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Practical and Auspicious: Thai Handbook Knowledge for Agriculture and the Environment

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Abstract: *This article is the first thorough examination of the Thai handbooks that are produced to explain agricultural and environmental knowledge. These khu-meu (handbooks) and tamra (textbooks) come into use when knowledge is moving from one party to another. They also establish symbolic correlations within the human, terrestrial world, or between the human, terrestrial world and the worlds of the gods, spirits, ancestors, or the unseen. Despite the fact that handbooks are pervasive for the organising, preserving, retrieving, transmitting and consuming of knowledge throughout the Southeast Asian region, there has been very little concerted study of handbook knowledge. Our analysis of environmental handbooks in Thailand shows that simplified mastery is a common goal of the handbook genre in both its “how to” and “reading signs” forms. The knowledge captured by the Thai language handbooks is of a practical, predictive kind and suited to particular circumstances. Such knowledge can ultimately bridge and blur the dichotomy between scientific and local epistemologies.*

Keywords: *Thailand, epistemology, farming, resource management, pedagogy, local knowledge, Southeast Asia*

Introduction

Handbooks store, reproduce and disseminate knowledge. Handbooks, textbooks and manuals in printed and oral form contain instructions on how to do, make, operate, perform and behave. In this respect, handbooks are particularly useful when new technologies or new products appear on the market, or where an emerging

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group – apprentices, junior students, new clients – or an emerging socio-economic class wants or needs instruction. Handbooks are also crucial at times of major environmental or social change, when new groups often require simplified mastery of changing ecological, political and economic conditions. In general terms, this type of knowledge is inherently dynamic and explicitly evolutionary, despite appearances to the contrary. Handbooks come into use when knowledge is moving from one party to another. They also establish symbolic correlations within the human, terrestrial world, or between the human, terrestrial world and the worlds of the gods, spirits, ancestors, or the unseen.

For analytical purposes, handbooks can be usefully divided into two inter-dependent types. On the one hand, there are the handbooks that offer instructions (how to make, operate, perform or do something). These are the handbooks that we most immediately associate with the realm of handbook knowledge. On the other hand, the second major type of handbook offers guidance on how to interpret signs (how to divine, read omens, forecast outcomes, or identify auspicious objects). Handbook knowledge of both types provides credentials for experts (*gurus*, teachers, seers, trainers, consultants, monks, entrepreneurs, medical practitioners) and for those novices and apprentices who are learning how to become experts. It is therefore not entirely surprising that a requirement for advanced professorial appointments in Thailand is that applicants should have published a textbook. In modern Thai the word for textbook (*tamra*) comes from an old term for handbook or manual. In this respect, handbooks posit a distinction and distance between someone (or, in the case of an institution, something) as a knowing subject and someone (an individual, group, human collective) who needs or desires instruction on how to do things. Handbooks are “natural” both to consumer societies and to societies where older hierarchies persist through a residual aristocratic order, as is the case in Thailand. Thailand’s older hierarchies have highly refined status systems, where royalty and nobility customarily set standards for deportment, procedure, taste and aesthetics.

Even with this longstanding elite endorsement – and despite the fact that handbooks are pervasive for the organising, preserving, retrieving, transmitting and consuming of knowledge throughout the Southeast Asian region – there has been very little concerted study of handbook knowledge. A study undertaken by Reynolds (2006, Chapter 10) demonstrated the existence of this type of knowledge throughout Southeast Asia and offered a critical analysis of genres. Reynolds has shown that handbook knowledge ranges on a continuum up-and-down the social, political and religious hierarchy. The only other detailed study is by the Danish anthropologist Brun (1990), who explored the formal, semiotic and pedagogical properties of handbook knowledge, but his provocative insights into the dynamics of this knowledge tradition have never been subjected to further scrutiny or followed up. There are also some important insights in the work of Turton (1991) on invulnerability in the Thai countryside; Day (2002, pp. 122–25; Day and Derks, 1999) in relation to Javanese encyclopaedias; Milner (1982, Chapter 5) on royal Malay custom and behaviour; Quinn (1975) on the “Javanese science of burglary”; and Connors (2003) in relation to the propagation of democracy in Thailand. McDaniel’s (2008) recent book on Thai monastic education provides valuable insights about one of the historical origins of Thailand’s handbooks.¹ As Bickner

(2010, p. 652) notes, there are striking parallels between the pedagogical style of some modern handbooks and the texts used to instruct monks in earlier centuries.

One of the benefits of examining handbook knowledge is that it can provide some useful insights into the distinction commonly drawn between “scientific” and “indigenous” knowledge. In an influential article, Agrawal (1995) argues that the distinction between indigenous and scientific knowledge obscures the fluidity and heterogeneity of knowledge systems. Li (2000, p. 121) goes so far as to declare that “the idea that there is an epistemological or substantive distinction between indigenous knowledge and other kinds of knowledge ... has been, quite rightly, debunked”. Much of this critique is directed at the “indigenous” side of the dichotomy. Brush (1993, p. 660), for example, voices widely held scepticism when he writes that “the term [indigenous knowledge] is often used uncritically, without examining the genealogy of the knowledge in question”. Similarly, in his account of smallholder rubber cultivation in Indonesia, Dove proposes that when the origins of rural knowledge systems are examined they tend to reveal the importance of cross-cultural contact and mixing and are not in any specific sense “indigenous”. For Dove (2002, p. 354, p. 355), the term indigenous knowledge “implies that the system in which knowledge is embedded is isolated and outside history”, whereas his preference is for an account that foregrounds “movement, invention, and contest”.

This desire for movement and invention in relation to indigenous knowledge has been taken up to some extent in work on Thailand. Walker (2001; 2004) has argued that academic and activist accounts of what has come to be referred to as “local wisdom” (*phum panya thongthin*) often involve the selective packaging of cultural elements that accord with stereotypes of ecologically benign and subsistence-oriented lifestyles. These accounts often have the effect of restricting what are regarded as authentic local knowledge systems to narrowly defined economic and ecological niches. Forsyth and Walker (2008) have also argued that the highly politicised distinction between elite and local knowledge downplays the underlying narrative commonalities between seemingly divergent accounts of environmental crisis. Reynolds (2006, pp. 299–300) proposes that in Thailand the preoccupation with local wisdom is, in fact, part of an ongoing critique – with a strong anti-Western, anti-scientific bias – of globalisation and modernity. This Thai view of Western, scientific knowledge is a polemical one that pays no heed to the argument that Western science itself should not be treated as a single contrasting point of reference when, in fact, all systems of knowledge are shaped by complex and interlinked cultural flows.

Dissatisfaction with the idea of a dichotomy between “scientific” and “indigenous” knowledge has led to an emphasis on notions of hybridity. Gupta’s (1999, p. 157) important account of agricultural development in India examines indigenous knowledge as part of an effort to “delineate the hybridities that characterize the post-colonial condition”. In his historical review of the concept of “indigenous” he argues that its characterisation in terms of an opposition with the West obscures its internal hierarchy and heterogeneity. In seeking to locate discussions of indigenous knowledge more fully within a political context, Gupta rejects the idea of recovering an “authentic” indigenous system of agronomy but sees the “existing hybridised understanding of agriculture” as the “outcome of multiple genealogies” (Gupta, 1999, p. 159). However, and despite its importance,

Gupta's account lacks insight into the specific contexts of knowledge production. At one extreme in his analysis, we have the macro-political and macro-cultural "condition" that is postcolonial and, in a sense, necessarily hybrid. At the other, we have metaphors of playful combination: there is an "inventive and contentious use of disparate and incommensurable discourses" and a mingling of alternative theories with "seeming effortlessness" and in a "variety of creative ways" (Gupta, 1999, p. 156, p. 157). But what is missing is a more purposeful sense of agency through which people select from the array of alternatives on offer, test their applicability to local circumstances, incorporate aspects of knowledge that prove useful, and reject the sometimes sterile offspring of hybrid combination.

An analysis of handbooks provides a useful starting point in developing a more rigorous treatment of the process of knowledge formation. Handbooks are readily identifiable repositories of intermingled knowledge traditions and specific sites of new knowledge production. They provide a bibliographic laboratory for observing and tracking the inventive intermingling described by Gupta. They also display an impressive diversity within particular genres. Handbooks encapsulate the remarkable intellectual traffic between rural and urban traditions, up and down the social scale and across national borders (Reynolds, 2006, Chapter 10). Often their authority and attractiveness lies precisely in their omnibus character, what Levi-Strauss (1966) called *bricolage*. As such, handbooks provide a basis for examining the historical development and contemporary application of knowledge, free from the dichotomies that commonly bedevil this type of enquiry.

Knowledge in Handbooks and Textbooks

Searches of major Thai library catalogues demonstrate just how important the genre of handbooks and textbooks has become. In October 2009, the National Library of Thailand had 10,251 items listed under the search term *คู่มือ* (*khu-meu* – handbook) and 2,948 under *ตำรา* (*tamra* – textbook). In the Thammasat University Library there are 5,800 listed under *khu-meu* and 1,480 under *tamra*. The Chulalongkorn University Library catalogue, which is used throughout this article for our general analysis of the genre,² produced 6,927 catalogue entries with a title keyword search for *khu-meu* and 1,508 for *tamra*. While we appreciate that these are incomplete collections of Thai handbook knowledge, we are confident that they provide a fair indication of the scale of handbook and textbook production that has occurred over the past century.³ Adding other key words, such as *khamphi* (คัมภีร์) (which means treatise, textbook or scripture, and is therefore conflated with other "non-handbook" knowledge in library catalogues) to the searches increases the total considerably.⁴ And, of course, these library collections include very little of the vast body of handbook "ephemera" contained in calendars, government booklets, commercial brochures and even political flyers. However we go about tallying the numbers, Thai handbook knowledge, in its handbook, textbook and ephemeral forms, is a significant and largely unstudied aspect of Thai society. It needs to be considered alongside the other forms of knowledge – scientific, religious and indigenous – usually invoked to map out Thailand's epistemological terrain.

It is difficult to generalise about the types of publications that make up the handbook knowledge genre, precisely because they are so diverse. At this stage it is

useful to highlight some examples of the genre to help illustrate the range of knowledge captured in these handbooks. They cover ground from the “prophetic interpretation of bodily moles” (Hong Ho “Simahaphot”, nd), to austere Buddhist guides to a successful life (Phutthathat Phikkhu, 2003), and to the quintessentially modern preoccupations with computer programming, car maintenance and business success. Thai bookstores are replete with books, pamphlets and magazines that provide detailed advice on the interpretation of dreams and horoscopes, how to exploit the special characteristics of numbers and, of course, the special properties of amulets and precious stones. In recent years, publishers have done a roaring business in books on geomancy (*feng shui* – lit. wind and water) for businesses and householders. The handbooks advise on the orientation of buildings, furniture in business establishments, especially the CEO’s desk, and where to place the sign bearing a shop’s name (Apsorn, nd; Manot, 2005; Wetsawan, 2005). Some of these books are translations of Chinese works and are consulted by Thais who are not necessarily of Chinese heritage. The assumption of the literature on geomancy is that human beings must be very careful about their alignment with natural forces, and failure to heed this advice is perilous indeed. Similar preoccupations are evident in handbooks on gardening and landscape design. An undated handbook by “Jitiyan” (a pseudonym) identifies “the importance of trees for people’s lives” (nd, p. 9) and offers suggestions on “planting trees in the Thai way” (*baep thai*) (nd, p. 32), including tips such as “for those people born on a Sunday which trees are the most auspicious?” (nd, p. 77). Pet care handbooks, such as Bungsong’s (1975) *Guide to raising and breeding budgerigars with procedures for training them to speak and imitate various noises*, also provide advice on mastering interactions between the human and natural worlds.

A large number of handbooks have been produced by government departments.⁵ One important sub-genre provides practical guidance on the rights and obligations of citizens following the end of the absolute monarchy in 1932 and the commencement of representative government. The civilian-military regime was dedicated to modernising the state, and viewed the populace as being in need of political tutoring. “The people have a duty to study and know their rights and duties . . . so as to be able to act as good citizens,” declared a handbook produced by the Ministry of Interior in 1936 (Connors, 2003, p. 45). A few years earlier, in 1934, the Public Relations Department (*samnakngan khosanakan*) of the Thai government produced a *Citizens’ Manual*. Its introduction makes it clear that the book was published to take account of the “administrative changes” that occurred with the move from “absolute monarchy to a democratic system, which is a system of administration of the citizens and by the citizens” (Public Relations Department, 1934, p. *Ko*).⁶ That introduction, signed by the Public Relations Department on 15 April 1934 (two years after the abolition of the absolute monarchy) suggests that “it is therefore the duty of the citizens to become knowledgeable about administration” (Public Relations Department, 1934, p. *Ko*). The book provides a comprehensive guide to modern administrative life, with sections on nation (*chat*), country (*prathet*), citizenry (*phonlameuang*), rights of citizens, the administration of Siam in the current era, the constitution, sovereign power, electing the people’s representatives, legislative power, the House of Representatives, the king, creating royal decrees, executive power, judicial power, civil service administration, foreign

affairs, national defence, taxes, national budget, education of the citizens, Siam under the constitution, relations between countries, and, finally, religion. It is a guide to the constitutional era and to the new duties, rights and responsibilities of the Thai people. In this sense it is an exemplary handbook for the modern age, and for the changes that have occurred. It poses the question, "In this age when we have a constitution as the foundation of national administration are our citizens still subjects (*pen phrai*), still slaves (*pen kha*), or not?" (Public Relations Department, 1934, p. 20). This is a question that still reverberates in Thai political discussions today. The tendency for this type of literature to be prescriptive and didactic is evident in what Connors has called manual democracy, such as the publications in the 1970s of the Project for the Development of Democratic Citizens to nurture a local village political elite that would cooperate with the government's development and security needs (Connors, 2003, p. 75).

More recent handbooks also deal with the changing nature of Thai society, but often from an even more practical point of view. Most of these examples of handbook knowledge are not produced by the government and, instead, have proliferated in Thailand's dynamic, and largely unregulated, marketplace of ideas. Some of the clearest examples of the appeal and challenge of modernity are apparent in the many handbooks about etiquette and manners. Khlaio Charoenwong's contribution, *Etiquette and sociality*, provides insights about "politeness", "dress" and "posture following the Thai tradition" (2002, p. 5, p. 16, p. 26). In the section on posture there are components that focus on standing, walking, sitting and crawling, with an associated section on "demonstrating respect following Thai tradition" with instructions about *wai*-ing, bowing, and "paying respect to the king" (*kan-thawai khaorop phramahakasat*) (Khlaio, 2002, p. 40). The book also offers guidance on topics such as "meeting with seniors and giving and receiving items", "human relations", and "behaviour towards people in various situations", including "when you should make an introduction", "introducing people of different genders and ages", "using introductory words", "using name cards", and "etiquette at various rituals" (Khlaio, 2002, p. 43, p. 50, p. 61, p. 74, p. 88). One of the more diverse parts of the book has guidance on "organising various types of parties", including "organising a Thai-style party", "organising a Chinese-style party", and "organising a *farang*-style party",⁷ with extra details on the "duties of servants or wait staff" and "organising a tea party" (2002, p. 126, p. 146).

These initial examples provide an indication of what tends to matter most across the expansive genre of handbook knowledge. These handbooks and textbooks consolidate knowledge with very specific purposes, often blending understandings from different cultural traditions, and making it accessible to non-specialist readers who require an introduction to a topic so that they can implement or mimic expert practices. The rapid embrace of modernity in Thailand over the past century has created a dynamic market in these forms of digestible knowledge. Often based on an essence of "tradition" and "culture", this handbook knowledge has clear appeal to those who are looking to understand their place in modernity. From esoteric numerological studies that blend Thai magic with *feng shui* dictates (Apsorn, nd) to the knowledge required by members of the *O. So.* (Volunteer Defence Corps) (Operations Office, 2004), there is something in these handbooks that is useful no matter who you are or what you want to do.

In the remainder of this article we focus on the use of handbooks in Thailand's rural society, in particular the production of knowledge in the context of rapid environmental and economic change. Our argument is that handbooks formalise and codify agricultural and environmental knowledge in ways that are not captured by prevailing discourses about localism and indigenous knowledge.

Local Knowledge and Thailand's Agro-Demographic Transformation

Despite international academic critiques of the concept of indigenous knowledge, it remains alive and well in Thailand (see Walker, 2003; 2005; Appadurai, 1990; Ellen et al., 2000). Since the 1980s, there has been a flourishing of interest among academics and non-government organisations in documenting and promoting local wisdom (*phum panya thongthin*), especially in rural communities and among ethnic minorities. In ongoing advocacy campaigns, the defenders of local knowledge have urged that it be given greater attention in development planning, environmental policymaking and agricultural extension. Distinctive forms of local knowledge are claimed to be more representative of farmers' and forest-users' experience of ecosystems than the Western scientific approaches that are said to inform much government action. The campaign for greater recognition of the value of local knowledge has been encouraged by provisions in the 1997 and 2007 constitutions, which specifically emphasise the role of local communities in natural resource management. A range of academic publications have sought to document and analyse this local knowledge, and considerable emphasis has been placed on its ecological dimensions (Pinkaw, 1996, is a seminal contribution). This extensive process of documentation and codification of local knowledge itself amounts to the formation of a body of handbook knowledge. The publications produced by academics and non-government organisations, some of them quite explicitly in handbook form, provide guidance and instruction on the most appropriate ways of reviving, maintaining and mobilising local culture against the incursions of commercialisation and bureaucracy. Local knowledge is a form of knowledge that is presented as remaining uncontaminated by formalisation, codification or publication though, ironically, it has come into wide public view precisely as a result of such processes. Sawing Buncherm's *Guide to Isan's heritage* (nd) illustrates this quite neatly. It provides all manner of practical advice for those who live in "local" northeast Thailand, including discussions of "building a house" (*kan-pluk heun*) and the "characteristics of land where you shouldn't build a house" (nd, p. 17, p. 23). The local Isan wisdom encapsulated here is a mix of common sense, practical construction techniques and attention to supernatural forces. There are further details on everything from "harvesting rice" to "Isan fortune-tellers" and "giving a name" (*kan-tang cheu*) (nd, p. 45, p. 53, p. 111).

What is presented in these local knowledge handbooks has a particular rationale. The authenticity of local knowledge derives from the claim that it is created as a result of long-term experience, in particular through longstanding interaction with the natural environment. This is a form of knowledge based on gradual accretion, long-term adaptation, enduring social relationships, and persistent oral traditions. Through regular references to the importance of tradition, the ancestors are summoned up to provide their imprimatur to the assembled body of knowledge and

practice. In accounts of indigenous knowledge, innovation is not absent, but the primary interest has been exploring how pre-existing traditions are innovatively deployed to meet new challenges, especially the political challenges of cultural advocacy. Innovation arising from outside influence or the experimental trialling of new techniques features much less prominently in such discussions of local knowledge.

What is usually lacking in these accounts is a sense of the necessary dynamism involved in the formation of local agricultural and environmental knowledge as a result of Thailand's profound agro-demographic transformation. Understanding such dynamism avoids the reification of particular knowledge as uncontested. Over the past century, local knowledge in Thailand has been a dynamic work in progress, constantly responding to population increase, mass migration, new environments, new technologies, new crops, and new forms of administration. The formation of Thailand's peasantry has been shaped by several interrelated processes: the rapid expansion into the forest frontier; the massive increase in irrigated agriculture; and the widespread adoption of crops for sale in the market rather than for local consumption. In the 1850s, Thailand's population was estimated to be around 5 million (Ingram, 1971, p. 7). The sparse rural population cultivated less than 6 million *rai* of rice land, much of it located close to water sources and reliant on flood irrigation or small-scale irrigation systems.⁸ In the 150 years that have followed, the population has increased to 67 million and the area of rice cultivation has increased more than ten-fold. There has also been a massive increase in the area of non-rice crops as the structure of Thailand's agricultural sector has become much more diversified. Agro-chemicals, machinery, improved crop varieties and new agronomic techniques have proliferated.

Handbook Knowledge for Agricultural Success

In 1928, a district chief in Chachoengsao province in the central region of Thailand (Nai Amphoe, 1928) produced a *Manual for farming*. This is an early example of the process of rural knowledge production. It includes an introductory section that states, patronisingly, that the book was printed to "open the ears and open the eyes of the farming folk" and that the "information in this handbook is for all farmers to know well" (1928). It moves on to discuss topics such as the "method for farming fields" (*na rai*) and the "method for farming rain-fed paddy" (*na fon*) (1928, pp. 7–8). After these more basic and general discussions, there are sections dealing with specific types of paddy (*nam lot* – little water; *nam tom* – swampy water; *nam sai* – clear water). The step-by-step instructions begin with the selection of appropriate planting areas, through the ploughing of fields, all the way through the production cycle, to harvest time. They include a breakdown of indicative (per *rai*) investments for such farming. This is followed by lengthy descriptions of the tools required for productive rice farming. Moreover, the handbook includes details on how to build a house near your paddy fields and how to raise animals in conjunction with rice farming. In the final section of this almost 200-page compendium there are schematic drawings of crop rotation and irrigation systems, along with a simple design for a plough.

But the handbook does not restrict itself to these practical matters. In a section on “the status of farmers” (*thana khong chao-na*) the district chief describes how “our farmers at the present time are utterly destitute because in farming, their crops sometimes fail uncertainly, or in some years everything fails and they have no output whatsoever” (Nai Amphoe, 1928, p. 137). By the sound of it they really needed tutelage in the practical matters of farming in Chachoengsao province. Chachoengsao, in the central basin not far from Bangkok, was an area of frontier settlement where many of Thailand’s novice farmers initially headed. Those who were literate may have learned from this official farming handbook, but more commonly farmers would have heard about better practices from the oral presentations made by officials such as the district chief and his subordinates. What was taught in the 1920s and 1930s is, perhaps, now the “local wisdom” that has been developed and refined over the decades.

There are countless other examples that serve to further interrogate the use of handbooks for Thai environmental knowledge. For instance, in 1924 Maha Ammat Ek Chao Phraya Phonlathep authored a *Manual for planting fruit trees and manual for planting rice in early times*. While this handbook includes many practical details, it is essentially preoccupied with the role of “good” (*di*) and “bad” (*chua*) intersections of practical and auspicious knowledge. It suggests certain days in particular months for starting a new crop. Some days are considered to be particularly bad because spirits are active. In the tone of modernisation intrinsic to its period of publication, the author suggests that “in the current age there are benefits in not simply knowing what our ancestors believed ... we can still see that we should not let their beliefs become extinct” (1924, p. 7).

In around 1911 the Ministry of Agriculture published a book that dealt with the question of “How to raise chickens and ducks”. There are notes on “medicine for making chickens fat”, the “method for checking whether an egg will produce a chicken or not”, and the “method for raising baby chickens” (Ministry of Agriculture, c.1911, p. 13, p. 32, p. 37). The book also includes a meditation “on the topic of raising the chickens that should be raised in the country of Siam” (Ministry of Agriculture, c.1911, p. 74). Applicability to local conditions is prioritised. In the Thai context there was a worry that “chickens are animals that contract diseases easily” (Ministry of Agriculture, c.1911, p. 76), but this did not preclude their adaptation to Thai circumstances. When referring to the “Thai chickens” appropriate to “Siam” there is a suggestion that women in “other countries” have been successful in raising and breeding chickens and there is no reason why “our womenfolk cannot also experience some success” (Ministry of Agriculture, c.1911, p. 75). Anybody familiar with the contemporary Thai village environment will know that Thai women seemingly naturally raise and breed chickens today. But the production of such handbooks suggests that this may not have always been the case; nor was it always the case that Thais had a good knowledge of caring for horses (Tongtikayu, 2001) or raising fish (Jakrit, 1935).

Examining this type of history leads us to ponder the nature of knowledge that is now so readily attributed to the “indigenous”. *Raising chickens*, another guide published by the Ministry of Agriculture (1977), begins with the food security context of Thailand, and further historicises this type of environmental knowledge. It notes that “we are already well aware that the population of our country increases

greatly each day, as does the need for food protein to fuel progress” (Ministry of Agriculture, 1977, p. *Ko.*). Its section on the history of chicken raising in Thailand begins by suggesting that “small-scale” (*lek-lek noi-noi*) chicken production has occurred since “long ago”. But larger-scale approaches to chicken farming only emerged more recently, when “around 50 years ago raising chickens began to become a recognised occupation” (Ministry of Agriculture, 1977, p. *Ko.*). Following the advances in chicken breeding since “around 1957”, there has been a major expansion of the industry, with many people benefiting from the increased production. In key respects this 1977 handbook includes details that serve to complement the 1911 Ministry of Agriculture effort to explain chicken farming. There are pages devoted to “good chicken food”, “managing or administering farm work”, “selecting characteristics when raising chickens”, “styles of shed”, and “making a start as a chicken raiser” (Ministry of Agriculture, 1977, pp. 5–11). In a logical, step-by-step format, this handbook offers *any* farmer with the requisite interest, and modest capital, a way to become a “chicken farmer”.

Since the publication of these early agricultural handbooks, the Thai government has continued to play a key role. The Ministry of Agriculture’s Department of Agricultural Extension has produced dozens of books on topics as supposedly “traditional” as rice farming (Ministry of Agriculture, 1969; 1983a) and as “modern” as how to use chemical fertilisers (Ministry of Agriculture, 1983b). One of its guides, entitled *Methods for mixing scientific fertilisers* (Ministry of Agriculture, 1970), carries a picture of three farmers pouring sacks of fertiliser (marked, in Thai, “N”, “K” and “P”)⁹ into a big pile. It looks “unscientific”, but inside the book’s covers there is a discrete summary of the chemical knowledge that farmers in Thailand needed if they hoped to maximise their returns from the Green Revolution. This official agricultural extension material complements the handbooks later produced by agribusiness, as well as *Technology for villagers* (*Theknoloji chao-ban*), published by Matichon since 1988, which dovetails with what the government had been publishing. This popular and informative magazine, which gives advice on new farming methods and products, is a form of agricultural handbook knowledge.

Handbook Knowledge for Reading Signs

So far, we have been focusing our discussion of agricultural knowledge on what we refer to as “how to” handbooks that provide explicit instruction on agricultural techniques. In this section we turn to another form of handbook knowledge that also informs agricultural practice and rural orientations to the environment. This second body of handbook knowledge provides guidance on reading signs, on how to know when and where particular techniques are best applied. It draws on traditions of astrology, geomancy, calendrical reckoning and pervasive beliefs in spirits, and is influenced by Buddhism, popular Brahmanism and magic. Some of this knowledge, such as astrology, had an elite variant in the court, but it was also to be found throughout the countryside, where it was disseminated orally in very heterodox forms by monk-teachers through their contacts and travels. Gradually it was made even more accessible by the printing press, increasing literacy and modern distribution systems.

In considering this body of “reading signs” material, one may observe another important point about local knowledge. Accounts of local knowledge often emphasise the holistic relationship that exists between people and the surrounding environment. Local knowledge is a matter of intimate engagement, where detailed systems of classification bridge the gap between the human and the natural worlds. These forms of knowledge function to maintain this harmonious relationship in balance. By contrast, one of the preoccupations of handbook knowledge that deals with reading signs in time and space is the discontinuities between human, natural and supernatural cycles. Harmonious conjunctures are infrequent and have to be actively sought out, through a careful reading of signs. There is an ever-present potential for miscalculation.

An important preoccupation of this genre is calculating when and where to undertake a particular activity. The Thai phrase for understanding “the appropriate time and place to do something” (*kala thesa*, lit. time and place), which can be thought of as Thai-style geomancy, captures this notion perfectly. Sacred and mysterious powers are lodged in the conjuncture of time and space, so it stands to reason that if the appropriate time and place can be identified, the powers hidden in the conjuncture can be tapped and put to human use (Patthamakorn, 1996, p. 20). Astrology is one of the sciences that helps determine these reckonings that affect personal and national identity, because a person’s birth sign, as well as their *karma*, determines his or her characteristics (Cook, 2002; Patthamakorn, 1996, p. 21). A key source for understanding the pervasiveness of the sciences of reading signs is the handbook tradition of *phrommachat*, meaning Brahmin-born. The role of Brahmins in Siamese statecraft and royal rituals such as coronations and the ploughing and sowing ceremonies is well documented (Wales, 1931), but the popular use of *phrommachat* knowledge in the management of daily affairs by people of all social classes has received comparatively little scholarly attention, an exception being a book on divination by Wales (1983). In addition to horoscopes and other semiotic sciences such as palmistry and reading anatomical marks, the *phrommachat* handbooks contain information on the colour associated with each day of the week, the animal associated with each year in the twelve-year astrological cycle, the characteristics of the cardinal points, and the deities that preside over each one. Robert Textor’s extensive inventory of rites and practices from rural Thailand in the 1950s illustrates how villagers apply this kind of knowledge to everyday life (Textor, 1973). One of the modern editions of the *phrommachat*, subtitled ‘The People’s Edition for Household Use and Self-instruction’, can be purchased in Thailand today; smaller editions can also be found for sale in Bangkok and provincial bookstores (Thep Sarikabut, 1978).

These forms of knowledge are also evident in a rather different type of handbook that is common in rural Thailand – the calendar. Calendars distributed by government agencies, businesses and politicians are displayed in most rural households in Thailand, and are often kept long after they are notionally out of date. On superficial examination, these calendars are similar to Western-style calendars, with a page for each month displayed below picturesque natural scenes, corporate advertising, or images of royals, monks or politicians. However, behind the standard day-week-month format, they are also infused with information on auspicious and inauspicious conjunctures, with this specialist knowledge often

marked by the use of local scripts and terminology. For example, one northern Thai calendar distributed by a rural municipality provides, for each Gregorian month, the auspicious and inauspicious days (*wan di*, *wan sia*) that fall within the overlapping northern Thai months. In January 2007, Wednesday and Friday were inauspicious if they fell within the fourth northern month, and Sunday and Monday were deemed inauspicious if they fell within the fifth northern month. On such unlucky days, the calendar advised that certain activities should be avoided: planting crops would result in a disappointing yield, taking goods to market would lead to calamity, a child born would die before adulthood, animals bought would have a short life, and marriage contracted would not last long. On the other hand, there were much more desirable days when, for example, crops planted would be well protected, going fishing would result in a healthy catch, wood collected would produce a stable house, and a trip to market would lead to prosperity. Another more explicitly local (*pheun-meuang*) northern Thai calendar, replete with elaborate cosmological imagery, contains details about new house ceremonies, the procedures for digging a well, appropriate days for ploughing, planting rice or other crops, the best way to move house or set out in pursuit of fortune, forecasting rice prices, romantic partner selection, and the appropriate days for washing hair and cutting hair or fingernails.

One important feature of these calendars, which underlines their role as handbooks for the storage and transmission of knowledge, is the emphasis on translation. The municipal Thai calendar includes a series of tables that provide translations of unfamiliar northern Thai words. The table includes the words in northern Thai script, which few younger people can read, a transcription into central Thai, and a simplified guide to pronunciation. The calendar also provides examples of how the calendar should be used, with a step-by-step guide for determining if an activity should be performed on a particular day by checking for a series of desirable or undesirable conjunctions determined by weekly or monthly cycles. Nevertheless, the calendar remains rather technical, with many key terms that are not commonly used in day-to-day conversation. People considering an important decision often consult with an expert, often an older man who has spent a long period in the monkhood, to determine the most auspicious day among the various alternatives on offer. Such experts are in the best position to take full advantage of the information condensed within the calendar and link it with other forms of even more esoteric knowledge. This is a good illustration of the way in which handbooks simultaneously disseminate knowledge and also add to the credentials of the expert.

Another fascinating sub-genre of handbook that bridges the gap between the agricultural and the auspicious relates to the selection and care of fighting cocks. These handbooks draw on an older form of knowledge from the Thai court during the Ayutthayan and early Bangkok periods where formal study of animal behaviour led to the development of texts that codify how to care for animals such as elephants and horses, which enjoyed elite status because of their use in warfare. The fighting cock has certainly become an exemplar of a non-elite animal, but careful codification of knowledge shows a similar epistemological diligence (see Apiwat, 1966). Wichian Santikhiri's *Raising fighting cocks* (1999) is a good example of a handbook in the "how to" genre. It begins with a "history of cock fighting" (Wichian, 1999, p. 11), but contains numerous practical details on breeds of fighting cocks, selecting and mixing breeds, and arranging food for fighting cocks. Like many other handbooks

that have a biological orientation, it has many suggestions on “diseases and protection against fighting cock diseases” (Wichian, 1999, p. 192). Interestingly, however, the handbook also contains a lot of information about “reading signs”. The longest section of the book deals with “good and bad characteristics of fighting cocks”. Many of these characteristics obviously have some practical purpose for health or fighting prowess, but others can be read more as signs of temperament, fortune and fate. Scales on the cock’s legs are a particular focus of interest. “In historical sources,” Wichien writes, “counting scales is a science (*sat*) of the most fundamental and impressive kind” (1999, p. 82). This remarkable science is described in great detail in Pon Ninphung’s (2004) *Textbook of cock scales*, which is described on the cover as “the best handbook for examining fighting cocks like an expert. The science (*sat*) and art (*sinlapa*) that you can discover for yourself”. Drawing on ancient and endangered “local wisdom” (*phum panya*) and an “ancient (*baep boran*) text for counting cock scales” (Pon, 2004, p. 93), this book provides a detailed categorisation of different types and positions of cock scales, including guidance on “good scales that you should know” (Pon, 2004, p. 128). It provides a commentary on the commonalities between scale reading and palm reading. The various important lines on the palm, such as the life line, are matched to their cock scale equivalents: “In ancient times we believed that a person with good lines on their palm was the same as a chicken with good scales which suggests the prosperity and sustainability of an abundant lineage” (Pon, 2004, p. 53).

Conclusion

The unhelpfully rigid distinction between elite knowledge and local knowledge has often encouraged discussions that have focused on the influence of Western scientific knowledge and Western bureaucratic systems of knowledge classification. By contrast, accounts of local knowledge have often focused on orally transmitted forms of ecological wisdom and ritual practice. This persistent dichotomy has meant that there has been no concerted study of the interaction between domains of knowledge. Nor has there been enough concerted work on exploring the epistemological commonalities and shared assumptions that often underlie seemingly diverse knowledge systems. And, in more practical terms, there has been very little study of the extent to which rural residents use written sources as guides for action in relation to their social and natural environments. This is especially surprising given longstanding recognition of the sacredness and authority of the written word in Theravada Buddhist traditions.

The knowledge that we are most concerned with here has a predictive, prospective quality. It is oriented towards the future and efforts to shape what *will* happen. Almost all of this knowledge is of an explicitly practical kind. Whether the goal is to raise healthy chickens, guard against romantic calamity or organise an appropriately auspicious ritual, the knowledge that is codified in handbooks seeks to offer guidance on future outcomes. Individualism, fatalism and personal agency are all part of the same aspirational matrix of handbook knowledge. In almost all handbooks there is a stated intent to improve the quality of life for an individual or for their group. It is, for instance, important that appropriate regard is paid to particular characteristics. It is also crucial for Thai astrological divination that

individual needs are cosmologically sited (with appropriate reverence for times, days, months, years, etc.) before any prophecy or analysis is possible. The same accounting for individual characteristics is apparent in the guides to crop cultivation, body markings and animal care.

Our analysis of environmental handbooks shows that simplified mastery is a common goal of the handbook genre in both its “how to” and “reading signs” forms. This knowledge is captured by the early twentieth-century agricultural handbooks, and it is this type of knowledge – of a practical, predictive kind and suited to particular circumstances – that ultimately bridges and blurs the dichotomy between scientific and local knowledge. Thailand has changed so dramatically over the past century that the process of learning has been ongoing, and evolving. Handbooks have helped everyone to keep up with the pace of change and find their own place in contested models of Thai modernity. In this regard, handbooks and textbooks condense diverse forms of knowledge about the environment: about the auspicious timing of agricultural activities; about the appropriate conduct of rituals relating to natural resources; about the care of plants and animals; and about the causes of environmental misfortune as well as bounty. By tapping into these various forms of knowledge, and their diverse sources, we can develop an understanding of environmental knowledge that is not constrained by unproductive dichotomies. Under Thailand’s changing political and economic conditions, handbooks have proven to be a valuable blend of common sense, superstition and rationalist understanding.

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Notes

1. Some of Thailand’s earliest manuals are of an explicitly religious character. A good example is *Dhammic knowledge handbook for those with faith in Buddhism* (Pho. Pho. So., 1878).
2. The Chulalongkorn University Library Catalogue was used because it could provide data in a format that was relatively amenable to analysis.
3. We have not, at this stage, focused attention on older historical materials, but these certainly merit further analysis.
4. *Khamphi* (คัมภีร์) is, for instance, part of the Thai word for the Christian Bible. It is, as such, more difficult to fully isolate from other types of publications. We are confident that *khu-meu* (คู่มือ) and *tamra* (ตำรา) benefit from their unique, stand-alone position in the Thai language. There are, of course, many Thai-language textbooks and handbooks that do not include any of these words in their titles. In those cases we are forced to search using other methods. A number of the examples of handbook knowledge referenced in this article are in that category, without *tamra* or *khu-meu* in their titles.
5. Many such handbooks have been produced by government departments and ministries. In the Chulalongkorn University Library there are “handbooks” produced by other “departments” (*krom*), including the Public Works Department, Industrial Factories Department, Administration Department, Teaching Training Department, Religious Affairs Department, External Education Department, Pollution Control Department, Public Morality Department (*krom khum*

praphreut, กรมคุมประพฤติ), Irrigation Department, Mineral Resources Department, Commerce Registration Department, Highways Department, Land Department, Fisheries Department, Livestock Department, Disaster Defence and Rescue Department, Forestry Department, Physical Education Department, Power Development and Extension Department, Land Development Department, Academic Affairs Department, Medical Science Department, Customs Department, Agricultural Extension Department, Environmental Quality Extension Department, Elementary Education Department, Sanitation Department, Vocational Education Department, and Meteorological Department. Beyond this list of departments there are many other Thai government agencies, ministries and others that have contributed to the proliferation of handbooks, guides and textbooks. They include the Tourism Authority of Thailand and the Electricity Generating Authority of Thailand.

6. Note that the introduction is numbered in Thai letters. “Ko.” – “*Kor Kai*” – is thus the first page of the book.
7. *Farang* is a Thai concept that captures the entire Western world and, in particular, the conflated habits and activities that make up the category of “Westerner”. It is, for instance, common to hear the English language referred to as *phasa farang*.
8. A *rai* is a Thai unit of area equal to 1,600 square metres.
9. N stands for nitrogen, P for phosphorous and K for potassium.

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