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## Part II: Buddhist Texts and Technology

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PREFACE

History records how Buddha got enlightenment and showed a light which leads the world till date, providing wisdom and insights for coping with numerous challenges and achieving the wellbeing of humanity. Recognizing the Buddha's and Buddhism’s pragmatic approach, values and contribution towards a prosperous and peaceful world, the United Nations in a resolution in 1999 decided to celebrate the thrice-sacred day of Vesak (the birth, enlightenment and passing away of the Buddha Gautama) in the month of May. The first celebrations were held way back in the year 2000 at the United Nations Headquarters in New York and subsequently the day has been celebrated with gusto in different countries.

As our world today is confronted with a number of crises and unprecedented natural disasters, the United Nation’s Millennium Development Goals assume greater significance. Tackling poverty, providing education and development, social justice in a world torn by strife, conflict, the looming threat of terrorism and ethnic violence, there is an urgent need for concerted and constant planning and effort at international level. Fostering lasting peace in the societies and in the lives of individuals has become very important, in fact a serious global challenge.

In the backdrop of such widespread misery and strife leading to complex issues and crises, Buddhism with its rich heritage of tolerance and non-violence can contribute immensely and inspire
with the Buddha’s message of loving-kindness, peace and harmony in today’s world. The United Nations Day of Vesak (UNDV) 2014 is a testimony to this fact.

Vietnam got the first chance and responsibility of hosting this international Buddhist event UNDV in 2008 and the event proved an amazing spectacle of religious and spiritual festivity at Hanoi, with thousands of Buddhists from the world converging at the National Convention Center, Hanoi, to spread Buddha’s message of peace, love and harmony. It was the largest international event for Buddhism in Vietnam during its more than 2000-year Buddhist history.

This is the second time that Vietnam is hosting this important international event that is viewed by Buddhists as an opportunity to spread the Buddha’s message and values of love, peace, non-violence, tolerance, and compassion across the world.

It is a great honour for Vietnam, the Vietnamese people, National Vietnam Buddhist Sangha and the Buddhists all around the world to participate in the UNDV celebrations and spread the rich Buddhist heritage, especially its teachings of equality, respect and understanding for the benefit of all humanity. World Buddhists and particularly the Vietnamese people are quite excited about their country hosting this auspicious and important event for the second time. This international religious, cultural and academic event would also certainly promote interaction and exchange of Buddhist cultural and intellectual values among diverse countries.

International Buddhist conference with the main theme of “Buddhist Perspective towards Achieving the UN Millennium Development Goals” during the celebrations could not have been more relevant and timely. The present book is the outcome of one of the workshops representing one sub-theme of the conference. Other sub-themes of conference include Buddhist Response to Sustainable Development and Social Change, Buddhist Response to Global Warming and Environmental Protection, Buddhist Contributions to Healthy Living, Peace-building and Post-Conflict Recovery, and finally Buddhist Education and University Level Curriculum, on which separate volumes are being published.

Papers selected for this volume combine thematic relevance, familiarity with the UN Millennium Development Goals (MDG), with significant research from primary resources, innovative theoretical perspectives, clarity of organization, and accessible prose style. Papers in this publication were selected by the academic peer-review committee following assessment guidelines.

UNDV 2014 certainly is an opportunity for the world Buddhists, the National Vietnam Buddhist Sangha and all the members of the international community to benefit from the rich traditions, values and spiritual ideals of Buddhism. The pragmatic path shown by Buddha can help in the realization of MDGs and make the world a better, safer, peaceful and harmonious place to be cherished and enjoyed by all sentient beings.

As the chairman of The United Nations Day of Vesak 2014 in Vietnam, on behalf of all Vietnamese Buddhists, National Vietnam Buddhist Sangha and myself, I would like to express my warmest welcome to all respected Sangharajas, Sangha Leaders, Buddhist Leaders, Sangha members and Buddhist Scholars, participating in this international celebration and conference. Let me thank all of you for your contributions to this celebration and conference. I am also grateful to Mr. Xuan Truong for his generosity and other donors, sponsors, volunteers and agencies from the public sector and the private sector for their excellent contribution.

This volume was made possible by persistence, hard work, and dedication of Most Ven. Dr. Thich Nhat Tu. My profound gratitude is expressed to Most Ven. Prof. Brahmapundit for his continuous support for Vietnam in hosting this international event twice. I wish to thank all members of the International Council for Day of Vesak (ICDV) and editorial staff for their sincere devotion.

Finally, I extend my warmest and best wishes to all the delegates and participating countries on this special occasion which strengthens our resolve to improve the world by walking on the path shown by the Lord Buddha.
BuDDHIST CULTURE AND TECHNOLOGY: NEW STRATEGIES FOR STUDY

Whatever merit there is in publishing this book may be transferred over to the welfare and happiness of all sentient beings. May all sentient beings be happy and released from suffering.

We wish the United Nations Day of Vesak 2014 celebrations every success.

Most Ven Thich Thanh Nhieu
Standing Vice President of National Vietnam Buddhist Sangha
Chairman of The United Nations Day of Vesak 2014 in Vietnam

FOREWORD

As the study of the history and the cultural flows across Eurasia reaches new dimensions, it is important to have opportunities to critically consider the state of the art and the milestones in gathering information. The present state of scholarship represents a conjunction of particular circumstances of data collection and analysis that has a peculiarly exciting character.

The questions of what constitutes a boundary and what strategies we can use to define one are challenging. When we speak, for example, of “China and Beyond” we are indicating that some artifacts, language families, narratives, and rituals are found across Eurasia. The time has come to consider whether Eurasia should be used as a cultural boundary equal to the subdivisions that exist within its mapping. This would involve nothing short of a revolutionary restructuring of the study of art, religion, language, material culture, and social patterns. Perhaps the need in scholarship is not so much one of

1. This article is partially appearing in a forthcoming book by Professor Dorothy Wong at the University of Virginia.

“crossing boundaries” as of redrawing them, or even eliminating some.3 The process by which we enter into a restructuring of boundaries will ultimately require cultural research to make use of branches of mathematics that provide formalized concepts for such things as convergence, connectedness, and continuity.4

The process of studying Eurasia in a new way is just a part of the shifts that will continue to occur in scholarship. In this respect, there is a potentially grave crisis looming on the horizon for the Humanities. The rapid pace of digitization of the world’s libraries and archives has made an unprecedented amount of information widely available. While this access to increasingly well-produced digital collections is a boon to Humanities and Humanistic Social Sciences research (e.g., history, anthropology, cultural geography), it presents Humanities scholars in particular with certain nontrivial problems. When the corpus that can be considered is limited by externalities such as availability, access, and language barriers, and when the methodology is driven by a canonical approach that reduces the “interesting” components of a corpus dramatically to those works deemed to be “important” by the weight of academic precedent, then traditional Humanities scholarship produces excellent results. In the current digital age, however, the limits on “what can be considered” no longer apply: we no longer have limited access to works, and the canon is revealed dramatically for the artifice that it is. Consequently, the tools of traditional Humanities scholarship begin to fail.

Given these challenges, we are at a point where we need new ways of dealing with space and time. Our views of the physical surface of the globe can be remotely sensed from space and translated into images, graphs, and mapping. Of equal importance to these physical aspects is the mental frame of contemporary thinking. We must be more open to looking at the combinations of circumstances affecting cultural events at a given time. The search should be for the sum of the relations, qualities, or characteristics involved at the time under consideration. More effort is being expended in putting new knowledge to use and making it a part of our skills. This moment in history is not just a time of disowning or rejecting past scholarship as untrue or unworthy of acceptance. Instead, we seek to take possession of previous ideas and to fully control them. At the same time, we add to the equation a veritable deluge of new information that has the potential of allowing us to exhibit understandings that previously were beyond the range of our thoughts. The world of digital information, for example, can be an acquisition that is a gain to our research. The power of this machine technology can become part of the achievement of a scholar, the fruit of effort when there is the attainment of skilful use of it. The added ingredient of digital data need not destroy the genuineness of research, nor should it be considered the addition of something that detracts from the value or perfection of information gleaned by former methods. The adroitness with which we handle data and the resourcefulness with which large amounts of information are infused into our studies must not be ignored, either in our own practices or in those that we impart to students.

We need a widened vision of cultural history in the study of the landmass and adjacent seas of Eurasia. Because of its complexity, linguistic diversity, religious differences, and political boundaries, our studies have created a vocabulary and disciplinary trainings that fragment Eurasia. We speak of Western Europe, Central Europe, Eastern Europe, Near East, Middle East, Far East, Central Asia, East Asia, South Asia, Southeast Asia, and the like. It is also possible to divide the landmass of Eurasia by contemporary nation-states and their established borders, such as China, Korea, Thailand, India, Iraq, Germany, Bosnia, and Russia. One problematic result of these long years of scholarly effort has been, unfortunately, the fracture and subsequent limiting of focus to sharply differentiated pieces of Eurasian cultural studies. Although it is understandable that scholars facing such a large and complex issue would first turn to classification and collective groupings or disciplines to handle the vast range of data, it is becoming apparent that the older system is no longer adequate.

The new reality is brought home to us by the very nature of a book (and conference) such as this one, which combines disciplines, regions, technologies, and specializations. The comprehension of all

3. Some arguments for the value of boundaries can be found in Prescott, Boundaries and Frontiers, p. 28.
4. On these issues, see Nordham, “Technology Naturalized.”
that is reported here belongs to a group of wider systems. It is one
step in the process of piecing back together the fragments of Eurasian
data. It is a worthy task and one that will require years of effort,
not just by individuals but also by teams of scholars who combine
information and expertise to deal with the layers of events over time
and place.

The task we set before ourselves is not a new one. In the past,
others have thought, planned, and explored as a result of an abiding
interest in Eurasia. For example, by the fifteenth century, navigation
technology had expanded in the kingdoms facing the Atlantic.5
Explorations were being carried out from Spain and Portugal along
the African coast. This interest had been stirred by earlier events that
brought about enormous shifts of social and political life in Eurasia,
most noticeably the spread of the Mongol Empire in the thirteenth
and fourteenth centuries over a large part of its surface.6 Whatever
else the Mongols accomplished, they opened up travel so that a new
group of merchants, missionaries, and officials began to move back
and forth from the Mediterranean to the Western Pacific. Into this
period of expanding knowledge about Eurasia stepped Christopher
Columbus (1451-1506), with the idea that trade with India would be
much more profitable by sea than by the laborious land crossings of
caravans. He therefore sought to unite the two ends of Eurasia by sea
crossing. To win over reluctant courts and obtain the financial support
he needed, the task had to appear simple and doable. Reduce the size
of the Earth by at least 25 percent,7 assume that no large landmass
exists between the western part and the eastern part of Eurasia, and
you have a workable plan. Columbus’s story is an interesting one
because he might well have concurred with the words from Tom
Stoppard’s play, Arcadia: “Everything I thought I knew is wrong.”8 Yet despite the fact that Columbus was wrong about the size and
nature of the globe, he could have taken heart from Paul Grobstein’s
idea that we can never be assured of finding the one correct answer
but can only hope “to be less wrong” than before.9 Columbus was
correct in assuming that the world was an orb and not a flat surface.
He was “less wrong” than many of his contemporaries, and even in
the face of errors in information, he revolutionized global travel and
understanding.

Columbus carried with him books and charts, among them Marco
Polo’s (ca. 1254–1324) purported memoirs of traveling to India and
China.10 This work must have been a source of inspiration during the
long and troublesome voyage across the Atlantic, for it surely gave
promise of rich rewards to be found at the eastern end of Eurasia. One
of the other items in the captain’s cabin of the Santa Maria was the
Bible. Columbus found in it statements that he took to be prophecies
of his journey, and thus divine sanction for what he was attempting.11
We know that he was interested in the Indies, and in particular the
spices available there, as well as in the promise of gold.

That crossing of the Atlantic was based on the radical idea that
one could reach the eastern part of Eurasia by traveling westward
from the Western part. This seemed to violate all intuition for many
in the fifteenth century, and laughter was heard in the halls of the
power when Columbus put forward his plan. However, the crossing
of Eurasia and the Indian Ocean was well known, and the trade
profitable over many centuries. It would have come as a great shock
to Columbus to know that, in the Hebrew Bible he carried with him,
there were four words from the Tamil/Dravidian language of South
India. In the Book of Kings, he would have seen names for peacock,
ape, ivory, and incense that were not of Hebrew derivation but

5. One source for information is Payne, “A History of Spain and Portugal.”
6. One excellent resource for Mongol information is the Columbia University
Website, http://afe.easia.columbia.edu/mongols/figures/figures.htm (see
there, e.g., Rossabi, “The Mongols in World History”). See also Weatherford,
Genghis Khan and the Making of the Modern World.
7. Columbus used the figure of 30,000 kilometers for the circumference of
the Earth, rather than what we now know it to be, namely, 40,000. See Nicastro,
Circumference, p. 115.
10. See Wood, Did Marco Polo Go to China?
11. This use of the Bible is brought out in Van Doren, A History of Knowledge,
p. 175.
belonged to a language of India where these items originated. In other words, some type of crossing and exchange of goods between the region of King Solomon and India had been in place sometime between 900 and 700 BCE. If Columbus would have been shocked to find such vocabulary in the ancient scriptures of his religion, one can only imagine what he would have thought of the research in the last decade of the twentieth century. Studies published by the Vatican now make a case for the fact that the Songs of Solomon bear a close resemblance to Tamil love poetry.

We are still struggling to understand the history of the crossings of Eurasia and adjacent seas. Perhaps we should be like Columbus and go searching for gold and the Indies. We delight in the romance of the stories of caravans traversing deserts and mountains. By the nineteenth century, that network of trade routes was given the name the “Silk Road.” Much of our lore then developed around the idea that the major item of trade was textiles and that the monetary flow was in Roman gold coins. There are many drawbacks to this concept. For example, if Roman gold coins were being shipped to China, the origin of silk cloth, then where are they to be found there? Archaeologists have found 16 Roman coins in Xi’an, and a few more in the stupas on the far western border of the present-day People’s Republic of China.

In the search for the gold, however, our attention must be drawn from China to a place in Asia where thousands of Roman coins are found—that is, South India, where caches of more than 6,000 coins have been unearthed. This golden trail suggests that the crossing of the adjacent seas was as important as that of the land. Just as the Tamil/Dravidian influences are being explored for the Hebrew Bible, so we can add that inscriptions in this language have been found in Egypt, at a port on the shores of the Red Sea. Such inscriptions give support to the belief that Indian mercantile communities were in residence in Egypt during the Roman era (first to fifth centuries CE).

Columbus was “less wrong” when he said that the sea offered the most efficient transport of large cargo. Looking to the cargo, we are aided by the growing number of archaeological sites of ancient shipwrecks. The size of the vessels being uncovered, the nature of their construction, and even the remains of the cargo give us a picture of maritime trade during the Roman period. Shipwreck archaeology is expanding our information about the items to be found in the holds of the freight vessels. These ships carried several hundred tons of wares. It would have taken a very large series of camel caravans to transport the equivalent weight, and has long been noted that such merchandise had to be lightweight and expensive to make the journey economically worthwhile. But when we consider the great capacity of ships large enough to weather the challenges of the ocean, the weight—and therefore the relative worth—of each object transported could be dramatically less.

In the early fifth century, we have evidence of the continuing trade between parts of Eurasia. When Alaric the Visigoth held the city of Rome to ransom in 408 CE, he demanded—and received—5,000 pounds of gold, 30,000 pounds of silver, 4,000 silk or purple tunics, and 3,000 pounds of black pepper, which was still a major export from South India. When Columbus made his plea for funds to sail west, it was based on the reality of strong trade between the subcontinent and the shores of the Eastern Atlantic in the fifteenth century. From these observations, we can with some assurance state that it is “less
wrong” to say that there is a very long history of the crossing of Eurasia both by land and by adjacent seas.

The nation-state boundaries of today are far too often used to describe the ancient cultural patterns of Eurasia. Our ability to create dynamic mapping using Geographic Information Systems (GIS) allows a display of the complexity of borders of kingdoms and confederations. One of the most impressive of these is an animated map of the area of the current nation-states of Vietnam, Laos, Cambodia, Thailand, Myanmar, and Malaysia. Prepared by the Greater Angkor Project of the University of Sydney, this swirling mass of colors gives us a view of how meaningless it is to talk of present-day boundaries when dealing with the ancient times.\(^{21}\)

Our scholarship and our vocabulary must become more precise. For example, when we use the term “Cambodia,” we also need to designate the time of the reference, and, in mapping, the specific latitude and longitude for the topic being discussed.

This same problem of dealing with national boundaries arises for the current states of China and Korea. When should we use the word “Korea”? The battle over the boundaries and nature of the Three Kingdoms, especially Goguryeo 高句麗 (first century BCE–668 CE), shows us the difficulty of defining “Korea.” The People’s Republic of China has given World Heritage status to the ancient capital of Goguryeo, which lies within its borders.\(^{22}\) The Republic of Korea protests what it considers to be the appropriation of its cultural property by the People’s Republic of China. Both nations lay claim to a heritage site. What makes the site “Chinese” or “Korean”?\(^{23}\)

We can also take the example of how to use the name “China” when referring to the contemporary boundaries and those of the Han 漢 dynasty (206 BCE–220CE). When we refer to the Han dynasty, what was the boundary? If we map those areas where the Han people had population density, it is a very different map that emerges—a network of clusters that is not evident from the solidly colored maps we usually display for that period. With the information available to us today, it is time to give up solid-color maps and begin to think in terms of animated, complex digital mapping that is more precise for a particular time.

Nowhere is the problem of nation-state designation more misleading than in the discussion of the diffusion of Buddhism across Eurasia. There is general acceptance of the idea that mercantile activity is closely tied to Buddhist development. Buddhism was in many ways a religion of merchants as it made its way up and over the Pamir Mountains into the Taklamakan basin. The nature of the merchant’s life and activity is usually seen in terms of caravans moving from one stopping point to another across long distances. As already stated, we now know that the merchants in Eurasia were not limited to caravans. There was an important group that operated sea trade. What was the role of these sea traders in cultural life, as compared to the merchants of the hinterlands who plied their trade from settlement to settlement in the mountains and deserts of the inner continent? My current explorations, in cooperation with Dr. D. Dayalan of the Archaeological Survey of India, are directed at trying to uncover the mapping for Buddhist archaeological sites and inscriptions in Tamil Nadu and Andhra Pradesh.\(^{24}\) Although this research is just beginning, early results show that the sites and inscriptions related to Buddhism clustered at seaports, and this seems to be the case for the entire western coast as well as the eastern ports.\(^{25}\)

Other Buddhist sites are found to stretch into the hinterlands following the trade routes. This implies that “Indian” Buddhism was of several cultural and mercantile types. One of these was what I now term “pattanam” (seaport) Buddhism, and another was “hinterland” Buddhism that existed along the interior routes. This is a way of looking at Eurasia from the viewpoint of systems of trade and culture rather than nation-state boundaries. The Buddhism that found its

\(^{21}\) See Electronic Cultural Atlas Initiative, http://ecai.org for an online display of this form of mapping.


\(^{23}\) The issue has resulted in many reports in the media. See Kim, World Cultural Heritage, p. 4.

\(^{24}\) See Dayalan, Buddhism among Tamils in Pre-Colonial Tamilakam and Llam.

\(^{25}\) For ancient knowledge of seaports, see Casson, Periplus Maris Erythraei.
way to Chang’an 長安 in the Han dynasty, though belonging to the “hinterland,” was not just the product of land-based merchants. The role of Pattanam Buddhism can perhaps help us understand some features of the tradition that have been puzzling. Professor Himanshu Ray makes the point that maritime traders in the subcontinent had to be literate in order to manage the contracts and contacts that were needed to control the shipment of goods to distant ports. She makes the case that literacy was found primarily among the maritime merchants rather than government officials. We can catch a glimpse of this documentation that was needed for maritime shipments. We are fortunate, for example, to have a document on papyrus that gives a further glimpse of the sophistication of the trade between South India and Egypt. The “Vienna Papyrus,” as it is now known because it is kept in that city, spells out an agreement in the first century CE about a shipment of thousands of dollars worth of goods from India to the Mediterranean via the Nile. From this source, which gives hints of what was happening across the Indian Ocean, we can see that there was an international system of credit arrangements that allowed a merchant at Muziris in India to load up a ship and have faith that the cargo would indeed pass down the Nile to Alexandria.

We note in the Vienna Papyrus, written in Greek, the detail of an agreement that traces the flow of goods from Muziris to the Egyptian coast. The contract picks up the arrangements when the ship had landed on the coast of Africa, and describes what will be done with the cargo:

I will convey [your goods] through the desert under guard and under security to the public warehouses for receiving revenues at Kaptos.

I will convey [them] downstream to the warehouse that receives the duty of one-fourth at Alexandria. And I will place them under your ownership and seal or of your representatives.

If, on the occurrence of the date of repayment specified in the loan agreements in Muziris, I do not then rightly pay off the aforementioned loan in my name—you will own the … security ….

This document, an example of the maritime trade between merchants at the eastern and western shores of the sea between Africa and India, is a clear statement of credit arrangements. It shows a sophisticated system of exchange of goods and money that was in place two thousand years ago as crossings were made between distant parts of Eurasia.

The Vienna Papyrus also shows us that literacy—and it was probably multilingual literacy—was a part of the life of the seaport merchants. Richard Gombrich has suggested that Mahāyāna was a form of Buddhism that emerged through literacy. It was the use of writing that allowed the dissemination of ideas and teachings, in turn transforming the way in which Buddhism spread in Eurasia, and therefore in China. Was it the case that the glorification of writing in Mahāyāna sūtras reflected the attitudes of the seaport Buddhist merchants? We have long searched for the origin of Mahāyāna, and the question is whether it arose in the region of the “northwest” (i.e., India, Afghanistan, and Pakistan of today) or in the southeast coast of India at Nagarjunakonda. If we accept the concept of Pattanam Buddhism as a reality, then the question about the origin of Mahāyāna shifts. The “northwest” and the “southeast” are both parts of the seaport system that ringed the subcontinent. Therefore, the fact that Mahāyāna, with its new focus on literacy, was found in two major areas of the system of trade that extended from seaport to hinterland

26. Ray and Salles, Tradition and Archaeology.
27. The transport of goods through Egypt is discussed in Adams, Land Transport in Roman Egypt, pp. 230-231.
28. The text and translation of the document are found in Casson, “P. Vinob G 40822 and the Shipping of Goods from India,” pp. 75–76.
30. There are many ways to approach this problem. Paul Williams, in Origins and Nature of Mahayana Buddhism, has dealt with the matter through doctrine rather than geography. Akira Hirakawa and Paul Groner, in the English trans. of A History of Indian Buddhism, focus on the schools of Buddhism and the textual traditions. Both approaches are quite valid. However, I believe that geography played a role that should not be ignored.
is not an anomaly. The two sites are just part of a system.\(^{31}\)

The previous concept of Indian culture and society as land-based phenomena treats the ports of the “northwest” and those of the “southeast” as far separated, and as belonging to different ethnic groups. From the lens of viewing India as “land,” it is difficult to determine what ties we can find between two sites that are more than a thousand miles distant. However, our view of the two regions changes when we construct the seaport network and see them both as integral parts of that system. The connection through trade that moved from hinterland to port, and then from port to port until the long journey to Africa and the western reaches of the Indian Ocean was complete, created a system of communication as well as trade.

Professor Himanshu Ray makes a compelling argument that the base of trade in the subcontinent was closely tied to Buddhism. She sees the role of Buddhism in this maritime trade as the major force for its development.\(^{32}\) The idea that Buddhism was a passive passenger on the caravans may need to be revised. Buddhism may even have taken initiative in encouraging the spread and network of merchants, and provided a structure to support that activity in the form of what might be called “caravansary” monasteries—that is, centers providing a Buddhist laity with the necessities of travel. Thus we may be “less wrong” to say that Buddhism spread from the seaports into the hinterland routes of inner Eurasia, carrying with it the influences of a literate lay community that communicated by sea as well as by land. And this in turn raises the question of whether it is also “less wrong” to say that “seaport Buddhism” along the coastal maritime routes helped to structure Mahāyāna Buddhism that was fed along the hinterland routes.

This is a long and rather complex example of how a cultural feature can be studied by expanding our view to the whole of Eurasia, and then seeing how the narrative fans out to include distant influences.

\(^{31}\) Elizabeth Rosen Stone ties Taxila and Nagarjunakonda together in *The Buddhist Art of Nāgārjunakoṇḍa*, p. 106 fn. 80.


“What can be considered” when we study “China and Beyond” is expanding daily, through the increased data at our fingertips and the unparalleled availability of that information for study.

The narrative of Buddhism that we find in almost every source is that it spread from “India” to “China” and from “China” to “Korea” and from there to “Japan.” But we must be more precise in our description of the movement of the Buddhist religious and cultural tradition across Eurasia. In particular, we must not forget that after the decline and fall of Han dynastic rule, the regions to the north were under a series of rulers and confederations. When we consider the importance of these areas to the development of Buddhism, it is possible to say that among these disparate groups, Buddhist institutions and practice thrived as never before. If we turn our attention to Korea, we see that the arrival of Buddhism there in the fourth century came after the Han period. In some ways we may therefore be “less wrong” if we describe the early days of Korean Buddhism as coming from the Turkic peoples.\(^{33}\)

In addition, we should give due consideration to “Turkic” Buddhism in the north, where the religion held an important place in the courts of the kingdoms under the control of traditionally nomadic peoples.\(^{34}\) In this region, Buddhism had a role to play in nation-building and was used to legitimize the rulers. Consider the famous sculptures at Yungang 隴岡 Caves dating from the Northern Wei 北魏 period (386–534). The use of portrait-like faces of royal family members on the images of the Buddha should be taken seriously.\(^{35}\) In the centuries following the Northern Wei, Buddhism in Korea was based on concepts such as young aristocrat-warriors being seen as avatars of...

\(^{33}\) Although this remains an understudied subject, work in linguistics has been advanced. See Beckwith, “Methodological Observations on Some Recent Studies of the Early Ethnolinguistic History of Korea and Vicinity;” Golden, “Some Thoughts on the Origins of the Turks and the Shaping of the Turkic Peoples;” and Findley, *The Turks in World History*.

\(^{34}\) Jagchid and Symons, *Peace, War and Trade along the Great Wall*, gives an interesting perspective from a Mongolian scholar.

\(^{35}\) See Knauer, “The Fifth Century A.D. Buddhist Cave Temples at Yün-Kang,” p. 30. The five caves (nos. 16–20) contain the likenesses of five Northern Wei emperors.
Maitreya, the Future Buddha. The religion was considered to be the “Defender of the Country,” and members of the ruling house of Silla identified themselves as direct descendants of an ancient Buddha.  

The attempt to explain all these features as coming from “China” never really works. Lineage among the Han people laid stress on descent, a list that purports to trace back to a single ancestor. The Turkic and other nomadic peoples held to something more akin to progenitors, that is, looking beyond ancestors to finding the ultimate source, or root of transmission, of the characteristics that are represented in the person. When Korea became more sinified during the Joseon 朝鮮 dynasty (1392–1897), one of the first institutions to be suppressed was Buddhism, which laid claim to its status of legitimating rulers. Confucian statecraft could never feel comfortable with anything other than direct inheritance by birth of the throne. Although there were few dynasties that could hold to this practice, every ruler of the Han people tried to see himself as an inheritor by virtue of kinship lineage. Again, we might be “less wrong” if we say that the Joseon dynasty rejected the “Turkic” elements found in the ethos of the Georyo 高麗 dynasty (935–1392), including concepts of kingship that were in conflict with the Confucian ideals borrowed from the Han.

The same principle of exploring the nature of the spread of Buddhism arises with “Japan.” Early Buddhism in Japan came not directly from the Han people but from the Baekje 百濟 dynasty in the sixth century, with ideas that seemed to reflect the northern kingdoms that praised the religion as a great force of protection for the kingdom. What I have given the name of “Turkic” Buddhism must certainly have been reflected in the court at Nara 奈良 in the eighth century. Therefore, the simplistic statement that Buddhism spread from India to China to Korea to Japan can never fully account for the variety of peoples, cultures, trade, and activities that made up that part of Eurasia.

How can we as scholars cross Eurasia in our research? Is there a way for crossings to be made in our reports that reflect the precision of close reading, in-depth study of a particular item, and nuances of localized patterns? I would like to suggest that we can begin to make the crossing if we discontinue the focus on each text and each art item as an “object.” The “object” must become an “event” if the scholarly crossing is to become a reality in our work. If we change our approach to data and artifacts and shift the focus from considering each to be an “object,” then we might find it “less wrong” to deal with texts and art as “events.” In other words, we must handle the world of circumstances that attend an event, exploring Who, When, and Where. This is far different from only considering an “object” that is before us, seen and observed with body, shape, and substance. If dealing with an inscription, such as the donor accounts at the caves of Fang Shan 房山 in Hebei, northern China (which includes Buddhist sūtras engraved on cave walls and on stone tablets) from the Tang 唐 dynasty (618–907), our study moves to Who made the inscription, Who initiated it, When was it done, and Where was it done. Using “event” markup, we will find that our research may start at Fang Shan but will expand over wider reaches of Eurasia. We will begin to chart the crossings of words, ideas, art forms, social institutions, biographies, networks of influence and contact. When considered as an “event,” every item is seen to have an antecedent state or occurrence, which implies things that are not seen directly in the “object” before us, but that are nonetheless crucial to our understanding.

It may seem far from the topic to talk about Christopher Columbus, Muziris, shipwrecks, seaport archaeological sites, and nomadic culture. I hope that I have shown that it is in just such complex narrations over centuries of time and widely separated regions of Eurasia that we find the roots of the patterns of the spread of

36. Lancaster, “Maitreya in Korea from 12th Century to Present.”
37. The Turkic kingship pattern is explained in Reuter, The New Cambridge Medieval History, (c. 900–c. 1024) Vol. 3, p. 500. It contained elements of dual kingship and rulers who claimed descent from their clan, leaving open the possibility of passing the leadership to anyone within the family.
38. See Best, “Paekche and the Incipiency of Buddhism in Japan.”
39. One group that works on this issue is the Historical Event Markup and Linking HEML, located at Mt. Allison University and the University of Virginia. One of the leaders in “event” markup is Ramesh Jain. See his article “EventWeb.”
40. See Lancaster, “The Rock Cut Canon in China.”
Buddhism. For example, in "China," where many hundreds of written texts were translated into the local language, these documents must certainly be understood by knowing the nature of literacy within the religious tradition. If our story of literacy involves merchants and takes us to the shores of Africa, so be it. "What can be considered" is no longer limited to some canonical listing of acceptable resources. We are free to explore, and with care can fashion a new narrative.

Prof. Lewis Lancaster

REFERENCES


EDITORS´ INTRODUCTION

Background

What is the role of modern hi-tech such as digital technology, hi-speed Internet in the historical and cultural studies of Buddhism? It turns out that hi-tech plays a rather vital role in these studies where numerous scholars and researchers have applied modern digital technology for over the last 25 years. In 1997, Prof. Lewis Lancaster established the Electronic Cultural Atlas Initiative (ECAI) at the University of California at Berkeley. Since its foundation, ECAI has become a large program involving numerous scholars and institutions around the world. ECAI’s mission is to promote an international collaborative effort to transform humanities scholarship through the use of the digital environment to share data and by placing greater emphasis on the notions of place and time.

Over the years, ECAI has sponsored several workshops around the world to share the technology, software and datasets. One such workshop is part of the 2014 UN Day of Vesak that occurs at Bai Dinh Temple, Ninh Binh Province, Vietnam. Under the direction of the original ECAI founder, Prof. Lewis Lancaster of UC Berkeley, the workshop is entitled "Buddhist Culture and Technology: New Strategies for Study". As implied by its title, the main emphasis of the
workshop is on the development, application and dissemination of
new technology such as robotics, GPS in Buddhist Maritime Culture
and Technology (Part I of the workshop). The ECAI Atlas of Maritime
Buddhism Project highlights the maritime contribution to the
development of a pre-modern global network of trade and cultural
diffusion, within which Buddhism was seamlessly integrated. The
Atlas initiative is supported by an international team of researchers
utilizing new data collection technologies and advanced data mapping
to integrate the latest archaeological evidence.

The second part of the workshop addresses new uses of technology
in the study of Buddhist texts. In recent years, various Buddhist
canons written in traditional languages such as Pali and Chinese have
been digitized for preservation and widespread distribution. Some of
these canons are very extensive, for example the Mahayana texts in
the Taisho Tripitaka that have been digitized by CBETA contain more
than 70 million Chinese characters and over 8,000 fascicles. Such large
bodies of texts require the use of efficient technologies for searching,
retrieving, analyzing and displaying. New technologies such as
omni-spatial data visualization and pattern recognition have been
discussed as Part II of the workshop (Buddhist Texts and Technology).
These new technologies have been applied to the Chinese and Korean
Tripitaka. A recent project to digitize and preserve the invaluable
Sanskrit texts was also presented.

Short Review of Content

This volume collects together some papers presented at the
international workshop on “Buddhist Culture and Technology: New
Strategies for Study”, which took place during The United Nations Day
of Vesak 2014 in Vietnam. Below are brief summaries of the papers
presented at the workshop.

Prof. Harold Thwaites begins Chapter 1 with the paper “Sustainable
Heritage in Southeast Asia: Post-Digital Theory and Digital Humanities
Praxis”. He presented an overview and insight into the theory, process
and results of digital humanities praxis. Digital Humanities praxis
generally refers to the use and application of computational tools
and methods to humanities, and vice versa. Enhanced by new digital
technologies the traditional physical structure of a gallery or museum
can be expanded and thought of as a matrix of diverse and yet still
inter-related physical and virtual spaces. The Mah Meri Unmasked
exhibition is a form of “event-structure” with a concise scenographic
design and techniques of visual display that foster the relationships
of material to immaterial, experience to information, the fixed to the
variable, and the virtual to the real.

In Chapter 2, Jeanette Zerneke discussed a new generation of data
portals, analysis methods, collaboration and presentation tools as part of
for Collaborative Development”. Building a linked infrastructure
for information on the history of Maritime Buddhism opens up
the possibility of developing a myriad of views and visualizations
of the materials. Members of the team from multiple institutions,
disciplines and regions can produce their own views of the materials
focusing on research topics or new insights. The group as a whole can
develop and distribute museum and educational products for global
distribution.

In Chapter 3, with the paper “Dharma Civilization and Ocean
Stitched Outrigger Navigation”, Dr. David Blundell tried to identify,
through artifacts and languages, the navigators who operated the
ships in spreading Buddhism across Southeast Asia. He believes that
they belong to the seafaring Neolithic cultures of Monsoon Asia that
are known today as Austronesian speakers.

With the paper “Maritime Buddhism Shipwreck Exploration: A
Prospect with Robotics and GIS” in Chapter 4, Dr. Alex Yahja
focused on applying geographic information system (GIS), robotics, and high-
performance computers to the process of discovery, data integration,
and analysis for maritime Buddhism, especially for exploring the
ancient trade routes for shipwrecks and their Buddhist sculptures
and artifacts. He hopes that new evidence obtained in this manner
will help the Buddhist scholars answer the questions about the
patterns of trade and Buddhism diffusions in South, Southeast, and
East Asia.

In Chapter 5, Dr. Sarah Kenderdine and Prof. Lewis Lancaster
presented a new omni-spatial visualization framework for the collaborative interrogation of large Buddhist canons in their joint paper “Omnidirectional 3D Visualization for the Analysis of Large-scale Textual Corpora: Tripitaka Koreana”. The new framework uses the worlds’ first panoramic stereoscopic visualization environment - the Advanced Visualization and Interaction Environment (AVIE). It has been applied to the Tripitaka Koreana which has 52 million glyphs carved on 83,000 printing blocks in 13th century Korea. The digitized version of this Canon has been developed under the direction of Prof. Lancaster and his colleagues at UC Berkeley. The project’s omni-directional interactive techniques for corpora representation and interrogation offer a unique framework for enhanced cognition and perception in the analysis of this dataset.

Prof. Lewis Lancaster has developed in Chapter 6 a new, radical approach for studying Buddhist texts. Described in the paper “Pattern Recognition and Analysis in the Chinese Buddhist Canon: A Study of “Original Enlightenment”, this quantitative approach is based on the techniques of pattern recognition including pattern of clustering, disambiguating the word from mixed compounds, N-gram for temporal appearance, identification of “companion words” that have the same profile. Using these analyses, the work flow of the scholar turns to translation, interpretation and the significance of occurrences. Algorithms can then be constructed to accomplish many of these tasks automatically for any word in the canon. The new approach was applied to the analysis for one term translated as “Original Enlightenment” in the Tripitaka Koreana.

In Chapter 7, Dr. Miroj Shakya discussed the digitization of Sanskrit texts in the paper “Digital Preservation of Sanskrit Buddhist Texts”. He gave a report on a digitization project of Sanskrit Buddhist texts initiated by the Nagarjuna Institute of Nepal and the University of the West, California, USA. This important project seeks to save the disappearing books and manuscripts in Sanskrit and then make these resources accessible to the world at large.

Most Ven. Dr. Thich Nhat Tu & Dr. Khanh T. Tran