

20 • Conclusion to Southeast Asian Cartography

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NATURE AND DISTRIBUTION OF THE SURVIVING CORPUS

As we have seen to be true of South Asia, the received notion that Southeast Asia had virtually no tradition of cartography turns out to be invalid. A dearth of relevant scholarship, rather than an absence of surviving maps, is at the root of the dismissive opinions about Southeast Asian cartography that have been voiced by Leo Bagrow, R. A. Skelton, and other historians of the field. It is true that there are no known Southeast Asian globes or non-cosmographic world maps and that only one map, from Thailand (plate 36), is even near continental in scope. And there are certain countries for which the known corpus of premodern maps is indeed meager or, as in the case of Cambodia, Laos, and the Philippines, virtually nonexistent. But there are others, most notably Burma (Myanmar), that have provided a wide diversity of maps. Moreover, one sees within Burma a continuous development of cartography, which becomes increasingly sophisticated over the period beginning in the latter half of the eighteenth century. Although that development, and less easily documented development elsewhere, undoubtedly owes much to contacts with both the West and China, and possibly also to Southwest Asian Islamic influences, the influence of foreign models on mapmaking was never sufficient, before Southeast Asia's near total absorption by European colonial powers, to eradicate the distinctive and varied flavors of indigenous maps.

One of the intriguing questions about the surviving corpus is the remarkable difference between what remains from the similar cultures of Burma and Thailand. The number of known surviving maps from Thailand—if we leave aside essentially cosmographic works—is meager, though the oldest known map, of the Sathing Phra peninsula (fig. 18.28), is perhaps as much as a hundred years older than the earliest Burmese map, relating to the sack of Ayutthaya in 1767. Of the Thai maps that survive, several are fairly sophisticated, leaving the impression that there must have been many developmental links. On the nature of those links we can at present do no more than speculate. For Burma, my relatively brief searches have revealed close to 150 traditional maps, ranging from

detailed cadastral maps and large-scale plans of architectural complexes and individual cities to maps covering more than a million square kilometers. These maps include, however, not only works by ethnic Burmans, but also a substantial number of maps made by Shans, from areas within Burma. The hill-dwelling Shans, as has been noted, are a Thai ethnic group, less advanced technologically than either the lowland Thais or the Burmans, but intermittently within the political orbits of both. Several reasons account for the striking differences between what survives from Burma and from Thailand. First, in the case of Burma, British diplomatic and administrative personnel, such as Francis Hamilton, Henry Burney, and James George Scott, appreciated the value of indigenous maps and saw to it that they were made, copied, or preserved. Second, Burmese themselves valued maps, as is evident in that a number of them were preserved in monasteries and also in that two members of the Burmese Historical Commission, U Maung Maung Tin and Than Tun, made a point of tracking down and acquiring maps they felt were worthy of preservation. Third, in what is now Thailand, the institution of *chamra*, the periodic purging of manuscripts deemed out of date, resulted in

Before 1981 I was not aware of a single indigenous Southeast Asian map and was inclined to believe, based on the existing histories, that there were few to be found. Nevertheless I agreed—since no other candidate for the job emerged—to search for maps of Southeast Asia concurrently with my investigations of the history of South Asian cartography, which was my principal interest in respect to the *History of Cartography* project. Whatever I have learned about Southeast Asian maps in the years since then stems from widespread correspondence with Southeast Asian specialists—most of them experts on only a single country—in a variety of fields, especially history, art history, and religion; from library research at the University of Minnesota; and from brief visits to museums and archives elsewhere in the United States, Europe, India, and Southeast Asia. My time looking for maps in Southeast Asia was spent in Yangon, Pagan, Rangoon, Bangkok, and Java. It is important to make these points because they show how much more awaits discovery by motivated and qualified area experts. What appears in the preceding pages does not, however, exhaust the material that has come to my attention; it relates only to matters I have had a chance to study in the time available. Yet there is no doubt in my mind that future scholarship will demonstrate that these chapters are no more than a much overdue beginning to a systematic analysis of the hitherto unrecognized richness of traditional Southeast Asian cartography.

the destruction of innumerable documents of which a certain number, we can safely assume, would have been maps. But it must be noted that my search for Thai maps, based on visits to the National Library in Bangkok and to a handful of museums and libraries outside Thailand, and on correspondence with specialists on that country, was substantially more limited than my search for those of Burma. What the numerous Thai monasteries might be holding in the way of maps, in addition to the cosmographic paintings known to adorn the walls of some of them, is yet to be investigated.

If the scarcity of known Thai maps may be explained in part by limitations in the search for them, it follows that the near total absence of surviving geographical maps from Laos and Cambodia is also understandable, since neither country has been accessible to Western scholars since the 1970s. On the other hand, both countries interacted frequently with their neighbor and sometimes suzerain Vietnam, which had a cartographic tradition even more vigorous than that of Burma. Why we have no evidence of diffusion of cartographic knowledge from one area to the other warrants further investigation.

The surviving cartographic works from the Malay world could scarcely be more varied, given the limited number of known artifacts. These range from the enigmatic engraved bamboo *tuang-tuang* (fig. 18.37), made by the aboriginal forest-dwelling Sakais of West Malaysia as charms to ward off a variety of potential evils, to large, remarkably detailed nautical charts (figs. 19.4 and 19.5) drawn on cowhide, used by Bugi and Illano (Mindanao and Sulu Island) pirates and, one supposes, by other seamen of the seafaring Bugi community of southern Sulawesi. Although the European antecedents of the nautical charts are evident, that detracts little from the ingenuity that went into their construction. As a rule, however, we know exceedingly little about the missing links that presumably led up to the works discussed in this history, and we must recognize that speculation is likely to go wide of the mark. So fragmentary is the cartographic record that nowhere in the Malay realm can one detect clear evidence of an enduring cartographic style. Consider, for example, the extraordinary differences among three highly detailed maps from Java (or possibly from Bali in one case): the probable late sixteenth-century map focusing on the chiefdom of Timbanganten (fig. 18.18 and plate 38), full of text and identifiable places and physical features; the undatable, but undoubtedly later, cryptic (and conceivably mythic) batik map (figs. 18.21 and 18.22), with not a single word of text or one provable place referent; and the relatively modern map from central Java (plate 39), presumably made for some administrative purpose.

Among cosmographies, there is also an incredible

diversity of objects that may be considered maps, ranging from pigs' livers used as instruments for divination (figs. 17.5 and 17.6) to such architectural wonders as Borobudur and Angkor Wat (figs. 16.2 and 16.3). Between those extremes one finds, of course, many portrayals on paper, cloth, palm leaf, and other essentially two-dimensional surfaces that come much closer to the conventional view of what a map should look like. Among these are works such as the Thai *Trai phum* (Story of three worlds; figs. 17.15, 17.17, 17.18, and 17.23), rooted in the rich and widespread cosmographic conceptions of the Hinayana Buddhist canon, and highly localized conceptions such as those associated with the mortuary cult of the tribe of Ngaju Dayaks of Kalimantan (figs. 17.1 and 17.2), which from an aesthetic standpoint are among the most appealing maps to emerge from Southeast Asia.

The chapter on cosmography does not begin to do justice to the vast architectural corpus, many works of which are believed to be representations of the cosmos as a whole, while others represent specific locales or features of particular cosmic significance, such as the Mount Meru complex (inter alia fig. 17.16) or the four great rivers flowing from Lake Anotatta (for example, Neak Pean, discussed but not illustrated above). Art historians and specialists in religion have of course dealt amply, if not yet exhaustively, with these themes. I have attempted little more than to demonstrate that in all major regions of traditional Southeast Asia maplike cosmographic symbols had, and often retain, great cultural significance and to suggest that it makes little difference to those who have faith whether the cultural construct that encapsulates the whole or even a portion of the cosmos is carved in stone, painted on paper, or rendered in the diverse media that go into the making of temporary structures built for the performance of major rites of passage. All cosmographies are, in effect, maps of sacred space.

PHYSICAL ATTRIBUTES OF SOUTHEAST ASIAN MAPS

Southeast Asian two-dimensional maps are drawn in a variety of media, are made of many different materials, and assume diverse forms and sizes. Important traditional materials include palm leaf, used almost exclusively for cosmographic maps; thick indigenous paper, either black, brown, or bleached white, made from the bark of the mulberry and other trees; cloth; and cowhide. Sheets of indigenous paper were often pasted together to form long accordion-style folding books (called *parabaiks* in Burma and *samud khoi* manuscripts in Thailand), and in many of them the map was integrated with an accompanying manuscript text. But maps with six or so accordion pleats and a single longitudinal fold were fairly common in

Burma. European paper was used as early as the late eighteenth century and became increasingly common in the nineteenth. Not a few of the maps on such paper were made at the behest of Europeans themselves, like the maps drawn for Hamilton and Scott.

The surface a map was to be drawn on partially dictated the medium. Works on palm leaf had to be etched with a stylus, and the grooves were subsequently made more visible by applying lampblack. Maps on black paper were commonly drawn in white talc or chalk. As a rule, a combination of paints and inks was preferred, creating a variegated image. Map text was usually written in ink. The time available to the artist was also a factor. When a map had to be made in haste, a single medium was used, most frequently black ink but occasionally pencil or chalk. A substantial number of the maps considered in this history, including virtually all of those associated with Hamilton, are copies of originals whose locations, if they survive at all, are not known.

Maps varied greatly in size. Almost none were as small as the page of a typical octavo book. It was not uncommon to paste together several sheets of paper to provide a large enough surface for a given map, but most of the very large maps were drawn on cloth, occasionally on two pieces sewn together. Many were more than a square meter in area. The largest cloth map I have seen, the Burmese map relating to their invasion of Manipur in 1758–59, measures 2.03 by 2.84 meters. Accordion-style maps also vary greatly in length. The longest of all, the Berlin manuscript of the Thai *Trai phum* cosmography, is 50.9 meters long, and the map of the Sathing Phra peninsula on the Malay Peninsula is said to extend to about 40 meters.

CARTOGRAPHIC ATTRIBUTES OF SOUTHEAST ASIAN MAPS

In the following paragraphs I shall confine my remarks to two-dimensional geographical (noncosmographic) maps and consider the ways they differ among themselves and from conventional modern cartography, as well as whatever commonalities they may exhibit. I shall list the items noted. For ease of reference, where no spatial referent is given, the whole of Southeast Asia is implied.

1. Perhaps the most obvious general difference between Southeast Asian maps and modern maps is that almost none of the former are drawn to a uniform scale. The only known exceptions are a few large-scale maps from Burma during the period from about 1850 to 1885, when that country lost its independence, and the Bugi nautical charts, the only maps on which scales are drawn.

2. No map is drawn on a recognizable projection. Again, the Bugi charts may be seen as an exception insofar

as the projection of one of the European prototype maps may be considered as having been retained, though more inadvertently than consciously so far as the Bugis were concerned.

3. Without exception, maps lack a geographic grid of longitude and latitude. Many Burmese maps, however, do have regularly ruled rectangular grids, probably following Chinese models, which would aid in copying the map from one scale to another (usually going from a small sketch to the larger final size).

4. Almost no map bears a legend key to the cartographic signs employed, even though on a large proportion of such maps it is possible to deduce what such a legend would be. Over the course of the nineteenth century, there was a definite trend toward standardizing the signs on Burmese maps, and there were also certain tendencies toward uniformity between Burmese and Siamese maps. For example, in depicting settlement it was customary to show major cities and towns, especially those with administrative functions, by squares or rectangles and lesser places by ovals or circles.

5. Certain map signs, such as for settlements, rivers, coastlines, and lakes, are almost always drawn planimetrically, whereas others, especially for mountain and hill ranges, vegetation, and prominent edifices (stupas, temples, monasteries, etc.), are generally drawn in frontal perspective. Mountains and vegetation tend to be drawn in a more or less naturalistic style. Vegetation, especially on Burmese, Shan, and Thai maps, is prominently shown in respect to both the size of map signs and their variety and richness. Fish and other aquatic creatures commonly appear in rivers and other bodies of water and, less frequently, land animals are also depicted. Stylized wave patterns often fill the space of large bodies of water and sometimes rivers as well.

6. Multicolor maps, especially from Burma, are characterized by conventionalized use of particular colors, not very different from many modern topographic maps. Settlement is typically shown in red or in yellow outlined in red; roads in black or red; mountains in mauve or, less commonly, brown, or both; vegetation in various shades of green, often with details in other colors as well; water in blue or occasionally green; and so forth.

7. Orientation varies by region. The most common orientation for Burmese maps, following Indian practice, is toward the east, though exceptions are numerous. Nontribal maps from the Malay world, following Arabic practice, are oriented toward the south. The number of Siamese examples is too small to warrant a generalization. Even where there is one dominant direction, however, the convenience of the artist may cause certain features—especially those, such as hill ranges, that are drawn in frontal perspective—to be oriented in some other direc-

tion. There is an increasing frequency of maps with orientation toward the north over the course of the nineteenth century.

8. Maps are rarely dated. Those that are may be assumed to have been made for some political purpose or at the behest of some European.

9. The names of the artists or surveyors responsible for maps are almost never given. Notable exceptions are the Javanese map of Timbanganten (fig. 18.18) and the map of the routes of "Shans" from Cochin China westward (fig. 18.29), as well as those maps made for Europeans, where the names are inserted by the individual who requested they be drawn.

10. Almost no map has a neat line. There are a few Burmese exceptions to this rule. There are also some instances (several from Burma, one from Siam, and one from Java) where the map content extends right to the edge of the page or cloth sheet on which the map was drawn, suggesting that the work was intended as part of a larger series. But this cannot be proved.

11. There are no atlases of geographic maps. One can, however, consider the Thai *Trai phum* a cosmographic atlas, since the maps it contains do not form a continuous image, as do maps in other long *samud khoi* manuscripts.

12. Apart from the Bugi nautical charts and perhaps the map of most of Asia in the Thai *Trai phum* (plate 36), there is no clear evidence of maps' having been compiled by selecting data from a variety of preexisting maps.

Because of their apparent clarity, there is a danger of assuming that certain "obvious" signs have the same meaning on Southeast Asian maps as on maps that modern scholars are more familiar with. The most obvious case is interpreting certain "rivers" as if they were continuous waterways rather than routes that were largely riverine but partly overland between connecting rivers. Thus Hamilton expressed wonder at the remarkable anastomosing quality of the rivers on one map of southern Burma—where, in fact, no riverine connections existed—and reproduced without comment a number of Burmese maps with similar fictive riverine connections in even less likely regional contexts such as the Shan Plateau and adjacent areas to the east. Similarly, Phillimore attributed the all-water route across what is now West Malaysia on a Malay nautical chart to the ignorance of the cartographer. Other examples of this type could be cited. A second source of danger in interpreting Southeast Asian maps is the scale of pictorially rendered features. Although it is obvious that the vegetation shown cannot be many miles high, as the apparent scale might suggest, it is not at all obvious that what appears to be a major mountain barrier might actually be a rather insignificant range of hills.

FUTURE TASKS

The study of Southeast Asian cartography has barely begun. Most of the maps from that region have not been the object of careful and well-informed scholarly investigation of the type Victor Kennedy gave to the Thai military map of the Korat Plateau or that C. C. F. M. Le Roux gave to the Bugi nautical charts. A sine qua non for any comparable investigation of other maps (unless done by a native speaker of the language in which the map text is written) is to obtain a full translation or transliteration of the map text and then to identify as many places as possible on modern maps of the area depicted. Without this, even the purpose for which a map was drawn will not always be obvious.

Relating the maps to their historical contexts is also necessary; but given the fragmentary nature of many of the archival sources or, in certain cases, the total absence of relevant sources, this will often not be an easy task, especially for maps that cannot be precisely dated.

Learning more about the administrative organization within which officially sanctioned mapping was conducted is also necessary. It can be established that, at least in Burma, there were government-sponsored surveys and some standardization of surveying and mapping efforts; but we cannot infer that similar activities were nonexistent in other parts of Southeast Asia.

With respect to cosmographic maps, it will be necessary for historians of cartography to learn enough about the cultures in which they were created to interpret them on their own terms. Many of these maps, we may safely assume, will be found in monasteries and temples, where they are still most highly valued; and it may often prove necessary to enlist the support of the local monks and priests to interpret them satisfactorily.

Finally and, I would argue, most important, it is necessary to launch a sustained investigation to uncover what remains of the traditional map corpus. No one, in principle, can do this better than Southeast Asians themselves; but so far as I am aware, there is no serious student of the history of cartography in the whole of that region. In the foregoing chapters I have repeatedly noted the disappearance of maps known to have existed. The number of such disappearances, whether from neglect, accidental loss, or wanton destruction, will inevitably increase with time. If, then, we are to do justice to the elucidation of the much underestimated and little recognized mapping achievements of the peoples of Southeast Asia, the time to take up that task has come. I hope that this exposition will help pave the way for the requisite future scholarship.