

Gene Ammarell, *Bugis Navigation*. New Haven: Yale University, Southeast Asia Studies Program, Monograph #48, 1999. 299 pages.

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This is a terrific book. Gene Ammarell provides a case study of the ways in which expert maritime knowledge is conceptualized, and then explained and applied, on a small Bugis island called Balobaloang Besar. Balobaloang is the most important island of the Sabalana Archipelago, which is located roughly half-way between Southwest Sulawesi and Sumba, in the middle of the Flores Sea. The island itself is tiny, only one to two meters above sea-level; it supports seven hundred people in approximately 150 family households. Yet the shipping tradition of the Bugis community there takes them through large stretches of Indonesia, including to Maluku and West Papua, in search of trade opportunities. Ammarell traveled with these seafarers and also spent seventeen months learning about navigation and the transmission of nautical knowledge on the beaches of the island itself. His account will become a benchmark study, I suspect, for cognitive anthropologists, ethnoastronomers, and scholars interested in the Bugis generally.

Ammarell sketches the history of Bugis settlement on the island in chapters one and two, showing how the present-day community arrived during Dutch colonial times from an area just north of Ujung Pandang (Makasar). Until the fifteenth to seventeenth centuries, Ammarell argues, the Bugis had been rather unimportant seafarers and long-distance traders; these pursuits were more firmly in Javanese and Malay hands. The advent of the spice trade and *sawah* cultivation in Southwest Sulawesi, however, in the fourteenth century and after, allowed Bugis and Makasar polities to gain in stature. Power was consolidated, and ships began to put out to sea. The Dutch conquest of Makasar in 1669 signaled the real start of the "golden age of Bugis navigation," however; diasporic communities now migrated to other parts of the Indies. Ammarell covers this history well, though the depth of the reporting is not as full as it might be. No archival sources are used, and several works of important authors are not discussed (including studies by Joop a Campo, Heather Sutherland, and Howard Dick.¹) Additionally, no mention is made of the Dutch attempt to turn Makasar into a "free port" rivaling Singapore in 1846, a project which had important repercussions on Bugis communities throughout the Indies.

This is an ethnographic, not a historical, work, though, and as such the author's eye is elsewhere. Chapter two provides an account of the "Ethnographic Setting," which allows us to learn more about Balobaloang itself. Ammarell divides the island's geography into three zones; the island itself (where coconuts, especially, are farmed); the intertidal zone (which can grow, at low tide, to an area twice as large as the island itself, and serves as an important source of food and commercial wealth); and the reef flat/slope (where many species of fish are hunted and caught.) The trading, fishing, and shipping undertaken in the latter two zones largely account for Balobaloang's

¹ J. a Campo, "Perahu Shipping in Indonesia, 1870-1914," *RIMA* 27 (1993): 33-60; Heather Sutherland, "Ethnicity, Wealth, and Power in Colonial Makassar: A Historiographical Reconsideration," in *The Indonesian City*, ed. Peter Nas (Dordrecht: Foris Publications, 1986), pp. 37-55; Howard Dick, "Prahu Shipping in Eastern Indonesia," *Bulletin of Indonesian Economic Studies* 11,2 (July 1975): 69-107.

economic well-being. In a twelve-month period between 1991-2, in fact, Balobaloang's twenty-nine ships covered approximately 250,000 miles of ocean, sailing the common routes to Sulawesi and Sumba, but also far further afield. All of the island's inhabitants are Muslim; Bugis/Makasar, and to some extent Bahasa Indonesia, are spoken on board these vessels. Ammarell does not hide his excitement at witnessing the launch of one of these ships; we can almost feel the keel sliding into the water.

Chapter three examines Bugis conceptualizations of space and time once the ships are at sea. The discussion here focuses on wind compasses and on systems of orientation which both resemble and are dissimilar to ones used in the West. Though the Bugis have clocks and use wristwatches, they utilize these technologies to help them ascertain prayer times, which in turn are important time references for life on board. We are brought to understand the composite nature of Bugis time-reckoning, however, and how the overlapping use of civil, religious, and "natural" time govern different activities in different contexts. Though these ideas are presented in sophisticated ways, a comparative perspective—especially on the perception of space—might have been illuminating here. The work of Thongchai Winichakul, for example, suggests itself right away; here too the focus is on indigenous systems of perception (in Thongchai's case, regarding Siamese maps) in an era of flux. It would be interesting to know if cognitive (and cultural) organizing mechanisms across the region—including mechanisms dealing with time at sea, or lines on nineteenth-century border charts—have changed in analogous ways.

Chapter four is an exegesis on Bugis navigation and is one of the most fascinating sections of the book. Knowledge of navigation is crucial among the seafarers of Balobaloang, and can mean the difference between a successful, remunerative voyage and a crew going down to a watery grave. Navigators learn to study the environment for clues which can help them make decisions: rainbows in some contexts mean high winds and little rain; in others, they mean just the opposite. Phosphorescence in the water can also have different meanings, as can lightning on the horizon, depending on the context. It is interesting to note that low-technology solutions to navigation are used (such as the magnetic compass or xeroxed charts), while at other times, they are refused (flashlights were often *not* utilized for readings at night). Sometimes, the traditional solutions to problem-solving were deemed best. One older Haji told Ammarell that to pinpoint direction, he should simply stand still: "When it feels the same on both ears, you are looking directly into the wind," he said (p. 109). This advice was representative of much Bugis thinking on modernity and tradition, it seems: use the tools which are helpful, but never forget the long (and successful) tradition of sea-craft which is distinctively Bugis.

The subject of chapter five is piloting, which is also explained very well by the author. We get a sense of how complicated the ocean environment is, especially near shore: currents, winds, shoals, and eddies (which are large rivers cutting across prevailing currents, results of underwater topography) all have to be negotiated by the Bugis. One way to do this is through mathematics. Ammarell tells us that Bugis navigators memorize algorithms that allow them to predict the tides for any day of the year. Many of the older pilots are also keenly aware of the passage of celestial phenomena and can navigate solely by their knowledge of the stars. Yet religious means are also utilized, including the blessings of offerings by elders (often with coins

and an egg in the center of a basket of uncooked rice) to ensure that coastal dangers are safely passed. Captains will also engage in “meditative visualization” of their journey, literally willing their ships (through the power of their thought) the ability to reach their destination. Here again Ammarell might have enriched his discussion by casting a comparative net further afield; Indian guides on the medieval Silk Route, for example, also used astronomy to find their way across the huge expanses of Central Asia. It would have been fascinating to find out if the Bugis and others (including Melanesians, or the aforementioned “pilots of the desert”) made use of similar forms of mathematics for the purposes of reckoning and navigation.

The book ends with a discussion of the human relationships involved in Bugis navigation, namely those between captain, owner, and crew. *Siri*, or the “dignity” of all parties concerned, must be respected; if a captain is seen to be too harsh with his crew, the latter may leave after a voyage, with the same logic holding for the captain and the ships’ owner. The captain is expected to be a good navigator, as well as a good trader, both skills being essential to a successful journey away from the island. Yet he is also expected to be a moral example for the crew, working with them when the situation demands, while keeping a distance and quiet authority in other contexts. At the end of the book, Ammarell provides four thumb-nail sketches of navigators or aspiring navigators to show the qualities and attributes of a successful leader. This device is interesting, and the men have been mentioned earlier in the text, but they still remain largely undeveloped as “characters” in the story of Bugis navigation. If the book has any quirk, really, it is this: for an ethnographic study, the faces and personalities of Balobaloang remain rather opaque, as background players to a larger story of seafaring. This seems to have been a conscious decision, and perhaps a strategy of narrative, but one wishes in places for more of a feel of these remarkable men (just about all of the author’s sailing informants seem to have been male.)

The figures, tables, and maps of the book are superbly done and merit mention here. A line-drawing of the Bugis star compass, for example, which combines the measurements of the Bugis wind compass, international designations of stellar azimuths, and directions associated by the Bugis with their navigational stars, is simply beautiful, while also being explicitly comparative. Ammarell also gives detailed tables of the types of cargoes carried aboard Bugis ships (pp. 62-3); types of woods used in ship construction (with Bugis and botanical nomenclatures, as well as the sources and uses of the wood, p. 74); and Bugis glossaries of tides, asterisms, and fish (pp. 161, 127, and 233-9). Maps and charts adorn the text, and several larger-scale versions of these references are included in an envelope at the end of the book. The painstaking detail of these plates, figures, and tables is emblematic of the work as a whole. *Bugis Navigation* is serious scholarship; there is more information to be found here on the nautics and nautical culture of Bugis seafaring society than in any other published work. Yet it is also a fun read, leaving the reader convinced that nothing could be more interesting than sailing with the crews of Balobaloang through Indonesia’s star-lit seas.

