

*Ecology and Practical Technology. Peasant Farming Systems in Thailand.* By Shigeharu Tanabe. Bangkok, Thailand: White Lotus, 1994. 300 pages.

While not at the forefront of the concerns of economists, planners, and business people, farming technologies and their ecological and social influences are of direct interest to the majority of Southeast Asians, while academic understanding of the relation between environment and person has come under serious challenge in the last few years. As such this book's comparative treatment of systems of rice cultivation in Thailand is a pertinent study of the changes in farming practices in different historical, geographical, and social contexts.

The book's main contributions are in highlighting ecology, technology, and geography in a non-deterministic comparative study of differentiated ecological relations in context, and specifically, in rewriting ecology as non-deterministic of society and culture; technology as practical and historical or cultural; and geography based not on the state and the village dichotomy, but on regionally based agricultural practices. The impetus for the concept of practical technology is to discern the system of production, the social structure, and the cultural phenomena of the peasantry. As such the book projects human practices and social processes at various levels on peasant farming systems as the basis for an analysis of ecological relations.

This book follows from a thesis completed in 1984, which forms the outline for a programme of the Ayutthaya Historical Study Centre of Thailand. It is the result of anthropological research in Thailand undertaken in the 1970s, adapted to the social and environmental concerns of the 1990s. This represents the most troubling aspect of the book, as it uses the present tense to depict events and conditions of the 1970s, while the introduction and conclusion focus on the 1990s. While practical technology is defined as the negotiation of peasants with the environment via the articulation of the ecological and the social — where farming techniques constitute a historical baggage accumulated and transmitted through generations, in contra-distinction to modern scientific standardized technical discourse and prescriptions on farming —

we are made to ponder on the implications of such a historical gap in research and analysis on several occasions. The redeeming element is found in the author's claim that the book depicts peasants' struggles before the drastic changes of the 1980s and that it aims to elucidate fundamental issues of life and relations with their environments in pursuit of sustainable development.

As the concepts of the village and the state usually give the idea that the countryside is static and has no history, Tanabe's anthropological research clearly brings the state and human settlements in two different arenas in their quest to master agriculture through the politics of the introduction of practical farming technology systems. The northern system, where Chiang Mai is located, is depicted as a basin with intensive rice growing which depends on the co-operative technology of small-scale irrigation organized by village communities. The central system, where Bangkok is located, is presented as a large delta with extensive rice-farming with large-scale irrigation projects and relatively independent farming households. The rarely seen thorough, scholarly, and well-illustrated presentation of each system is complemented with analyses of socio-economic conditions leading to an analysis of the state's and communities' roles, through the negotiations around and implementation of irrigation schemes.

The indifference and ignorance of indigenous knowledge, or what the book presents as practical technology, which is embodied in farming techniques, too often leads to a misunderstanding of such farming and its associated social life. While the book succeeds in presenting us with such information and knowledge, it also succeeds in questioning present understanding of ecology and technology.

This book refers to cultural ecology and techno-environmental relations in a multilineal perspective, following Steward; to ecological change as seen through topological representations and intensive queries into the organization, mechanisms, and "involution" of ecosystems following Geertz; to farm holdings in contra-distinction to farming niches, so as to try to understand the total of active working relationships in the production process in contrast to natural succession following Hanks; to cognitive worlds and matrices of perceptions, apprecia-

tions, and actions represented by the “habitus” of Bourdieu; and finally, to decision-making models to point out that models like Popkin’s “rational peasant” ignore the technological basis that engenders farming practices. As most ecological approaches are concerned with the material and energy exchange within systems, the significance of human experiences is often ignored due to the usual mechanistic view of the interactions between environment and culture. As such these approaches, through their bold attempts to draw clear pictures of ecology, end up with naive applications of these ecological characteristics to complex human processes and phenomena.

With regard to technology, the book acknowledges that technology is usually defined either in economic terms, which tends to conceal the underlying foundation of knowledge and its linkages with social relations in negotiating environments, or as a totality of technical apparatus primarily directed towards criticism of modern scientific technology and the resulting social implications, or technological determinism following Marcuse, Lukacs, or Habermas. Thus the book develops the concept of practical technology as a body of knowledge which enables communication and negotiation between people, and between people and their environments, in no way subservient to calculated strategies rigorously following pre-established rules and models.

Practical technology thus refers to techniques of the body following Mauss which are transmitted non-discursively, to accumulation of knowledge at the family level inherited by groups, and to its organizing influences in individual and collective levels of activities without strict explicit institutionalization and discursive prescriptions. Yet this concept in no way aims to explain the whole integrated mechanism of a farming system. It focuses on particular sets of relationships such as environmental relations, land tenure situations, and labour utilization in rice cultivation that results in observable dominant features of production. The regional approach allows for consideration of uneven distribution of ecological and social features and for the observation of similarities between practices and processes which strict macro approaches fail to grasp. The examination of regional characteristics reveals ways in which farming systems change at various levels.

As such this book studies the questions of how and to what extent peasant subsistence in two Thai farming systems is maintained and transformed in relation to the social settings of communities. The passage and adaptation to commercial production can be seen as a dynamic process, but it should not be constructed as a continuum since each system involves fundamental changes extending to economic, social, cultural, and environmental aspects. This book will interest students of anthropology, geography, and development, as well as the general reader interested in learning about Thailand and the dynamics of change in an informative manner.

J.-F. PROULX

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J.-F. Proulx is a doctoral candidate in the Department of Geography, University of British Columbia, Vancouver, Canada.