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The Role of ICT in a Globalised Knowledge Production

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ABSTRAK

Esei ini meninjau dan memerihalkan hubungan antara produksi ilmu dan globalisasi yang berlaku melalui teknologi komunikasi dan maklumat. Bahagian pertama membincangkan tren dan perkembangan dalam bidang produksi ilmu di dunia hari ini dengan meneliti bagaimana globalisasi telah mengesankan pola produksi ilmu. Ini ditinjau dari tiga aspek utama dalam sistem ilmu, iaitu, epistemologi, ontologi dan metodologi. Bahagian kedua esei menyentuh beberapa kontradiksi yang timbul akibat kehadiran teknologi komunikasi maklumat dan globalisasi, ekoran daripada pertembongan kontradiksi ini dengan 'pemisahan-pemisahan' yang sedia ada, seperti wujudnya 'negara-bangsa'. Pengalaman wilayah Asia Tenggara dijadikan kajian kes. Bahagian akhir esei menyingkap persoalan akses dan ekuiti serta pendemokrasian ilmu dalam kontekns ICT, globalisasi dan produksi ilmu.

Kata kunci: Produksi ilmu, ICT, globalisasi, kontradiksi, pemisahan-pemisahan, metodologikal individualisme, akses dan ekuiti, pendemokrasian ilmu

ABSTRACT

This essay intends to explore and describe the relationship between knowledge production and globalization mediated through information and communication technology (ICT). The first part deals with the current trend and development in knowledge production around the world by examining how globalisation has affected patterns of knowledge production in three key aspects of knowledge system, namely, epistemology, ontology and methodology. The second part of the essay examines the nature of contradictions generated by the presence of ICT and globalization in knowledge production such as the 'dividedness' that has been generated by the existence of "nation-states". The experience of the Southeast Asian region is presented as a case study. The final part of the essay touches on the issue of access and equity as well as democratization of knowledge in the context of ICT, globalization and knowledge production.

Key words: Knowledge production, ICT, globalization, contradictions, dividedness, methodological individualism, access and equity, democratization of knowledge

INTRODUCTION

In this brief survey we intend to examine the relationship between knowledge production and globalisation mediated through information and communication technology (ICT). We are motivated to do so for a number of reasons. There seems to be a revolution of rising expectation with regards to the hope we pin on ICT to transform our social life, especially in the sphere of knowledge production and in particular in the field of education. We are all somewhat overwhelmed by the promise of 'access and equity', 'democratization of information', 'democratization of education' and even the possibility of realising the awesomely wishful dream of 'civil society and democracy' in the post-September 11 global world. As consumers, it does whet our appetite to know that it is now possible to order, through the Internet, a plate of Hainanese chicken rice from the comfort of a hotel room of the many luxurious hotels in and around Bintang Walk of Kuala Lumpur that are now wired by a network of optic cables. These are encouraging developments indeed. However, the moot question is how widespread is the availability of such facilities? Or, are they the new set of social class indicators? Such possible contradictions invite further investigation.

KNOWLEDGE PRODUCTION IN CONTEMPORARY GLOBALISATION

Before we proceed to discuss such issues, it is imperative to examine the overall state of knowledge production in our recent experience of globalisation. We have observed how prevailing structures in regard to community, governance and production have been affected and shaped by different social and historical settings. So, too, the underlying frameworks of knowledge production, they vary by setting. It is therefore important to consider whether and how globalisation has affected patterns of knowledge production. We thought this is best done by an examination of the said patterns through the three key aspects of the knowledge system, namely, epistemology, ontology and methodology.

Epistemologically, we have observed that the predominant modern structure of knowledge, that is, rationalism, has been vital to the creation of global spaces. However, several authors, the most prominent of whom is Albrow (1996), have argued that globalisation has led to the decline or even demise of modern rationality. Some saw the rise of contemporary religious revivalist movement as posing a serious challenge to rationalism (Beyer 1994). Like the proclamations made of the end of capital, the state or the nation (Ohmae 1999), the supposed

death of modern rationality is rather premature. Undeniably, globalism has made room for nonrationalist knowledge, such as religious revivalism (Kepel 1991), ecocentrism (Eckersley 1992) and postmodernist thought (Anderson 1990). However, we would like to argue that the majority of knowledge that has been circulating in global spaces has continued to demonstrate the core rationalist attributes of secularism, scientism and instrumentalism. This has been strongly argued, for instance, by Ritzer in his *McDonaldization Thesis* (1998). We could say that, to this extent, contemporary globalization has tended to spread and strengthen the position of modern rationality because rationalism has remained integral to most transnational relations (Mittleman 1999).

In this case, the ICT-anchored global communications technologies have well served modern science and its main centres of production, like universities and research institutes. Global market, global production, global finance and global organisations have also reproduced secular and instrumental thinking. Prevailing global ecological problems and policy responses have indeed reflected the persistent effort by human beings to subordinate nature to human purposes using science and technology. Both neoliberalism and reformism have exhibited a thoroughly secular, human-centred, technological-scientific and instrumentalist orientation to knowledge. Even among radical socialist views on globalization, the dominance of a rationalist epistemology is obvious for all to see. Rationalist epistemology has also dominated global enterprises, global governance agencies and the more influential parts of civil society like think tanks and professional NGOs. This assertion does not imply that the rise of transnationalism and globalisation has left rationalist knowledge untouched. As mentioned earlier, in some respects globalisation has accommodated nonrationalist epistemologies and in some cases anti-rationalist movement. We have witnessed how decades of accelerated globalisation have led to numerous instances of religious revivalism, where believers seek to regain their faith's original and premodern truth, hence the rise of charismatic and evangelical movements amongst Protestant circles and Muslim ones. These non- and antirationalist strivings can be understood, on the one hand, as defensive reactions against encroachments by global forces on established cultures and livelihoods and, on the other, as a strategy to advance their cause globally. Transborder relations have also helped to stimulate and sustain some renewals of anti-rationalist faith (Shamsul & Rumaizah 2002).

At the same time, we must not ignore the efforts made by influential religious thinkers of the different world religions seeking to marry faith and reason, that is, to combine and reconcile experience of the transcendent with scientific and instrumental knowledge. So, it is not uncommon to find an executive director of a global bank who is a techno-scientific economist by day and a practising Buddhist at night. This effort at 'syncretism' made by many religious individuals of a variety of faiths, that is, to adjust their religious understanding to accommodate modern rationality, has certainly strengthened the argument

that revivalist anti-rationalism has been a minority tendency even in many religious circles.

Ontologically, we wish to argue that contemporary globalisation has engendered a different conception of 'the world' (read 'reality') to which reason is applied, as well as different appreciation of speed and change. Anthropologists often remind us that all cultures and individuals hold particular conceptions of the entities of relationships that constitute their world, viewed through a number of key ontological concepts and concerns such as the character of God, life, the self, time and space. Our understandings of such concerns become the background to as well as shape our every thought and purposeful action, even though more often than not these concerns remain unspoken or rarely expressed. A number of social theorists such as Harvey (1993) and Castells (1996), and many more before them, have redefined geography in transnational terms. Indeed, incipient new ideas of space have spread beyond the group of social theorists. Such academic reconceptualisation of space strike a chord with the population at large, who have come to accept the idea of 'global village', for instance, as commonsense, thus articulating a broader ontological shift. The widespread discussion on the theme 'virtual reality' or 'cyberspace', as a result of the presence of ICT, seems to indicate that the conventional understandings of geographical 'reality' has now an alternative construct and meaning. We, therefore, have to create new definitions of space so that we can adjust and restore a fit between our understandings and our experiences, so that we can move, so to speak, 'cyberspace' from virtual to actual reality.

However, this ontological shift in our understanding of space is still evolving. Today, we are still using world territorial maps with clear dotted boundaries between countries and giving different colours to each. Hence it could be said that many people at the beginning of the 21st century still hold the idea that 'space=geography=territory', at least in the popular understanding. This is in spite of the fact that to the same people transborderism or transnationalism is a lived reality, such as those experienced by 'citizens' of the European Union, commuting daily across 'national territorial boundaries' to go to work. We are yet to really develop nonterritorialist concepts of space, or a vocabulary of globality that linguistically could stand on its own.

The other major ontological shift that resulted from globalisation is in our conception of the notions of time. A qualitative change in the relations of space and time has occurred that dissolves the connection between time and distance. As a result, people living more globalised lives, such as those who travel by air to different 'workplaces', are less inclined to think of time with reference to distance. Instead, in their minds, they have shifted the ontology of time from a link with distance to a connection with speed. Frequent flyers of different airlines usually think more about how fast (how many hours and minutes) not how far (how many thousand kilometres) they are going. With fax and e-mail, we are more concerned with speed than with distance of communications. The

concept 'just-in-time', often used in the sphere of global production, is about how fast (speed) suppliers can deliver a particular order for certain manufactured items and has little to do with how far they have to deliver the goods. Indeed, the successful and profitable operation of global fast-food chains, such McDonald, survive and thrive on the 'just-in-time' concept. At home and at the office, we have 'instant noodles' and 'instant coffee' to satisfy our 'instant needs' because we work and live in shifts, day or night shifts, to suit the global 'just-in-time' production needs. Certainly this ontological shift has contributed to the acceleration of life. At the everyday-defined level, such an acceleration has tended to heighten our experience of the fullness of time. With the removal of distance that usually insulates us from others, and with the presence of mobile phones, Internet, satellite television, more activities have come to crowd our lives. In short, life becomes far more 'busy'. To some, this has led to the 'migraineisation' of everyday-defined social life, meaning the increase of stresses of various kinds, individual and collective, both at home and workplace, and, in turn, as some medical experts suggest, led to the increase in the non-infectious diseases (high blood pressure, diabetes, coronary problems, etc.), perhaps through consuming or surviving on fast-food items as staple food.

Methodologically, globalisation has not really made general impacts on several core methodological issues in social inquiry, that is, in terms of principles and procedures of inquiry. Increased globality, for instance, does not induce general changes of perspective on the relationship between facts and values, or alter views on the links between theory and practice, or led to the mass conversions of structuralists to poststructuralists and materialists to idealists. Indeed, these methodological issues are not directly related to the shape of social space. However, globalisation has more direct implications for several other methodological issues, such as the role of academic disciplines, to process of teaching and learning as well as to the nature of empirical evidence. In terms of academic disciplines, the rise of transnationalism has heightened the need to transcend the conventional academic divisions when undertaking social inquiry hence the need for 'multi'-disciplinarity (where researchers from several fields each contribute their own approach to a joint investigation) and 'inter'-disciplinarity (where researchers make extra efforts of integrating principles and tools from different fields of study), even 'post'-disciplinarity (new methodologies that don't rely on separated fields of study, such as the 'world-system approach'). The emergence of interdisciplinary academic and non-academic enterprises, such as Media Studies, Environmental Sciences and others, could be attributed in part to the globalisation push.

We do not wish to overstate the convergence tendency because at present there are more pronouncements than action on this matter. Like contemporary social inquiry in general, most studies on global issues have drawn from single disciplinary fields, such as anthropology, or economics, or geography or law and so on. Most academic conferences are still tribal meetings of sorts because

they are conducted on disciplinary lines. It could be argued that disciplinary methodology has not been really uprooted and instead, remains quite firmly entrenched in the contemporary global world. The most remarkable methodological shifts have actually taken place are in the education process. At the individual level, the growth of transnational publishing has allowed millions of schoolchildren and students to have access and use transworld textbooks, published by a single publisher but translated into many different languages. At the institutional level, several colleges and universities have embarked on transnational franchise of entire degree courses, using academics from different countries to conduct such programs. Schoolchildren from wealthier countries, like Japan, can today expect at least one school trip overseas as part of their secondary education.

'Distance learning' programs based on 'virtual campuses' have suddenly increased. Many teachers have used Internet as a classroom tool, with websites partially displacing books. It is not surprising, therefore, in some private schools in Australia, for example, some primary kids carry laptops to classes, instead of textbooks.

The nature and character of literacy, too, has now been substantially broadened as a result of the availability of the technologies of globalisation. To be able to use computer applications at workplace is as critical as being able to read, write and having typing skill. Visual dimension of graphics, whether for television and films, have now been greatly enlarged due to computer graphics. Some scholars even suggest that we have shifted our learning paradigm from that of 'literary paradigm' (reading printed texts) to 'video paradigm' (reading pictorial texts) (Lash & Urry 1994). So, our 'teachers' now include journalists, television personalities, disk jockeys, beside our usual classroom school teachers.

In terms of language usage and proficiency, the growth of transnationalism has contributed greatly to the development of English as a global lingua franca. In some countries, serious efforts are made to ensure that the younger population are competent in English to prepare them for the 'globalise' local job market. The technologies of globalisation have not only widened the scope of literacy, but also enlarged the amount and types of empirical evidence that are available to researchers. ICT and air travel have enabled investigators to gather data in super quick time from all corners of the world. We also have moved from being totally dependent on paper-based databases to relying more and more on digital databases. The latter has enabled researchers to handle much greater quantities of data. Whether with such voluminous data at their disposal have made researchers more sophisticated in their analyses or increased their wisdom is a moot point.

Methodologically, therefore, in spite of the presence of a greater urgency to become less disciplinary-oriented, the tendency to alter some aspects of the education process, and the increased amount of empirical material, the results from academic endeavours and the philosophic-analytical underpinning remains

firmly entrenched in rationalism. If we were to summarise the impact of globalisation on knowledge production, we would like to argue that contemporary globalisation has not substantially weakened the hold of rationalism on the social construction of knowledge. But, we do not deny that some rationalism has become more reflexive. Although the growth of anti-rationalist knowledge seems to be alarming to some quarters, it is interesting to observe that its global modus operandi has been based on a rationalist orientation and methodology. Of course, our notion on reality has also been somewhat redefined and reconfigured due to the presence of 'cyberspace', 'virtual reality' and the rest of it. To what extent we have been able to create a vocabulary of globality and a global map without those boundaries, and travel without passports. Without doubt, the role of ICT-based technologies of globalisation has been critical in bringing about changes in the way knowledge are produced during the globalisation era. What is more significant for us to find out perhaps is how many per cent of the world population is really enjoying these changes or have been affected at all by them, especially, those changes generated by the presence of ICT. An equally important issue that needs to be addressed relates to the type and nature of knowledge produced by the same ICT-generated changes. Do knowledge become more globalised, regionalised or 'nationalised'? We would like to present some preliminary observations on the latter issue and subsequently on the former.

GLOBALISATION AND 'METHODOLOGICAL NATIONALISM': KNOWLEDGE PRODUCTION ON SOUTHEAST ASIAN STUDIES

We are advancing an argument that although ICT has made knowledge in general more accessible to a wider audience in larger volume and quicker than ever before, ironically, its production, especially, in the field of social sciences and humanities, is increasingly trapped in its 'dividedness' because it is organised usually within the 'nation-state', thus giving rise to what could be called 'methodological nationalism', in which universal social issues are studied and elaborated in the micro-context of a nation-state, not as universal social issues unimpeded by the physical and ideational boundaries of historically and artificially constructed nation-states. We wish to present the case of 'Southeast Asian studies', as a form of knowledge, and examine briefly how it has been produced and reproduced, methodologically, as well as consumed in contemporary globalised context, hoping to capture some of the contradictions and challenges that it has to cope with and overcome, especially, in the context of ICT-based technologies of globalisation.

ANALYZING SOUTHEAST ASIA AS A FORM OF KNOWLEDGE

Society is both real and imagined. It is real through face-to-face contact, and imagined when the idea of its existence is mediated through media such as printed materials and electronic images, and, in particular, ICT. So, the term society refers simultaneously to a micro unit that we could observe and to a macro one that we could only partially engaged with. We, therefore, have observable 'societies' within a macro imagined 'society', so to speak. Southeast Asia, like other regions in the world, has both. It is the way that both of these components have been weaved into an enduring complex whole, which seemed to have made Southeast Asia and Southeast Asians thrive and survive even under adverse conditions, such as the recent financial-economic crisis, that has become the source of endless intellectual attraction and academic inquiry to both scholars and others, hence the birth, growth and flourishing of Southeast Asian studies.

Southeast Asian studies, dominated by humanities and the social sciences, have been about the study of the 'society' and 'societies' in the region, in their various dimensions, in the past and at present. The complex plurality of these 'society' and 'societies', or societal forms, that do indeed co-exist, endure and enjoy some functional stability, have made it imperative for researchers to apply an equally diverse set of approaches, some discipline-based (anthropology, sociology, geography, history, political science etc.) and others thematically-oriented (development studies, gender studies, cultural studies, etc.) in studying Southeast Asian society. In some cases, it even involved disciplines from the natural and applied sciences.

The greatest challenge in Southeast Asian studies, and to its experts, has been to keep pace with the major changes that have affected the 'society' and 'societies' and then narrate, explain and analyse these changes and present the analysis in a way that is accessible to everyone within and outside the region. The technique of presenting and accessing this knowledge is equally critical. Undoubtedly, framing the analysis is very important in understanding as to how Southeast Asian studies constitute and reproduce itself through the study of 'society' and 'societies' within Southeast Asia. The 'knowledge baseline' approach is useful in making sense of the said framing process.

THE 'KNOWLEDGE BASELINE' IN SOUTHEAST ASIAN STUDIES

Social scientific knowledge (humanities included) on Southeast Asia has a clear knowledge baseline, meaning a continuous and inter-related intellectual-cum-conceptual basis, which emerged from its own history and has, in turn, inspired the construction, organisation and consumption process of this knowledge. The two popular concepts that have been used frequently to characterize Southeast Asia are 'plurality' and 'plural society', both of which are social scientific constructs that emerged from empirical studies conducted within Southeast Asia by scholars from outside the region.

In historical terms, or during the 'proto-globalisation' era, 'plurality' characterizes Southeast Asia before the Europeans came and who, subsequently, divided the region into a community of 'plural societies'. Plurality here signifies a free-flowing, natural process not only articulated through the process of migration, but also through cultural borrowings and adaptations (Bellwood 1985; Collins 1994). Politically speaking, polity was the society's political order of the day, a flexible non-bureaucratic style of management focusing on management and ceremony by a demonstrative ruler. States, governments and nation-states, which constitute an elaborate system of bureaucratic institutions, did not really exist until Europeans came and dismantled the traditional polities of Southeast Asia and subsequently installed their systems of governance, using 'colonial knowledge', which gave rise to the plural society complex (Tarling 1992).

Historically, therefore, plural society signifies both 'coercion' and 'difference'. It also signifies the introduction of knowledge, social constructs, vocabulary, idioms and institutions hitherto unknown to the indigenous population (such as maps, census, museums and ethnic categories), the introduction of market-oriented economy and systematized hegemonic politics as well new techniques of presentation (read print capitalism). Modern nation-states, or state-nations, in Southeast Asia have emerged from this plural society context (Brown 1994). It is not difficult to show that the production of social scientific knowledge on Southeast Asia has moved along this plurality-plural society continuum (Evers 1980). When scholars conduct research and write on pre-European Southeast Asia, they are compelled to respond to the reality of 'proto-globalisation' Southeast Asian plurality during that period; a period which saw the region as the meeting place of world civilizations and cultures, where different winds and currents converged, bringing together people from all over the world who were interested in 'God, gold and glory', and where groups of indigenes moved in various circuits within the region to seek their fortunes. As a result, we have had in Java a Hindu king with an Arabic name entertaining European traders. In Champa, we had a Malay *raja* ruling a predominantly Buddhist populace trading with India, China and the Malay Archipelago. Whether we employ the orientalist approach or not, we cannot avoid writing about that period within a plurality framework, thus emphasizing the region's rich diversity and colourful traditions (Reid 1988, 1993). In other words, the social reality of the region to a large extent dictates our analytical framework.

Once colonial rule was established and the plural society was installed in the region, followed later by the formation of nation-states, the analytical frame, too, changed. Not only did analysts have to address the reality of the plural society, but also the subsequent developments generated by the existence of a community of plural societies in the region. We began to narrow our analytical frame to nation-state, ethnic group, inter-nation-state relations, intra-nation-state problems, nationalism and so on. This gave rise to what could be called 'methodological nationalism', a way of constructing and using knowledge based

mainly on the 'territoriality' of the nation-state and not on the notion that social life is a universal and borderless phenomenon, hence the creation of 'Indonesian studies', 'Vietnam studies', 'Malaysian studies', 'Thai studies' and so on.

With the advent of the Cold War and the modernization effort, analysts became further narrowed in their frame of reference. They began to talk of poverty and basic needs in the rural areas of a particular nation, also focusing on resistance and warfare, slums in urban areas and economic growth of smallholder farmers. The interests of particular disciplines, such as anthropology, became narrower still when it only focuses on particular communities in remote areas, a particular battle in a mountain area, a failed irrigation project in a delta, or gender identity of an ethnic minority in a market town (Steinberg 1987). In fact, in numerical terms, the number of studies produced on Southeast Asia in the plural society context supercedes many times those produced on Southeast Asia in the plurality context. Admittedly, social scientific studies about Southeast Asia developed much more rapidly after the Second World War. However, the focus became increasingly narrow and compartmentalized, not only by academic disciplines, but also in accordance to the boundaries of modern postcolonial nations. Hence, social scientific knowledge on Southeast Asia became, to borrow a Javanese term, *kraton*ized, or compartmentalized.

It is inevitable that a substantial amount of social scientific knowledge about Southeast Asia itself, paradigmatically, has been generated, produced and contextualized within the plural society framework, because 'nation-state' as an analytical category matters more than, say, the plurality perception of the Penans of Central Borneo, who, like their ancestors centuries ago, move freely between Indonesia and Malaysia to eke out a living along with other tribal groups and outside traders, ignoring the existence of the political boundaries. In fact, anthropologists seem to have found it convenient, for analytical, scientific and academic expedience, to separate the Indonesian Penans from those of Malaysia when, in reality, they are one and the same people.

Therefore, the plurality-plural society continuum is not only a 'knowledge baseline', but also a real-life social construct, that was endowed with a set of ideas and vocabulary, within which people exist day-to-day in Southeast Asia. The presence of ICT does not alter the knowledge baseline. Instead, it has further enhanced the plurality-plural society conceptual-cum-analytic divide, because newly-built digital databases have accepted the existing knowledge grid as given. The voluminous empirical material, both published and unpublished, that are now accessible in digital form, either online or offline, have been classified and catalogued indeed locked in that grid.

CONSTITUTING AND REPRODUCING THE KNOWLEDGE ON SOUTHEAST ASIA

There are at least four major axes along which the construction, organization and reproduction of social scientific knowledge about Southeast Asia and its

societies have taken place. The first axis is that of *discipline/area studies*. There is an ongoing debate between those who prefer to approach the study of Southeast Asia from a disciplinary perspective, on the one hand, and those who believe that it should be approached from an area studies dimension, employing an inter-disciplinary approach, on the other. The former prefer to start clearly on a disciplinary footing and treat Southeast Asia as a case study or the site for the application of particular set of theories that could also be applied elsewhere globally. The aim of such an approach is to understand social phenomena found in Southeast Asia and to make comparisons with similar phenomena elsewhere. Those preferring the latter approach see Southeast Asia as possessing particular characteristics and internal dynamics that have to be examined in detail using all available disciplinary approaches with the intention of unravelling and recognizing the indigenous knowledge without necessarily making any comparison with other regions of the world.

The bureaucratic implications of these two approaches can perhaps be clearly discerned in the way social scientific knowledge about Southeast Asia is reproduced through research and teaching. This brings us to the second axis, namely, the undergraduate/graduate studies axis. Those who favor area studies often believe that Southeast Asian studies can be taught at the undergraduate level, hence the establishment of Southeast Asian studies departments or programs in a number of universities in Southeast Asia, combining basic skills of various disciplines to examine the internal dynamics of societies within the region. Acquiring proficiency in one or two languages from the region is a must in this case. The problem with this bureaucratic strategy is that these departments have to be located in a particular faculty, say, in the arts, humanities or social science faculty. This denies, for instance, those with a background in the natural sciences the opportunity to study in-depth about Southeast Asia.

Therefore, those discipline-inclined observers would argue that Southeast Asian studies should be taught at the graduate level to allow those grounded in the various disciplines, whether in the social or natural sciences or in other fields of study, to have an opportunity to specialize in Southeast Asian studies. Therefore, a geologist or an engineer who, for instance, is interested in the soil and irrigation systems of Southeast Asia could examine not only the physical make-up of Southeast Asia but also the human-environment relationship. This is particularly relevant at the present time since environmental and ecological issues have become global concerns. This has made many individuals, institutions and governments to think carefully how they should invest their precious time and money when they are requested to support the setting up of, say, a program, center or institute of Southeast Asian studies. They often ask whether universities should continue to have the prerogative on the teaching, research and dissemination of knowledge about anything connected with Southeast Asia and its societies. Why not in non-university institutions?

This takes us to the third axes, namely, the university/non-university axes. For many years, we imagined that only at the university we could acquire and reproduce knowledge about Southeast Asia, whether approached from the disciplinary or area studies perspective. However, many governments and international funding bodies felt that to obtain knowledge about Southeast Asia one need not go to university, but could acquire it through non-academic but research-oriented institutions established outside the university structure to serve particular purposes. National research bodies such as LIPI (Indonesian Institute of the Sciences) in Jakarta and ISEAS (Institute of Southeast Asian Studies) in Singapore have been playing that role. 'Think-tanks', such as the Center for Strategic Studies (CSIS), Jakarta, or the Institute of Strategic and International Studies (ISIS), Malaysia, have also played the role of the producer and reproducer of knowledge on societies in Southeast Asia outside the university framework. However, there seems to be a division of labour, based on differences in research orientation, in the task of producing and reproducing knowledge between the academic and non-academic institutions. This final axes is academic/policy-oriented research axes.

While academic endeavours pursued within the context of Southeast Asian studies in the universities are motivated by interest in basic research, which is by definition scholarly, those pursued outside the universities are often perceived as not being scholarly enough because they are essentially applied or policy-oriented in nature and serving rather narrow, often political, interests of the powers that be in Southeast Asia. It is argued that the critical difference between these two approaches is that the academic one is always open to stringent peer-group evaluation as a form of quality control, but that the applied one is not always assessed academically. In fact, the latter is often highly confidential and political in nature, thus denying it to be vetted by the peer-group, hence its perceived inferior scholarly quality. The basic research-based academic endeavours are therefore seen as highly scholarly, whereas the non-academic ones are perceived as highly suspect as scholarly works and not considered to contribute to the accumulation of knowledge on Southeast Asia societies.

However, research institutes like ISEAS in Singapore would argue that, even though it is essentially a policy-oriented research institute, mainly serving the interests of the Singapore government, it still produces scholarly work of high quality and encourages basic research to be conducted by its research fellows, either on an individual or a group basis. In other words, a non-university research institute of Southeast Asian studies, such as ISEAS, could simultaneously conduct applied and basic research without sacrificing the academic and scholarly qualities of its final product; or put in another way, it is 'policy-oriented yet scholarly'.

Without doubt, the availability of ICT has helped tremendously the building of a more efficient and user-friendly systems of management of the

knowledge, in terms of storage, retrieval and access. The graduate students would easily vouch that the exercise of literature review is much less arduous than before. With the numerous databases on Southeast Asian studies available, both within and outside the region, would probably render inter-library loan an activity of the past. The moot question is who are really the consumers of knowledge on Southeast Asians societies, hence Southeast Asian studies; the Southeast Asians or outsiders?

CONSUMING THE KNOWLEDGE ON SOUTHEAST ASIA

It could be argued that social scientific knowledge about Southeast Asia and its societies is a commodity with a market value. Often the 'market rationale', and not the 'intellectual rationale', prevails in matters such as the setting-up of a Southeast Asian studies programme, centre or institute, even in the government-funded academic institutions. However, the funding of research on Southeast Asian studies has often been dictated not by idealistic, philanthropic motives, but by quite crass utilitarian desires, mainly political or economic ones. There are at least three important 'sectors' within which knowledge on Southeast Asia societies has been consumed: the public, the private and the intellectual sectors.

Since the governments in Southeast Asia have been the biggest public sector investors in education, through public-funded educational institutions, they have been the largest employment provider. They have set their own preferences and priorities, in accordance to their general framework of manpower planning, in deciding what type of graduates and in which fields of specialization they want to employ them. The pattern in Southeast Asian countries has been well-established, that is, there is a higher demand for science graduates than the social sciences and the humanities. But, amongst the latter there is no clear, expressed demand for Southeast Asian studies graduates. However, there seems to be a significant demand for the inclusion of the Southeast Asian studies content in all the non-natural science courses at the undergraduate level in most of the government-funded academic institutions in Southeast Asia. This is not unrelated to the fact that the awareness about ASEAN as a community has now become more generalized amongst the public, hence the need for a more informed description on the different countries and societies within ASEAN (read Southeast Asia).

Outside Southeast Asia, such in Japan and the United States of America, very rarely, specialization in Southeast Asian studies, or components of, has been considered highly desired in the job market of the public sector. Perhaps having a graduate-level qualification in Southeast Asian studies is more marketable in the public sector especially in government of semi-government bodies that deals with diplomatic relations or intelligence. In the private sector, the demand for Southeast Asian studies as a form of knowledge and the demand for a potential employee who possesses that knowledge are both limited and rather

specific. However, the number could increase depending on how large is the investment and production outfit a particular company has in Southeast Asia, this is particularly relevant to large TNCs with multi-sited production locations. Since some of the demand for the knowledge is rather short-term, often specific but detailed, therefore it has to be customized to the needs of a company, 'think-tanks' or 'consultant companies' have often become the main supplier of such tailored knowledge. Many of such organizations are actually dependent on 'freelance' Southeast Asianists or academics who do such jobs on a part-time, unofficial basis.

It has been observed that the Japanese seems to be a regular consumer of knowledge on Southeast Asia. This is hardly surprising because they have massive investments in Southeast Asia. There is, therefore, a constant need to know what is happening in the region. Research foundations from Japan, in particular the Toyota Foundation, has been very active, in the last decade, in promoting 'Southeast Asian studies for Southeast Asians', and supporting other research and exchange programmes. Taiwan and Korea are the two other Asian countries having their own Southeast Asian studies research centers, besides in the United States, United Kingdom, France and The Netherlands, former colonial powers in Southeast Asia. Perhaps after September 11, the demand in the USA has increased substantially parallel to the increase of its military interest and operation in the region.

A more generalized demand for knowledge on Southeast Asian societies relates to marketing and this trend must not be underrated with the recent expansion of the middle class in the region. As the market and clients in Southeast Asia become more sophisticated, the need for in-depth knowledge on sectors of the Southeast Asia societies has increased. This in turn has increased the demand for graduates who have followed courses related to Southeast Asian studies. In the intellectual sector, knowledge on Southeast Asia has been consumed generally by the NGOs, namely, those that are national-based ones as well as those that have regional networks. Because most of the NGOs are issue-specific based interest group, such as environmental protection, abused housewives, social justice and the like, and often seeking funds for their activities from the governments and NGOs in developed countries, they find it more advantageous to operate on a regional basis because they get more attention and funding from the said source. The strength and success of their operation is very much dependent on the amount of knowledge they have about Southeast Asian societies in general as well as the specific issue that they are focusing on as a cause in their struggle.

With the popularity of the Internet and its increased usage around the world and within Southeast Asia, it has now become an important medium through which academic and popular knowledge on Southeast Asian societies has become available. The source of the knowledge could be located outside or within the region, but are now much more accessible for commercial and non-

commercial purposes. An interesting development in the latter is in the realm of 'democratic politics'. Put simply, the presence of ICT, has enabled the various aspects of knowledge on Southeast Asian society and politics to be utilised for political purposes. More than that, the Internet has become an effective and popular alternative source of information and news to the opposition, anti-establishment as well as minority groups. Indeed, the Internet has become a new medium of producing and reproducing knowledge on Southeast Asian people, politics and society.

As a conclusion, it could be said that Southeast Asian studies and what it constitutes is, first and foremost, a knowledge construct that represents only part of the region's social reality. In spite of this, it is the most important element, amongst the many, that gives Southeast Asia, the geophysical region as well as its people and environment, its history, territory and society. Because of the co-existence of different societal forms in the region, hence the unevenness of the tempo of social life in the region, the speed of social change thus also differs from one community to the other, from one area within the region to another. The understanding and analysis are complicated by the persistence of 'methodological nationalism'. Therefore, only a poly-disciplinary approach could capture these complexities embedded in the societies of Southeast Asia. Increasingly, ICT has played the critical role of weaving the complex of information and knowledge, available from all corners of the globe on the region, into a coherent storable, retrievable and accessible whole.

We, at the Institute of the Malay World and Civilization (ATMA), Universiti Kebangsaan Malaysia, can testify to that. With a collection of 25,000 single-text articles, written in a number of languages, located in the newly-constructed ATMA's *Malay World Studies Database*, another 21,000 *Pantun Baba Cina Database*, *Peribahasa Melayu* that holds about 20,000 *Malay proverbs*, ATMA's website (*www.atma.ukm.my*) is slowly making its presence felt in the global knowledge sphere thus establishing its own niche (Shamsul, Rumaizah & Haslindawati 2002). As the importance of the region increases in the globalising world, both generalist and specialist knowledge about Southeast Asia become critical to the world and the region itself. In that sense, Southeast Asian studies as a knowledge construct transforms itself into a lived reality, especially for the Southeast Asians themselves. This knowledge, therefore, becomes indispensable both to those who study Southeast Asia and its society as well as to the Southeast Asian themselves. However, the struggle against 'methodological nationalism' would still be the biggest challenge for such an endeavour.

CONCLUSION: A QUESTION OF ACCESS VERSUS EQUITY: PAPER-BASED VERSUS DIGITAL-BASED KNOWLEDGE

Preliminary empirical evidence from the Malay world – the maritime and riverine complex of Southeast Asia, an integral component of the region – shows that

the distribution of the nation-state-based knowledge, including those that use ICT as a conduit, is very much limited by the dominant number of factors, in particular, the larger and dominant social inequality grid articulated by the uneven distribution of infrastructural facilities, such as electricity supply, without which the access to ICT-based knowledge is only a dream.

In our attempt to make the knowledge on the Malay world (originally called the Malay Archipelago by Wallace 1869) available through our digital databases, we have come to realise that the reach or audience is very much limited by a number of factors, such as presence or absence of basic infrastructural items, such as electricity and telephones, habits of Internet users and, of course, the state of social inequality in a particular country. We do not have to go very far to look for examples on that. To the people in Bario, Sarawak, a place located in the middle of Borneo forest that does not enjoy the taken-for-granted luxuries of electricity, piped-water supply and telephones, a special E-Community pilot project has to be created to find means and ways on how the population in Bario could have access to ICT and be wired to the outside world. It has been a costly project. Whether this could be repeated elsewhere in Malaysia is a moot point. Even though the Malaysian government promises that in the next five years there should be one computer in every home, it would be a useless item if there is no electricity supply to these homes and telephones are not available.

One study conducted in 1999 by Communications Department, Faculty of Modern Language and Communications, Universiti Putra Malaysia, that involved 2,015 respondents (males and females, urban and rural as well as from the major ethnic groups) indicated that about 95% of Malays have heard the word IT, followed by 85% Indians and 76% Chinese. However, the Chinese seems to lead among the ethnic groups in terms of "have used computers" (65%), "have computers at home" (46%), "have computers connected to Internet" (30%), and "have attended computer training courses" (23%). The Malays that have their computers connected to the Internet is only 14%, compared to 30% of Chinese and 22% Indians. The study also showed that in the urban area "computers connected to Internet" was about 26% and in the rural only 10%.

We can argue endlessly about the validity of these figures and whether or not we can generalise anything useful from them. For us, these figures simply demonstrates the fact that the basic precondition for the possibility of any form of knowledge being distributed through the ICT is the availability of basic infrastructural facilities, such as electricity supply and telephone lines, and followed by the ICT hardware and software themselves, and they have to be connected. The users themselves must be computer literate too. To the urban inhabitants of Klang Valley, the majority of whom have access to the basic infrastructural facilities that the people in Bario do not, ownership and usage of computer is a commonplace, if not at home, it is available at the hundreds of Internet cafes in the region. However, the findings from a number of studies conducted in the Klang Valley in the last three years seems to indicate that

amongst Internet users, very few actually use the Internet to access knowledge of various kinds, either for personal or other use.

A research, conducted by a group of researchers from The International Islamic University, Kuala Lumpur, amongst 442 Internet users in the Klang Valley, 56% of whom are students from local institutions of higher learning (private and public), shows that less than 10% actually use the Internet for activities that could be considered as knowledge seeking, such academic assignments. The majority use the Internet for chatting, e-mail and games.

Our point is that even those who have access to the Internet, the percentage of which, against the total Malaysian population, is very small (not more than 15%), they do not necessarily use it for knowledge enhancement, less so for knowledge production, if any at all. We would, therefore, advance the argument that digital-based knowledge located in the numerous web-based databases accessible on-line, though easily available, is not the dominant knowledge source for the majority of the population, especially in the developing countries, like Malaysia. Indeed, we are still dependent on paper-based knowledge and databases.

So, we ask the question "is ICT really critical in knowledge production in the context of globalisation"? One part of the answer is that ICT is critical in certain up-stream sectors of the society that deals with global activities directly. The other part of the answer is that for the rest of the society who are involved mainly in local, down-stream activities, with weak global connections, ICT is not really critical, because they still are dependent on non-ICT knowledge sources. However, let us not rush in making positive or negative judgement regarding the future of ICT.

If we believe that in the globalising world, K-Economy is not going to ever replace P-Economy, even in developed countries, instead these two economies have to co-exist and complement each other, then digital-based knowledge can only exists to complement paper-based knowledge and not replace it. The production of knowledge is crucial to each other. After all, poverty and illiteracy are still the two major problems in the world today. Perhaps, in this context we should not be talking about 'digital divide', instead of 'digital opportunity'.

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