have met British teenagers, both white and Asian-heritage, who hold strongly to Buddhist values, whether or not they identify formally as Buddhists. I have also met teenagers who consider Buddhism a quaint superstition for grandmothers, or who demonstrate a strong Asian Buddhist cultural identity but know very little of what Buddhism actually teaches. An interesting variation on this is a young Vietnamese British man I encountered last year, skilfully navigating the space between Buddhism east and west. His Vietnamese temple offered tradition, ritual and community, he said, but no Dharma teaching, so he also attended beginners' classes at a nearby Buddhist Centre popular with western converts. He described finding his mother praying to the Buddha for good luck in his school examinations. "Mum!" he said, "that's not Buddhism!'"

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[33] See http://www.londonbuddhistvihara.org

In 2007, working for Bhutan's Ministry of Education on its new framework for Values Education, I met a number of Bhutanese Buddhist teenagers. Questioning them on their values, I was very surprised to hear talk of asking "God" for forgiveness; not something commonly associated with Buddhism! I also met Bhutanese educationalists very concerned that their younger generation, now devoted users of mobile phones, iPods and cable TV, were losing touch with their values and traditional culture. (I gathered very few monks were teaching laypeople, let alone young laypeople. The one school Dharma class I observed involved chanting and then sitting in silence while a monk spoke for half an hour. Several of the educationalists mentioned Dharma books they were reading, all written by teachers in the west.)

I would argue that loss of traditional values and culture is happening as much among British Asian Buddhist teenagers as among their Himalayan contemporaries. Indeed, it is the condition of the modern world. Tradition is ceasing to be a compelling force. Young people will not visit the temple or turn prayer wheels as their grandparents did, out of a sense of their place in the age-old "natural" order of things. To the extent that tradition maintains positive values which hold societies together this is a tremendous loss. However, as the Buddha makes clear in his teaching to the Kālāmas, tradition is useful but not enough. To the extent that traditional identification with Buddhism is habitual and unthinking it may be be an instance of the Third Fetter,[34] preventing a more informed and thoughtful engagement with the Dharma. In this case, some loss of tradition may be a gain.

As I have said, in a secular school system, Buddhist materials must seek to educate *about* Buddhism and stimulate enquiry, not faith. If non-Buddhist British pupils find Buddhism interesting and attractive, it is not because it is traditional, but because it makes sense and addresses their very human longing for meaning. I would argue that, as tradition loses its influence, this same approach is needed in historically Buddhist communities too. To enable young people to make the Dharma their own, we need to appeal to their intelligence, not to their sense of duty. We need

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[34] Sīlabbata parāmāsa/silavrata paramasa

to teach Dharma in a spirit of enquiry and practical exploration, relating it to contemporary household and global issues and allowing experimentation and the freedom to disagree.

"*If my children learn only one thing, let it be that actions have consequences.*" Dhardo Rimpoche [35]

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[35] *Source not found*.

For clips from from the DVDs referred to here see www.clear-vision.org/teachers. For the free Ask A Buddhist! video pages, see www.clear-vision.org/students.

The Impact of Political Instability
on the Education of the *Saṅgha*
in the 17th Century Siam

Venerable Khammai Dhammasami[1]

❦

Introduction

From 1569 to 1809 there were periods of great instability at Ayutthaya, in which the monarchs, if they were strong enough, felt the need to apply greater control over the Order. One of those periods that has drawn our attention is some critical years during the reign of King Narai (1656-1688). Towards the end of his reign, now famously known as "the 1688 Revolution"[2] , King Narai is reported by La Loubère, the French ambassador to Ayutthaya, to have defrocked "thousands" of monks at Ayutthaya on account of their "not being learned enough".[3]   The King employed an instrument, formal examinations, later came to be known as *Parian*, to assess monks' the knowledge of Buddhist scriptures. Traditionally, this

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[1]   Venerable Khammai Dhamamsami, DPhil. (Oxford), serves as a trustee of the Oxford Centre for Buddhist Studies, University of Oxford and is professor at ITBMU, Yangon. He is also a founder and the Executive Secretary of the IABU.
[2]   Hutchinson, trans. 1688 *Revolution in Siam: The Memoir of Father de Bèze, s.j.* pp.63-103; Desfarges, de La Touche & des Verqiains, *Three Military Accounts of the 1688 Revolution in Siam; Smithes, A Resounding Failure: Martin and the French in Siam* 1672-1693, pp.88-98; de Forbin, *, The Siamese Memoir* 1685-1688, pp.177-181; Van Der Cruysse, *Siam and the West* 1500-1700, pp.427-467; Wyatt, *Thailand*, p.117.
[3]   La Loubère, *The Kingdom of Siam*, p.114.

incident has been interpreted as one brought about mainly by the failure of the *Saṅgha* who neglected their duty of study (and to a certain extant of the earlier Ayutthayan kings who ignored their royal patronage)[4]. However, we will suggest that the Buddhist monastic Order, for the most part, was not responsible for King Narai's uncompromising stand; instead, it was rather due to the circumstances, namely geopolitical, by which the two most powerful institutions in Siam, the *Saṅgha* and the monarchy, were brought into a conflict. The great instability from the seventeenth century Ayutthaya affected the Buddhist monastic Order in general and its education in particular. Here the analysis is undertaken, in the absence of well documented ecclesiastical records of the relevant periods, mainly through the available sources on Siamese history in both Thai and English.

Wat as an educational institution

The *wat*, monastery, was not just the spiritual focus of the society, but also an educational institution. Indeed providing education for the people was the major means of recruitment into the Order, because ordination was a pre-requisite for higher study. During the time of the Buddha ordination was motivated by a desire for salvation; but centuries later, when Buddhism was established outside India, study became the primary motivation. This was true in the Siamese kingdom from the time of the arrival of Buddhism at Sukhothai right up to the 1930s, when secular primary education, which had been introduced about half a century earlier, was made compulsory throughout the country. Indeed, monasteries were the only places to which ordinary people could send their children for education, as the royal school, *samnak ratchpandit*, situated in the palace, was reserved for children of royal descent.[5]

Parents sent their sons to a monastery to receive education[6] ; these boys were known as *dek wat,* "temple-boy", receiving instruction in reading and writing in Siamese, and serving their master. Many boys spent a few years in the Order studying, and then left. This temporary ordination became a part of Thai Buddhist

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[4]   *Prawat karn suksa khongsong* , pp.14-16.
[5]   *Prawat Krasong Suksathikarn* (History of Ministry of Education), pp.1-2.
[6]   Young, *Village Life in Modern Thailand*, p.118.

culture and was one that often caused "needless readjustment within the community" as the monastery had to devote human and material resources to training them.[7] Ordination "was considered as part of a man's education"[8]. It was felt in those days in Siam that the objective of ordination was to study,[9] *bot-rian*, "to ordain and study". As with all other Theravada countries, a boy was normally initiated as a novice, *sāmaṇera*, if he received ordination before he was twenty. A young man of twenty and above would be given a full or higher ordination, *upasampadā*. Study after ordination, on the other hand, was focussed on raising the monk's knowledge of Buddhism. Learning the Pāli scriptures, the *Tipiṭaka*, preserved in Siam only in Khmer script until the mid-nineteenth century, was one of the most important factors in monastic life. One studied for one's own practice. This was to enable one to live by the discipline, *vinaya*, and to practise meditation. In addition, secular arts and sciences were occasionally integrated into the monastic curriculum to fulfil the needs of the wider society.[10]

Royal Patronage

As a spiritual and educational institution, the Order attracted royal support. In Siam, as in other Theravada states, kings viewed it as their duty to support the Order to earn merit for themselves and to perpetuate the religion. On this tradition Gombrich remarks: "History has shown the importance for the Order of the favour of kings and governments"[11]. The monarchs were interested in two aspects of the Order: maintenance of discipline and study of the scriptures.

As far as discipline is concerned, royal attention was given to maintaining the unity of the *Saṅgha* and strict observation of the *Pātimokkha* rules by individuals. Many rulers forced monks to leave the Order from time to time on the grounds of poor discipline. To maintain the unity of the Order and strict adherence to the *Vinaya*,

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[7]   Bunnag, *Buddhist Monk and Buddhist Layman*, p.41; Zack, *Buddhist Education Under Prince Wachirayanwarorot*, pp.45-46.

[8]   Ishii, *Saṅgha, State and Society*, p.26.

[9]   *Prawat karn suksa khong khana song thai*, p.16; Thewethi, *Phra phutthasasana gup karnsuksa nai adid* (Buddhism and Education in the Past), p.117.

[10]   Wyatt, *The Politics of Reform*, p.4. See also Rahula, *History of Buddhism in Ceylon*, p.161.

[11]   Gombrich, "Introduction: The Buddhist Way", p.9.

a system of ecclesiastical hierarchy, with a *Saṅgharāja* at the top, was instituted by the kings in the early days of the Siamese kingdom.[12] According to European visitors to 17th century Ayutthaya, such as the Dutchman van Vliet and the French Catholic missionary de Bourges, by the late Ayutthaya period there were at least four "highest regents", i.e. *Saṅgharājas*, at any one time; all *Saṅgharājas* were appointed by the king; and one of them was made "supreme dignitary" of the whole *Saṅgha* in Siam.[13] Here three of the four "highest regents" were clearly the deputy-*Saṅgharājas*, one each from the "village-dwellers of the south", the "forest-dwellers" and the Mon *Saṅgha*.

Over the centuries, the kings took measures to promote monastic education. The monk appointed to the post of *Saṅgharāja* would usually be the most learned (and senior), often described as one who knew "all the three *piṭakas* in their entirety".[14] Here the question may be raised whether every past *Saṅgharāja* actually knew all the scriptures very well.   The tradition of appointing a learned and senior monk to this highest ecclesiastical post began during the Sukhothai period. King Ramkhamheng (1279-1298) appointed a learned "forest-dweller" from Nakhon Sri Thammarat as *Saṅgharāja*, for he "has studied scriptures from beginning to end and is wiser than any other monk in the kingdom".[15] That enthusiasm on the part of the monarch in promoting monastic education meant that sometime kings themselves took up the task of teaching the *Tipiṭaka* to members of the Order. At Sukhothai, King Lithai (1346-1368), the author of the famous work on Buddhist cosmology, *Traiphum Phra Ruang* or *Tribhūmikathā*, taught monks. At Ayutthaya, King Song Tham (1611-1628), who was a very senior monk with the title Phimontham (*Vimaladhamma*), before leaving the Order to ascend the throne, taught monks and novices the *Tipiṭaka* "in the three pavilions (*chom thong*, golden spires) in the palace".[16] As a part of their support for monastic education, the kings throughout the centuries also provided learned

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[12] na Nagara & Griswold cit., pp.274, 277.

[13] na Pombejra, *A Political History of Siam Under the Prasathong Dynasty*, p.91.

[14] na Nagara & Griswold cit., p.492. Swaeng Udomsri, *Karn Bokkhrong Khanasong Thai*, p.66.

[15] Ibid, pp.261-262, 274, 298.

[16] Besides these pavilions, there was a chapter house in the palace compound, called *Wat Sri Sanphen*.

monks with requisites and built them monasteries. These monasteries have come to be known as *wat laung,* "royal monastery".

Monastic Education in Early Ayutthaya

However, despite such strong royal patronage, abbots were in total control of the administration and also of the education in their monasteries: they selected their own candidates for ordination and designed their own syllabuses.[17] With regard to administration, no permission was required to admit a new member into their monasteries. *La Loubère* reported that even "*Sancrats* have not any jurisdiction nor any authority, ……. over the *Talapoints*, which are not of their convents".[18]

In education, consequently, there were no centrally designed syllabuses for all monasteries to follow.[19] "The nature of traditional education" provided in the monastery "was clearly determined by perceived traditional needs". The subjects were not necessarily religious alone, but reflected "instead whatever academic abilities the teacher had such as mathematics or poetry, for example".[20] Having taught reading and writing in Siamese to new students, various teachers must have adopted different texts or parts of them of their own selection to plan a curriculum. But we do not know what texts were actually used to teach monks and novices in monasteries.

However, from the fact that some texts were more popular and widely used than others we may possibly deduce that in ancient Siam there was some standardization of the curriculum, or, in the words of Justin McDaniel, a researcher on the *nissaya* literature in northern Thailand and Laos, even a "curricular canon" or "practical canon".[21] Charles Keyes, in his work *Thailand*: *Buddhist Kingdom as Modern Nation-State*, lists three "key" texts which he considers to define basic parameters of Buddhist education in Siam because they were "in almost every monastic

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17 Bodhiprasiddhinanda, "*Kansuksa khongsong nai adid*, (The Saṅgha's Education in the Past)" *Roi pi mahamakut withayalai (The Centenary of the Mahamakut Royal University)* p.418.

[18] La Loubère, p.114.

[19] Keyes, *Thailand*, 184.

[20] Zack, p.44.xxx

[21] McDaniel, "The Curricular Canon in Northern Thailand and Laos" *Manussaya: Journal of Humanities*, 4:2002, pp.20-59.

library".[22] These texts are the *Traiphum Phra Ruang (Tribhūmikathā)*, the *Phra Malai* and the *Vessandon [Vessantara-jātaka]*.

The Traiphum Phra Ruang, written in 1345 AD by Phya Lithai, at that time the heir apparent of Sukhothai and later its paramount ruler, is an "expression of the orthodox Theravada tradition, and a sermon that seeks to make the *Dhamma* more accessible to the laity".[23] Working "closely with the leading Theravada monks of his day", Phaya Lithai drew the materials from "the scriptures, commentaries, and treatises that had been transmitted and endorsed by the Theravada elders".[24] It is a sermon, as Phya Lithai endeavoured to put the message of those scriptures "in a new and more accessible form" because he feared, as George Coedès puts it, that the Three Baskets, the Buddhist canonical scriptures, would disappear.[25] *The Traiphum Phra Ruang* deals with the way to enlightenment, mainly but not exclusively in a cosmological form. As Frank and Mani Reynolds have observed, the cosmological vision is also seen by Phaya Lithai as complementary with the psychologically orientated analysis of consciousness and material matters (*nāma-rūpa*). *The Traiphum Phra Ruang* explains the differences in the universe as conditioned by the inhabitants' own *karma*, the law of intention-based action. This work "has exerted a powerful influence on the religious consciousness of the Thai" and is described by Reynolds as "the most important and fascinating text that has been composed in the Thai language". [26]

The *Phra Malai* is the collective name of texts that tell the legend of an arahat *Māleyya (Mālayya)*, believed to have lived in Aruradhapura, Sri Lanka, during the reign of the legendary Sinhalese King *Duṭṭhagāmaṇi* (101-77 BC). The majority of the texts were composed in Thai dialects such as Lanna, Laotian and central Thai.[27] All the texts were based on the Pāli version of the *Phra Malai* called *Māleyyadevatthera-vatthu*. The exact details of this work remain

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[22] Keyes, p.179.

[23] Reynolds & Reynolds, *Three Worlds According to King Ruang*, p.5. For more information see na Nagara & Griswold, *Epigraphic and Historical Studies*, pp.424-425; Lausoonthorn, *Study of Sources of Triphum Praruang*, p.11.

[24] Lausoonthorn lists 28 texts as identified sources of the Traiphum Phra Ruang.

[25] Coedès, *Recueil des Inscriptions du Siam*, Part I, pp.77-90 cited by Reynolds, p.6.

[26] Reynolds & Reynolds, p.7.

[27] Brereton, *Thai Tellings of Phra Malai*, p.1.

unknown despite several attempts by different scholars.[28] However, despite the uncertainty surrounding its origin, the various versions of Phra Malai in Thai dialects have dominated the Thai monastic syllabuses throughout the centuries.[29]

The *Phra Malai*, in summary, portrays the good life in heavens and the suffering in hells which the monk, *Phra Malai*, visited "repeatedly" using "his supernatural power and knowledge".[30] The *Phra Malai*, "one of the most pervasive themes in Thai Buddhism", helps simplify the intention-based Buddhist moral teaching of cause and effect, *karma*, for ordinary folk. It was through heavenly rewards and hellish tortures that the majority of the Buddhists were taught about the importance of moral action and its consequences. The monk Malai, through his conversation with sakka, "the king of gods", and with the future Buddha, Metteyya, was able to give hope of enlightenment, the final goal, to the laity, who usually thought that liberation was impossible for them. Moreover, the *Phra Malai* leaves a powerful impression on listeners that the actual verification of *karma* and its effect is beyond the capacity of ordinary people. In a comparison of the *Traiphum Phra Ruang* and the *Phra Malai*, we find that the former attempts in some way to justify the differences between social classes in the human world but the latter focuses on the impact of present action on future existence. The monk *Phra Malai* brought back to the human world a message from the future Buddha, Metteyya, that in order to meet and listen to him (Metteyya), and attain enlightenment, people should "listen to a complete recitation in

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[28] Denis in his thesis at Sorbonne in 1963, for example, thinks that the work was not known in Sri Lanka and was probably written in a Southeast Asian country, though he did not mention which country. Denis, "L'Origine cingalaise du P'rah Malay" *Felicitation Volume of Southeast Asian Studies Presented to H.H. Prince Dhaninivat*, pp.329-38., cited by Brereton, *Thai Tellings of Phra Malai*, p.38. Supaporn Machang, however, in her doctoral work on the origin of *Phra Malai*, writes that the Pāli version of *Phra Malai* was composed in Burma by a Burmese monk sometime between the tenth and the twelfth century, based on a Sinhalese work *Cullagalla*, which itself is a part of another work Madhurasavāhinī. Supaporn Makchang, "*Khwan pen ma khong malai sut* (The Origin of the *Maleyya Sutta)" Wattanatham: somphot krung rattanakosin 200 pi (Culture: The 200th anniversary of the Ratanakosin Dynasty)*, p.1-14. But Bangchang suggests that the work was written by a Thai monk in the late fifteenth or late sixteenth century. Supaphan na Banchang, *Wiwithanakan gnankhian thi pen phasa bali nai prathet thai* (Research on Work Written in the Pāli Language in Thailand), p.320.
[29] Collins, trans. "The Story of The Elder Maleyyadeva" *The Journal of the PTS*, XVIII (1993), p.65.
30 Brereton, p.1.

one day of the Great *Vessantara* Birth-Story",[31] which is known in Thai as the *maha chat* (great life). The *Phra Malai in* northern and eastern Thailand (and Laos) has therefore been used as a preface to the preaching of the *Vessantara-jātaka.* [32]

The *Vessantara-jātaka*, the last of the three important texts that Keyes mentions, is, according to Cone and Gombrich, "the most famous story in the Buddhist world" .[33] As is well known to most, Prince Vessantara "gave away everything, even his children and his wife" and this story "has formed the theme of countless sermons, dramas, dances, and ceremonies".[34] It was from this popular *Jātaka* that many Buddhist values, for instance, generosity, which is foremost among them, but also others, e.g. loyalty to one's family, determination, and Buddhahood as the highest possible goal in life were conveyed.

The *Vessantara-jātaka* attracted the interest of two Siamese monastic commentators: the first, whose name is unknown, wrote a commentary on it in the vernacular language at the request of King Boromatrailokanat (1448-1488) of Ayutthaya, and this work is believed to be the one known today as *mahā chat kham laung*, "the Royal Version of the Great Life" and forms the heart of every *thed mahā chat* (chanting of the Great Life) ceremony;[35] the second author, a monk by the name of *Siri Sumaṅgala*, composed in 1517 a commentary in *Pāli*, which he named *Vessantaradīpanī.*

Apart from these three "key texts", there may have been some other texts that served both as popular literature, at least among the erudite scholars, and as part of a monastic curriculum. Such texts were those that prompted the writing of numerous *nissayas* and other forms of commentary on them. Justin McDaniel lists some of the most popular *nissayas*. They include *Dhammapada*, *Paritta (Sutmon)* (which are discourses selected for chanting), *Paṇṇāsa-jātaka* (a post-canonical work composed in Lanna),

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[31] *Mahāvessantarajātakaṃ ekadivase yeva pariniṭṭhitaṃ suṇantu..* "Brah Māleyyadevattheravatthuṃ" (ed. Denis) *The Journal of the PTS*, XVIII (1993), pp.44-45. See also Collins' translation on p.85.

[32] Brereton, p.61.

[33] Cone and Gombrich, *The Perfect Generosity of Prince Vessantara*, p.xv.

[34] Ibid.

[35] Wyatt "The Buddhist Monkhood as an Avenue of Social Mobility" *Studies in Thai History*, p.208; *Thailand*, pp.73-75; Wood, A History of Siam, pp.84-85; *A history of Wat Rachathiwat* (Samorai), also mentions these facts. See *Prawat Wat Rachathiwat* (History of Wat Rachathiwat), p.31.

Mātikā (the contents of the *Dhammasaṅgaṇī*), *Aṭṭhasālinī* (commentary to the *Dhammasaṅgaṇī*), *Aṭṭhasālinī–yojanā* (commentary on the *Aṭṭhasālinī*), *Saccasaṅkhepa* and *Kammavācā* (texts for ordination and other ecclesiastical rituals).[36]

Besides these *nissayas*, at its higher level the Siamese monastic education system emphasised the study of a certain tradition of Pāli grammar, perhaps *Kaccāyana's*; we assume that bi-lingual versions of *Kaccāyana's* grammar or sections of them were used. One of those bi-lingual versions of the *Kaccāyana's* grammar extant today is a work called *Mūlakaccāyana-atthayojanā* written by *Ñāṇakitti* Thera in the late fifteenth century. The influence of *Kaccāyana's* grammar is evident in the way commented words (*saṃvaṇṇetabba-pada*) are explained, for example, in the *Maṅgalatthadīpanī*.

The *Abhidhamma*, some of the *Vinaya-aṭṭhakathās* and the *Visuddhimagga* were also studied, at least in some of the bigger monasteries. *Ñāṇakitti* Thera's works are a good indication of this fact. His various works on the seven texts of Theravada *Abhidhamma* and on the *Vinaya* were all called *atthayojanā*, indicating that they were composed to aid students. *Ñāṇakitti* Thera wrote commentaries on the Bhikkhu-pātimokkha, the *Sammohavinodanī*, and also a work on *sīmā*, "chapter hall". Another monk, by the name of *Uttarārāma*, wrote a commentary on the *Visuddhimagga*, and named it *Visuddhimaggadīpanī*.[37]

We do not know which *suttas* were selected for syllabuses. But we know that the famous *Maṅgala-sutta* of the *Sutta-nipāta* was one of them. *Siri Sumaṅgala*, the author of the *Vessantaradīpanī*, already mentioned earlier, composed a *Pāli* commentary on the *Maṅgala-sutta* in 1524 at Chiang Mai. It is clear from this famous work that the author was well versed in the Pāli canonical and commentarial texts, which he cited often as his authorities. The *Maṅgalatthadīpanī* is about ten times longer than *Ācariya Buddhaghosa's* commentary, written a thousand years earlier. The *Maṅgalatthadīpanī* was the only Pāli commentarial work

36 McDaniel, "The Curricular Canon in Northern Thailand and Laos", pp.28-30.
37 Khruathai (ed.) "*Bod nam* (Introduction)" *Wannanukam phutthasasana nai Lanna (Buddhist Literature in Lanna)*, pp.14-15.

which is still a part of the monastic curriculum today and is the few works from Siam to be known to monastic scholars in Burma ,[38] Cambodia[39] and Sri Lanka.

The history of the *Sāsana* may have also been part of the monastic curriculum at Ayutthaya. Well-known among the chronicle works composed in Siam are *Jinakālamālī* (1516), written by *Ratanapaññā* Thera; *Mūlasāsana* by *Buddhakāma* (year unknown); and *Cāmadevīvaṃsa* (1407-1457) and *Sihiṅganidāna* (1411-1457), both by *Bodhiraṃsī* Thera (1460-1530). *Ratanapaññā* Thera and *Bodhiraṃsī* Thera (1460-1530) were *Siri Maṅgala's* contemporaries. Although most of these works were written in Lanna, the northern part of present Thailand, they undoubtedly reflected the nature of monastic education in Ayutthaya as well. This was because the Sinhalese fraternity, *Lanka wong*, to which these authors in Lanna belonged, was first established at Ayutthaya before expanding into Lanna. The Sinhalese connection explains the high standard of *Pāli* knowledge in Ayutthaya and Lanna, which in turn helped develop Thai literature.

It may be noted here that nearly all the *Pāli* and bi-lingual works, twenty-eight out of thirty-one,[40] composed during the early history of Siam were produced between 1407 and 1530 before Chiang Mai and Ayutthaya were conquered by the Burmese, when the people and the monastic Order enjoyed peace and stability.

In the Siamese monastic education system before the late seventeenth century, there were no formal examinations, and in their absence a student's qualifications were judged in several ways, for instance as a teacher or a preacher. With respect to the reputation of a monk as a learned teacher, one such instance is recorded in the inscriptions and in the *Jinakālamālī.*[41] *Mahāsāmi Saṅgharājā*, whom we have mentioned earlier, attracted to "Maung Bann" (Martaban) the future leaders of the two Sukhothai fraternities, forest-dwellers and village-dwellers, *Sumana and Anumati*.[42] They decided to go to study with *Mahāsāmi Saṅgharāja* when they heard

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[38] *Sāsanavaṃsa*, p.51. Bode, p.47.

[39] Dutt, *Buddhism in East Asia*, p.100.

[40] Khruathai, *Wannakam putthasasana nai Lanna* (Buddhist Literature in Lanna), pp.14-15.

[41] *Jinakālamālī* p.6.

[42] *Ibid*, pp.82-85.

of his reputation in learning and observing monastic rules, and submitted themselves to the *Saṅgharāja's* rules and course of training. As to preaching, La Loubère observed of Ayutthaya: "When they (the Talapoints) preach, they read the *Balie [Pāli]* text of their Books, and they translate and expound it plainly in Siamese, without Action, like our Professors, and not our Preachers."[43]

Changes in Ecclesiastical Administration and Education in the 17th Century

However, there were developments at Ayutthaya in the late 17th century such that the abbots lost absolute control over administration and education. In administration, the abbots were not permitted to conduct ordinations. They were to be conducted only by one of the four senior monks in the ecclesiastical hierarchy, namely *Saṅgharājas*, who were all appointed by the king. La Loubère thus reported: "None but the *Sancrats [Saṅgharāja]* can make *Talapoints*, as none but Bishops can make priests".[44]

In education too, an equally far-reaching transformation had taken place: the introduction of formal examinations. Towards the end of his reign, King Narai (1656-1688) is believed to have introduced formal examinations for the monks. Consequently, the abbots, who had until then enjoyed total freedom in devising syllabuses for their students, had to take into consideration the syllabus of the royal pundits, that is to say the texts on which they occasionally tested the knowledge of monks.

King Narai, wrote La Loubère, who was the first to record formal examinations in Siam, "causes them [the monks] to be from time to time examined as to their Knowledge, which respects the *Balie* Language and its Books".[45] *Oc Louang Souracac,*[46] a twenty-eight year old and the son of a commander in charge of elephants, was charged with the task of examining the monks and novices. The "forest-dwellers", *araññavāsins*, resisted being examined by a layperson and demanded that they be examined only by their own superior. It was unlikely that the demand was granted. At the end of

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[43] *Ibid*, p.61.
[44] La Loubère, p.114.
[45] *Ibid*, p.115.
[46] He became King *Süa* (Tiger King) (1703-1709).

those exercises "several thousand" monks and novices were forced to return to "the secular condition" for "not being learned enough".[47] In the next section, we shall examine the circumstances in which these developments took place. But before that, we shall discuss the current official position as to why King Narai found it necessary to introduce formal examinations.

Why Formal Examinations were Introduced

According to the currently accepted interpretation, King Narai instituted formal examinations for the *Saṅgha* to prevent the standard of monastic study from further decline.[48] The deterioration, the official version claims, was due to two factors: first, the early Ayutthayan kings, unlike their predecessors at Sukhothai, neglected their duty to provide royal patronage. As a result, the *gāmavāsins*, the "village-dwellers", who were once influential over the monarchy and the people, lost their prominence, and neglected their main profession, teaching. Second, the "Aranyik" [*Araññakavasins*], "the forest-dwellers", on the other hand, exploiting this royal negligence, began to study astrology, magic and mantra (*saiyasart wetha katha*), which were "the animal sciences" that the Buddha forbade monks to study.[49]

We consider this interpretation to represent the official voice because the book, *Prawat karn suksa khong song*, (The History of Education of the *Saṅgha*, 1983), containing the above arguments was published by the Department of Religious Affairs (*krom karn sasana*), (the Religious Studies Section) with an introduction by the Director of the Department. It bears no authorship, the mark of an official paper in Thailand, and carries several announcements by the *somdech Saṅgharāja*, Minister for Education, and Director of Religious Affairs.

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[47] La Loubère, p.114.

[48] *Prawat karn suksa khong song*, pp.14-16.

[49] *Ibid*. This opinion is also held by other Thai writers, for instance Bodhiprasiddhinanda. See "*Karn suksa khong song nai adid* (The Saṅgha's Education in the Past)" *Roi pi mahamakut withayalai* (The Centenary of the Mahamakut Royal University), p.418.

Traditional Interpretation

However, this official interpretation of the causes for the decline is unsatisfactory for a number of reasons. Firstly, the early Ayutthayan kings, particularly those before King Narai, were themselves strong supporters of the Order. King Boromatrailokanat, for example, who ruled at Ayutthaya and Phitsanulok between 1448 and 1488, was an ardent supporter of the *Saṅgha*. According to the "Law of the Military and Provincial Hierarchy" (1454 AD) "the educated monks and novices received higher *sakdi na* grades [by which they were given land indicating their social status] than those who were not educated".[50] He also vacated the throne temporarily to become a monk; and, as noted earlier, he caused the Siamese version of the *Vessantara-jātaka (mahā chat)* to be written. King Song Tham (1610-28), another predecessor of King Narai, was very religious, and as already discussed, taught the *Tipiṭaka* to monks. While we have no evidence to assess the impact of his scholarship on the learning of the *Saṅgha*, it is possible to discern his keen support for monastic education. This fact has been cited by Bhikkhu Prayut Payutto.[51] But, although this historical fact was quoted also in *Prawat karn suksa khong song*, "The History of the Education of the Saṅgha", it had no impact on the way the official interpretation was reached. Furthermore, up to 1634, about two decades before King Narai came to power, there were no signs that the *Saṅgha* was neglected by the king and the people. Van Vliet, who was in charge of the Dutch East India Company at Ayutthaya between 1629 and 1634, estimated that there were "about 20, 000 ecclesiastics" and wrote that "they live partly on what the king and the mandarins bestow on them.... But most they receive from the common people, who furnish them with food and other necessities."[52] While the number of the members of the *Saṅgha*, if true, might be unusually high for the population of Ayutthaya at that time, there was no evidence that the *Saṅgha* and their "beautifully gilded and painted" monasteries were uncared for in any way.

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[50] Wyatt, "The Buddhist Monkhood as an Avenue of Social Mobility", p.208; *Thailand*, pp.73-75; Wood, *A History of Siam*, pp.84-85;

[51] Payutto, *Karn suksa khong song thai*, p.6. *Prawat karn suksa khong song*, p.15.

[52] Cited by Tambiah, pp.179-180.

Secondly, the attribution of astrology and magical practices to the "forest-dwellers" alone was hardly reasonable. The "village-dwellers" were equally sympathetic to the needs of lay society, and thus would have been persuaded by lay people to give astrological advice. In fact, Gervaise, a missionary who travelled widely throughout Siam, reported that "they [both village-dwellers and forest-dwellers] were asked regularly to calculate auspicious times and dates, to tell fortunes and to find hidden objects… They also gave charms to sick people, travellers, and young children to ward off evil. A Buddhist monk could thus be teacher, preacher, astrologer, and magician to a community."[53]

A New Interpretation

Having shown the inadequacy in the current official position, we shall now argue that the introduction of formal examinations was due to a combination of internal and external political circumstances.

Internal political problems at Ayutthaya were already evident by the beginning of the seventeenth century. The waning days of the famous Thammaracha dynasty (1569-1629), that included the reign of Naresuan, the great warrior king, were characterised by succession problems that would persist until the end of Ayutthaya. The following dynasty, that of Prasat Thong (1629-1688), therefore saw a systematic undermining of the political power of princes by the reigning monarchs, lest they challenge the throne. The kings were also concerned about the threats posed by powerful nobles, who controlled both manpower and government departments. To reduce the influence of the nobles, the responsibilities for controlling manpower were divided between *Kalahom*, the Defence Department, and *Mahathai*, the Interior: the former took charge of the southern provinces and the latter the northern. There was also another department (*krom tha*) to maintain "centralised registers of all freemen [*phrai laung*] liable for labour service".[54] These internal politics at the capital, Ayutthaya, affected the king's ability to control

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[53] Gervaise, *The Natural and Political History of the Kingdom of Siam*, p.83. Also cited by na Pombejra, pp.95-96.
[54] Wyatt, *Thailand*, pp.75-76.

manpower from the provinces. Wyatt therefore argues: "Kings seem to have had continuing difficulties in controlling the provinces and manpower and in maintaining a ready military force".[55]

Other domestic problems resulted from wars. Due to the campaigns in the early years of Narai's reign (1656-1688), when people had no time to plant their crops, there had been a severe shortage of rice; as a result, rice export was banned, except by the Dutch, who had by that time successfully negotiated economic concessions from the Siamese. The wars also damaged the economy of the provinces, such as deer-hunting in Phitsanulok; deer-meat too was exported by the Dutch. The crumbling economy in the provinces threatened the power of the *khunnang*, the governors of those provinces.

Developments at Ayutthaya from the 17th century on, or even earlier, in the 16th century, were related to geopolitics at the time: Southeast Asian states were at war with one another, building and consolidating their empires. Ayutthaya was overrun for the first time by the Burmese in 1569. The invaders "thoroughly looted the city and led thousands of prisoners, both commoners and nobles, away to captivity in Burma" and installed Mahā Thammaracha (1569-90) on the throne.[56] A son of Mahā Thammaracha, Prince Naresuan, was taken as a captive to Pegu as a surety for his father's good behaviour until his sister was presented to Bayinnaung, alias Burennaung, the Burmese king (1551-1581) at Hamsavati, the then capital of Burma. In 1593, a year after escaping from Burma and soon after succeeding his father, Naresuan (1590-1605) defeated the invading Burmese troops under Nandabayin (1581-1599), the son and successor of Bayinnaung, in what has become famous as the battle of *Nong Sarai*. Naresuan's brother and successor, Ekathosarot (1605-1611) subsequently continued to repel Burmese attacks and to rebuild Ayutthaya.

When Narai came to the throne in 1656, the kingdom of Ayutthaya had been at war with her neighbours, especially with Burma, for most of the past century. Although Ava, as Burma was then known, under Pintale (1648-1661) and Pyi (Pyei) Min

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[55] *Ibid*, p.108.

[56] *Ibid*, p.100.

(1661-1672) was no longer its former self, and could hardly pose a threat to Ayutthaya due to the incursions from China and Manipur ,[57] her earlier aggression meant Ayutthaya had to be on guard at all time. Apart from Ava, Ayutthaya had other wars to fight. Another neighbour, Cambodia, attacked Ayutthaya no fewer than six times, according to Wyatt, in the two decades after the fall of Ayutthaya in 1569. On the other hand, Ayutthaya also expanded its power whenever given the opportunity. "The Lao country", (i.e. the present northern part of Thailand), Cambodia and remote parts of Burma were the usual targets. In 1660, just four years after coming to power, King Narai marched thousands of troops to conquer "the Lao country" i.e. Chiang Mai. In December 1668 Narai blockaded Cambodia with several vessels. But from now onwards the king would choose to stay behind and ask *Phrakhlang*, a minister, to lead his troops into battle. This was because of the increasingly dangerous political situations at home: a conspiracy involving his half-brothers and some *khunnang*, "nobles". As a result, some provinces over which Ayutthaya often fought with Burma (Tavoy, Mergui and Tenasserim) were at times administered by foreigners, who were employed at the Siamese court by the Ayutthayan king. The picture we get here of Ayutthaya, described by Tambiah as being a "galactic polity", is a state constantly at war, having to marshal all its human and natural resources. Tambiah, in fact, comments on the "galactic polity" as being "no effective cybernetic system" for it "lacked… mechanisms that produced homeostasis and balance." [58]

Whenever the Ayutthaya kingdom was under attack or the king wished to occupy another country, for example, Cambodia or "the Lao country", all able-bodied men in the capital and other provinces were conscripted. This was because there was no standing army before Rāma V (1868-1910).[59] Narai conscripted thousands of men in his various war expeditions. The Dutch recorded that he levied sixty thousand men in 1658 and 1659. When he actually marched, not to Ava, but to "the Lao country", i.e. Chiangmai, in December 1660 the number swelled to two hundred and seventy thousand men, and that army was joined by another two hundred

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[57] Phayre, pp.136-148.

[58] Tambiah, p.123.

[59] For more information see Wyatt, *Thailand*, pp.100-09.

thousand men from Phitsanulok province.[60] Even foreign communities at Ayutthaya had to contribute manpower to such expeditions.[61] Na Pombejra observes: "The years 1659-1665 thus saw Siam's manpower resources being constantly drained."[62]

As mentioned earlier, there was a plot by some senior princes and nobles against the king, preventing him from personally leading troops to war. In those circumstances, it was understandable that the king would look to outsiders for help. Foreigners to whom the king turned were from among those settled at Ayutthaya as well as merchants, missionaries and diplomats. They were appointed in many capacities, from that of bodyguard to adviser and even minister and prime minister.

The king recruited Japanese, Chams and Malays, all settled at Ayutthaya, as royal bodyguards, although such recruitment was not always in the best interest of the kingdom: the risks were evident during the power struggles, for example in 1611 and 1629, between King Suthat (Si Saowaphak) (1610-1611) and Song Tham (1611-1628), and between King Athittayawong (Aug - Sept 1629) and Prasat Thong (1629-1656), in which the Japanese in the royal bodyguard supported the opposition, Song Tham and Prasat Thong respectively. Sometimes members of the foreign communities at Ayutthaya were conscripted for war expeditions: there were one hundred and fifty Portuguese men conscripted in the war against "the Lao country" in 1660. Some of the men were "stationed at strategic points above Ayutthaya to stop deserters fleeing downriver".[63]

Some foreign merchants and even adventurers were also employed by the king. A few Englishmen, for instance Richard Burnaby and Thomas Ivatt, from the East India Company, and a former English army captain, Williams, were hired by the Crown. Williams trained the king's bodyguards while the others were employed at the royal court.

French and Portuguese Catholic priests, who had already

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60 A letter from Van Rijck, representative of the Dutch company V.O.C at Ayutthaya written to Governor-General Maetsujcker cited by na Pombejra, pp.286-287.

61 *Ibid*, p.288.

62 *Ibid*, p.307.

63 *Ibid*, p.288.

established themselves in Siam as early as 1662, were not directly employed by the king, but he and also the Ayutthayan people appreciated their learning and involvement in education.[64] Jesuit priests, most of whom were mathematicians, advised King Narai when he built another palace at *Luvo*, now Lopburi. To strengthen their presence at Ayutthaya, two French Catholic bishops[65] came to Ayutthaya with a letter from Pope Clement IX and King Louis XIV in 1673. [66]

Foreigners who by far exceeded all expectations and became extremely powerful ministers were some Persians, for instance Sheikh Ahmed, his younger brother, Muhammad Said, and their descendants. In 1630 during the reign of Prasat Thong, the predecessor of Narai, Sheikh Ahmed was made the minister responsible for trade, *phrakhlang*, and then for home affairs, *mahatthai*, and eventually prime minister, *samuhanaiyok*. He was succeeded by his son, Chaophraya Aphiracha (Chun), and his (Sheikh Ahmed's) grandson, Chaophraya Chamnanphakdi (Sombun), at the *mahatthai* office, which was controlled by the family for more than half a century. Muhammad Said's son, Aga Muhammad Astarabadi (Okphra Sinaworarat), also became prime minister under Narai.[67] The dominance of this Muslim Persian family was only interrupted by the appointment of another foreigner, Constance Phaulkon (1647-1688). This Greek adventurer was first employed as a court official, and finally became prime minister in the later years of Narai's rule in 1685.

In the meantime, foreigners trading with Ayutthaya, such as the Dutch, French, English, Chinese and Japanese competed with one another for privileges. The commercial concessions, such as exclusive rights to export and deer-hunting, enjoyed by the Dutch, were biased against other foreign nationals, some of whom, notably the Portuguese, the French and the English, already had a strong presence in South and Southeast Asia. Now King Narai had to turn his attention to balancing his relationships with these foreign powers. However, he did not always succeed. For example, the Dutch

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[64] Tachard, Voyage to Siam, pp.195-196, 202-204.
[65] Vicar-apostolic Pallu, Bishop of Heliopolis, and Lambert de la Motte, Bishop of Beritus.
[66] na Pombejra, p.321; Wyatt, *Thailand*, p.113.
[67] na Pombejra, p.301 & Wyatt, cit., pp.108-109.

blockaded the ships of China and Japan in 1663, which resulted in the 1664 Siamese-Dutch Treaty: the treaty prohibited King Narai from using Chinese and Japanese crews on his ships, and from punishing Dutch citizens breaking Ayutthayan laws. The Dutch, whose first ships had arrived at Ayutthaya more than half a century earlier, also seized some possessions of the prime minister, Aga Muhammed (Okphra Sinaworarat), saying that he owed them 2,700 guilders.[68] In future the Dutch were to conduct commerce in Siam wherever they chose.

The French were determined, however, not to be bound by any such agreement between the Dutch and the Siamese. The Siamese were equally keen on good relationships with France in order to balance the influence of the English in India and the Dutch in Java. France, in order to obtain political and commercial privileges for herself, used her missionaries at Ayutthaya, who had been in the kingdom more than a decade. By 1680 their efforts "over the preceding 15 years" resulted in the exchange of diplomatic missions between the two countries. King Narai sent a diplomatic mission to France in that year. The mission was accompanied by Jesuits, who acted as translators. By now Phaulkon, a Greek Orthodox Christian, had converted to Catholicism, and the increased influence of the French at the court of Ayutthaya owed much to his involvement. Even before he was appointed prime minister in 1685, he began to oversee an improved relationship between Siam and France.

Over the course of time, the French missionaries were able to convince their king, Louis XIV, that the aims of his mission to Ayutthaya should include securing not only commercial privileges but also the conversion of King Narai to Catholicism.[69] The leader of the first French diplomatic mission to Siam in 1685, Chevalier de Chaumont, was specifically despatched to achieve this divine assignment,[70] and the second mission, led by Simon La Loubère in 1687, was also partially tasked with this undertaking.[71] With the

[68] *Ibid*, p.301.
[69] Smithies (ed.) in his "Introduction" to the Chevalier de Chaumont and the Abbé de Choisy, *Aspects of the Embassy to Siam in 1685*, p.4. See also Wyatt, *Thailand*, p.113.
[70] Kuloy, in his "Introduction" to Tachard's *Voyage to Siam*, p.4.
[71] *Ibid*, pp.420-421.

second mission came six hundred French troops. They requested King Narai to permit them to set up garrisons at Ayutthaya and Bangkok, the two strategic points, perhaps to pressure Ayutthaya into offering better commercial deals. The demands by the French to set up garrisons ultimately culminated in the Great Revolution of 1688, in which the French had to leave Ayutthaya, King Narai was dethroned and Phaulkon was executed.

In their religious mission, too, the French seem to have been equally frustrated with the outcome. When King Narai had still not been converted even after the two diplomatic despatches from France, a senior Jesuit, Father Guy Tachard, is reported to have told the French envoy: "that in the future Narai ought to be instructed by a Jesuit who was proficient in Siamese."[72] For Bishop Metellaopolis, despite being in Siam for almost twenty-five years, had not been able to convert King Narai to Christianity. On realising this lack of progress, Phaulkon had earlier told the missions that "Christianity hath made no greater progress in Siam after so many years of endeavours…." and counselled them that "there must be another House of Jesuits, where they should as much as lay in their power lead the austere and retired Life of the *Talapoints*, that have so great credit with the people".[73] For this, Lord Constance, as Phaulkon was then known to the French, promised the French missionaries that "he would protect and favour [them] in all things that lay in his power".[74]

It is interesting to note here that it was Phaulkon, known officially to the then Siamese as Phaya Wichayen, was the prime minister who ordered the monks to leave the monastic Order and put them in the royal service.[75] The *Royal Chronicles of Ayutthaya* records: "Many were the monks and novices whom he unfrocked and brought to perform royal services". Phaulkon's instruction to defrock the monks and novices brought him into a "conflict" with Oc Louang Soracac (also Sorasak), the royal pundit who examined the monks and novices. Realising that King Narai would not stop Phaulkon, Oc Louang Soracac is said to have physically "struck"

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[72] na Pombejra citing Cébéret's journal. *Ibid*, p.421. See also Tachard, *Voyage to Siam*, pp.204-205.
[73] Tachard, pp.203-204.
[74] Ibid, p.203.
[75] The Royal Chronicles of Ayutthaya, pp.303-304. See also Prawat karn suksa khong song, p.15.

and "knocked down" Phaulkon. [76]

These internal and external political developments worried the Siamese, particularly the most privileged groups: the princes, the nobles and the monastic Order; and we have already pointed out how the senior princes and the nobles, having witnessed how their powers were being undermined, conspired to depose King Narai.

The *Saṅgha*, too, had seen their relationship with King Narai deteriorate over the years. The most controversial area was conscription. Even the official version of why the formal examinations were introduced recognised that a large number of men took refuge in the Order as ordained persons. The reason for this was officially considered to be the generosity of the king himself towards the *Saṅgha*, which attracted many into the Order: many became monks for a comfortable life.[77] The *Saṅgha* was accorded a few privileges: no corvée obligation; no taxes, and in many cases offenders were not punishable by the law of the land while in the yellow robe. These privileges had been afforded to members of the *Saṅgha* from the early days of the Order. This was evident in the conversation between the Buddha and King *Ajātasattu*, in which the King said to the Buddha that he would not force anyone, a former servant, a farmer or a householder, who had joined the *Saṅgha* to leave their religious life but would pay them homage and material support.[78]

It is indeed possible as indicated in the official interpretation of the event during King Narai's time that some joined the Order for an easy life, some for "a short cut to wealth and fame". The privileged position of the Order was always open to abuse, as indeed suggested in King Narai's claim and other royal edicts. Yet we cannot rule out other reasons, such as continuous conscription. If conscription was the main reason for the deterioration in relations between the monarch and the *Saṅgha*, this raises a question: is it right for the Order to admit those fleeing conscription as its members? On this, we have already explained in Chapter One that the Buddha forbids the Order from ordaining anyone who is *already* "in the king's service" (*abhiññātam rājabhaṭam*), military or civil.

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[76] Ibid, p.304.

[77] *Prawat karn suksa khong song*, p.15.

[78] For more, see the *Sāmaññaphala-sutta*, D i 60-62.

But what if someone is not on the official reserve list, and there is no conscription law or any other law specifically barring people of a certain age from ordination? Whilst, as we have explained, there was continuous conscription under King Narai and there is evidence that there was a drastic increase in the number of monks and novices at Ayutthaya, we do not know if the Order during the reign of King Narai admitted men who were already on active or reserve service. Nor do we have any evidence to suggest that King Narai himself passed a law prohibiting men of a certain age from receiving ordination, as indeed was the case under King Mongkut alias Rāma IV about two hundred years later. There are different reports on whether a man needed permission from the authorities before becoming a monk: La Loubère, who was in Siam after formal examinations were introduced, said that every citizen was free to become a monk. However, Nicolas Gervaise, a missionary who had visited various provinces of Siam before the introduction of examinations, reported that all candidates for ordination needed permission from an official of the crown.[79]

Yet the fact that some form of formal examination had to be introduced suggests that there were no effective measures to stop men from entering the Order. The absence of such a law may have led to confusion and then tension between the King and the Order on the question of conscription. Because, on the part of the Order, turning away fleeing men who came as candidates for ordination was not an option, even on the grounds of their avoiding potential conscription. In other words, whilst the spirit of early Buddhism emphasises the importance of the right motive for entering the Order, the *Vinaya*, particularly the rules dealing with ordination procedures, on the other hand, stress the absence of wrong motive. Here the wrong motive, fear of conscription, was extremely difficult to prove. In such a situation, the Order might have to accept anyone who had met the normal requirements for ordination even though it was evident that the candidates were likely runaways from enlistment in the army. This may have created a situation in which many able-bodied men joined the Order, and members of the Order were reluctant to leave their robes, apparently for fear of conscription.

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[79] Gervaise, cit., p.83.

This state of confusion and tension was brought to an end only two centuries later by King Chulalongkorn, Rāma V. He promulgated a law, the military act, in 1905, requiring men of a certain age to serve in the armed forces. But if someone had already been in the Order before that age, and if he was judged to be a *phu ru tham*, "one who knew the Buddha's teaching", he would not be required to leave the Order, but would be exempt from military service.

If men were ordained with a worldly motive such as fleeing conscription, the case we have mentioned under King Narai, this would be a burden on the abbot, for it was more difficult to administer or teach a larger group of men with motives other than faithfully following the path to salvation. The increase in number (*vepullamahattaṃ*), the Buddha himself was reported to have said, was one of the four main reasons why the Order was becoming corrupt. The other reasons are when the Order has attained "long standing" (*rattaññumahattaṃ*), "greatness of (material) gains" (*lābhamahattaṃ*) and "great learning" (*bāhusaccamahattaṃ*). These conditions had necessitated the prescription of monastic rules and regulations, *sikkhāpadāni*.[80]

With those who had fled conscription, the number of monks and novices at Ayutthaya swelled to "thousands", as noted by Gervaise at Ayutthaya, causing shortages of manpower. The king was therefore prompted to keep a separate register of all the monks "in the state's population polls". This was to retain the control of manpower on which his authority depended.

The king's difficult relationship with the nobles, as explained earlier, was most likely further to complicate the relation between the crown and the Order, already strained over the question of fleeing conscripts.[81] The dissatisfaction felt by the nobles towards the king was likely to have spread among some important members of the Order, because "the kings and *chaos*, [nobles,] had their favourite monks".[82] The "forest-dwellers", for example, used to have great respect from Narai's father, King Prasat Thong. He built for the "forest-dwellers" a monastery, Wat Chai Watthanaram,

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[80] Vin III 10; *Samantapāsādikā* i 194.
[81] na Pombejra, p.325.
[82] *Ibid*, p.93.

considered to be "the grandest building project of his reign", and appointed its chief a *Saṅgharāja*.[83] The Order itself, on the other hand, was not totally outside politics. Succession problems often dragged influential members of the *Saṅgha* into political affairs. Support from the *Saṅgha* or a section of it would go a long way in any power struggle. As Father Claude de Bèze said, King "Narai won the throne with the support of certain *talapoints*".[84] His successor, Petracha, also received, in his attempts to gain the throne, the blessing of the *Saṅgharāja* of Lopburi. The *Saṅgharāja* was rewarded for his part when King Petracha donated the palace in Lopburi (built by King Narai) to the *Saṅgha* of Lopburi. King Narai, however, may have lost the favour of the Order soon after coming to the throne as a result of the power struggles between him and the higher-ranking princes or the nobles early in his reign. Indeed, in 1676 the Dutch had already reported that king Narai had "lost much of his credit" in the eyes of the Buddhist clergy. Interestingly, that was when the French missionaries increased their profile with the arrival at Ayutthaya of two Bishops to head the mission.

For their part, the *Saṅgha* may have been concerned about the influence over the Crown of the Europeans, particularly the French. It must have been known to some of the nobles, and therefore also to the *Saṅgha*, that first the French missionaries and then the envoy, Chaumont, had tried to convert the king to Catholicism. It is said that a few months after the departure of Chaumont in 1686, there was a petition "attached to a tree in front of the palace" in Lopburi, which warned of "the dangers that threatened the Buddhist faith, and invited all men to open their eyes to a matter which concerned the public weal."[85]

It was in these circumstances, in which the king, as Na Pombejra notes,[86] needed manpower, that King Narai ordered the monks to be examined, between 1684 and 1686, on their knowledge of the scriptures. Consequently, as already mentioned, "several thousand" monks and novices with insufficient knowledge of the scriptures were required to disrobe.

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[83] *Ibid*; *The Royal Chronicles of Ayutthaya*, pp.215-216.
[84] Hutchinson, 1688 *Revolution in Siam*, p.54; also cited by na Pombejra, p.94.
[85] *Ibid*, pp.409-410.
[86] na Pombejra, p.94.

However, these uncompromising actions by King Narai did not seem to have affected, in the long run, the traditional custom of temporary ordination among the Siamese during which boys received the best education the monastery could offer. In fact, the harsh measures were confined only to the last four years of King Narai's thirty-two-year reign. And, as far as education was concerned, even during those decisive years, the abbots by and large retained their freedom in designing syllabuses for their monasteries because the examination syllabuses were not standardised for the next one and half a centuries; nor were enough candidates to hold state examinations regularly, even once in every three years, for another two centuries or so.

Over the following centuries, in contrast to King Narai's rigid approach, the kings adopted a more diplomatic tactic: through their generous support for the successful candidates, the kings made efforts to popularise formal examinations within the *Saṅgha*. Though never compulsory after the time of King Narai, as indicated earlier, examinations were used, whenever possible, as an instrument to strengthen the ecclesiastical hierarchy: administrative posts within the *Saṅgha* came increasingly to be filled by candidates successful in the examinations. As a result, in the subsequent reigns the influence of these examinations was to become increasingly perceptible.

The *Parian*

Despite the evidence showing that King Narai introduced formal examinations, the early development of formal examinations in Siam remains sketchy. Nothing about *Parian* or any other form of formal examination is mentioned in *The Royal Chronicle of Ayutthaya* or any other documents related to the period. The first evidence of the existence of the Parian is found only in one royal order, *phongsawadan*, issued by Rāma I (1782-1809), just after he came to the throne. Part of that order reads: Appoint Mahā Mee, *Parian Ek*, of Wat Blieb as *vinayarakkhita* ("the guardian of ecclesiastical disciplines") replacing Phra *Upāli*…..Appoint *Mahā* Thongdi, *Parian Ek*, of Wat Hong (*haṃsa*) as the abbot of Wat Nag (*Nāga*)…[87] In this order, the king mentioned of *Mahā Mi* and *Mahā*

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[87] *Phra phongsawadan Krung Ratanakosin Ratchkarn thi nung*, (Chronicle of the First Reign of the Ratanakosin), p.13. (*Mahā Mee* became *Saṅgharāja* during the reign of Rama II).

Thongdi as *Parian* monks with a *Parian ek* degree, confirming that the *Parian* had existed before he came to the throne. And, based on this evidence that Phya Damrong concluded that the *Parian* examinations had begun sometime during the Ayutthaya period, for there is no record of King Taksin of Thonburi (1767-1782) sponsoring any *Parian* examinations.[88]

Here it is presumed that Narai introduced only some form of formal examinations, for the sole reason, as argued earlier, of purging the Order; but these examinations in the form that had been introduced may not have continued under Narai, and it was for sometime before the formal examinations, which we now know as *Parian*, developed at Ayutthaya. This was because Narai introduced formal examinations, as described earlier in detail, for the wrong reason, and at the wrong time. The examination was introduced just four years before he died. During that time the political situation in the kingdom was, as we have seen, fragile and dangerous, and the *Saṅgha* was no longer in good terms with the king. It would not have been possible even to devise a systematic syllabus for the *Parian* in those circumstances, let alone to complete it. As we shall see later, it took at least two years to study *Pāli* grammar at that time, and many more years for a candidate to be able to enter the *Parian* examination with a syllabus based on the centuries-old classification of the *Tipiṭaka*: the *Vinaya*, the *Sutta* and the *Abhidhamma*.

However, regardless of when they became fully developed, the *Parian* examinations were the only formal examinations in Siam from late Ayutthaya to early Bangkok.[89] They were also informally known as *blae Balie* [the Thai pronounce *Pāli* as *Balie*], "translating Pāli", because candidates studied and translated the *Pāli nikāyas* at the examinations. Among students, the examinations were identified as *Parian Balie* or P.B for short, because the emphasis was on learning *Pāli* and translating passages from Pāli texts. Hereafter we shall use the word *Parian* to refer to these examinations.

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[88] Rachanubhab, *"Athipai reung karn sop phra pariyatti tham"* (Account of the Pariyatti Examinations) *Tamnan tharng phra phutthasasana* (Chronicle of Buddhism), p.341.

[89] *The Life of Prince-Patriarch Vajirañāṇa*, p.60.

The origin of the word *Parian* is not clear. It could be the Thai pronunciation of *pariyatti*, meaning learning. Or, it may have been derived from *Pāli Pariññā*, "knowledge", but was first used by the Khmer to mean one who had full knowledge of the *dhamma* and then adopted by the Siamese at Ayutthaya. According to the *Pariññā-sutta* and the *Pariññeya-sutta* of the *Saṃyutta-nikāya, pariññā* is equal to the extinction of greed, hatred and delusion (*rāgakkhaya, dosakkhaya, mohakkhaya*).[90] If this was the case, we could see that the principal object of examinations in monastic education was supposed to be to liberate students from defilements. Incidentally, *pariññā* is now the Thai word for "knowledge at university level", and the term *pariññā-batr* is used for an academic degree.[91] The term *Parian*, apart from the examinations, was also applied, according to the Royal Thai-Thai Dictionary (1986), to mean "students of Buddhist scriptures".[92] But, as far as written history is concerned, at least by the end of the Ayutthaya period, the term *Parian* may have come to apply specifically to being a graduate. The word was added to the names of monks who had passed the examinations. Once all the three levels were completed, a monk was called *mahā parian*, or *mahā* in short, which was added in front of the names of successful candidates.

There were three levels in the *Parian* examinations, following the division of the *Pāli* Buddhist scriptures into *Vinaya-, Sutta-* and *Abhidhamma-piṭaka*. At the highest level, i.e *Parian ek*, all the canonical texts from the three *Piṭakas* were prescribed. At the intermediate level, i.e *Parian tho*, the *Sutta-* and *Vinaya-piṭaka* were examined and at the preliminary level, i.e *Parian tri*, the whole *Sutta-piṭaka* was the syllabus. Theoretically, the examiners could examine candidates on any passage from the Canon. However, we have no evidence in our hands to suggest that the Canonical texts were so thoroughly examined.

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[90] S iii 26, iv 32-33, v 29, 159, 182, 191 & 236.
[91] *Thai-Thai Dictionary*, p.126.
[92] *Ibid*, pp.126, 144.

A candidate took about three years to prepare for each grade. So to complete all levels took nine years or more on average. Students preparing for the *Parian* examinations first studied *Kaccāyana's* Pāli grammar, which, the Prince-Patriarch and Prince Damrong said, took about two years.[93] That was before students were introduced to canonical texts.[94]

The main task of the candidates in the examinations was to translate at sight, orally, selected passages from the texts. It was held that understanding the teachings of the Buddha depended on one's ability to read the original Pāli texts, and the best way to ensure this was to examine the translation skills of students. Until the reign of *Rāma II*, the translation was from Pāli to Thai; hence, the informal but popular term *blae balie*, "translating the Pāli canonical texts" for the Parian examinations. As in Sri Lanka and Burma, the *Tipiṭaka* was preserved in Pāli in Thailand. Following the centuries old *Theravāda* tradition that emphasises preserving the teachings in the original, people were not keen on translating the *Tipiṭaka* into the local tongue for fear it would alter the words or meaning of the teachings.[95]

The *Parian* examinations were held only when there were candidates. During the Ayutthayan (and early Ratanakosin) era, once a student felt confident enough to be examined on his knowledge of the texts, he informed the abbot, who applied on his behalf to the king. We have found no record of the number of candidates during the Ayutthaya period. Over the following century, we may assume that the *Parian* examinations did take place when there were candidates and the kingdom was stable enough. However, during the period of great instability leading up to the destruction of Ayutthaya by the Burmese in 1767, it was unlikely that *Parian* examinations were held.

In conclusion, the internal instability and changes in geopolitical circumstances during the seventeenth century at Ayutthaya led to changes in the relationship between the ruler and the *Saṅgha*. Those changes which took place under King Narai increased the influence of the temporal authority over the *Saṅgha*,

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[93] Rachanubhab, *"Athipai reung karn sop phra pariyatti tham"* p.340.

[94] *Prawat Mahamakut Ratchwithayalai*, p.3.

[95] Rachanubhab, cit., p.341.

the trend culminated in 1902 in the creation or rather formalisation of "a tradition of ecclesiastical hierarchy". Such a hierarchy, as Mendelson and Tambiah observe, "materialised under powerful kings".[96]

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[96] Mendelson, pp.66-67; Tambiah, p.179

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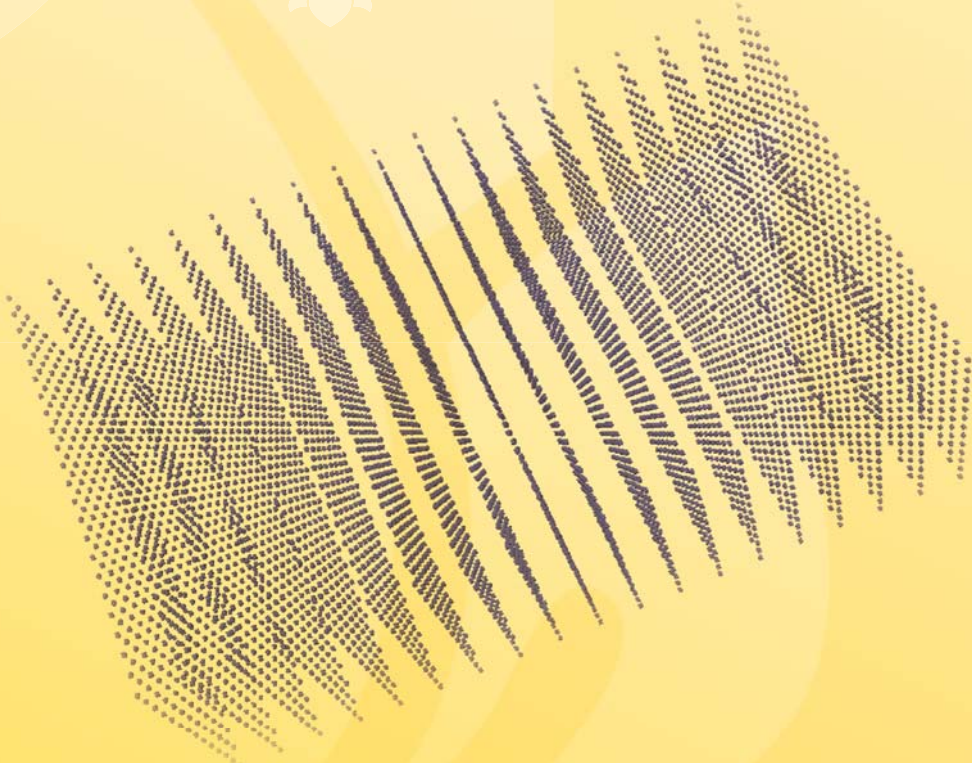
An image of the digitised Korean Buddhist canonical texts. (Courtesy of Prof. Lewis Lancaster)