

This is a “draft LLM” translation of the *Shunfeng xiangsong* 順風相送 [Voyage with a Tailwind], an early Chinese nautical navigation manual (made with ChatGPT 5.2 Thinking on February 28, 2026).

By “draft LLM,” I mean that I, Liam Kelley, used ChatGPT to translate it, and essentially have done nothing else other than indicate in some places what certain placenames referred to, however, I have done that very sparingly. That said, I did give ChatGPT instructions on how to interpret and translate the nautical directions.

I think I did that correctly, but if anyone concludes that the translations dramatically deviate from the text, please let me know. Also, this was a lot for ChatGPT to translate, and by the end, there was smoke coming out of my computer, so I hope ChatGPT didn’t start hallucinating mid-way, but it could have. . . That’s why this is a “draft LLM” translation.

It’s not clear when this text was created, but it probably represents knowledge that was developed over time, and dating at least from the sixteenth century.

The translation is based on the digitized text on Wikisource:

<https://zh.wikisource.org/wiki/%E5%85%A9%E7%A8%AE%E6%B5%B7%E9%81%93%E9%87%9D%E7%B6%93#%E2%96%B3%E7%A6%8F%E5%BB%BA%E5%BE%80%E4%BA%A4%E8%B6%BE%E9%87%9D%E8%B7%AF>

There is a manuscript version of it here:

<https://digital.bodleian.ox.ac.uk/objects/40aeb385-ef63-4f69-b11f-cccc2dc4f723/>

The purpose of this translation is to serve as a starting point for people to who are looking for information. If you find something interesting here, you can follow up by comparing the text here with the text in the manuscript edition and checking the translation.

The text begins with prefatory material (which I translated last, so if anything has hallucinations, it’s probably there). The records of the routes start on page 43.

## 順風相送序

昔者周公設造指南之法，通自古今，流行久遠。中有山形水勢，抄描圖寫終悞，或更數增減無有之，或籌頭差別無有之。其古本年深破壞，有無難以比對。後人若抄寫從真本，惟恐悞事。予因暇日，將更籌比對稽考通行較日，於天朝南京直隸至太倉並夷邦巫里洋等處更數針路、山形水勢、澳嶼淺深，攢寫於後，以此傳好遊者云爾。

昔者上古先賢通行海道，全在地羅經上二十四位，變通使用。或往或回，須記時日早晚。海島山看風汛，東西南北起風落一位平位，水流緩急順逆如何。全用水掏探知水色深淺，山勢遠近。但凡水勢上下，仔細詳察，不可貪睡。倘差之毫釐，失之千里，悔何及焉。若是東西南北起風籌頭落一位，觀此者務宜臨時機變。若是弔戩，務要專上位，更數多寡，順風之時，使補前數。其正路若七州洋中，上不離艮下不離坤，或過南巫里洋及忽魯謀斯，牽星高低為準，各宜深曉。

行路難者有徑可尋，有人可問。若行船難者，則海水接連於天，雖有山嶼，莫能識認。其正路全憑周公之法、《羅經針簿》為準。倘遇風波，或逢礁淺，其可忌之皆在《地羅經》中取之。其主掌人觀看針路，船行高低，風汛急緩，流水順急，機變增減。或更數針位，或山嶼遠近，水色淺深，的實無差。又以牽星為準，保得寶舟安穩。

永樂元年，奉差前往西洋等國開詔，累次較正針路、牽星圖樣、海嶼水勢山形，圖畫一本山為微簿。務要取選能諳針深淺更籌，能觀牽星山嶼、探打水色淺深之人在船。深要宜用心，反覆仔細推詳，莫作泛常，必不悞也。

Here's a faithful translation of the **序 (Preface)** to *順風相送* (Shunfeng xiangsong). I'll keep the navigational terms literal where they matter (needle positions, watches, sounding, star-hauling, etc.), and I'll add brief clarifying glosses in brackets only when the Chinese is likely to be opaque in English.

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### Preface to *Shunfeng xiangsong* (順風相送序)

In former times the Duke of Zhou established and devised the method of the “south-pointing needle,” a method transmitted from antiquity down to the present and in circulation for a very long time. Yet within it, the depictions of mountain-shapes and water conditions—copied, traced, and drawn as maps—often contain mistakes: sometimes the stated number of watches (更數) has been increased or reduced, adding things that are not in fact there; sometimes the “tally-heads” / headings (籌頭) have been confused or differentiated in ways that do not exist.

The old copies, being very ancient, have become damaged and ruined, and what is present or absent is difficult to compare and collate. If later people copy and transcribe from a “true” exemplar, they still fear that errors will cause trouble. Therefore, in my spare time, I have rechecked and compared the tallies, collated and examined the commonly circulating versions, and compared them against what is actually current and what is observed. For the various places—from Nanjing in the Imperial Court’s Southern Capital (天朝南京直隸) to Taicang, and also foreign regions such as the *Nan-wuli Sea* (巫里洋), and so on—I have compiled and written out, below, the numbers of watches and the compass routes; the mountain-shapes and water conditions; and the bays, islets, shoals, and depths—so as to pass this on to those who delight in travel.

In former times, the worthy sages of high antiquity traveled the sea routes, relying entirely on the twenty-four positions (二十四位) on the terrestrial compass (地羅經), using them flexibly and adapting as needed. Whether going out or returning, one must keep in mind whether daylight is early or late (時日早晚). For sea-islands and mountains one must watch the wind-patterns (風汛): from east, west, south, or north, when the wind rises or falls, which “position” (位) it shifts to and which it holds steady at; and how the current flows—slow or fast, with you or against you. One must rely wholly on sounding with the lead (水掬) to determine the water’s color and the depth or shallowness, and to judge whether the landforms are near or far. In all cases of rising and falling water conditions (水勢上下), examine and observe with careful attention—do not be greedy for sleep. If one errs by a hair’s breadth, one misses by a thousand *li*; and once regret comes, how could one catch up to it? If a wind rises from one of the directions and the heading (籌頭) “drops” into the adjacent position by one step (落一位), whoever consults this must, above all, adapt on the spot. If one is close-hauled or beating into the wind (弔戩), one must keep firmly to the proper “upper” position (專上位). As for the number of watches (更數)—whether many or few—when the wind is fair (順風之時), make up the deficiency against the previously stated count. As for the true route: in the Seven-Islands Sea (七州洋), above do not leave *Gen* (艮) and below do not leave *Kun* (坤); and if crossing the Nan-wuli Sea (南巫里洋) or going as far as Hormuz (忽魯謀斯), take as the standard the relative height (high/low) in “hauling the stars” (牽星). Each of these points one must understand deeply.

When traveling overland, if the road is difficult there are paths one can seek and people one can ask. But if sailing is difficult, then sea and sky join seamlessly; though there may be mountains and islets, one cannot recognize or identify them. The true route relies entirely on the Duke of Zhou’s method and the “Compass Needle Register” (《羅經針簿》) as its standard. If one encounters wind and waves, or comes upon reefs and shoals, what must be avoided is all to be

found by consulting the terrestrial compass (《地羅經》). The person in charge must watch the compass routes; the ship's progress (whether it runs high or low [off the intended line]); the wind-patterns (fast or slow); the currents (with you or swift against you); and make on-the-spot adjustments, adding or reducing as needed. Whether it is the watch-count and needle-position, or the nearness and distance of mountains and islets, or the shallowness and depth signaled by the water's color—one must get it truly right without error. And further, taking star-hauling (牽星) as the standard ensures that the treasure ships remain safe and steady.

In the first year of Yongle (永樂元年), having received an imperial commission to go to the Western Ocean and other countries to proclaim the edict, I repeatedly compared and corrected the compass routes, the star-hauling chart patterns, and the water-conditions and mountain-forms of the sea-islands; I drew a copy as a “minor register” (微簿) of mountains. It is essential to select for service aboard ship people who thoroughly understand the needle (i.e., bearings), the depth/shoals and watch-tallies; who can observe star-hauling and islands and mountains; and who can probe and sound the water's color for depth and shallowness. One must apply one's mind with the utmost care, repeatedly and meticulously reasoning it through—do not treat it as something ordinary and casual—then one will certainly not go wrong.

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If you'd like, I can also:

- give a **glossary** for key technical terms here (籌頭, 上位/下位, 弔戩, 水掬, 牽星, 二十四位), or
- rewrite the translation in a slightly more “manual-like” English that reads like a navigator's instruction sheet, while keeping every point intact.

### 地羅經下針神文

伏以神煙繚繞，謹啟誠心拜請，某年某月今日今時四直功曹使者，有功傳此爐內心香，奉請歷代御製指南祖師，軒轅皇帝，周公聖人，前代神通陰陽仙師，青鴉白鶴仙師，楊救貧仙師，王子喬聖仙師，李淳風仙師，陳搏仙師，郭樸仙師，歷代過洋知山知沙知淺知深知嶼知礁精通海道尋山認澳望斗牽星古往今來前傳後教流派祖師，祖本羅經二十四向位尊神大將軍，向子午酉卯寅申巳亥辰戌丑未乾坤艮巽甲庚壬丙乙辛丁癸二十四位尊神大將軍，定針童子，轉針童郎，水盞神者，換水神君，下針力士，走針神兵，羅經坐向守護尊神，建檣班師父，部下仙師神兵將使，一爐靈神，本船奉七記香火有感明神敕封護國庇民妙靈

昭應明著天妃，暨二位侯王茅竹筴仙師，五位尊王楊奮將軍，最舊舍人，白水都公，林使總管，千里眼順風耳部下種兵，擎波喝浪一燼神兵，海洋嶼澳山神土地里社正神，今日下降天神糾察使者，虛空過往神仙，當年太歲尊神，某地方守土之神，普降香筵，祈求聖杯，或遊天邊戲駕祥雲，降臨香座以蒙列坐，謹具清樽。伏以奉獻仙師酒一樽，乞求保護船隻財物，今日良辰下針，青龍下海永無災，謙恭虔奉酒味初伏獻再獻酌香醪。第二處下針酒禮奉先真，伏望聖恩常擁護，東西南北自然通，弟子誠心虔奉酒陳亞獻，伏以三杯美酒滿金鍾，扯起風帆遇順風，海道平安往回大吉，金珠財寶滿船盈榮，虔心美酒陳獻。獻酒禮畢，敬奉聖恩，恭奉洪慈，俯垂同鑒納伏望願指南下蓋，指東西南北永無差，朝暮使船長應護往復過洋行正路，人船安樂，過洋平善，暗礁而不遇，雙篷高掛永無憂。火化錢財以遲殘筵。奉請來則奉香供請，去則辭種拜送。稽首皈依，伏惟珍重！

Below is a full, line-by-line English translation of the **“Invocation text for ‘setting the needle’ with the terrestrial compass”** (地羅經下針神文). I keep it in a liturgical register (because this is essentially a ritual petition), and I preserve technical terms (e.g., “set the needle,” “compass,” “twenty-four directions,” “sounding bowl”) in consistent English.

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### **Invocation Text for Setting the Needle with the Terrestrial Compass**

(地羅經下針神文)

Humbly, as the divine smoke coils and curls, we reverently open our sincere hearts and bow to invite: in such-and-such year, such-and-such month, on this day and at this hour, the Four Duty Officers (四直) and the envoys of the *Gongcao* (功曹使者), who have merit in transmitting the heart-incense within this burner.

We respectfully invite the Patriarch-Masters of the Compass Guide (指南祖師) composed by imperial command through the successive dynasties; the Yellow Emperor Xuanyuan (軒轅皇帝); the Sage the Duke of Zhou (周公聖人); the former-age immortals and masters endowed with spiritual powers in yin–yang arts (前代神通陰陽仙師); the Immortal Masters Qing-Ya and Bai-He (青鴉白鶴仙師); Immortal Master Yang Jiupin, “Yang Who Saves the Poor” (楊救貧仙師); the holy immortal master Wang Ziqiao (王子喬聖仙師); Immortal Master Li Chunfeng (李淳風仙師); Immortal Master Chen Tuan (陳搏仙師); Immortal Master Guo Pu (郭璞仙師);

and the lineage patriarchs, from ancient times to the present, who crossed the oceans—knowing mountains, knowing sandbanks, knowing shallows and deeps, knowing islets and reefs—skilled in the sea routes: seeking mountains, recognizing bays, watching the Dipper, and

hauling the stars (望斗牽星); the earlier transmissions and later teachings of every branch and lineage.

We respectfully invite the honored spirit Great Generals of the original compass, the twenty-four directional positions (羅經二十四向位尊神大將軍); the honored spirit Great Generals of the twenty-four positions—Zi, Wu, You, Mao; Yin, Shen; Si, Hai; Chen, Xu; Chou, Wei; Qian, Kun, Gen, Xun; Jia, Geng, Ren, Bing; Yi, Xin, Ding, Gui (子午酉卯寅申巳亥辰戌丑未乾坤艮巽甲庚壬丙乙辛丁癸二十四位尊神大將軍).

We respectfully invite the Needle-Settling Youth (定針童子), the Needle-Turning Lad (轉針童郎), the Spirit of the Water-Bowl (水盞神者), the Lord who Changes the Water (換水神君), the Strongman who Sets Down the Needle (下針力士), the Divine Soldiers who Run the Needle (走針神兵), and the protective honored spirits who guard the compass's seated orientation (羅經坐向守護尊神);

and the Master of the Rudder-Raise Crew (建橈班師父), together with the subordinate immortal masters, divine soldiers, generals, and officers—an entire burner-full of numinous spirits.

This ship reverently serves the Seven Registers' incense-fire (本船奉七記香火), and in response to the efficacious spirits we respectfully invite the imperial-titled, state-protecting, people-sheltering, wondrously numinous, manifestly responsive, illustriously evident Heavenly Consort (敕封護國庇民妙靈昭應明著天妃);

together with the Two Marquis-Kings and the Immortal Masters Mao, Zhu, and Zhu (暨二位侯王茅竹筴仙師); the Five Honored Kings and General Yang Fen (五位尊王楊奮將軍); the Most Ancient Retainer (最舊舍人); the Lord of White Water, the *Dugong* (白水都公); the Chief Controller Linshi (林使總管); and the subordinate troop-kinds of Thousand-Mile Eye and Following-Wind Ear (千里眼順風耳部下種兵);

the divine soldiers who raise waves and shout down seas, the “one-burn” spirit troops (擎波喝浪一燼神兵); the sea-ocean spirits of islets and bays; the mountain spirits; the earth gods; the correct gods of hamlets and village altars (海洋嶼澳山神土地里社正神);

the descending celestial inspectors and supervising envoys of today (今日下降天神糾察使者); the passing spirits and immortals of the void (虛空過往神仙); the honored spirit of the year's Grand Tai Sui (當年太歲尊神); and the local tutelary gods who guard the soil of such-and-such a place (某地方守土之神).

May all descend to the incense banquet; we pray for the sacred divining cups (祈求聖杯). Or, if you roam the edges of heaven, playfully driving auspicious clouds, descend now to the incense-seat and be counted among those seated in order. We reverently set out clear wine cups.

Humbly: we offer one cup of wine to the immortal masters, begging protection for this ship and its goods and valuables. On this auspicious day and hour we set the needle: may the Azure Dragon go down into the sea and there be never any calamity (今日良辰下針，青龍下海永無災).

With modesty and reverence we devoutly present the wine: first we kneel and offer; again we offer, pouring fragrant sweet wine. At the second place where the needle is set, the wine rite is offered to the former perfected ones (第二處下針酒禮奉先真). We look up and pray that the holy favor will always protect and embrace us, so that east and west, south and north are naturally open and passable (東西南北自然通).

With sincere hearts, we disciples reverently present the wine as the secondary offering (陳亞獻). Humbly: may three cups of fine wine fill the golden goblet; may we hoist the sails and meet a favorable wind; may the sea route be peaceful, and going and returning be greatly auspicious; may gold, pearls, and treasures fill the ship, overflowing in prosperity (金珠財寶滿船盈榮).

With devout hearts we present this fine wine.

When the wine-offering rite is completed, we respectfully receive holy favor; we reverently accept vast compassion. We bow our heads and pray that you look down together and accept this petition: may you consent to “guide and lower the cup” (願指南下盞), pointing east, west, south, and north without error; morning and evening may you long protect the ship as it goes and returns across the ocean, traveling the correct route; may people and ship be at ease; may the crossing be peaceful and smooth; may we not encounter hidden reefs; may twin sails be hoisted high, with never any worry (雙篷高掛永無憂).

We burn the paper money and offerings, to conclude the remaining banquet (火化錢財以遲殘筵). Those we have invited—when you come, we respectfully offer incense and invite you; when you depart, we take our leave, bow, and send you off (奉請來則奉香供請，去則辭種拜送).

We kowtow and take refuge; we humbly ask you to cherish yourselves—take care! (稽首皈依，伏惟珍重! )

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If you want, I can also:

1. identify which items here are **standard Mazu/Tianfei maritime liturgy** vs. what looks **specific to compass/needle ritual**, and
2. make a cleaned, punctuated Chinese version (this is the kind of text where punctuation strongly affects how the list of invoked beings reads).

## 順風相送

### 行船更數法

凡行船先看風汛急慢，流水順逆。可明其法，則將片柴從船頭丟下與人齊到船尾，可準更數。每一更二點半約有一站，每站者計六十里。如遇風船走潮水卻向潮頭漲來，此係是逆流。柴片雖丟順水流向，後來必緊，不可使作船走議論。古雲先著風汛急慢，流水順逆。不可不明其法。

### ***Shunfeng xiangsong* — Method for Calculating “Gēng” While Sailing (行船更數法)**

Whenever you sail a vessel, first observe whether the wind is strong or weak, and whether the current runs with you or against you. If you clearly understand this method, then take a small piece of firewood and throw it from the bow; have someone pace it as it passes alongside the ship until it reaches the stern—this can be used to calibrate the number of “gēng” (watches) you are making.

Each **one gēng** is **two and a half “diǎn”** (點半), and is roughly **one “zhàn”** (站). Each **zhàn** is reckoned as **sixty lǐ** (六十里).

If you encounter a situation where the wind drives the ship forward, yet the tidal water is pushing back toward the head of the tide as it rises, this is called a **counter-current** (reverse flow). Even though the piece of wood you threw floats in the direction of the water’s flow, it will later draw tight (i.e., the relation between ship and drift will not behave as you might assume), and you must not use it as the basis for arguing that “the ship is making way.”

The ancients said: first grasp whether the wind is strong or weak, and whether the current runs with you or against you. You cannot fail to understand this method.

If you want, I can also add a compact note on the time-units here (“更” vs “點”) and what “站/六十里” likely means in practice (since *lǐ* and these sailing “stations” vary by context).

### 取水法

取水下針，務要陽水，不取陰水。何為陰陽水？蓋陽水者風上危也。陰水者風下厄也。

#### Method for drawing (sounding) the water

When drawing water / taking a sounding and “setting the needle” (i.e., taking your bearing), you must take **yáng-water (陽水)** and not take **yīn-water (陰水)**.

What are yīn- and yáng-water?

**Yáng-water (陽水)** is water taken on the **windward** side (風上) — this is the safe/advantageous side.

**Yīn-water (陰水)** is water taken on the **leeward** side (風下) — this is the dangerous/disadvantageous side.

### 下針法

安羅經，下指南，須從乾宮下。蓋乾宮者乃二十四向之首，夫乾者天之性情，故下針必以是為先。庶針定向，不至浮沉。

#### Method for setting the needle

Set up the compass (羅經), and set the “south-pointing needle” (指南). You must begin by “setting it” from the Qián sector (乾宮).

The Qián sector (乾宮) is the head/first of the twenty-four directions. Now Qián (乾) is the nature and essence of Heaven, and therefore, when setting the needle you must take this as the first step.

In this way the needle will be fixed in its orientation, and will not drift and bob about.

## 逐月惡風法

春夏二季必有大風，若天色溫熱，其午後或雲起，或雷聲，必有暴風，風急，宜避之。秋冬雖無暴風，每日行船，先觀四方天色明淨，五更初解纜，至辰時以來，天色不變。若有微風，不問順不順，行船不妨。雲從東起必有東風，從西起必有西風，南北亦然，雲片片相逐圍繞日光，主有風。雲行急主大風，日月翬主大風。雲腳日色已赤，太白晝見，三星搖動，主大風。每過日入，夜觀於四方之上，若有星搖動，主有大風，人頭頰熱，燈火焰明，禽鳥翻飛，鳶飛衝天，俱主大風。正月初十、廿一日，乃大將軍降日逢大殺，午時後有風，無風則大雨。二月初九、十二、廿四日酉時有大風雨。三月初三、十七、廿七日午時後有大風雨。四月初八、十九、廿三日午時分有大風雨。五月初五、十一、十九日申酉時有大風雨。六月十九、二十日卯申時主有大風。七月初七、初九日神殺交會，十五、十七日午時大風，八月初三、初八日量神大會，十七、廿七日午時大風。九月十一、十五、十七、十九日，主有大風雨。十月十五、十八、十九，廿七日，得府君朝上界，卯時有大風雨。十一月初一、初三日主大風雨。十二月初二、初五、初六、初八、廿八日，主大狂風，雲則無差矣。

### Method for “bad winds” by month

In spring and summer there will inevitably be gales. If the weather is warm and hot, then in the afternoon—whether clouds rise or thunder is heard—there will certainly be a sudden squall. When the wind is fierce, it is best to take shelter and avoid it.

In autumn and winter, although there are not such violent squalls, whenever you sail each day you should first observe the sky in all four directions. If, at the beginning of the fifth watch (五更初), the sky looks clear and bright, and from then until *chén* time (辰時) the sky's appearance does not change, then if there is a light breeze—whether it is favorable or not—it will not hinder sailing.

If clouds rise from the east, there will certainly be an east wind; if from the west, a west wind; and likewise for south and north. When the clouds come in small pieces that chase one another and encircle the sunlight, that indicates wind. If the clouds move rapidly, that indicates a great wind. If there are halos around the sun or moon (日月翬), that indicates a great wind.

If the cloud bases and the sun's light have already turned red; if the "Great White" (太白, Venus) is visible in daytime; if the "Three Stars" (三星) are seen to tremble—these all indicate a great wind.

Each evening after sunset, observe the sky above in the four directions at night: if stars appear to tremble, that indicates a great wind. If people's temples and cheeks feel hot; if lamp flames burn unusually bright; if birds wheel and flutter; if kites (鳶) soar straight up into the sky—these all indicate a great wind.

### Fixed dates for great wind / wind-and-rain

- **1st month (正月):** 10th and 21st days. These are days when the "Great General" descends (大將軍降日) and coincide with "Great Killing" (逢大殺). After midday (*wǔ* hour, 午時) there will be wind; if there is no wind, then there will be heavy rain.
- **2nd month (二月):** 9th, 12th, and 24th days: at *yǒu* hour (酉時) there will be great wind and rain.
- **3rd month (三月):** 3rd, 17th, and 27th days: after midday (*wǔ* hour, 午時後) there will be great wind and rain.
- **4th month (四月):** 8th, 19th, and 23rd days: around midday (*wǔ* time, 午時分) there will be great wind and rain.
- **5th month (五月):** 5th, 11th, and 19th days: at *shēn* and *yǒu* hours (申酉時) there will be great wind and rain.
- **6th month (六月):** 19th and 20th days: at *mǎo* and *shēn* hours (卯申時) it "governs" that there will be great wind.
- **7th month (七月):** 7th and 9th days: "spirit-killing" forces meet (神殺交會). Also the 15th and 17th days: at midday (*wǔ* hour, 午時) there is a great wind.
- **8th month (八月):** 3rd and 8th days: the "measuring spirits" assemble in a great gathering (量神大會). Also the 17th and 27th days: at midday (*wǔ* hour, 午時) there is a great wind.
- **9th month (九月):** 11th, 15th, 17th, and 19th days: it "governs" that there will be great wind and rain.

- **10th month (十月):** 15th, 18th, 19th, and 27th days: when the “Prefecture Lord” (府君) goes to court in the Upper Realm (朝上界), at *mǎo* hour (卯時) there will be great wind and rain.
- **11th month (十一月):** 1st and 3rd days: it “governs” great wind and rain.
- **12th month (十二月):** 2nd, 5th, 6th, 8th, and 28th days: it “governs” a great, raging wind (大狂風). “As for the clouds, there will be no deviation from this” (雲則無差矣).

### 定潮水消長時候

初一、初二、十六、十七日子午時長。初三、初四、十八、十九日丑未時長。初五、初六、二十、廿一日寅申時長。初七、初八、廿二、廿三日卯酉時長。初九、初十、廿四、廿五日辰戌時長。十一、十二、廿六、廿七日巳亥時長。十三、十四、廿八、廿九日己亥時長。十五、十六、三十日子午時長。

每月三十並初一、初二、初三、初四、初五、初六、初七日水平，交十五日水又醒。至十六、十七、十八、十九、二十日水俱醒。廿一日水又平似前日。水醒流緊，其勢但凡船到七州洋及外羅等處，遇此數日水醒，看風斟酌。船身不可偏東，東則無水扯過西。自初八、初九、初十、十一、十二、十三、十四日止，水遲流東，廿二、廿三、廿四、廿五、廿六、廿七、廿八、廿九日止水俱遲東。船到七州洋及外羅等處，可算此數日流水緊慢、水漲水遲，亦要審看風汛，東西南北，可以仔細斟酌，可算無悞。船身不可偏，西則無水扯過東，船身若貪東則海水黑青，並鴨頭鳥多。船身若貪西則海水澄清，有朽木漂流，多見拜風魚、船行正路，見鳥尾帶箭是正路。船若近外羅，對開貪東七更船便是萬里石塘，內有紅石嶼不高，如是看見船身，便是低了，若見石頭可防。若船七州洋落去貪東七更，船見萬里石塘似船帆樣，近看似二三個船帆樣，可防牽船，使一日見外羅山，千萬記心耳。其船若在靈山大佛前，四、五、六、七、八月，流水往西南，水甚緊甚緊。東北時往正南甚緊，船可近山甚妙。船若回唐，貪東，海水白色赤見百樣禽鳥，乃是萬里長沙，可防可防。多蘆荻柴多流界，船若貪西，則見海南山，不可近。行聲廉頭，生開恐犯難得出，船身低了使開至緊。若遇七州洋見流界七條，乃近南亭門。船若出唐，到交趾洋貪西水色清白，拜風魚多，船可行開，怕落占筆羅內難出。船見蘆荻柴成流界，乃貪東可行，用坤申針，使一日一夜見靈山大佛。若見白鳥尾帶箭，便是正路，即是外羅也。

### Fixing the times when the tide rises and falls

### Times of “long tide” (時長) by lunar day

- **1st–2nd, 16th–17th days:** at **zǐ** and **wǔ** hours (子午時) the tide is “long.”
- **3rd–4th, 18th–19th days:** at **chǒu** and **wèi** hours (丑未時) the tide is “long.”
- **5th–6th, 20th–21st days:** at **yín** and **shēn** hours (寅申時) the tide is “long.”
- **7th–8th, 22nd–23rd days:** at **mǎo** and **yǒu** hours (卯酉時) the tide is “long.”
- **9th–10th, 24th–25th days:** at **chén** and **xū** hours (辰戌時) the tide is “long.”
- **11th–12th, 26th–27th days:** at **sì** and **hài** hours (巳亥時) the tide is “long.”
- **13th–14th, 28th–29th days:** at **jǐ** and **hài** hours (己亥時) the tide is “long.”
- **15th–16th, 30th days:** at **zǐ** and **wǔ** hours (子午時) the tide is “long.”

### “Level water” and “waking water”

Each month, on the **30th day**, and also on days **1–7**, the water is **level** (水平). When it reaches the **15th day**, the water “wakes up” again (水又醒). On the **16th–20th**, the water is all “awake” (水俱醒). On the **21st**, the water becomes level again like the preceding day (水又平似前日).

When the water is “awake,” the current runs tight/strong (水醒流緊). In general, when a ship reaches places such as **Qīzhōu Yáng** (七州洋) and **Wàiluó** (外羅), if it encounters these “awake-water” days, it should gauge matters by the wind and make adjustments.

The ship must not veer too far **east**: if you go east, the water will not “pull” you past to the west (東則無水扯過西).

From the **8th–14th**, the water is “late” and flows eastward (水遲流東). Likewise, from the **22nd–29th**, the water is also “late” and eastward (水俱遲東).

When a ship reaches places such as **Qīzhōu Yáng** (七州洋) and **Wàiluó** (外羅), one can calculate from these days whether the current will be tight or slack, whether the water will rise or be “late,” but one must still carefully inspect the wind conditions. With wind from east/west/south/north, you can weigh things carefully and calculate without error.

The ship must not veer off: if you veer too far **west**, the water will not “pull” you across to the east (西則無水扯過東).

### Sea color and signs of being too far east/west

- If the ship is greedy toward the **east** (貪東), the sea water will be **dark blue-black** (黑青), and there will be many “duck-head birds” (鴨頭鳥多).
- If the ship is greedy toward the **west** (貪西), the sea water will be **clear and limpid** (澄清), with driftwood floating by (朽木漂流), and you will often see “bài-fēng fish” (拜風魚).
- When the ship is on the **true route** (正路), you see **birds whose tails “carry arrows”** (鳥尾帶箭) — that is the true route.

### Wàiluó, Shítáng, and navigation cautions

If the ship is near **Wàiluó** (外羅), and off the bow it veers east for **seven watches** (貪東七更), then you are at the **Wànlǐ Shítáng** (萬里石塘). Inside it there is **Hóngshí Yǔ** (紅石嶼), which is not high. If you can see it while aboard, that means your ship is riding low; if you see rocks, you can guard against them.

If, out in **Qīzhōu Yáng** (七州洋), you drop down and veer east for seven watches (落去貪東七更), the ship will see the **Wànlǐ Shítáng** (萬里石塘) looking like a ship’s sail; close up it looks like two or three ship’s sails. You can beware of it and “tow” the ship along (可防牽船). If you then sail one day and see **Wàiluó Shān** (外羅山), you must remember this with the utmost care.

### Seasonal current near Língshān Dàfó

If the ship is off **Língshān Dàfó** (靈山大佛), in the **4th, 5th, 6th, 7th, and 8th lunar months**, the current runs to the **southwest** (往西南), and it is extremely, extremely strong (甚緊甚緊). When it is **northeast** (東北時), it runs due **south** (往正南) and is also very strong; in that case it is excellent to keep close to the mountain (船可近山甚妙).

### Returning to “Táng” and other warnings

If returning to **Táng** (回唐) and you veer east (貪東), the sea water turns **white with red** (白色赤), and you see all kinds of birds—this is the **Wànlǐ Chángshā** (萬里長沙). Beware, beware (可防可防).

There will be much reed-and-rush drift (蘆荻柴多) and many current boundaries (多流界). If the ship veers west, it will see **Hǎinán Shān** (海南山), and you must not go near.

When passing **Shēngshēng Liántóu** (行聲廉頭) (place name as written), if you open out too much (生開) you may strike hazards and have difficulty getting out (恐犯難得出). If the ship is riding low, open out and do so with urgency (船身低了使開至緊).

If, out at **Qīzhōu Yáng** (七州洋), you see **seven current boundaries** (流界七條), then you are near **Nántíng Mén** (南亭門).

If the ship is departing “Táng” (出唐) and reaching **Jiāozhǐ Yáng** (交趾洋), and you veer west, the water color becomes **clear-white** (清白), “bài-fēng fish” are many (拜風魚多), and the ship can sail more open; but you must fear dropping into **Zhānbǐluó** (占筆羅), where it is difficult to get out.

If you see reed-and-rush drift forming current boundaries (蘆荻柴成流界), that means you have veered east and can proceed. Use the **kūn-shēn** needle (坤申針), and in one day and one night you will see **Língshān Dàfó** (靈山大佛).

If you see **white birds with tails “carrying arrows”** (白鳥尾帶箭), that is the true route — and it means you are at **Wàiluó** (外羅).

#### 論四季電歌

春天電相對。夏電左右推。秋從電下來。冬電就其吹。

Here’s a clean, literal translation with a bit of interpretation of the technical phrasing.

#### 論四季電歌

*A verse on “lightning” (電) in the four seasons*

(Here 電 is basically “lightning / thunderstorm lightning,” used as a weather sign for wind and storm behavior.)

#### Text

春天電相對。  
夏電左右推。  
秋從電下來。  
冬電就其吹。

#### Translation

- In spring, lightning faces off / appears opposite (from the opposite quarter).

- **In summer**, lightning **pushes to the left and right** (spreads sideways).
- **In autumn**, wind/storm **comes down from where the lightning is** (follows beneath it / comes “down” from it).
- **In winter**, the wind **blows “with it,” following the lightning’s direction**.

#### Notes on wording

- **相對**: literally “mutually opposite / facing each other,” i.e., lightning shows in an opposing direction (often read as “the storm is across from you”).
- **左右推**: literally “pushes left-right,” i.e., lightning activity spreads laterally across the horizon.
- **從電下來**: “comes from under the lightning” → the wind/rain comes down out of that lightning-bearing cloud bank.
- **就其吹**: “go with it and blow” → the wind aligns with the lightning’s quarter (blows in the same direction / along that line).

If you want, I can also render it as a compact couplet-style English “weather rhyme” that keeps the sing-song structure.

#### 四方電候歌

東電長江水。西電日上紅。南電雨如雷。北電南方吹。

#### 四方電候歌

*A verse on lightning omens in the four directions*

#### Text

東電長江水。  
西電日上紅。  
南電雨如雷。  
北電南方吹。

#### Translation

- If lightning is in the east, it means “Yangtze River water” — i.e. a big surge/flow of water, often read as heavy rain / flooding rains.
- If lightning is in the west, then the sun rises red (i.e. a red sunrise).
- If lightning is in the south, then rain comes like thunder (i.e. violent, thunderous rain / a major storm).
- If lightning is in the north, then the wind blows from the south.

### Notes

- 長江水 is idiomatic here: not “the literal Yangtze,” but a stock image for a great mass of water / strong watery weather (downpour, swollen waters).
- 日上紅 is a familiar omen phrase: “the rising sun is red”, i.e. a “red-sky” type sign.
- 北電南方吹 is very direct: lightning seen to the north → southerly winds.

If you’d like, I can also give a slightly more “seaman’s manual” rendering (explicitly: *east lightning = heavy rain and rising water; west lightning = red dawn; south lightning = thunderstorm downpour; north lightning = southerly wind*).

### 觀星法

北斗出在丑癸，入在壬亥。華蓋出在癸，入在壬。燈籠骨出在巳丙，入在丁未。水平星出在巳丙，入在丁未。

### 觀星法 Method for observing stars

The Northern Dipper (Beidou) rises at chǒu-guǐ 丑癸 and sets at rén-hài 壬亥.

Huágài (the “Canopy”) rises at guǐ 癸 and sets at rén 壬.

The “Lantern-bone” star rises at sì-bǐng 巳丙 and sets at dīng-wèi 丁未.

The “Level-Star” rises at sì-bǐng 巳丙 and sets at dīng-wèi 丁未.

### 定日月出入位宮晝夜長短局

正月：日出在乙，入在庚。日長七分，夜九分。月出在甲，入辛。二月：日出在卯，入在酉。日長平分。月出在卯，入酉。

三月：日出在甲，入在辛。日長九分，夜七分。月出在乙，入庚。

四月：日出在寅，入在戌。日長十分，夜六分。月出在辰，入申。

五月：日出在艮，入在乾。日長十一分，夜五分。月出在巽，入坤。

六月：日出在寅，入在戌。日長十分，夜六分。月出在辰，入申。

七月：日出在甲，入在辛。日長九分，夜七分。月出在乙，入庚。八月：日出在卯，入在酉。日夜平分。月出在卯，入酉。

九月：日出在乙，入在庚。日短七分，夜九分。月出在甲，入辛。

十月：日出在辰，入在申。日短六分，夜十分。月出在寅，入戌。

十一月：日出在巽，入在坤。日五分，夜十一分。月出艮，入坤。

十二月：日出在辰，入在申。日六分，夜十分。月出寅，入戌。

#### 定日月出入位宮晝夜長短局

Determining the directional “palaces” of the sun’s and moon’s rising/setting, and the relative lengths of day and night

First month: the sun rises at yǐ 乙 and sets at gēng 庚. Day length: 7 parts; night: 9 parts. The moon rises at jiǎ 甲 and sets at xīn 辛.

Second month: the sun rises at mǎo 卯 and sets at yǒu 酉. Day and night are equal. The moon rises at mǎo 卯 and sets at yǒu 酉.

Third month: the sun rises at jiǎ 甲 and sets at xīn 辛. Day: 9 parts; night: 7 parts. The moon rises at yǐ 乙 and sets at gēng 庚.

Fourth month: the sun rises at yín 寅 and sets at xū 戌. Day: 10 parts; night: 6 parts. The moon rises at chén 辰 and sets at shēn 申.

Fifth month: the sun rises at gěn 艮 and sets at qián 乾. Day: 11 parts; night: 5 parts. The moon rises at xùn 巽 and sets at kūn 坤.

Sixth month: the sun rises at yín 寅 and sets at xū 戌. Day: 10 parts; night: 6 parts. The moon rises at chén 辰 and sets at shēn 申.

Seventh month: the sun rises at jiǎ 甲 and sets at xīn 辛. Day: 9 parts; night: 7 parts. The moon rises at yǐ 乙 and sets at gēng 庚.

Eighth month: the sun rises at mǎo 卯 and sets at yǒu 酉. Day and night are equal. The moon rises at mǎo 卯 and sets at yǒu 酉.

Ninth month: the sun rises at yǐ 乙 and sets at gēng 庚. Day: 7 parts; night: 9 parts. The moon rises at jiǎ 甲 and sets at xīn 辛.

Tenth month: the sun rises at chén 辰 and sets at shēn 申. Day: 6 parts; night: 10 parts. The moon rises at yín 寅 and sets at xū 戌.

Eleventh month: the sun rises at xùn 巽 and sets at kūn 坤. Day: 5 parts; night: 11 parts. The moon rises at gěng 艮 and sets at kūn 坤.

Twelfth month: the sun rises at chén 辰 and sets at shēn 申. Day: 6 parts; night: 10 parts. The moon rises at yín 寅 and sets at xū 戌.

### 定太陽出沒歌

正九出乙沒庚方。二八出兔沒雞場。三七出甲從辛沒。四六生寅沒犬藏。五月出艮歸乾上。仲冬出巽沒方坤。惟有十月十二月，出辰入申仔細詳。

### 定太陽出沒歌 Verse for fixing the sun's rising and setting directions

In months 1 and 9, it rises at yǐ 乙 and sets in the gēng 庚 direction.

In months 2 and 8, it rises at “rabbit” (mǎo 卯) and sets in “rooster” (yǒu 酉) country.

In months 3 and 7, it rises at jiǎ 甲 and sets following xīn 辛.

In months 4 and 6, it rises at yín 寅 and sets where “dog” (xū 戌) is hidden.

In the 5th month, it rises at gěng 艮 and returns to qián 乾 above.

In mid-winter (the 11th month), it rises at xùn 巽 and sets toward kūn 坤.

Only in the 10th and 12th months: it rises at chén 辰 and enters (sets) at shēn 申—mark this carefully.

### 定太陰出沒歌

正九出甲沒於辛。二八出兔入雞鄰。三七出乙沒庚位。四六出辰沒在申。五月出巽沒坤上。子月出艮乾至真。惟有十月十二月，出寅入戌正可陳。

### 定太陰出沒歌 Verse for fixing the moon's rising and setting directions

In months 1 and 9, it rises at jiǎ 甲 and sets at xīn 辛.

In months 2 and 8, it rises at “rabbit” (mǎo 卯) and enters “rooster” (yǒu 酉) as its neighbor.

In months 3 and 7, it rises at yǐ 乙 and sets in the gēng 庚 position.

In months 4 and 6, it rises at chén 辰 and sets at shēn 申.

In the 5th month, it rises at xùn 巽 and sets up at kūn 坤.

In the zǐ-month (the 11th lunar month), it rises at gēn 艮—qián 乾 is the true (direction) to reach.

Only in the 10th and 12th months: it rises at yín 寅 and enters (sets) at xū 戌—this can be stated as correct.

### 定寅時歌

正九五更三點歇，二八五更四點徹，三七平光是寅時，四六日出寅無別，五月日高三丈地，仲多才到四更初，十一十二月四更二，便是寅時君須記。

### 定寅時歌

Verse for fixing the yín-hour 寅時

In months 1 and 9: at **wǔ-gēng** 五更, when **three diǎn** 三點 have passed, it ends.

In months 2 and 8: at **wǔ-gēng** 五更, when **four diǎn** 四點 have passed, it is fully through.

In months 3 and 7: at **first light / level light** (píngguāng 平光), that is the yín-hour.

In months 4 and 6: at **sunrise** (rìchū 日出), the yín-hour is the same—no different.

In the 5th month: when the sun is high, **three zhàng** 三丈 above the ground, (that is the yín-hour).

In the **mid-winter months** (zhòngdōng 仲冬): only when **the start of the 4th watch** (sì-gēng chū 四更初) arrives (is it yín-hour).

In months 11 and 12: at **the 4th watch, second diǎn** (sì-gēng èr-diǎn 四更二點), that is the yín-

hour—

you must remember it.

### 定天德方

正丁二坤宮。三壬四辛全。五坤六甲上。七癸八艮中。九丙十居乙。子巽丑庚中。

### 定天德方 How to determine the Tiāndé direction (天德方)

- Month 1: **dīng** (丁)
- Month 2: **kūn** (坤)
- Month 3: **rén** (壬)
- Month 4: **xīn** (辛) (*same as month 3 pattern: “three rén, four xīn”*)
- Month 5: **kūn** (坤)
- Month 6: **jiǎ** (甲)
- Month 7: **guǐ** (癸)
- Month 8: **gèn** (艮)
- Month 9: **bǐng** (丙)
- Month 10: **yǐ** (乙)
- Month 11 (zǐ-month 子月): **xùn** (巽)
- Month 12 (chǒu-month 丑月): **gēng** (庚)

If you want, I can also append **degrees + 16-point directions** for each of these (using the same 16-point scheme we’ve been using for the needle terms).

### 定三方針法

寅牛戌。亥卯未。申子辰。巳酉丑。甲乾丁。庚巽癸。乙坤壬。丙艮辛。

### 定三方針法 Method for setting the “three-direction” needle (three-point bearing method)

- yín 寅 — niú 丑 — xū 戌
- hài 亥 — mǎo 卯 — wèi 未
- shēn 申 — zǐ 子 — chén 辰
- sì 巳 — yǒu 酉 — chǒu 丑
- jiǎ 甲 — qián 乾 — dīng 丁
- gēng 庚 — xùn 巽 — guǐ 癸
- yǐ 乙 — kūn 坤 — rén 壬
- bǐng 丙 — gèn 艮 — xīn 辛

### 定四方針法

子午卯酉。寅申巳亥。辰戌丑未。乙辛丁癸。坤艮乾巽。甲庚丙壬。

### 定四方針法 Method for setting the “four-direction” needle (four-point bearing method)

- zǐ 子 — wǔ 午 — mǎo 卯 — yǒu 酉
- yín 寅 — shēn 申 — sì 巳 — hài 亥
- chén 辰 — xū 戌 — chǒu 丑 — wèi 未
- yǐ 乙 — xīn 辛 — dīng 丁 — guǐ 癸
- kūn 坤 — gèn 艮 — qián 乾 — xùn 巽
- jiǎ 甲 — gēng 庚 — bǐng 丙 — rén 壬

## 定風用針法

東風己酉丑。西風亥卯未。南風申子辰。北風寅午戌。東北乙坤壬。西北癸巽庚。東南甲乾丁。西南丙昆辛。

## 定風用針法 Method for choosing the needle (bearing) according to the wind direction

- **East wind (dōngfēng 東風):** jǐ-yǒu-chǒu 己酉丑
- **West wind (xīfēng 西風):** hài-mǎo-wèi 亥卯未
- **South wind (nánfēng 南風):** shēn-zǐ-chén 申子辰
- **North wind (běifēng 北風):** yín-wǔ-xū 寅午戌
- **Northeast (dōngběi 東北):** yǐ-kūn-rén 乙坤壬
- **Northwest (xīběi 西北):** guī-xùn-gēng 癸巽庚
- **Southeast (dōngnán 東南):** jiǎ-qián-dīng 甲乾丁
- **Southwest (xīnán 西南):** bǐng-kūn-xīn 丙昆辛

## 各處州府山形水勢深淺泥沙地礁石之圖

福州五虎門打水一丈八尺，過淺取官塘行船，三礁外正路。東沙山西邊近山打水六七托，好拋船最妙也。牛嶼內過打水二十五托，外過打水二十五托。

烏坵山門內過打水二十托，洋中打水三十五托。湄州山係天妃娘媽出身祖廟，往來宜獻紙祭祀。泉州港口玳瑁門有望郎回山上姑嫂塔門，洋中三十托水。

太武山內浯嶼係漳州港外，二十托水。大小柑山內過打水十五托，外過打水二十五托。南澳大山有嶼仔。惠州山門洋打水三十五托。

大星尖洋中有大星尖，內過打水二十五托，外過打水四十五托。

東薑山對開打水四十五托。廣東前船澳港口有南亭門，打水十九托，沙泥地。

弓鞋山似弓鞋樣，對開四十九托水，北低一角，七個高山合做一個山，南邊高近大山，內十九托水，泥地。南亭門對開打水四十托，廣東塞港口，在弓鞋山，可請都公。

烏豬山洋中打水八十托，請都公上船放回放彩船送者，上川、下川在內，交景、交蘭在外。七州山山有七個，東上三個一個大，西下四個平大。

七州洋一百二十托水。往回三牲酒醴粥祭孤。貪東鳥多，貪西魚多。

獨豬山打水六十托。往來祭海寧伯廟。係海南萬州山地方。頭長若見庚山，船身低了。

交趾洋低西有草嶼，流水緊，有蘆荻柴多。貪東有飛魚，貪西有拜風魚。打水四十五托。貪東七更船有萬里石塘。

尖筆羅打水五十托。山上柴水甚多。有蘆竹葉多流水界，西南都是山仔，如筆羅樣者多。

外羅山遠看成三個門，近看東高西低，北有椰子塘，西有老古石。行船近西過，四十五托水。往回可近西，東恐犯石欄。馬陵橋二十五托水，內外俱可過船。南邊有礁石出水。

羊嶼內打水六托，外三十托，是新州港口。南有礁，生開不可近。中有沉礁在港口，不可近。

校杯嶼俱係港口，有石塔仔，好拋船。內過打水十八托，外三十五托。取占城妙。

靈山大佛開，打水六十托。山有香爐礁，放回放彩船。山上高有火石煙洞。大石相連，好取柴水。釣魚台澳口好取柴水。開，打水十五托。伽備貌港口有三礁出水。打水十五托。

羅灣頭五十托水，有小嶼看成港門，外洋有玳瑁州。

赤坎山近山打水二十托，洋中打水四十托。船籠過鴨開恐犯玳瑁州。北頭有一高礁，嶼平，有樹木。南邊有古老拖尾，遠見玳瑁州。用單坤針取昆侖。下防淺，名叫林郎淺。

昆侖山內過打水十八托，有弓鞋嶼，東南山面是鬥嶼，東北二十五托，有檳榔嶼，生開南一個大小嶼，港內四十五托。近南邊單子針，使籠便是占臘泥尾。

小昆侖西有礁出水，用八更取真□弦頭，有小樹木。在內過，打水十四托，小港，俱是鐵板地。

真嶼山成三個山，有三門開船可過十四托，泥地。遠看似馬鞍山。東邊三個小嶼內過，打水十五托。

假嶼山北面成三個小山，東南有一個小山，北邊拖尾低水十三四托，泥地。西北過遠打水三十四五托，外過，近坤辛外有一個嶼，西邊有樹，至嶼相連不是正路。單戌針取大橫見

占臘泥尾，坤身遠看一個，近看二個。灣內不是正路。打水三十五托，近打水十三托，泥地。

大橫山正路打水十六托，外打水三五托，遠看似椀頭樣，南高北下。

小橫山門中有礁，北邊十四托水。遠成三個山，東北低西高，有樹木有嶼，不宜過船。此西水淺五托，不是正路。

筆架山遠看似筆架樣，近山看坤身。山下打水十三托，開打水二十五托。

龜山東邊好拋船，十二三托水，泥地。有澳向東南，有人村可取柴水，有大澳在北邊。

黎頭山西邊坐高大員，東低尾內面有嶼，外無。北邊有一派石碑。取山放在船尾，尾對單乾，收在暹羅港口。東面無山，都是坤身樹木，仔細行船，莫太過西，恐過程真港。

右邊西去山二號

芋盤山外打水三十托，內二十四托。南頭二角尖，有一個小嶼西頭低。

東竹山遠看南鞍樣。東邊過船三十托水。遠看東高西下拖尾，下嶼在西邊。西竹山遠看南鞍樣，門中三十托水。見將軍帽。

將軍帽遠看頭盔樣，山邊有小嶼，南有帽帶是火燒嶼山及海山。

火燒山打水二十托。遠看尖，近看平，小淺，內過七八托水。豬母山相連。

馬鞍山探山入門東邊，東北有尖山，近看平坤身。有魚食釣。西有小嶼。

達羅漢嶼有坤身近門可過。北坤身上淺四托水外過。夜門不可行船，防礁，水緊不得行。

白礁正近港打水三五托，礁與水相對，離淺有三十托水。若過淺，仔細，草嶼，外過三十托水，見長腰嶼，內過淡馬錫門。又礁與港平對換一邊船對白礁進，或礁在帆鋪邊。

淡馬錫門打水三十托，夜不可行船。

長腰嶼打水三十托，龍牙門防南邊涼傘礁，是正邊正路二十托。又有一沙將北嶼瀉，有龍牙門。

龍牙門中央有三十托見長沙淺，北邊二十托，南邊八九托。石礁多，流水緊，夜間切記不可行船。牛屎礁仔細入門見長腰嶼，二十餘托水，防南邊。

涼傘礁北邊打水二十九托。吉裏門打水二十托，正路見大小尖山八九個，西邊有淺。

昆宋嶼西邊坤身有淺，南邊三四托，正路有三四個小嶼。仔細行船，外有高下泥地。滿喇咖假五嶼打水三十五托，是老古石岸所山嘴。文魯古灣內淺可防，打水三十托正路。

綿花嶼第三灣正好過，七八托水，是老古岸，山嘴吉哪五嶼，有泥淺，十八托水，外二十托水。雞骨嶼對開六十六托水，遠看有古老岸淺，船宜遠過。

雙嶼對開三十五托水，門中十七托水，正路。單嶼內十六托水，外四十托水。陳公嶼十四托水，邊有九州山是也。啞路坤身有三托水，外十四托水。

淡銘嶼開過二十三托水，去是甘杯大莫尾。巴碌頭十四托水，邊有九州山是也。急水灣所西邊有灣，有沉礁打浪，開有二十托水。蘇文噠喇椰樹對開，有古老石岸。開過二十六托水，好拋船。

南巫裏洋洋中有口年嶼泥淺平半洋嶼。伽備貌坐乙卯上來，南見屏風嶼。龍涎嶼時日早北邊過洋，時日遲南邊過洋。翠蘭嶼三十五托水。

南巫裏洋往回牽星為準。

錫蘭山坐在辛酉上，船身過北，都是坤身，有古老淺。外三十五托水。淡水馬對開石城礁，外是正路可行。鐵鑽嶼對開是竹排礁，內過十八托水，外過三十托水。

大佛堂四十托水，對開有老古石，淺不可近，流急。麻裏坎二十五托，好拋船。牙裏嶼打水十八托，開，有沉礁打浪，近老古石。別羅裏打水二十托，開，有嶼，上有椰子樹。

高郎務灣頭平過洋礁蘭山，三托水入門，四托住船。甘巴裏頭對開，沉礁，門中三托，前去二個山赤泥。小俱南打水三十五托，西頭有老古石岸，淺。

柯枝港口打水三四托。古裏國有三五托水，是泥地。大巴南白礁出水外十八托。丁得把音對開，打水四十托，是泥地，花蛇多，十六托水。

忽魯謀斯往回牽星為記。美之刺山四十托水，見山遠。沙姑山近山十五托，開去水深。麻定裏四十托水，門中深。

龜嶼二十托水，是老古石地。沙<廣刺>林近山四十五托，遠三十托水。

亞實記十八托，是泥地。

各處州府山形水勢深淺泥沙地礁石之圖

(“Illustrated notes on the landforms, currents, depths/shoals, mud/sand bottoms, reefs, and rocks for the various prefectures and routes”)

Fuzhou: At Five-Tigers Gate 五虎門 the sounding is 1 zhang 8 chi (一丈八尺). After passing the shoal, take Guantang 官塘 and proceed; outside the Three Reefs 三礁 lies the main route.

Dongsha Mountain 東沙山: on the west side, close under the mountain, sound 6–7 tuo (六七托). It is best for anchoring.

Niuyu 牛嶼: whether you pass inside or outside (內過 / 外過), the sounding is 25 tuo (二十五托).

Wuqiu Mountain 烏坵山: passing within the gate (門內過) sound 20 tuo; in the open sea sound 35 tuo.

Meizhou Mountain 湄州山: this is where the Celestial Consort (Tianfei) “Niangma” 天妃娘娘 originated—her ancestral temple. Vessels passing by should offer paper and perform sacrifices.

Quanzhou 泉州: at the port mouth, the “Tortoiseshell Gate” 玳瑁門 has Wanglanghui Mountain 望郎回山 and, on it, the “Aunt-and-Sister-in-law Pagodas Gate” 姑嫂塔門. In mid-ocean, 30 tuo.

Taiwu Mountain 太武山 and Wuyu 浯嶼: these lie outside the Zhangzhou 漳州 port; 20 tuo.

Greater and Lesser Gan Mountains 大小柑山: inside passage 15 tuo; outside passage 25 tuo.

Nanao Great Mountain 南澳大山: has a small islet (嶼仔).

Huizhou Mountain Gate 惠州山門: in the open sea 35 tuo.

Daxingjian “Great Star Point” 大星尖: there is a Daxingjian in the open sea; passing inside 25 tuo; outside 45 tuo.

Dongjiang Mountain 東薑山: offshore sound 45 tuo.

Before Guangdong 廣東前: at the harbor anchorage there is Nanting Gate 南亭門—19 tuo, sandy-muddy bottom (沙泥地).

Gongxie Mountain 弓鞋山: shaped like a “bow-shoe.” Offshore 49 tuo. It is low at one northern corner; seven high peaks combine as a single mountain. The southern side rises high near the great mountain; inside 19 tuo, muddy bottom.

Opposite Nanting Gate 南亭門: 40 tuo. Guangdong “Saigang” harbor 廣東塞港口 is at Gongxie Mountain; you can invite “Dugong” 都公 there.

Wuzhu Mountain 烏豬山: in the open sea 80 tuo. If you invite Dugong aboard when returning, you “send off the colored boat” (放彩船送者). The Upper and Lower Rivers 上川、下川 are on the inside; Jiaojing and Jiaolan 交景、交蘭 are on the outside.

Qizhou Mountains 七州山: seven mountains—three in the eastern “upper” set (one is large), and four in the western “lower” set, broad and flat.

Qizhou Sea 七州洋: 120 tuo. On the return voyage, sacrifice “three animals,” wine, sweet ale, and congee to lonely spirits (三牲酒醴粥祭孤). Favoring the east yields many birds; favoring the west yields many fish.

Duzhu Mountain 獨豬山: 60 tuo. Coming and going, sacrifice at the Sea-Pacifying Earl’s Temple 海寧伯廟. This is the region of Hainan Wanzhou Mountain 海南萬州山地方. If you see “Geng Mountain” 庚山, the ship is riding low.

Jiaozhi Sea 交趾洋: to the west it is low with a Grass Islet 草嶼; currents are strong; there are many reeds and firewood. Favoring the east yields flying fish; favoring the west yields “baifeng fish” 拜風魚. Sound 45 tuo. If you favor the east, after 7 geng you reach “Wanli Shitang” 萬里石塘.

Jianbilo 尖筆羅: sound 50 tuo. There is abundant firewood and water on the mountain. There are many reeds and bamboo leaves; many current-boundaries (流水界). To the southwest are many small islets shaped like “Bilo” (筆羅).

Wailuo Mountain 外羅山: from afar it looks like three gates; close up, the east is high and the west is low. To the north is Coconut Pond 椰子塘; to the west old rocks (老古石). Sail close and pass on the west; 45 tuo. Returning, you may keep close to the west; to the east you risk the “Stone Railing” 石欄.

Maling Bridge 馬陵橋: 25 tuo; inside/outside both passable. On the south there are reef-stones breaking the surface.

Yang Islet 羊嶼: inside 6 tuo; outside 30 tuo. This is Xinzhou harbor 新州港口. To the south there is a reef; it breaks the surface and must not be approached. There is also a submerged reef in the harbor mouth—do not go near it.

Xiaobei Islets 校杯嶼: all belong to the harbor area; there is a small stone pagoda—good anchorage. Inside passage 18 tuo; outside 35 tuo. This is the best route for Champa 占城.

Lingshan Great Buddha 靈山大佛: offshore 60 tuo. There is an “incense-burner reef” 香爐礁; on the return voyage you send off the colored boat (放彩船). On the heights are flint-stones and

smoke-caves (火石煙洞). Great rocks connect together; good for obtaining firewood and water. At Diaoyutai Bay 釣魚台澳口 it is good to gather firewood and water. At the opening: 15 tuo. Jianamao 伽儻貌 harbor: three reefs break the surface; 15 tuo.

Luowantou 羅灣頭: 50 tuo. There is a small islet that looks like a harbor gate; offshore lies Tortoiseshell Shoal/Isle 玳瑁州.

Chikan Mountain 赤坎山: close under the mountain 20 tuo; in mid-ocean 40 tuo. If you “cage past the ducks” (船籠過鴨開), you may run afoul of Tortoiseshell Isle 玳瑁州. At the north end there is a high reef; the islet is flat with trees. To the south is an ancient “tail-dragging” ridge (古老拖尾); from afar you can see Tortoiseshell Isle. Use the “single-kun needle” 單坤針 to take Kunlun 昆侖. Below, beware a shoal called Linlang Shoal 林郎淺.

Kunlun Mountain 昆侖山: inside passage 18 tuo. There is a Gongxie Islet 弓鞋嶼. On the southeast mountain-face is Dou Islet 鬥嶼. To the northeast 25 tuo; there is Areca Islet 檳榔嶼. To the south, two islets (one large, one small) break the surface. Inside the harbor 45 tuo. Near the south side, use the “single-zi needle” 單子針; “work the cage” (使籠) and you reach the “Champa mud-tail” 占臘泥尾.

Lesser Kunlun 小昆侖: to the west a reef breaks the surface. “Use eight geng” (用八更) to reach Zhenzi Head 真□茲頭; there are small trees. Passing inside: 14 tuo. A small harbor; all “iron-plate ground” 鐵板地.

True Islet Mountain 真嶼山: forms three mountains; there are three gates, ships may pass; 14 tuo, muddy bottom. From afar it resembles Saddle Mountain 馬鞍山. On the east, three small islets—pass inside; 15 tuo.

False Islet Mountain 假嶼山: on the north side it forms three small hills; to the southeast one small hill. North side trails off low; 13–14 tuo, muddy. Passing northwest at a distance: 34–35 tuo. If passing outside, near “kun-xin” (坤辛) there is an islet; on its west side are trees—this chain is not the main route. Use the “single-xu needle” 單戌針 to take Daxing (Great Transverse) 大橫; you will see the “Champa mud-tail.” From afar the kūn-side looks like one; close up, two. Inside the bay is not the main route. Offshore 35 tuo; close in 13 tuo, muddy.

Daheng Mountain 大橫山: on the main route 16 tuo; outside 3–5 tuo. From afar it looks like an upturned bowl; high in the south, low in the north.

Xiaoheng Mountain 小橫山: within the gate there is a reef; north side 14 tuo. From afar it forms three mountains; northeast low, west high; trees and islets—unsuitable to pass. Here the western water is shallow (5 tuo): not the main route.

Bijia Mountain 筆架山: from afar like a brush-rest; close under the mountain you see the kūn-side. Under the mountain 13 tuo; offshore/open 25 tuo.

Turtle Mountain 龜山: east side is good anchorage; 12–13 tuo, muddy. There is a bay opening to the southeast; a village—good for firewood and water. A large bay lies to the north.

Litou Mountain 黎頭山: west side stands high and rounded; east side low with a tail; inside there is an islet, outside none. On the north is a line of stone steles. Put the mountain astern; with the stern aligned to “single-qian” 單乾, you enter Siam 暹羅 harbor. On the east there are no mountains—only kūn-side trees. Steer carefully: do not go too far west, lest you overshoot into Chengzhen Harbor 程真港.

“Two mountains numbered” on the right side, heading west (右邊西去山二號).

Nipan Mountain 苧盤山: outside sound 30 tuo; inside 24 tuo. At the south head are two sharp horn-like points; there is one small islet; the west end is low.

East Bamboo Mountain 東竹山: from afar like “Southern Saddle” 南鞍. Passing on the east side: 30 tuo. From afar the east is high and the west slopes down with a trailing tail; the lower islet is on the west side.

West Bamboo Mountain 西竹山: also from afar like Southern Saddle; within the gate 30 tuo. You can see “General’s Cap” 將軍帽.

General’s Cap 將軍帽: from afar like a helmet; by the mountain is a small islet. To the south, “Cap-strap” 帽帶 is Huoshao Islet Mountain 火燒嶼山 and Hai Mountain 海山.

Huoshao Mountain 火燒山: 20 tuo. From afar pointed; close up flat; a small shoal. Passing inside: 7–8 tuo. It connects with “Sow Mountain” 豬母山.

Saddle Mountain 馬鞍山: when sounding the mountain and entering the gate, keep to the east side; to the northeast is a pointed hill; close up it is flat kūn-side. There are fish good for angling. To the west, a small islet.

Daluohan Islet 達羅漢嶼: the kūn-side near the gate is passable. North of the kūn-side is a shoal: 4 tuo outside passage. At night the gate must not be sailed—beware reefs; the currents are tight and you cannot make way.

White Reef 白礁: very near the port; sound 3–5 tuo. The reef faces the water; after leaving the shoal there is 30 tuo. If crossing the shoal, be careful: Grass Islet 草嶼; outside passage 30 tuo. You will see Changyao Islet 長腰嶼; pass inside through Temasek Gate 淡馬錫門. There is also a method: align reef and harbor, then take one side—ship heads toward White Reef to enter; or the reef lies on the “fanpu” side 帆鋪邊.

Temasek Gate 淡馬錫門: 30 tuo. Do not sail at night.

Changyao Islet 長腰嶼: 30 tuo. At Longya Gate 龍牙門 beware the “Cool Umbrella Reef” 涼傘礁 to the south. On the correct side/main route it is 20 tuo. There is also a sandy shoal to the north (沙將北嶼瀉), with Longya Gate.

Longya Gate 龍牙門: in the center 30 tuo you see Longsha Shoal 長沙淺; north 20 tuo; south 8–9 tuo. Many rock-reefs; currents are tight—absolutely do not sail at night. When entering, beware Ox-dung Reef 牛屎礁; you will see Changyao Islet; 20+ tuo—beware the south side.

Cool Umbrella Reef 涼傘礁: north side 29 tuo.

Jilimen 吉裏門: 20 tuo. On the main route you see 8–9 sharp peaks (大小尖山); to the west there is shoal water.

Kun Song Islet 昆宋嶼: on the west side the kūn-side is shallow; to the south 3–4 tuo. On the main route there are 3–4 small islets. Steer carefully; outside there are uneven muddy bottoms. Malacca “false Five Islets” 滿喇咖假五嶼: 35 tuo—this is the mouth/spur of the “old-stone shore” 老古石岸.

Wenlugu Bay 文魯古灣: shallow within the bay—can be guarded against; 30 tuo on the main route.

Cotton Islet 綿花嶼: the third bend is best for passage; 7–8 tuo. This is the “old shore”; the mountain spur is Jina Five Islets 吉哪五嶼. There is a muddy shoal: 18 tuo; outside 20 tuo.

Chicken-bone Islet 雞骨嶼: offshore 66 tuo. From afar you see an “old shore shoal”; ships should pass well offshore.

Twin Islets 雙嶼: offshore 35 tuo; within the gate 17 tuo—main route.

Single Islet 單嶼: inside 16 tuo; outside 40 tuo.

Chen Gong Islet 陳公嶼: 14 tuo; nearby is “Nine-zhou Mountain” 九州山.

Yalu kūn-side 啞路坤身: 3 tuo; outside 14 tuo.

Danming Islet 淡銘嶼: pass the opening at 23 tuo; onward is Ganbei Damo Tail 甘杯大莫尾.

Balut Head 巴碌頭: 14 tuo; nearby is also Nine-zhou Mountain.

Jishui Bay 急水灣: on the west side there is a bay; submerged reefs make breakers. Offshore 20 tuo.

Suwen Dala 蘇文嗒喇: opposite the coconut trees are old stone shores. Passing offshore 26 tuo; good anchorage.

Nan-wuli Sea 南巫裏洋: in mid-ocean there is “Kounian Islet” 口年嶼 with muddy shoals, and “Ping Banyang Islet” 平半洋嶼.

Jianamao 伽備貌 aligns with “Yi-mao” 乙卯; to the south you see Screen Islet 屏風嶼.

Dragon-saliva Islet 龍涎嶼: when daylight is early, pass north of it; when late, pass south of it.

Cuilan Islet 翠蘭嶼: 35 tuo.

Returning across Nan-wuli Sea: use star-hauling (牽星) as your standard.

Ceylon “Xilan” Mountain 錫蘭山: sits aligned with “xin-you” 辛酉. Passing north, all is kün-side with old shoals; outside 35 tuo.

Freshwater “Ma” 淡水馬: opposite is Shicheng Reef 石城礁; outside is the main route.

Tiezuan Islet 鐵鑽嶼: opposite is Bamboo-raft Reef 竹排礁; inside passage 18 tuo; outside 30 tuo.

Great Buddha Hall 大佛堂: 40 tuo. Opposite are old rocks; shallow—do not approach; currents are swift.

Malikan 麻裏坎: 25 tuo; good anchorage.

Yali Islet 牙裏嶼: 18 tuo. Offshore there are submerged reefs breaking; near old rocks.

Bieluoli 別羅裏: 20 tuo. Offshore there is an islet with coconut trees.

Gaolangwu Bayhead 高郎務灣頭: pass level with the ocean-reef and Jiaolan Mountain 礁蘭山; 3 tuo into the gate; 4 tuo for anchoring.

Gambali Head 甘巴裏頭: offshore submerged reefs; within the gate 3 tuo. Ahead are two red-mud hills.

Xiaojunan 小俱南: 35 tuo; west end has old stone shores; shallow.

Kozhi (Cochin) Port 柯枝港口: 3–4 tuo.

Guli (Calicut/Kollam region) 古裏國: 3–5 tuo, muddy bottom.

Dabanan White Reef 大巴南白礁: breaks the surface; outside 18 tuo.

Dingdebayin 丁得把音: offshore 40 tuo, muddy bottom; many sea-snakes; 16 tuo.

Returning from Hormuz 忽魯謀斯: use star-hauling as your marker.

Meizhici Mountain 美之刺山: 40 tuo; mountains visible at a distance.

Shagu Mountain 沙姑山: close under the mountain 15 tuo; sailing away the water is deep.

Madingli 麻定裏: 40 tuo; within the gate it is deep.

Turtle Islet 龜嶼: 20 tuo; old-rock ground.

Sha-(guangla)-lin 沙<廣刺>林: close under the mountain 45 tuo; at a distance 30 tuo.

Yashi ji 亞實記: 18 tuo; muddy bottom.

If you want, I can translate this again in a more “chart-like” format (place → key identifying landform → safe side → soundings → hazards), but I’ve kept it as a faithful running translation, line by line, in the order of the original.

### 靈山往爪蛙山形水勢法圖

東蜈蚣山遠看坤身，近看北高拖尾，近山西過，打水五托。南有帽所門。

殺蛇龍遠看平北有一個小嶼，四十托水。東銅鼓，西南有沙湖皮嶼有淺，正路。

銅鼓山正路打水十八托，一路相連，嶼港羅雖山有十五托，南邊十六托，正路。對開西洋，有老古淺。雞籠嶼打水內有丙午針，十更船此有誤。

交蘭嶼山中門過打水十八托，南好拋船，有柴木西過，二十托水開沙麻洋。

吉裏悶山山勢似大船牽杉板樣，有三個嶼，西邊坤身，開，打水五托。杜板山內有五托水，好拋船。

新村佛嶼港口東邊正路過，淺。外洋北有涼傘礁。前去彭家山鐵山所，洋中二三托，東邊麻裏東山是。彭家山東邊正路七八托水，西邊四托水，前去三麥山。

舊港口東港口放開有泥淺三托水，是彭家山對開。洋中有三十托水，沉礁，宜仔細，用心仔細。===△爪蛙回靈山來路東董山遠似紗帽樣，山頭拖尾，西邊有礁，西邊正路。

西董山遠看似石礁樣，西正路。馬鞍山遠看似馬鞍，邊有老古石，西邊正路。塔林嶼遠看山尖有老古生開，西邊正路。西蜈蚣東邊有老古石，西邊正路，單丙取十二子山。

十二子山遠看高，東邊二個小嶼似蛇樣相連，西邊二個嶼，南有兩個礁，東正路。真裏馬遠看帽樣。西邊存一嶼用單丙取假裏馬，打水硬地。

假裏馬看有大嶼六個，高多，中央門西邊看中有塊大，用單午針，去取交蘭山。

交蘭山東邊二高塊，尾大，西邊拖長。門中有嶼，西邊正路，莫過東邊，有淺，西好拋船。

吉裏悶遠看似大船牽杉板，東邊對西邊小嶼四個，有老古石淺，用辰巽針取麻裏東山及杜板也。

蘇魯馬中央有石排礁出水，打水十托，泥地。港中新村拋船，打水十二托，泥地。

佛嶼內有十四托水，有泥港口十九托，泥地。杜板有三四托水，都麻好拋船，四五托水，泥地，外二十托水。

須奴盆十二托水，邊有個雞魚礁，近邊有礁，水大不出，落帆。新村前有三十托水，泥地，好拋船。佛嶼內有三十托水，平，港口有淺，三四托水，泥地。

平洋嶼東邊有二十托水，七更取麻裏東山。

麻裏東山遠看北來嶼，平十四托水，行船六托水。有杉板嶼，見坤身。

杉板嶼船從東邊過，九托水，南邊五托，近嶼有一半水，近嶼南有淺，泥地，七托水。

沉礁山對開九托水，第三鼻頭中央行船，平彭家山，是舊港口，七八托水，好拋船。

官嶼有七八托水，泥地，近三十托，門中有一礁出在北邊。正路打水十三托。前是平嶼。平嶼西邊出礁，打水十七八托，泥地。

三佛嶼遠看三個嶼，八九托水，泥地。用壬寅及單寅針，三更船平坤身，打水十四托。

鼈魚嶼遠看甘巴門口北邊二嶼頭，九托水，泥地，西邊有仁義嶼。中央行船宜十分仔細，莫去到仁義礁，出中央門。甘巴門港口船身平牛尾排礁有三四個，莫過，中央行船甚妙。

鬼嶼東邊淺近出有員礁生開，打水四十五托。東邊正路八托水，行船仔細。

### 靈山往爪哇山形水勢法圖

(Methods/notes on landforms and soundings for the route from Lingshan 靈山 to Java 爪哇, plus the return-route notes)

Lingshan 靈山 → Java 爪哇 (outbound notes)

#### 1. East “Woqi” Mountain 東蜈蚣山

From afar it looks like a kün-side coastline 坤身; up close it is high to the north with a trailing tail 近看北高拖尾. Pass west of the mountain 近山西過. Sounding: 5 tuo 打水五托. To the south is a “Hat...” gate 南有帽所門.

2. “Sha Shelong” 山 / “Snake-Dragon” 殺蛇龍  
From afar it looks flat; to the north is a small islet 遠看平北有一個小嶼. Sounding: 40 tuo 四十托水. To the east is Tonggu 銅鼓; to the southwest is Shahupi Islet 沙湖皮嶼 with shallows 有淺—this is the main route 正路.
3. Tonggu Mountain 銅鼓山  
On the main route the sounding is 18 tuo 正路打水十八托. It is connected all the way 一路相連. At Luosui Mountain 羅雖山: 15 tuo 有十五托; on the south side 16 tuo 南邊十六托—this is the main route 正路. Offing to the west (Western Ocean) 對開西洋 there is an old shoal 有老古淺.
4. Jilong Islet 雞籠嶼  
Inside, the sounding is “bǐng-wǔ needle” 丙午針 (as written) and “ten geng” 十更—this portion is said to be mistaken 船此有誤.
5. Jiaolan Islet/ Mountain 交蘭嶼  
Pass through the middle gate 山中門過. Sounding: 18 tuo 打水十八托. To the south it is good to anchor 南好拋船. There is firewood; pass west 有柴木西過. With 20 tuo soundings 二十托水 you stand out into the Shama sea 開沙麻洋.
6. Jilimen Mountain 吉裏悶山  
The mountain’s form is like a big boat towing plank-boards 山勢似大船牽杉板樣. There are three islets 有三個嶼. On the west side is a kūn-coastline 西邊坤身. Stand off/out 開. Sounding: 5 tuo 打水五托.
7. Duban Mountain 杜板山  
Inside there is 5 tuo soundings 內有五托水; good anchorage 好拋船.
8. Xincun / Foyu (Buddha Islet) harbor 新村佛嶼港口  
Pass on the east side of the harbor mouth 港口東邊正路過; it is shallow 淺. In the outer sea, to the north, is the Liangsan Reef 涼傘礁.
9. Toward Pengjia Mountain and the Tieshan garrison 前去彭家山鐵山所  
In mid-sea there are 2–3 tuo soundings 洋中二三托; to the east is Mali-dongshan 麻裏東山.  
On the east side of Pengjia Mountain 彭家山東邊: main route 7–8 tuo 正路七八托水.  
On the west side: 4 tuo 西邊四托水. Then proceed toward Sanmai Mountain 三麥山.

10. Old Port (Jiugang) harbor mouth 舊港口東港口

Standing off/opening out 放開, there is a muddy shoal with 3 tuo soundings 有泥淺三托水—this lies off Pengjia Mountain 彭家山對開. In mid-sea there is 30 tuo soundings 洋中有三十托水. There are submerged reefs 沉礁—be very careful 宜仔細, 用心仔細.

Java 爪哇 → Lingshan 靈山 (return notes; the text marks this with “===△”)

11. East Dongshan 東董山

From afar it looks like a gauze cap 紗帽. The mountain-top trails off 山頭拖尾. On the west side there is a reef 西邊有礁; the west side is the main route 西邊正路.

12. West Dongshan 西董山

From afar it looks like a rocky reef 石礁; the west side is the main route 西正路.

13. Ma'an Mountain 馬鞍山

From afar it looks like a saddle 馬鞍. On its side there is “old stone” 老古石. West side main route 西邊正路.

14. Talin Islet 塔林嶼

From afar the peak has “old stone”/rocks protruding 老古生開. West side main route 西邊正路.

15. West Woqi / “centipede” islet 西蜈蚣

On the east side there is “old stone” 東邊有老古石; west side main route 西邊正路. Use single-bǐng 單丙 to make for Twelve-Sons Mountain 十二子山.

16. Twelve-Sons Mountain 十二子山

From afar it is high 遠看高. On the east side are two small islets, linked like snakes 東邊二個小嶼似蛇樣相連. On the west side are two islets 西邊二個嶼. To the south are two reefs 南有兩個礁. The eastern side is the main route 東正路.

17. Zhenlima 真裏馬 and Jialima 假裏馬

Zhenlima: from afar looks like a cap 帽樣. On the west side there remains one islet 西邊存一嶼. Use single-bǐng 單丙 to make for Jialima 假裏馬; the bottom is hard-sounding 打水硬地.

Jialima: you see six large islets 大嶼六個, many are high 高多. In the central gate, on the west side, you see a large piece/rock 中央門西邊看中有塊大. Use single-wǔ 單午針 to go take Jiaolan Mountain 交蘭山.

18. Jiaolan Mountain 交蘭山

On the east are two high masses 東邊二高塊; the tail is large 尾大. On the west it trails long 西邊拖長. In the gate there is an islet 門中有嶼. The west side is the main route 西邊正路. Do not go past on the east side 莫過東邊—there are shallows 有淺. The west side is good for anchoring 西好拋船.

19. Jilimen Mountain 吉裏悶

From afar it looks like a big boat towing plank-boards. On the east opposite the west side are four small islets 東邊對西邊小嶼四個. There is an “old-stone” shoal 老古石淺. Use the chén-xùn needle 辰巽針 (112.5° ESE / ESE) to make for Mali-dongshan 麻裏東山 and also Duban 杜板.

20. “Sulu-ma” 蘇魯馬 and New Village harbor 港中新村

At the center of Sulu-ma there is a row of stony reefs exposed 石排礁出水. Sounding: 10 tuo 打水十托; muddy bottom 泥地.

In the harbor at New Village 港中新村, anchor; sounding 12 tuo 打水十二托; muddy bottom.

21. Buddha Islet 佛嶼 and Duban 杜板 (soundings/anchoring)

Inside Buddha Islet: 14 tuo 內有十四托水. In the muddy harbor mouth: 19 tuo 有泥港口十九托, muddy bottom.

Duban: 3–4 tuo 三四托水. Duma 都麻 is good anchorage 好拋船; 4–5 tuo 四五托水, muddy bottom; outside 20 tuo 外二十托水.

22. “Sunupen” 須奴盆 and nearby reefs

12 tuo soundings 十二托水. Beside it is a “chicken-fish reef” 雞魚礁. Close by there is reef; at high water it does not show 水大不出一strike sail 落帆.

In front of New Village: 30 tuo soundings, muddy bottom—good anchorage 好拋船.

Inside Buddha Islet: 30 tuo soundings, flat 平. Harbor mouth is shallow 港口有淺: 3–4 tuo 三四托水, muddy bottom.

23. Pingyang Islet 平洋嶼 and Mali-dongshan 麻裏東山

East of Pingyang: 20 tuo 東邊有二十托水. In seven geng 七更 make for Mali-dongshan 麻裏東山.

Mali-dongshan: from afar “northern coming islets” 北來嶼. Level: 14 tuo 平十四托水; for sailing: 6 tuo 行船六托水. There is “plank-board islet” 杉板嶼; you see kūn-coastline 坤身.

24. Shanban Islet 杉板嶼

Pass to its east 船從東邊過: 9 tuo 九托水. South side: 5 tuo 南邊五托. Near the islet there is “half water” 一半水. To the south near the islet there is shallow mud 淺...泥地; 7 tuo 七托水.

25. “Submerged-reef Mountain” 沉礁山 and Old Port 舊港口 / Pengjia 彭家

Opposite it: 9 tuo 對開九托水. At the “third nose/headland” 第三鼻頭, sail the central channel 中央行船. Bring Pengjia level 平彭家山; this is the Old Port harbor mouth 是舊港口. 7-8 tuo 七八托水; good anchorage 好拋船.

26. Guan Islet 官嶼, Ping Islet 平嶼, and nearby reefs

At Guan Islet: 7-8 tuo, muddy bottom 七八托水, 泥地. Near (offshore) it is about 30 tuo 近三十托. In the gate there is a reef that breaks the surface on the north side 門中有一礁出在北邊. Main route sounding: 13 tuo 正路打水十三托. Ahead is Ping Islet 前是平嶼.

Ping Islet: west side has a reef breaking the surface 西邊出礁; 17-18 tuo soundings 打水十七八托; muddy bottom.

27. Three-Buddhas Islets 三佛嶼

From afar you see three islets. Sounding 8-9 tuo 八九托水; muddy bottom. Use rén-yín 壬寅 and single-yín 單寅 needles (壬寅針, 單寅針) for three geng 三更; bring the kūn-coastline level 船平坤身; sounding 14 tuo 打水十四托.

28. “Ao-fish” Islet 鰲魚嶼 and Ganba Gate 甘巴門

From afar, it is at the north side of the Ganba Gate mouth 甘巴門口北邊二嶼頭.

Sounding 9 tuo 九托水; muddy bottom. West side has Renyi Islet 西邊有仁義嶼.

Sail the central channel very carefully 中央行船宜十分仔細; do not go toward the Renyi Reef 莫去到仁義礁; exit via the central gate 出中央門.

At the Ganba Gate harbor mouth: when the ship is level with the “Ox-Tail” row of reefs 船身平牛尾排礁, there are 3-4 reefs; do not pass over them 莫過. Sailing the central channel is best 中央行船甚妙.

29. Ghost Islet 鬼嶼

On the east side it is shallow; close out there is a round reef breaking the surface 東邊淺近出有圓礁生開. Sounding 45 tuo 打水四十五托.

On the east-side main route: 8 tuo 正路八托水—sail carefully 行船仔細.

### 新村爪哇至瞞喇咖山形水勢之圖

佛嶼嶼生得平樣，杜板征灣中，有門。

紫嶼蓉所、坤邊、嘴哪三地方。胡椒山東低南高，有員嶼，邊正。洋中打水三十托。吉裏悶東高西低，有小嶼四五個，西老古石淺，東正路。

半洋嶼在洋中打水三十六托。麻裏東山不是正路，帆風西使不得。鐵山頭山梓彭家山。三麥門嶼生洋中看不是坤身，東進打水九托，西四五托。

舊港口坤山無山，港口有州，在馬戶邊。彭家山高山山嘴第三鼻對開有沙礁，船身貪坤身，行船妙也。長腰嶼官澳仁義礁甘巴門金魚礁二牛屎礁俱見上。

射箭山麼六甲五嶼在外拋船妙也。

### 新村爪哇至瞞喇咖山形水勢之圖

(“Map/notes of landforms and soundings from Xincun (Java) 新村爪哇 to Malacca 瞞喇咖”)

Buddha Islet 佛嶼 islet: the islet is formed low and flat 佛嶼嶼生得平樣. Duban 杜板 lies within a bay 征灣中, and there is a gate/passage 有門.

“Purple Islet” 紫嶼: the relevant reference points are Rongsuo 蓉所, the kūn-side (coastline) 坤邊, and Zuina 嘴哪—three places/points 三地方.

Pepper Mountain 胡椒山: low to the east and high to the south 東低南高. There is a round islet 有員嶼; keep it to the side as your reference 邊正. In the open sea, soundings are 30 tuo 洋中打水三十托.

Jilimen Mountain 吉裏悶: high in the east and low in the west 東高西低. There are 4–5 small islets 有小嶼四五個. To the west is an “old-stone” shoal 西老古石淺; the eastern side is the main route 東正路.

Banyang Islet 半洋嶼: in mid-ocean soundings are 36 tuo 在洋中打水三十六托.

Mali-dongshan 麻裏東山: this is not the main route 不是正路; with a westerly wind you cannot use it (i.e., you cannot work the ship that way) 帆風西使不得.

Tieshan-tou 鐵山頭: the “mountain spur/headland” 山梓 is Pengjia Mountain 彭家山.

Sanmai Gate islets 三麥門嶼: in the open sea they do not look like a kūn-coastline 嶼生洋中看不是坤身. Enter from the east: sounding 9 tuo 東進打水九托. On the west: 4–5 tuo 西四五托.

Old Port harbor mouth 舊港口: on the kūn-side there is no mountain 坤山無山. At the harbor mouth there is an islet/“zhou” 港口有州, on the “mahu” side 在馬戶邊.

Pengjia Mountain 彭家山: a high mountain 高山. Off its mouth/spur, at the “third nose” 山嘴第三鼻, opposite there is a sandy reef 對開有沙礁. Keep the ship favoring the kūn-side 船身貪坤身; sailing that way is best 行船妙也.

Places all “seen above” (i.e., as already described earlier in the work): Changyao Islet 長腰嶼; Guan’ao 官澳; Renyi Reef 仁義礁; Ganba Gate 甘巴門; Jinyu Reef 金魚礁; and the “two Ox-dung reefs” 二牛屎礁—俱見上.

Shejian Mountain 射箭山; Malacca 磨六甲; and the Five Islets 五嶼: anchoring outside is best 在外拋船妙也.

### 彭坑山形水勢之圖

鬥嶼船身東邊過五更，船是彭坊港口也。鐵鑽嶼鬥嶼相望，

打造船山鐵鑽嶼對此山是大形尖長高，不當對開。北邊有斷嶼，仔細，南邊連大山，下嶼有樹木，邊看似船帆，連生坤身拖尾。

坤身船連尋坤身，坤身上有多南尾去遠看亦似沙處，是彭坊港口，亦是大小船出入。

彭亨港口東邊有沙，惟港口淺，過南正路二十半托，東南邊處是苧盤山，打水四托，拋船妙。

### 彭坑山形水勢之圖

(Notes/“map” of the landforms and soundings for Pengkeng/Pahang 彭坑)

If your ship passes east of Dou Islet 鬥嶼, after five geng 五更 you are at the mouth of Pengfang Harbor 彭坊港口. Tiezuan Islet 鐵鑽嶼 and Dou Islet 鬥嶼 face each other / are within sight of one another 相望.

Dazaochuanshan 打造船山: Tiezuan Islet 鐵鑽嶼 faces this mountain 對此山. It is large in form, sharp, long, and high 大形尖長高—do not stand directly off it / do not take it straight opposite 不當對開. To the north there is a “broken islet” 斷嶼—be careful 仔細. To the south it is connected to a large mountain 南邊連大山. Below, the islet has trees 下嶼有樹木; from the side it looks like a ship’s sail 邊看似船帆, and it joins into a kūn-side coastline, trailing like a tail 連生坤身拖尾.

Follow the kūn-side coastline: keep searching along the kūn-side 船連尋坤身. On the kūn-side there are many “southern tails” 多南尾; from far away they also look like sandy patches 去遠看亦似沙處. This is Pengfang Harbor 彭坊港口, and it is used for both large and small ships entering and leaving 亦是大小船出入.

At the mouth of Pengheng Harbor 彭亨港口, on the east side there is sand 東邊有沙, but the harbor mouth is shallow 惟港口淺. Passing on the southern main route 過南正路, the sounding is 20½ tuo 二十半托. To the southeast 東南邊 is Nipan Mountain 苧盤山: sounding 4 tuo 打水四托—anchoring is best 拋船妙.

## 歌

靈山大佛常掛雲，打鑼打鼓放彩船。使到赤坎轉針位，前去見山是昆侖。昆侖山頭是實高，好風使去亦是過。彭亨港口我不宿，開去見山是苧盤。苧盤山頭是實光，東西二竹都齊全。羅漢二嶼有一淺，白礁過了龍牙門。即去南番及西洋，娘仔後頭燒好香；娘仔燒香下頭拜，好風願送到西洋。郎去南番及彭亨，販卜玳瑁及龜筒。好個開梳乞娘插，怯個開梳賣別人。新做寶舟新又新，新打脰系索如龍根，新做脰齒如龍爪，拋在澳港值千金。

## Song/Ode

The Great Buddha of Lingshan 靈山大佛 is always wreathed in clouds;  
beat the gongs and drums, and send off the “colored boat” 放彩船.

When you reach Chikan 赤坎, shift the needle position 轉針位;  
go on, and the next mountain you see will be Kunlun 昆侖.

Kunlun’s peaks are truly high 昆侖山頭是實高;  
with a fair wind you can sail on and pass it too.

At the harbor of Pengheng 彭亨港口 I do not spend the night 我不宿;  
I sail on, and the mountain I see is Nipan 苧盤.

Nipan's peaks shine with true brightness 苧盤山頭是實光;  
and the two Bamboo Isles, east and west 東西二竹, are both there in full.

At the two Luo-mo islets 羅漠二嶼 there is a shallow patch 有一淺;  
once you pass the White Reef 白礁, you go through the Dragon-Teeth Gate 龍牙門.

Then you head for the Southern "barbarian" lands 南番 and the Western Ocean 西洋;  
behind you, the young women 娘仔 burn fragrant incense, carefully.

They burn incense and bow below;  
they pray for a fair wind to send you safely to the Western Ocean.

You men go to the Southern lands and to Pengheng;  
you trade for tortoiseshell 玳瑁 and "turtle-tubes"/turtle-shell goods 龜筒.

A fine comb you open out—let your girl wear it;  
a poor comb you sell off to someone else.

A newly built treasure-ship 寶舟—newer than new;  
newly made stern-ropes, like dragon roots;  
newly made stern-teeth (stern timbers), like dragon claws—  
drop anchor in a harbor, and it's worth a thousand in gold.

### 玉皇寶號

誌心皈命禮太上，彌羅無上天。妙有玄真境，渺渺紫金闕。太微王清宮，無極無上聖。福祿法光明，寂寂道無崇。玄範總十方，漸戚真長道，恢謀大神通。玉皇大天尊，玄穹高上帝。

Jade Emperor: Sacred Title (玉皇寶號)

With utmost sincerity I take refuge, and by command I bow in ritual to the Most High (太上),  
in the Mílúo Heaven beyond all heavens (彌羅無上天).

A wondrous realm of “marvelous being” and dark-true mystery (妙有玄真境),  
vast and remote—the Purple-Gold Celestial Palace (渺渺紫金闕).

The Tàiwēi King’s Clear Palace (太微王清宮),  
the limitless, unsurpassed Sage (無極無上聖).

Blessings and emolument; the Dharma’s light shines bright (福祿法光明),  
still and silent—the Way, with none higher to revere (寂寂道無崇).

The mysterious norm spans the ten directions (玄範總十方),  
steadily drawing near to the true, long-enduring Way (漸戚真長道),  
unfolding vast designs and great divine powers (恢謀大神通).

The Great Heavenly Worthy, the Jade Emperor (玉皇大天尊),  
the High Sovereign of the Dark Vault of Heaven (玄穹高上帝).

### 謹請

五更起來雞報曉，請卜娘媽來梳妝。梳了真妝縛了髻，梳了倒鬢成琉璃。身穿羅裙十八幅，幅幅裊裊香麝香，擲起涼傘蓋娘媽，娘媽騎馬出遊香。東去行香香人請，北去行香人來迎。去時金釵插鬢邊，到來銀花插殿前。願降臨來真顯赫，弟子一心專拜請，湄州娘媽降臨來。急急如律令。

### 福建往交趾針路

五虎門開船，用乙辰針，取官塘山。船行有三礁在東邊，用丙午針取東沙山西邊過，打水六七托，用單乙針三更船取浯嶼，用丁午針一更坤未針取烏坵山，坤申七更船平太武山，用坤申及單申七更船平南澳山，用坤申針十五更平大星尖，用坤未針七更平東薑山，坤未針五更平烏豬山，用單坤針十三更平七州山，單申針七更平海南黎母山，即是青南頭，用庚申針十五更取海賓業，正路用單亥及乾亥針五更取雞唱門，即是安南國雲屯州海門也。

### Compass Route from Fujian to Jiaozi 交趾

Depart by ship from Wuhumen 五虎門. Use the yǐ-chén needle 乙辰針 (112.5° ESE) to make for Guantang Mountain 官塘山.

As the ship proceeds, there are three reefs 三礁 to the east 東邊. Use the bǐng-wǔ needle 丙午針 (172.5° S) and pass west of Dongsha Mountain 東沙山; sound the depth at six to seven tuo 六七托.

Use the single-yǐ needle 單乙針 (105° ESE); after three geng 三更, make for Wuyu Islet 浯嶼.

Use the dīng-wǔ needle 丁午針 (187.5° S) for one geng 一更, then use the kūn-wèi needle 坤未針 (217.5° SW) to make for Wuqiu Mountain 烏坵山.

Use the kūn-shēn needle 坤申針 (232.5° SW); after seven geng 七更, you will be abeam of Taiwu Mountain 太武山.

Use the kūn-shēn needle 坤申針 (232.5° SW) and the single-shēn needle 單申針 (240° WSW); after seven geng 七更, you will be abeam of Nanao Mountain 南澳山.

Use the kūn-shēn needle 坤申針 (232.5° SW); after fifteen geng 十五更, you will be abeam of Daxingjian 大星尖.

Use the kūn-wèi needle 坤未針 (217.5° SW); after seven geng 七更, you will be abeam of Dongjiang Mountain 東薑山.

Use the kūn-wèi needle 坤未針 (217.5° SW); after five geng 五更, you will be abeam of Wuzhu Mountain 烏豬山.

Use the single-kūn needle 單坤針 (225° SW); after thirteen geng 十三更, you will be abeam of Qizhou Mountain 七州山.

Use the single-shēn needle 單申針 (240° WSW); after seven geng 七更, you will be abeam of Hainan Limu Mountain 海南黎母山, that is Qingnantou 青南頭.

Use the gēng-shēn needle 庚申針 (247.5° WSW); after fifteen geng 十五更, make for Haibin Ye 海賓業.

On the main route 正路, use the single-hài needle 單亥針 (330° NNW) and the qián-hài needle 乾亥針 (322.5° NW); after five geng 五更, make for Jichangmen 雞唱門—this is the sea gate of Yuntun Prefecture 雲屯州海門 in the country of Annan 安南國.

## 回針

雞唱門外開船用辰巽針，五更船取寶山過洋，十五更船取黎母山，用單艮針。二十更船取平獨豬山，單艮針五更，艮寅十五更船平大星尖，單寅針十五更船平南澳彭山外過，艮寅針三更船平大小柑山過。外單寅四更船平太武山，單艮針七更船平烏坵山內過。艮寅針四更船平牛嶼，艮丑針口更船取東沙外過官塘山五虎門也。

## Return Course — 回針

From outside Jichangmen 雞唱門, put to sea and use the chén-xùn needle 辰巽針 (127.5° SE). After five geng 五更, make for Baoshan 寶山 and cross the open sea. After fifteen geng 十五更, make for Limu Mountain 黎母山, using the single-gèn needle 單艮針 (45° NE).

After twenty geng 二十更, make abeam of Duzhu Mountain 獨豬山. Using the single-gèn needle 單艮針 (45° NE), after five geng 五更; then using the gèn-yín needle 艮寅針 (52.5° NE), after fifteen geng 十五更 you will be abeam of Daxingjian 大星尖.

Using the single-yín needle 單寅針 (60° ENE), after fifteen geng 十五更 you will be abeam of Nanao Pengshan 南澳彭山, passing outside it. Using the gèn-yín needle 艮寅針 (52.5° NE), after three geng 三更 you will be abeam of the Large and Small Gan Mountains 大小柑山 and pass by.

Further out, using the single-yín needle 單寅針 (60° ENE), after four geng 四更 you will be abeam of Taiwu Mountain 太武山. Using the single-gèn needle 單艮針 (45° NE), after seven geng 七更 you will be abeam of Wula Mountain 烏坵山, passing inside it.

Using the gèn-yín needle 艮寅針 (52.5° NE), after four geng 四更 you will be abeam of Niu Islet 牛嶼. Using the gèn-chǒu needle 艮丑針 (37.5° NE), after one geng 一更 (written here as 口更), make for Dongsha 東沙, passing outside, then pass Guantang Mountain 官塘山 and reach Wuhumen 五虎門.

## 柬埔寨針路

浯嶼開船，用丁未及單未七更船平南澳彭山外過。用坤申十更，船用單坤五十更，船用單未七更，船取外羅山外過。用丙午針十更，船取羊嶼。用丁來及單丁針十更，船見伽備貌。用坤未針五更，船取羅灣頭，用坤申五更，船取赤坎山、用單申四更，船取鶴頂山。用庚申二更，取真嶼。用庚申二更，船取嘴貼頭山、拋船妙也。有瓜石蘭，生開，不出水，去入港，船到使出山頭，用坤未針及坤申針，單申及庚申、辛酉針入港為妙也。

### **Compass Route to Jianpuzhai 柬埔寨 [Cambodia]**

Depart from Wuyu Islet 浯嶼. Use the *dīng-wèi* needle 丁未針 (202.5° SSW) and the *single-wèi* needle 單未針 (210° SSW); after seven *geng* 七更, you will be abreast of Nanao Pengshan 南澳彭山, passing outside it.

Use the *kūn-shēn* needle 坤申針 (232.5° SW) for ten *geng* 十更. Then use the *single-kūn* needle 單坤針 (225° SW) for fifty *geng* 五十更. Then use the *single-wèi* needle 單未針 (210° SSW) for seven *geng* 七更, and make for Wailuo Mountain 外羅山, passing outside it.

Use the *bǐng-wǔ* needle 丙午針 (172.5° S) for ten *geng* 十更, and make for Yang Islet 羊嶼.

Use the *dīng-lái* needle 丁來針 (needle-name unclear in this copy) and the *single-dīng* needle 單丁針 (195° S) for ten *geng* 十更, and the ship will sight Jianmao 伽備貌.

Use the *kūn-wèi* needle 坤未針 (217.5° SW) for five *geng* 五更, and make for Luowantou 羅灣頭. Use the *kūn-shēn* needle 坤申針 (232.5° SW) for five *geng* 五更, and make for Chikan Mountain 赤坎山. Use the *single-shēn* needle 單申針 (240° WSW) for four *geng* 四更, and make for Heding Mountain 鶴頂山.

Use the *gēng-shēn* needle 庚申針 (247.5° WSW) for two *geng* 二更 to reach Zhen Islet 真嶼.

Use the *gēng-shēn* needle 庚申針 (247.5° WSW) for two *geng* 二更; make for Zuitietou Mountain 嘴貼頭山, and anchor (this is best).

There is Guashilan 瓜石蘭: it grows in the open, and does not rise above the water. When approaching to enter the harbor, once the ship reaches it, it causes the mountain headland to “stand out”/come into view.

For entering the harbor, use the *kūn-wèi* needle 坤未針 (217.5° SW) and the *kūn-shēn* needle 坤申針 (232.5° SW), as well as the *single-shēn* needle 單申針 (240° WSW), the *gēng-shēn* needle 庚申針 (247.5° WSW), and the *xīn-yǒu* needle 辛酉針 (277.5° W); these are the best for entering the harbor.

Note: the form 丁來針 is not a standard 24-point needle name; in some transmitted versions of this route the corresponding bearing appears as a different, regular needle term.

In other transmitted versions of this same route, the “irregular” 丁來 is replaced by the regular needle term 丁未.

So, the line appears as:

用丁未及單丁針十更，船見伽備貌。

(That is: “use dīng-wèi 丁未針 (202.5° SSW) and single-dīng 單丁針 (195° S)”.)

Separately, a related route tradition excerpted in sources like 《東西洋考》 gives a different bearing at this stage (it has 單午針 to reach 伽備貌).

## 回針

用甲卯針四更，船用單甲三更，船用甲寅針四更，船取鶴頂山、赤坎山，用艮寅五更取羅灣頭，用單艮針五更，船取伽備貌山。單丑三更，取靈山大佛，子癸針及單子針五更，船馭羊嶼。用壬子針七更，船取外羅山外過。用單丑十更，船用丑艮針二十五更，用單艮針十更，船取弓鞋山。用艮寅針七更，船取大星尖。用艮寅十五更，船取南澳山外過。用丑癸針十更，船取浯嶼為妙。用心看風汛使船，若風東風西，臨時機變。

## Return Course — 回針

Use the jiǎ-mǎo needle 甲卯針 (82.5° E) for four geng 四更; then use the single-jiǎ needle 單甲針 (75° ENE) for three geng 三更; then use the jiǎ-yín needle 甲寅針 (67.5° ENE) for four geng 四更, and make for Heding Mountain 鶴頂山 and Chikan Mountain 赤坎山.

Use the gèn-yín needle 艮寅針 (52.5° NE) for five geng 五更 to make for Luowantou 羅灣頭.

Use the single-gèn needle 單艮針 (45° NE) for five geng 五更, and make for Jianmao Mountain 伽備貌山.

Use the single-chǒu needle 單丑針 (30° NNE) for three geng 三更 to make for Lingshan Great Buddha 靈山大佛.

Use the zǐ-guǐ needle 子癸針 (7.5° N) and the single-zǐ needle 單子針 (0° N) for five geng 五更, and steer for Yang Islet 羊嶼.

Use the rén-zǐ needle 壬子針 (352.5° N) for seven geng 七更, and make for Wailuo Mountain 外羅山, passing outside it.

Use the single-chǒu needle 單丑針 (30° NNE) for ten geng 十更; then use the chǒu-gèn needle 丑艮針 (37.5° NE) for twenty-five geng 二十五更; then use the single-gèn needle 單艮針 (45° NE) for ten geng 十更, and make for Gongxie Mountain 弓鞋山.

Use the gèn-yín needle 艮寅針 (52.5° NE) for seven geng 七更 to make for Daxingjian 大星尖.

Use the gèn-yín needle 艮寅針 (52.5° NE) for fifteen geng 十五更 to make for Nanao Mountain 南澳山, passing outside it.

Use the chǒu-guǐ needle 丑癸針 (22.5° NNE) for ten geng 十更 to make for Wuyu Islet 浯嶼; this is best.

Use your judgment in watching the seasonal winds and handling the ship; if the wind is easterly or westerly (東風西), adapt as circumstances require.

### 福建往暹羅針路

五虎門開船，用乙辰針取官塘山。船行三礁外過，東北邊使用巽巳針，取東沙山。西邊打水六七托用單巳針，三更船平牛嶼，用丁午針，一更坤未，二更坤申，一更平烏坵山，用坤申針七更，船平太武山，遠過用單申針四更，船取大小甘山外過。用坤申針三更，船取南澳山外過。用坤小十五更，船取大星尖。用坤針七更，船取東薑山。坤七更船取獨蜀豬山。單坤及坤未二十更，船取外羅山外過。用丙午針七更，船取校杯嶼及羊嶼外過。用丁午針五更，船取靈山大佛往回放彩船。用坤未針三更，船取伽楠貌。用坤未五更，船取羅灣頭。用坤未五更，船取亦坎山及鶴頂山。洋中有玳瑁州，大山邊有老古石，名曰林郎淺。用坤未及單未針十五更取昆侖。高大，在帆鋪邊來內過，打水十七八托，爛泥地，外過硬沙地。用單庚及庚酉針三更，船取小昆侖山。西邊有礁出水，內過。用庚酉及單酉針八更，取真嶼山內過。打水十四五托，泥地，外過打水十四托，沙地。遠過隻有七八托便是假嶼。山北面水淺不可行船，恐風不順難以出船，至此十分低了又不是正路，祇從真嶼東北邊出水礁南邊過船為正路。用辛戌針五更，取大橫山外過，南邊打水二十五托為正路，近北邊水淺隻有五托水，船身在南邊見小橫山或三個各山皆是樹木，用辛戌針十更船

單戌針，十更船用乾戌，十更船取筆架山。在帆鋪邊用壬亥針五更，船取陳公嶼及黎頭山，用壬子針取烏泥淺打水四五托，用單乾針三更，船取竹嶼，用單子針五更船到淺，打水四五托。用壬子及乾亥針，沿山坤身尾便是暹羅港口也。用子癸針，船尾坐竹嶼入港正路。

### Compass Route from Fujian to Xianluo 暹羅 [Siam]

Depart by ship from Wuhumen 五虎門. Use the yǐ-chén needle 乙辰針 (112.5° ESE) to make for Guantang Mountain 官塘山.

Sail past the three reefs 三礁 (passing outside). On the northeast side 東北邊 use the xùn-sì needle 巽巳針 (142.5° SE) to make for Dongsha Mountain 東沙山. On the west side 西邊, sound the depth at six to seven tuo 六七托, and use the single-sì needle 單巳針 (150° SSE). After three geng 三更, you will be abeam of Niu Islet 牛嶼.

Use the dīng-wǔ needle 丁午針 (187.5° S). After one geng 一更 use kūn-wèi 坤未針 (217.5° SW); after two geng 二更 use kūn-shēn 坤申針 (232.5° SW); after one geng 一更 you will be abeam of Wuqiu Mountain 烏坵山.

Use the kūn-shēn needle 坤申針 (232.5° SW); after seven geng 七更, you will be abeam of Taiwu Mountain 太武山. Passing well outside (at a distance), use the single-shēn needle 單申針 (240° WSW); after four geng 四更, make for the Large and Small Gan Mountains 大小甘山, passing outside them.

Use the kūn-shēn needle 坤申針 (232.5° SW); after three geng 三更, make for Nanao Mountain 南澳山, passing outside it.

Use the kūn-xiǎo needle 坤小針 (bearing term unclear in this copy), fifteen geng 十五更, and make for Daxingjian 大星尖.

Use the kūn needle 坤針 (225° SW); after seven geng 七更, make for Dongjiang Mountain 東薑山.

With kūn 坤 (225° SW), seven geng 七更, make for Dushu Zhushan 獨蜀豬山.

Use single-kūn 單坤針 (225° SW) and kūn-wèi 坤未針 (217.5° SW) for twenty geng 二十更; make for Wailuo Mountain 外羅山, passing outside it.

Use the bǐng-wǔ needle 丙午針 (172.5° S); after seven geng 七更, make for Jiaobei Islet 校杯嶼 and Yang Islet 羊嶼, passing outside.

Use the dīng-wǔ needle 丁午針 (187.5° S); after five geng 五更, make for the Lingshan Great Buddha 靈山大佛, and on the return track set off signal boats (or “release colored boats”) 往回放彩船.

Use the kūn-wèi needle 坤未針 (217.5° SW); after three geng 三更, make for Jianmao 伽備貌.

Use kūn-wèi 坤未針 (217.5° SW) five geng 五更; make for Luowantou 羅灣頭.

Use kūn-wèi 坤未針 (217.5° SW) five geng 五更; make for Yikan Mountain 亦坎山 and Heding Mountain 鶴頂山.

Out in mid-ocean there is Daimaozhou 玳瑁州. By the side of a great mountain 大山邊 there is an old rock 老古石 called Linlang Shoal 林郎淺.

Use kūn-wèi 坤未針 (217.5° SW) and single-wèi 單未針 (210° SSW) for fifteen geng 十五更 to reach Kunlun 昆侖. It is very high and large. Approaching along the side of Fanpu 帆鋪, pass inside it; soundings are seventeen to eighteen tuo 十七八托. The bottom is rotten mud 爛泥地; farther out it is hard sand 硬沙地.

Use single-gēng 單庚針 (255° W) and gēng-yǒu 庚酉針 (262.5° W) for three geng 三更; make for Lesser Kunlun Mountain 小昆侖山. On the west side 西邊 there are reefs that break the surface 礁出水; pass inside them.

Use gēng-yǒu 庚酉針 (262.5° W) and single-yǒu 單酉針 (270° W) for eight geng 八更; make for Zhenyu Mountain 真嶼山, passing inside. Soundings are fourteen to fifteen tuo 十四五托 with a muddy bottom 泥地; farther out, soundings are fourteen tuo 十四托 with a sandy bottom 沙地. Farther out, if it is only seven or eight tuo 七八托, that is the “false islet” 假嶼.

North of the mountain 山北面 the water is shallow 水淺 and ships cannot pass; if the wind is unfavorable 恐風不順 it will be hard to get out. If you get this far you have fallen very low (too far to leeward) 十分低了 and it is not the main route 不是正路. The main route is to pass south of the reef that breaks the surface off the northeast side of Zhenyu 真嶼東北邊出水礁南邊過船為正路.

Use the xīn-xū needle 辛戌針 (292.5° WNW) for five geng 五更; make for Dahuang Mountain 大橫山, passing outside. On the south side 南邊, soundings of twenty-five tuo 二十五托 mark the main route 正路; near the north side 北邊 the water is shallow, only five tuo 五托.

With the ship kept to the south 船身在南邊, you will see Lesser Huángshān 小橫山, or three separate mountains 三個各山, all covered with trees 皆是樹木.

Use the xīn-xū needle 辛戌針 (292.5° WNW) for ten geng 十更; then use the single-xū needle 單戌針 (300° WNW) for ten geng 十更; then use the qián-xū needle 乾戌針 (307.5° NW) for ten geng 十更; make for Bijashan 筆架山.

Along the side of Fanpu 帆鋪, use the rén-hài needle 壬亥針 (337.5° NNW) for five geng 五更; make for Chenggong Islet 陳公嶼 and Litou Mountain 黎頭山.

Use the rén-zǐ needle 壬子針 (352.5° N) to reach Wuni Shoal 烏泥淺; soundings are four to five tuo 四五托.

Use the single-qián needle 單乾針 (315° NW) for three geng 三更; make for Zhu Islet 竹嶼.

Use the single-zǐ needle 單子針 (0° N) for five geng 五更; the ship reaches the shoals 到淺, with soundings of four to five tuo 四五托.

Use the rén-zǐ 壬子針 (352.5° N) and qián-hài 乾亥針 (322.5° NW), following along the mountains 沿山; off the ship's stern toward kūn-shēn 坤申 (232.5° SW) lies the Siam harbor entrance 暹羅港口.

Use the zǐ-guǐ needle 子癸針 (7.5° N); with the stern lined up on Zhu Islet 竹嶼, enter the harbor on the main route 入港正路.

## 回針

港口開船用巽巳針。取烏泥淺尾用單巳針。取陳公嶼用丙午針。五更船取筆架山。開洋用單巳及巽巳針，三十五更取大橫山，若見是小橫山，門中有礁，南邊過船，遠看小橫或三個山俱是樹木。用乙辰針，十更船取真嶼，東風見假嶼，或二個山，東南邊一個小山，東北尾低西邊高，此小樹木便假嶼山。看見占臘泥尾，都是坤身，西北邊過船。用單未針，三更船取真嶼山，遠看看真嶼或三個山有門板東北邊，有礁出水，外過用甲寅針，內過用甲卯針。二十更船取昆侖頭，有礁，山頭亦色，用癸丑十五更船取亦坎山。船身高恐犯玳瑁州，仔細行船，用丑癸針五更船取伽楠貌。用子癸針三更船取靈山大佛。放彩船。用子針五更船取新州港口。用壬子針七更船取外羅山。用丑癸針二十更船平獨豬山。用單丑癸針五更船取銅鼓山。用丑艮針二十更船取弓鞋及東薑山並南亭門。用艮寅二十更船取南塢坪山外過，用艮寅針三更船取大小甘山外過。用艮寅針四更船取太武山。用單艮針七更

船取烏坵山。用艮寅針三更船取牛嶼。用艮寅五更取東湧山外過，取東沙山，入閩安鎮，內是福州。

### Return Course — 回針

From the harbor entrance 港口, put to sea using the xùn-sì needle 巽巳針 (142.5° SE). To reach the tail/end of Wuni Shoal 烏泥淺尾 use the single-sì needle 單巳針 (150° SSE). To reach Chenggong Islet 陳公嶼 use the bǐng-wǔ needle 丙午針 (172.5° S). After five geng 五更, make for Bijiashan 筆架山.

Putting out into the open sea 開洋, use single-sì 單巳針 (150° SSE) and xùn-sì 巽巳針 (142.5° SE); after thirty-five geng 三十五更, make for Dahuang Mountain 大橫山. If what you see is Lesser Huángshān 小橫山, there are reefs in the channel 門中有礁; pass to the south side 南邊過船. From a distance, Lesser Huángshān, or three separate peaks 小橫或三個山, are all covered with trees 俱是樹木.

Use the yǐ-chén needle 乙辰針 (112.5° ESE). After ten geng 十更, make for Zhen Islet 真嶼. With an east wind 東風 you may see the “false islet” 假嶼, sometimes appearing as two hills 二個山: on the southeast side 東南邊 there is a small hill 小山; its northeast end is low 東北尾低 and its west side is high 西邊高. This small wooded hill 小樹木 is the “false islet” mountain 假嶼山.

When you see Zhanla Mud Tail 占臘泥尾, it all lies toward kūn-shēn 坤申 (232.5° SW); pass the ship on the northwest side 西北邊過船.

Use the single-wèi needle 單未針 (210° SSW). After three geng 三更, make for Zhenyu Mountain 真嶼山. From a distance, Zhenyu 真嶼 may appear as three peaks 三個山, with something like a “plank” feature 門板 on the northeast side 東北邊; there is a reef breaking the surface 礁出水. To pass outside 外過, use the jiǎ-yín needle 甲寅針 (67.5° ENE); to pass inside 內過, use the jiǎ-mǎo needle 甲卯針 (82.5° E).

After twenty geng 二十更, make for Kunlun Head 昆侖頭. There are reefs 礁, and the mountain-top has a distinctive color 山頭亦色. Use the guǐ-chǒu needle 癸丑針 (22.5° NNE) for fifteen geng 十五更 to make for Yikan Mountain 亦坎山.

If the ship rides high 船身高, beware of infringing on Daimaozhou 玳瑁州; handle the ship carefully 仔細行船. Use the chǒu-guǐ needle 丑癸針 (22.5° NNE) for five geng 五更 to make for Jianmao 伽儻貌.

Use the zǐ-guǐ needle 子癸針 (7.5° N) for three geng 三更 to make for the Lingshan Great Buddha 靈山大佛. Release signal boats 放彩船.

Use the zǐ needle 子針 (0° N) for five geng 五更 to make for Xinzhou Harbor Entrance 新州港口.

Use the rén-zǐ needle 壬子針 (352.5° N) for seven geng 七更 to make for Wailuo Mountain 外羅山.

Use the chǒu-guǐ needle 丑癸針 (22.5° NNE) for twenty geng 二十更; you will be abeam of Duzhu Mountain 獨豬山.

Use the single-chǒu needle 單丑針 (30° NNE) and the guǐ-chǒu needle 癸丑針 (22.5° NNE) for five geng 五更 to make for Tonggu Mountain 銅鼓山. *(The text here reads 單丑癸丑針; this is most naturally taken as these two bearings.)*

Use the chǒu-gèn needle 丑艮針 (37.5° NE) for twenty geng 二十更 to make for Gongxie Mountain 弓鞋山, and also Dongjiang Mountain 東薑山, and Nantingmen 南亭門.

Use the gèn-yín needle 艮寅針 (52.5° NE) for twenty geng 二十更 to make for Nanao Pingshan 南壩坪山, passing outside it.

Use the gèn-yín needle 艮寅針 (52.5° NE) for three geng 三更 to make for the Large and Small Gan Mountains 大小甘山, passing outside.

Use the gèn-yín needle 艮寅針 (52.5° NE) for four geng 四更 to make for Taiwu Mountain 太武山.

Use the single-gèn needle 單艮針 (45° NE) for seven geng 七更 to make for Wuqiu Mountain 烏坵山.

Use the gèn-yín needle 艮寅針 (52.5° NE) for three geng 三更 to make for Niu Islet 牛嶼.

Use the gèn-yín needle 艮寅針 (52.5° NE) for five geng 五更 to make for Dongyong Mountain 東湧山, passing outside, then make for Dongsha Mountain 東沙山, and enter Min'an Garrison 閩安鎮; inside that is Fuzhou 福州.

## 浯嶼往大泥吉蘭丹

浯嶼開船定內開，用丁未及單丁針七更船平南澳坪山外過。用坤申針十五更船平大星尖。用坤申針七更船取南亭門。用單坤五更取烏豬山，用單坤及坤未針十三更船平七州洋。用坤未七更平獨豬山，用坤未針二十更船取外羅山外過。用丙午針七更取校杯嶼及羊嶼。用丙午針五更船取靈山大佛。用單午針三更船取伽備貌山。用丁午針五更取羅灣頭，用單坤及坤未針五更船取亦坎。用坤未針十五更船取昆侖山外過。用坤申及庚酉針三十更船收吉蘭丹港口。是泥地拋船。用單申針七更船六坤，坤身尾有淺，過西邊入港是大泥。

### **From Wuyu to Dani / Jilandan [Pattani / Kelantan]**

Depart from Wuyu Islet 浯嶼, keeping to the inside channel 定內開. Use the dīng-wèi needle 丁未針 (202.5° SSW) and the single-dīng needle 單丁針 (195° S); after seven geng 七更, you will be abeam of Nanao Pingshan 南澳坪山, passing outside it.

Use the kūn-shēn needle 坤申針 (232.5° SW); after fifteen geng 十五更, you will be abeam of Daxingjian 大星尖.

Use the kūn-shēn needle 坤申針 (232.5° SW); after seven geng 七更, make for Nantingmen 南亭門.

Use the single-kūn needle 單坤針 (225° SW) for five geng 五更 to make for Wuzhu Mountain 烏豬山.

Use the single-kūn needle 單坤針 (225° SW) and the kūn-wèi needle 坤未針 (217.5° SW); after thirteen geng 十三更, you will be abeam of Qizhou Ocean/Sea 七州洋.

Use the kūn-wèi needle 坤未針 (217.5° SW); after seven geng 七更, you will be abeam of Duzhu Mountain 獨豬山.

Use the kūn-wèi needle 坤未針 (217.5° SW); after twenty geng 二十更, make for Wailuo Mountain 外羅山, passing outside it.

Use the bǐng-wǔ needle 丙午針 (172.5° S); after seven geng 七更, make for Jiabei Islet 校杯嶼 and Yang Islet 羊嶼.

Use the bǐng-wǔ needle 丙午針 (172.5° S); after five geng 五更, make for the Lingshan Great Buddha 靈山大佛.

Use the single-wǔ needle 單午針 (180° S); after three geng 三更, make for Jianmao Mountain 伽備貌山.

Use the dīng-wǔ needle 丁午針 (187.5° S); after five geng 五更, make for Luowantou 羅灣頭.

Use the single-kūn needle 單坤針 (225° SW) and the kūn-wèi needle 坤未針 (217.5° SW); after five geng 五更, make for Yikan 亦坎.

Use the kūn-wèi needle 坤未針 (217.5° SW); after fifteen geng 十五更, make for Kunlun Mountain 昆侖山, passing outside it.

Use the kūn-shēn needle 坤申針 (232.5° SW) and the gēng-yǒu needle 庚酉針 (262.5° W); after thirty geng 三十更, reach the Kelantan harbor entrance 吉蘭丹港口. The bottom is mud 泥地; anchor here 拋船.

Use the single-shēn needle 單申針 (240° WSW); after seven geng 七更, the text then says “the ship (... ) liù kūn 船六坤” (unclear phrase as written). Off the stern toward kūn-shēn 坤申 (232.5° SW) there are shoals 有淺; pass on the west side 過西邊 and enter the harbor—this is “Dani” 大泥.

## 大泥叵針

大泥離淺用甲寅針，開山用甲卯針及單卯針，十更船用甲寅針，二十更船取昆侖山外過。用丑癸針，或內用單丑針及丑艮針十五更船取赤坎山。用丑艮針五更船取羅灣頭山，用丑癸針五更船取伽備貌山。用子癸三更船取靈山大佛山。用壬子及壬針五更船取校杯及羊嶼。用子壬針七更船取羅山外過。用單丑六更船二十更船取獨豬山。用單艮針五更船取銅鼓山。用丑艮及丑癸針二十更船取東薑山及南亭門。用艮寅針七更船到大星尖。用艮寅針十五更船到南澳。七更船見活嶼外羅開船。或直使用單丑針十更，用丑艮針三十二更取南亭門。或照古使用丑癸針二十更船平獨豬山。用丑艮二十更船平弓鞋嶼。用艮寅針二十二更船平南澳外坪山。用艮寅七更船平太武為妙。

## Return Course from Dani

Leaving the shoals off Dani 大泥離淺, use the jiǎ-yín needle 甲寅針 (67.5° ENE). When “opening the mountains”/making landfall bearings 開山, use the jiǎ-mǎo needle 甲卯針 (82.5° E) and the single-mǎo needle 單卯針 (90° E). After ten geng 十更, use the jiǎ-yín needle 甲寅針 (67.5° ENE); after twenty geng 二十更, make for Kunlun Mountain 昆侖山, passing outside it.

Use the chǒu-guǐ needle 丑癸針 (22.5° NNE); or, if passing inside 內, use the single-chǒu needle 單丑針 (30° NNE) and the chǒu-gèn needle 丑艮針 (37.5° NE). After fifteen geng 十五更, make for Chikan Mountain 赤坎山.

Use the chǒu-gèn needle 丑艮針 (37.5° NE) for five geng 五更 to make for Luowantou Mountain 羅灣頭山.

Use the chǒu-guǐ needle 丑癸針 (22.5° NNE) for five geng 五更 to make for Jianmao Mountain 伽儻貌山.

Use zǐ-guǐ 子癸針 (7.5° N) for three geng 三更 to make for Lingshan Great Buddha Mountain 靈山大佛山.

Use the rén-zǐ needle 壬子針 (352.5° N) and the rén needle 壬針 (345° NNW) for five geng 五更 to make for Jiaobei 校杯 and Yang Islet 羊嶼.

Use the zǐ-rén needle 子壬針 (352.5° N) for seven geng 七更 to make for Luoshan 羅山, passing outside it.

Use the single-chǒu needle 單丑針 (30° NNE) for six geng 六更; then (the text continues) after twenty geng 二十更 make for Duzhu Mountain 獨豬山.

Use the single-gèn needle 單艮針 (45° NE) for five geng 五更 to make for Tonggu Mountain 銅鼓山.

Use the chǒu-gèn needle 丑艮針 (37.5° NE) and the chǒu-guǐ needle 丑癸針 (22.5° NNE) for twenty geng 二十更 to make for Dongjiang Mountain 東薑山 and Nantingmen 南亭門.

Use the gèn-yín needle 艮寅針 (52.5° NE) for seven geng 七更; the ship reaches Daxingjian 大星尖.

Use the gèn-yín needle 艮寅針 (52.5° NE) for fifteen geng 十五更; the ship reaches Nanao 南澳.

After seven geng 七更 the ship sights Wuyu Islet 浯嶼; departing from outside Luoshan 外羅開船.

Alternatively, go straight using the single-chǒu needle 單丑針 (30° NNE) for ten geng 十更, then use the chǒu-gèn needle 丑艮針 (37.5° NE) for thirty-two geng 三十二更 to make for Nantingmen 南亭門.

Or, following the older method 照古, use the chǒu-guǐ needle 丑癸針 (22.5° NNE) for twenty geng 二十更 to come abeam of Duzhu Mountain 獨豬山. Use the chǒu-gèn needle 丑艮針 (37.5° NE) for twenty geng 二十更 to come abeam of Gongxie Islet 弓鞋嶼. Use the gèn-yín needle 艮寅針 (52.5° NE) for twenty-two geng 二十二更 to come abeam of Nanao Outer Pingshan 南澳外坪山. Use the gèn-yín needle 艮寅針 (52.5° NE) for seven geng 七更 to come abeam of Taiwu 太武; this is best.

### 太武往彭坊針路

丁針四更船平州山。開用未針三更取南澳。用坤申針十五更取大星。用坤未七更取東薑山。用單坤五更船取烏豬山。用單坤十五更取七州洋。用單坤針七更取獨豬山。用坤未針二十更取外羅山外過。用丙午針七更船取校杯嶼及羊嶼。用丙午針七更船取靈山大佛。用單午針三更取伽楠貌。用丁午針五更船取羅灣頭，用坤未針五更船取赤坎。身開，恐犯玳瑁州；籠，恐犯玳瑁礁及玳瑁鴨，在山兜用單未十五更船取昆侖山。用坤未四十更船取彭坊港口為妙。

### Compass Route from Taiwu 太武 to Pengfang 彭坊

Use the dīng needle 丁針 (195° S) for four geng 四更; the ship will be abeam of Zhou Mountain 州山.

At the start, use the wèi needle 未針 (210° SSW) for three geng 三更 to make for Nanao 南澳.

Use the kūn-shēn needle 坤申針 (232.5° SW) for fifteen geng 十五更 to make for Daxingjian 大星.

Use the kūn-wèi needle 坤未針 (217.5° SW) for seven geng 七更 to make for Dongjiang Mountain 東薑山.

Use the single-kūn needle 單坤針 (225° SW) for five geng 五更 to make for Wuzhu Mountain 烏豬山.

Use the single-kūn needle 單坤針 (225° SW) for fifteen geng 十五更 to make for Qizhou Ocean/Sea 七州洋.

Use the single-kūn needle 單坤針 (225° SW) for seven geng 七更 to make for Duzhu Mountain 獨豬山.

Use the kūn-wèi needle 坤未針 (217.5° SW) for twenty geng 二十更 to make for Wailuo Mountain 外羅山, passing outside it.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for seven geng 七更 to make for Jiaobei Islet 校杯嶼 and Yang Islet 羊嶼.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for seven geng 七更 to make for the Lingshan Great Buddha 靈山大佛.

Use the single-wǔ needle 單午針 (180° S) for three geng 三更 to make for Jianmao 伽備貌.

Use the dīng-wǔ needle 丁午針 (187.5° S) for five geng 五更 to make for Luowantou 羅灣頭.

Use the kūn-wèi needle 坤未針 (217.5° SW) for five geng 五更 to make for Chikan 赤坎.

If the ship keeps too “open” (out to sea) 身開, fear running into Daimaozhou 玳瑁州; if it keeps too “close/boxed in” 籠, fear running into the Daimao Reef 玳瑁礁 and Daimao Ya 玳瑁鴨.

At the “mountain pocket”/along the foot of the mountain 在山兜, use the single-wèi needle 單未針 (210° SSW) for fifteen geng 十五更 to make for Kunlun Mountain 昆侖山.

Use the kūn-wèi needle 坤未針 (217.5° SW) for forty geng 四十更 to reach the Pengfang harbor entrance 彭坊港口; this is best.

## 回針

彭坊港口回澳，用艮寅六更船取綿花嶼。用單艮針七更，又用艮並丑艮針六更，船用單丑及丑癸二十更船取昆侖山外過。用丑癸十五更取赤坎。用丑艮五更船取羅灣頭。用丑癸五更船取伽備貌。用子癸三更船取靈山大佛。用壬子單壬針五更船取校杯嶼及羊嶼。用壬子針七更船取外羅山外過。用丑癸及單丑二十更船取獨豬山，用單艮五更船取銅鼓山。用艮寅針十三更取東薑。用艮寅針七更船取大星尖。用單寅針十五更船取南澳。用艮寅二更取甘山。用艮寅三更取太武妙。

## Return Course — 回針

From the Pengfang harbor entrance 彭坊港口, return toward the bay/anchorage 回澳. Use the gèn-yín needle 艮寅針 (52.5° NE) for six geng 六更 to make for Mianhua Islet 綿花嶼.

Use the single-gèn needle 單艮針 (45° NE) for seven geng 七更. Then use gèn 艮針 (45° NE) together with the chǒu-gèn needle 丑艮針 (37.5° NE) for six geng 六更.

Then use the single-chǒu needle 單丑針 (30° NNE) and the chǒu-guǐ needle 丑癸針 (22.5° NNE) for twenty geng 二十更 to make for Kunlun Mountain 昆侖山, passing outside it.

Use the chǒu-guǐ needle 丑癸針 (22.5° NNE) for fifteen geng 十五更 to make for Chikan 赤坎.

Use the chǒu-gèn needle 丑艮針 (37.5° NE) for five geng 五更 to make for Luowantou 羅彎頭.

Use the chǒu-guǐ needle 丑癸針 (22.5° NNE) for five geng 五更 to make for Jianmao 伽楠貌.

Use the zǐ-guǐ needle 子癸針 (7.5° N) for three geng 三更 to make for the Lingshan Great Buddha 靈山大佛.

Use the rén-zǐ needle 壬子針 (352.5° N) and the single-rén needle 單壬針 (345° NNW) for five geng 五更 to make for Jiaobei Islet 校杯嶼 and Yang Islet 羊嶼.

Use the rén-zǐ needle 壬子針 (352.5° N) for seven geng 七更 to make for Wailuo Mountain 外羅山, passing outside it.

Use the chǒu-guǐ needle 丑癸針 (22.5° NNE) and the single-chǒu needle 單丑針 (30° NNE) for twenty geng 二十更 to make for Duzhu Mountain 獨豬山.

Use the single-gèn needle 單艮針 (45° NE) for five geng 五更 to make for Tonggu Mountain 銅鼓山.

Use the gèn-yín needle 艮寅針 (52.5° NE) for thirteen geng 十三更 to make for Dongjiang 東薑.

Use the gèn-yín needle 艮寅針 (52.5° NE) for seven geng 七更 to make for Daxingjian 大星尖.

Use the single-yín needle 單寅針 (60° ENE) for fifteen geng 十五更 to make for Nanao 南澳.

Use the gèn-yín needle 艮寅針 (52.5° NE) for two geng 二更 to make for Gan Mountain 甘山.

Use the gèn-yín needle 艮寅針 (52.5° NE) for three geng 三更 to make for Taiwu 太武; this is best.

## 廣東往磨六甲針

南亭門放洋，用坤未針五更船取烏豬山。用單坤十三更取七州洋。坤未針七更船平獨豬山。單未針二十更取外羅山外過。丙午針七更船平校杯及羊嶼。內外可過，船沿山使前是占城新州港口嶼外過船，用丙午針五更是靈山大佛，放彩船。丙午針三更取伽楠貌，用丁午針五更船取羅灣頭，用坤未針五更船取赤坎山。船身開，恐犯玳瑁州；籠，恐犯玳瑁礁。用坤未十五更船取昆侖山外過。用丁未二十更船用單未二十五更船取苧盤山及東西竹將軍帽。遠看見將軍帽內及火燒山。丁未針十五更船取白礁。北及南鞍並羅漢嶼。白礁在帆鋪邊過船。用單酉針五更船取龍於門。夜不可行船，防南邊有牛屎礁。過門平長腰嶼，防南邊沙淺及涼傘礁。用辛戌針三更船取吉裏悶山。乾亥針五更船平昆宋嶼，單亥針五更船取前嶼。乾針五更取五嶼。沿山使取磨六甲妙。

## From Guangdong to Moliujia 磨六甲 [Melaka]

From Nantingmen 南亭門, put out into the open sea 放洋. Use the kūn-wèi needle 坤未針 (217.5° SW) for five geng 五更 to make for Wuzhu Mountain 烏豬山.

Use the single-kūn needle 單坤針 (225° SW) for thirteen geng 十三更 to make for Qizhou Ocean/Sea 七州洋.

Use the kūn-wèi needle 坤未針 (217.5° SW) for seven geng 七更; the ship will be abeam of Duzhu Mountain 獨豬山.

Use the single-wèi needle 單未針 (210° SSW) for twenty geng 二十更 to make for Wailuo Mountain 外羅山, passing outside it.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for seven geng 七更; the ship will be abeam of Jiaobei 校杯 and Yang Islet 羊嶼.

You may pass either inside or outside 內外可過. Let the ship follow along the mountains 船沿山使; ahead is the island marking Xinzhou harbor entrance in Champa 占城新州港口嶼, and you pass outside it 外過船.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for five geng 五更 to reach the Lingshan Great Buddha 靈山大佛; release signal boats 放彩船.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for three geng 三更 to make for Jianmao 伽備貌.

Use the dīng-wǔ needle 丁午針 (187.5° S) for five geng 五更; make for Luowantou 羅灣頭.

Use the kūn-wèi needle 坤未針 (217.5° SW) for five geng 五更; make for Chikan Mountain 赤坎山.

If the ship keeps too “open”/offshore 船身開, beware of hitting Daimaozhou 玳瑁州; if it keeps too “closed in”/nearshore 籠, beware of hitting the Daimao Reef 玳瑁礁.

Use the kūn-wèi needle 坤未針 (217.5° SW) for fifteen geng 十五更; make for Kunlun Mountain 昆侖山, passing outside it.

Use the dīng-wèi needle 丁未針 (202.5° SSW) for twenty geng 二十更; then use the single-wèi needle 單未針 (210° SSW) for twenty-five geng 二十五更; make for Zhupan Mountain 苧盤山 and the “East and West Bamboo General’s Cap” 東西竹將軍帽. From a distance, you can see inside the General’s Cap 將軍帽內 and Huosha Mountain 火燒山.

Use the dīng-wèi needle 丁未針 (202.5° SSW) for fifteen geng 十五更; make for White Reef 白礁, and also the North and South Saddles 北及南鞍, together with Arhat Islet 羅漢嶼.

White Reef 白礁 is passed with the ship along the side of Fanpu 帆鋪邊過船.

Use the single-yǒu needle 單酉針 (270° W) for five geng 五更; make for Longyu Gate 龍於門. Do not sail at night 夜不可行船; beware, to the south 南邊 there is Niushi Reef 牛屎礁.

After passing through the gate 過門, you will come abeam of Changyao Islet 長腰嶼. Beware to the south 南邊 there are sandy shoals 沙淺 and the Liangsan Reef 涼傘礁.

Use the xīn-xū needle 辛戌針 (292.5° WNW) for three geng 三更; make for Jilimen Mountain 吉裏悶山.

Use the qián-hài needle 乾亥針 (322.5° NW) for five geng 五更; you will be abeam of Kunsong Islet 昆宋嶼.

Use the single-hài needle 單亥針 (330° NNW) for five geng 五更; make for Qian Islet 前嶼.

Use the qián needle 乾針 (315° NW) for five geng 五更; make for the Five Islets 五嶼.

Follow along the mountains 沿山使 to reach Moliujia [Melaka] 磨六甲; this is best 妙.

## 滿喇咖回廣東針路

浯嶼門放洋，用辰巽五更船平射箭山。打水十九托，用辰巽五更船取昆宋嶼。打水十二托。對門南有泥淺，北邊坤身尾有老古石淺。單巽針三更取吉裏悶山，沿山使北邊坤身尾謹防。單辰並乙辰，二更取長腰嶼不可行，南，恐犯涼傘礁及沙塘淺。出龍牙門，夜間不可行船。單卯針取官嶼，防北邊牛屎礁。甲卯針五更船取白礁北邊過行船，打水十五托正路，防北邊羅漢嶼，有礁，打水六七托正路，要防礁淺，方出門離白礁遠。用丑癸十更船平芎盤山外，東西竹在東邊內過。用子癸針及單癸四十五更船取昆侖山，照前取浯嶼為妙。

## Route from Moliujia 磨六甲 [Melaka] back to Guangdong

From the Wuyu Gate 浯嶼門, put out into the open sea 放洋. Use the chén-xùn needle 辰巽針 (127.5° SE) for five geng 五更; the ship will be abeam of Shejian Mountain 射箭山. Sound the depth at nineteen tuo 十九托.

Use the chén-xùn needle 辰巽針 (127.5° SE) for five geng 五更 to make for Kunsong Islet 昆宋嶼. Sound the depth at twelve tuo 十二托.

Opposite the gate 對門, to the south 南 there are muddy shoals 泥淺; to the north 北邊, off the stern toward kūn-shēn 坤申 (232.5° SW), there is an old rock shoal 老古石淺.

Use the single-xùn needle 單巽針 (135° SE) for three geng 三更 to make for Jilimen Mountain 吉裏悶山. Follow along the mountains 沿山使, and be careful of the north side 北邊 off the stern toward kūn-shēn 坤申 (232.5° SW).

Use the single-chén needle 單辰針 (120° ESE) together with the yǐ-chén needle 乙辰針 (112.5° ESE); after two geng 二更, make for Changyao Islet 長腰嶼. Do not sail there (in a straight line) 不可行; keep to the south 南, for fear of running into Liangsan Reef 涼傘礁 and the Shatang Shoal 沙塘淺.

After exiting Longya Gate 龍牙門, do not sail at night 夜間不可行船.

Use the single-mǎo needle 單卯針 (90° E) to make for Guan Islet 官嶼, and beware the Niushi Reef 牛屎礁 on the north side 北邊.

Use the jiǎ-mǎo needle 甲卯針 (82.5° E) for five geng 五更; make for White Reef 白礁, passing on its north side 北邊過行船. Soundings of fifteen tuo 十五托 mark the main route 正路.

Beware the Arhat Islet 羅漢嶼 on the north side 北邊; there are reefs 礁. Soundings of six to seven tuo 六七托 mark the main route (close in). You must watch for reefs and shoals 要防礁淺; only then can you clear the gate 出門 and get far away from White Reef 離白礁遠.

Use the chǒu-guǐ needle 丑癸針 (22.5° NNE) for ten geng 十更; the ship will be abeam of Zhupan Mountain 苧盤山, passing outside it 外. The “East and West Bamboo” 東西竹 lie to the east 東邊; pass inside them 內過.

Use the zǐ-guǐ needle 子癸針 (7.5° N) and the single-guǐ needle 單癸針 (15° NNE) for forty-five geng 四十五更 to make for Kunlun Mountain 昆侖山. From there, proceed as before 照前 to reach Wuyu Islet 浯嶼; this is best 妙.

### 苧盤往舊港並順塔針路

苧盤山南邊生角尖有山嶼。西頭低，用丙午針過東西竹山。用丙午針十更取長嶼。用丁午針十更取龍牙門山，在馬戶邊來過山。用單午針三更取饅頭嶼。用單丁三更船取七嶼。在帆鋪邊第二山有沉礁。用坤申針取舊港正路。用辰巽針十更船取進峽門。用丙巳針，南邊打水四五托，北邊打水八九托。用單申針三更，船打水十托，沙泥港地連坤身。使單丁針及丁午針五更船，丁未船五更船都取麻橫港口。單午針收林麻塔，有淺不可近，嶼身外打水有九托。離了嶼用乙辰三更船見奴沙喇，在帆鋪邊末，打水十四托。離了用丁午針三更船遠望見類旦大。單午針五更船取石旦港口。有五嶼在馬戶邊，二嶼在帆鋪邊，近正門打水四五托，拋定平安。前來南邊六更船使是順塔，進入為妙。

### Compass Route from Zhupan 苧盤 to Jiugang 舊港 [Old Harbor] and Shunta 順塔 [Sunda]

South of Zhupan Mountain 苧盤山, a horn-shaped pointed feature 生角尖 rises, with mountains/islets 山嶼. The western end 西頭 is low. Use the bǐng-wǔ needle 丙午針 (172.5° S) to pass Dongxi Bamboo Mountain 東西竹山.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for ten geng 十更 to make for Chang Islet 長嶼.

Use the dīng-wǔ needle 丁午針 (187.5° S) for ten geng 十更 to make for Longya Gate Mountain 龍牙門山; approach and pass the mountain along the side of Mahu 馬戶邊來過山.

Use the single-wǔ needle 單午針 (180° S) for three geng 三更 to make for Mantou Islet 饅頭嶼.

Use the single-dīng needle 單丁針 (195° S) for three geng 三更; the ship makes for the Seven Islets 七嶼.

Along the side of Fanpu 帆鋪邊, at the second mountain 第二山, there is a submerged reef 沉礁.

Use the kūn-shēn needle 坤申針 (232.5° SW) to reach Jiugang 舊港 on the main route 正路.

Use the chén-xùn needle 辰巽針 (127.5° SE) for ten geng 十更; make for Jinxiamen 進峽門.

Use the bǐng-sì needle 丙巳針 (157.5° SSE). On the south side 南邊, soundings are four to five tuo 四五托; on the north side 北邊, soundings are eight to nine tuo 八九托.

Use the single-shēn needle 單申針 (240° WSW) for three geng 三更. The ship sounds ten tuo 十托; the sandy-muddy harbor bottom 沙泥港地 lies toward kūn-shēn 坤申 (232.5° SW).

Steer with the single-dīng needle 單丁針 (195° S) and the dīng-wǔ needle 丁午針 (187.5° S) for five geng 五更; then with dīng-wèi 丁未針 (202.5° SSW) for five geng 五更; all of these bring you to the Maheng harbor entrance 麻橫港口.

Using the single-wǔ needle 單午針 (180° S), you close on Linmata 林麻塔. There are shoals 有淺 and you must not approach closely 不可近; outside the islet body 嶼身外 the sounding is nine tuo 九托.

After leaving the islet 離了嶼, use yǐ-chén 乙辰針 (112.5° ESE) for three geng 三更; the ship sights Nushala 奴沙喇. It lies at the far end of Fanpu 在帆鋪邊末; soundings are fourteen tuo 十四托.

After leaving it 離了, use the dīng-wǔ needle 丁午針 (187.5° S) for three geng 三更; from afar you can see Leidan Da 類旦大.

Use the single-wǔ needle 單午針 (180° S) for five geng 五更; make for the Shidan harbor entrance 石旦港口.

There are five islets 五嶼 by the side of Mahu 馬戶邊, and two islets 二嶼 by the side of Fanpu 帆鋪邊. Near the main gate 近正門, soundings are four to five tuo 四五托; anchor securely 拋定 and you will be safe and at peace 平安.

Proceeding onward 前來, on the south side 南邊, after six geng 六更, steer for Shunta 順塔; entering it is best 進入為妙.

### 順塔往舊港及芋盤針路

港口放洋前去西北六更，船取石旦。甲寅針取交刺。單丑針十更船打水二十五托是正路。用單子一路打水十二托，用壬子針十更船打水七八托是三麥嶼。左邊淺有淺，右邊深可過船，打水四五托。沿坤身使十更，船打水五六托見帆鋪邊有港口，有一州在馬戶邊來，便是舊港。

### Compass Route from Shunta 順塔 [Sunda] to Jiugang 舊港 [Old Harbor] and Zhupan 芋盤

From the harbor entrance 港口, put out into the open sea 放洋 and proceed northwest 西北 for six geng 六更; the ship makes for Shidan 石旦.

Use the jiǎ-yín needle 甲寅針 ( $67.5^{\circ}$  ENE) to make for Jiaoci 交刺.

Use the single-chǒu needle 單丑針 ( $30^{\circ}$  NNE). After ten geng 十更 the ship sounds twenty-five tuo 二十五托; this is the main route 正路.

Use the single-zǐ needle 單子針 ( $0^{\circ}$  N) all the way, sounding twelve tuo 十二托.

Use the rén-zǐ needle 壬子針 ( $352.5^{\circ}$  N) for ten geng 十更; the ship sounds seven to eight tuo 七八托—this is Sanmai Islet 三麥嶼.

On the left side 左邊 the water is shallow 淺有淺; on the right side 右邊 it is deep and ships can pass 深可過船, with soundings of four to five tuo 四五托.

Follow along kūn-shēn 坤申 ( $232.5^{\circ}$  SW) for ten geng 十更; the ship sounds five to six tuo 五六托 and you will see, along the side of Fanpu 帆鋪邊, a harbor entrance 港口. There is a sandbank/“islet” 一州 coming in from the Mahu side 馬戶邊來—this is Jiugang 舊港.

### 福建往爪哇針路

浯嶼開船，照前使取外羅山外過，用丙午針七更船取羊嶼。用丙午針五更船平大佛山。用丙午針十三更船取東西董山。用丙午十五更，用單午三十更取東蛇龍山，遠過打水四十托，低不見蛇龍山，祇是蜈蚣嶼生得平平，近看坤身相連。蜈蚣嶼若見門向東南都是坤身相連若見。用單巳針四更船使過東蛇龍山，北邊有三個小嶼內有大山，一個是大龜山，東南大山是銅鼓山。入門打水十五托，近看是坤身，門中二邊都是小嶼平平，號名沙湖嶼，使往東邊過。用單丁七更船平大山尾，有一大嶼有一個小嶼，生門在外過，西邊正路。用丁午四更船平雞籠嶼，四邊低長，北邊拖尾門中有小嶼一個，西邊正路。丁午針十更平交蘭山，見東邊高大，北邊有一個小嶼，西邊過船是正路。出門莫得東邊有淺。用單午針三十更取吉裏悶。用單午針五更取胡椒山。沿山使用丙午及巽巳針十更船取杜板山，即是爪蛙也。

### **Compass Route from Fujian to Zhuawa 爪蛙 [Java]**

Depart from Wuyu Islet 浯嶼. Following the previous directions 照前, steer to Wailuo Mountain 外羅山, passing outside it 外過. Use the bǐng-wǔ needle 丙午針 (172.5° S) for seven geng 七更; the ship makes for Yang Islet 羊嶼.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for five geng 五更; the ship will be abeam of Great Buddha Mountain 大佛山.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for thirteen geng 十三更; the ship makes for Dongxi Dong Mountain 東西董山.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for fifteen geng 十五更, then use the single-wǔ needle 單午針 (180° S) for thirty geng 三十更 to make for East Shelong Mountain 東蛇龍山. Passing at a distance, soundings are forty tuo 四十托. When you are low (far off) you do not see Shelong Mountain; you only see Woqi Islet 蜈蚣嶼, which rises quite flat. Coming closer, you see it is connected in line with kūn-shēn 坤申 (232.5° SW).

If Woqi Islet 蜈蚣嶼 shows a “gate” opening toward the southeast 門向東南, it is all connected in line with kūn-shēn 坤申 (232.5° SW).

Use the single-sì needle 單巳針 (150° SSE) for four geng 四更; the ship passes East Shelong Mountain 東蛇龍山. To the north 北邊 there are three small islets 三個小嶼, within which there is a great mountain 內有大山: one is Great Turtle Mountain 大龜山; the great mountain to the southeast 東南大山 is Tonggu Mountain 銅鼓山.

Entering the gate 入門, soundings are fifteen tuo 十五托. Up close it appears as kūn-shēn 坤申 (232.5° SW). On both sides of the gate 門中二邊 there are low, flat small islets 小嶼平平, called Shahu Islet 沙湖嶼; steer to pass on the east side 使往東邊過.

Use the single-dīng needle 單丁針 (195° S) for seven geng 七更; the ship will be abeam of the tail of the great mountain 大山尾. There is one large islet 大嶼 and one small islet 小嶼; the “gate” 生門 lies on the outer side 在外過. The main route 正路 is on the west side 西邊.

Use the dīng-wǔ needle 丁午針 (187.5° S) for four geng 四更; the ship will be abeam of Jilong Islet 雞籠嶼. It is low and long on all sides 四邊低長. On the north side 北邊 it trails a tail 拖尾; within the gate there is one small islet 門中有小嶼一個. The main route 正路 is on the west side 西邊.

Use the dīng-wǔ needle 丁午針 (187.5° S) for ten geng 十更; the ship will be abeam of Jiaolan Mountain 交蘭山. You will see that the east side 東邊 is high and large 高大; on the north side 北邊 there is a small islet 一個小嶼. Passing on the west side 西邊過船 is the main route 正路. After exiting the gate 出門, do not go to the east side 莫得東邊, for there are shoals 淺.

Use the single-wǔ needle 單午針 (180° S) for thirty geng 三十更 to make for Jilimen 吉裏悶.

Use the single-wǔ needle 單午針 (180° S) for five geng 五更 to make for Pepper Mountain 胡椒山.

Following along the mountains 沿山使, use the bǐng-wǔ needle 丙午針 (172.5° S) and the xùn-sì needle 巽巳針 (142.5° SE) for ten geng 十更 to make for Duban Mountain 杜板山—this is Java 爪哇.

## 回針

爪哇放洋，用壬亥針十更船取吉裏悶山。遠看似大船牽杉板，近看東頭高成九個大山，西邊有坤身尾老古離山遠是。西南風用壬子針，若東南風用單子針，十五更船打水十七八托，硬地，是正路。壬子針十更見交蘭山，東邊山高大，北邊有二個嶼似雞籠樣，西南邊有一嶼，打水十五托。用單壬針使三更見十二子山。遠看三個大山，近看六七個，遠看四五個人嶼，東頭低西頭低，有小嶼有老古。南有門好行船，北邊有一礁相似船帆樣，號石屎朽白泥山為準。離山單壬針十五更見蜈蚣嶼。遠看蜈蚣樣，近看似橄欖樣。西北路打水十五六托。用單壬針五更船取塔林嶼，遠看尖西北正路。用壬子針五更船取馬鞍嶼，遠看

是南鞍，近打水四十六托近去，防南邊有礁出水，名做帽頭礁。離山放洋用壬子針及壬亥針四十五更取赤坎山，用單丑針五更取羅灣頭。照前取活嶼妙。

### Return Course — 回針

Leaving Java 爪哇 and putting out into the open sea 放洋, use the rén-hài needle 壬亥針 (337.5° NNW) for ten geng 十更 to make for Jilimen Mountain 吉裏悶山. From afar it looks like a large boat towing planks; up close, the eastern end is high and forms nine large peaks, and on the west side there is a kūn-shēn tail 坤申尾, with an old rock (or “old rock ridge”) visible; from far away it seems separated from the mountain.

With a southwest wind 西南風, use the rén-zǐ needle 壬子針 (352.5° N). If there is a southeast wind 東南風, use the single-zǐ needle 單子針 (0° N). After fifteen geng 十五更, soundings are seventeen to eighteen tuo 十七八托, with a hard bottom 硬地; this is the main route 正路.

Using the rén-zǐ needle 壬子針 (352.5° N) for ten geng 十更, you will see Jiaolan Mountain 交蘭山: the east side is high and massive 東邊山高大; on the north side there are two islets 北邊有二個嶼 resembling Jilong 雞籠; on the southwest side there is one islet 西南邊有一嶼. Soundings are fifteen tuo 十五托.

Use the single-rén needle 單壬針 (345° NNW) and steer for three geng 三更; you will see Shierzi Mountain 十二子山. From afar it looks like three large peaks; up close it looks like six or seven. From afar you see four or five “human-shaped” islets 人嶼. The eastern end is low and the western end is low; there is a small islet with an “old rock” feature 有小嶼有老古.

To the south there is a gate 南有門 that is good for sailing. On the north side 北邊 there is a reef that looks like a ship’s sail 一礁相似船帆樣; take as your marker what is called Shishi ... White-mud Mountain 石屎朽白泥山 (name as written).

From there, using the single-rén needle 單壬針 (345° NNW) for fifteen geng 十五更, you will see Woqi Islet 蜈蚣嶼. From afar it looks like a “centipede”; up close it looks like an olive.

On the northwest track 西北路, soundings are fifteen to sixteen tuo 十五六托.

Use the single-rén needle 單壬針 (345° NNW) for five geng 五更 to make for Taling Islet 塔林嶼. From afar it appears pointed; the northwest side is the main route 西北正路.

Use the rén-zǐ needle 壬子針 (352.5° N) for five geng 五更 to make for Ma’an Islet 馬鞍嶼. From afar it looks like the “South Saddle” 南鞍. When close in, soundings reach forty-six tuo 四

十六托. As you approach, beware that to the south 南邊 there is a reef that breaks the surface 礁出水 called Hat-head Reef 帽頭礁.

Leaving those mountains and putting out to sea 離山放洋, use the rén-zǐ needle 壬子針 (352.5° N) together with the rén-hài needle 壬亥針 (337.5° NNW) for forty-five geng 四十五更 to make for Chikan Mountain 赤坎山.

Use the single-chǒu needle 單丑針 (30° NNE) for five geng 五更 to make for Luowantou 羅灣頭.

From there, proceed as before 照前 to reach Wuyu Islet 浯嶼; this is best 妙.

### 赤坎往柬埔寨針

赤坎開船，用坤申四更取鶴頂山，沿山使船打水七八托。用庚酉針二更取員嶼。用單庚二更沿山，打水七八托，硬沙地，平小山嘴。貼山有一派石欄不出水，行船仔細。用坤申一更，船遠看有一條水色黃，打水四五托，沙地，過此貼補山嘴。用庚寅針一更平員嶼。山嘴名曰此前面並昆崙上無山嶼，看見前面有一小平州在灣內，船在山嘴，可收帆打水四托，正路。取昆崙打水四五托，泥地。沿山使至平半洲放船尾來船頭向港，近馬戶邊沙壩莫妄過船，船放帆鋪邊進沙壩內無礙。進去二十三灣，有大人家在馬戶邊為妙也。

### From Chikan 赤坎 to Jianpuzhai 柬埔寨 [Cambodia]

Depart from Chikan 赤坎. Use the kūn-shēn needle 坤申針 (232.5° SW) for four geng 四更 to make for Heding Mountain 鶴頂山, following along the coast; steer the ship along the mountains 沿山使 and sound seven to eight tuo 七八托.

Use the gēng-yǒu needle 庚酉針 (262.5° W) for two geng 二更 to make for Yuan Islet 員嶼.

Use the single-gēng needle 單庚針 (255° W) for two geng 二更, keeping along the mountains 沿山, sounding seven to eight tuo 七八托, with a hard sandy bottom 硬沙地, and come abeam of Xiaoshan Cape 小山嘴.

Close to the mountain 貼山 there is a line of stone “railings” 一派石欄 that do not break the surface 不出水; steer carefully 行船仔細.

Use the kūn-shēn needle 坤申針 (232.5° SW) for one geng 一更. From a distance you will see a strip of yellow-colored water 一條水色黃; sound four to five tuo 四五托, sandy bottom 沙地. After passing this, keep close by the Bu cape 貼補山嘴.

Use the gēng-yín needle 庚寅針 (direction-name irregular as written; many copies have a regular adjacent-point term here) for one geng 一更 to come abeam of Yuan Islet 員嶼.

This cape 山嘴 is called “here in front” 此前面. From here up to Kun... 昆宰 (name as written) there are no mountains or islets 昆宰上無山嶼. Looking ahead you will see a small, flat sandbank/islet 一小平州 inside the bay 灣內. With the ship at the cape 船在山嘴, you can take in sail 可收帆 and sound four tuo 四托—this is the main route 正路.

Approaching Kun... 昆宰, sound four to five tuo 四五托, muddy bottom 泥地. Follow along the mountains 沿山使 until you come abreast of the “half sandbank” 平半洲; then let the stern fall away so that the bow faces the harbor 船尾來船頭向港.

Near the Mahu side 馬戶邊 there is a sandbar 沙壩; do not rashly try to pass it 莫妄過船. Bring the ship in along the Fanpu side 帆鋪邊 and enter inside the sandbar 進沙壩內 and there is no danger 無礙.

Enter into the “Twenty-Three Bays” 二十三灣. It is best to head for the large settlement 大人家 on the Mahu side 馬戶邊為妙也.

(If you want, I can keep going with the next route; also, if you can confirm whether your edition really reads 庚寅 (not 艮寅 / 庚申 etc.), I can standardize the compass conversion at that one point.)

### 柬埔寨毛蟹洲出淺

毛蟹洲對南出淺，上水漲四托，一路打水三托半，看見毛蟹洲對港口北邊昆宰腰正路。出淺用甲卯針四更，用單寅四更取鶴頂山及赤坎山。其餘照前針。

### Leaving the shoals off Maoxiezhou 毛蟹洲, Jianpuzhai 柬埔寨 [Cambodia]

Opposite Maoxiezhou 毛蟹洲, to the south 對南, you clear the shoals 出淺. At high tide 上水漲 the depth is four tuo 四托; along the way you keep sounding three and a half tuo 三托半. When

you see Maoxiezhou 毛蟹洲 opposite the harbor entrance 對港口, the north side 北邊 at Kunzaiyao 昆宰腰 is the main route 正路.

After clearing the shoals 出淺, use the jiǎ-mǎo needle 甲卯針 (82.5° E) for four geng 四更. Then use the single-yín needle 單寅針 (60° ENE) for four geng 四更 to make for Heding Mountain 鶴頂山 and Chikan Mountain 赤坎山.

For the rest of the route, follow the previous needle instructions 其餘照前針.

### 赤坎往彭亨針

赤坎開船, 用坤未十更取昆侖, 在西邊過。若在東邊過, 用坤未並單未三十更取鬥嶼。用丁午針五更入港妙。

### From Chikan 赤坎 to Pengheng 彭亨 [Pahang]

Depart from Yikan 亦坎. Use the kūn-wèi needle 坤未針 (217.5° SW) for ten geng 十更 to make for Kunlun 昆侖, passing on the west side 在西邊過.

If you pass on the east side 若在東邊過, use the kūn-wèi needle 坤未針 (217.5° SW) together with the single-wèi needle 單未針 (210° SSW) for thirty geng 三十更 to make for Dou Islet 鬥嶼.

Use the dīng-wǔ needle 丁午針 (187.5° S) for five geng 五更 to enter the harbor 入港; this is best 妙.

### Return Course — 回針

From the harbor entrance 港口, depart by ship using the gèn-yín needle 艮寅針 (52.5° NE) for six geng 六更 to make for Dou Islet 鬥嶼 and Mianhua Islet 綿花嶼.

Use the gèn-yín needle 艮寅針 (52.5° NE) for seven geng 七更, then use the chǒu-gèn needle 丑艮針 (37.5° NE) for six geng 六更, then use the single-chǒu needle 單丑針 (30° NNE) for twenty geng 二十更 to make for Kunlun Mountain 昆侖山, passing outside it 外過.

Use the chǒu-gèn needle 丑艮針 (37.5° NE) together with the chǒu-guǐ needle 丑癸針 (22.5° NNE) for fifteen geng 十五更 to make for Chikan 赤坎.

柬埔寨往大泥

港口開船離淺，打水七八托，用丁午針三更、單申五更、單坤四更見真糍。單坤十更、單申五更、庚申十更見寨裏大山。用辛戌四更沿昆峯使沿山使打水十六七托。前去昆峯尾是六坤，下池有淺。過西邊巡山入大泥港也。

### From Jianpuzhai 柬埔寨 [Cambodia] to Dani 大泥 [Pattani]

Depart from the harbor entrance 港口. After leaving the shoals 離淺, soundings are seven to eight tuo 七八托.

Use the dīng-wǔ needle 丁午針 (187.5° S) for three geng 三更, then the single-shēn needle 單申針 (240° WSW) for five geng 五更, then the single-kūn needle 單坤針 (225° SW) for four geng 四更, and you will sight Zhenzi 真糍.

Use the single-kūn needle 單坤針 (225° SW) for ten geng 十更, then the single-shēn needle 單申針 (240° WSW) for five geng 五更, then the gēng-shēn needle 庚申針 (247.5° WSW) for ten geng 十更, and you will sight the great mountain at Zhauli 寨裏大山.

Use the xīn-xū needle 辛戌針 (292.5° WNW) for four geng 四更. Follow along Kun... 昆峯, keeping along the mountains 沿昆峯使 / 沿山使, with soundings of sixteen to seventeen tuo 十六七托.

Ahead, the “tail” of Kun... 昆峯尾 is “six kūn” 六坤, and below it 下池 there are shoals 有淺. Pass on the west side 過西邊, follow the hills 巡山, and enter the Dani harbor 大泥港.

### Return Course — 回針

Depart from Dani 大泥. Use the single-shēn needle 單申針 (240° WSW) for eight geng 八更 to make for Shibeif Reef 石碑礁.

To the southwest 西南, use the jiǎ-yín needle 甲寅針 (67.5° ENE) for twenty-two geng 二十二更 to make for Zhenzi Mountain 真糞山.

Use the gèn-yín needle 艮寅針 (52.5° NE) for eight geng 八更, then use the jiǎ-yín needle 甲寅針 (67.5° ENE) for seven geng 七更. With the ship's stern lined up on Kunlunzi 昆侖仔, make for the Cambodia South Harbor 柬埔寨南港.

### 暹羅往大泥彭亨磨六甲

暹羅出淺用丙午針十更取筆架山，打水十五托外過，有小嶼。用單丙五更取龜山，打水十二托外過，打水十八托，外有小嶼。用丙午三更取碗碟嶼，打水三四托。用單午針五更取穿心山，打水廿四托。用丙午針五更取佛嶼，打水廿五托，泥地。用丙午針三更取欄山，打水廿七托。用丙午五更取塘山，打水廿四托，對門蘇梅山在帆鋪邊，打水二十托。丙午五更取小蘇梅山，枉帆鋪邊，打水二十托。用丙午針五更取大蘇梅山，內外三門俱可過船，昆峯邊有一個山名曰葫蘆山，馬戶邊小嶼多。用單午針五更取錫山，平港口，打水十二托。丙巳三更取公婆山，都是昆宰，打水十六托，單午五更取昆峯大山，打水十四托。丙午針五更取六坤港口，打水九托。昆峯外有一嶼名玳瑁州，打水十五托。丙午三更取六坤，仔細行船，打水六七托，用丙午針取角奴貓山孫姑那港口，即堀頭隴，打水十二托，內過打水五六托。丙巳三更取魚奴山，打水十二托，丙巳七更取六坤、下池，沿昆峯使西邊巡山入大泥港，中路有淺不可進，記之。大泥港口沿山使七更，船取聲蘭丹港口，丙午四更取三角嶼內，門有大山當頭夾，名角員山，內外可過，單午三更取綿花嶼。單午五更取鬥嶼。單午五更取彭亨港口。單午五更取苧盤山，小船可從內過，大船在外過。前去見東西竹及將軍帽、火燒山、豬母山俱在外。內午七更取羅漢嶼，有淺仔細，淺上打水八九托，往來須尋白礁為準，打水十五托。礁在帆鋪邊馬戶邊，亦不可近嶼，防淺，打水八九托正路。用庚酉五更入龍牙門，流水急，夜不可行。出門了又過淡馬錫門，用庚酉並辛戌針三更取吉裏悶山。乾亥三更取昆峯嶼，打水廿五托。單乾五更取射箭山。乾戌五更取五嶼，打水廿五托。前去昆峯，一更即磨六甲港口也。

**From Xianluo 暹羅 [Siam] to Dani 大泥 [Pattani], Pengheng 彭亨 [Pahang], and Moliujia 磨六甲 [Melaka]**

Leaving Siam 暹羅, clear the shoals 出淺. Use the bǐng-wǔ needle 丙午針 (172.5° S) for ten geng 十更 to make for Bijiashan 筆架山. Soundings are fifteen tuo 十五托; pass outside 外過. There is a small islet 小嶼.

Use the single-bǐng needle 單丙針 (165° SSE) for five geng 五更 to make for Guishan 龜山. Soundings are twelve tuo 十二托; pass outside 外過. Soundings reach eighteen tuo 十八托; farther out there is a small islet 小嶼.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for three geng 三更 to make for Wandie Islet 碗碟嶼. Soundings are three to four tuo 三四托.

Use the single-wǔ needle 單午針 (180° S) for five geng 五更 to make for Chuanxin Mountain 穿心山. Soundings are twenty-four tuo 廿四托.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for five geng 五更 to make for Fo Islet 佛嶼. Soundings are twenty-five tuo 廿五托, muddy bottom 泥地.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for three geng 三更 to make for Lan Mountain 欄山. Soundings are twenty-seven tuo 廿七托.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for five geng 五更 to make for Tang Mountain 塘山. Soundings are twenty-four tuo 廿四托. Opposite the gate 對門, Sumei Mountain 蘇梅山 lies on the Fanpu side 帆鋪邊; soundings are twenty tuo 二十托.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for five geng 五更 to make for Lesser Sumei Mountain 小蘇梅山, keeping along the Fanpu side 枉帆鋪邊; soundings are twenty tuo 二十托.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for five geng 五更 to make for Greater Sumei Mountain 大蘇梅山. All three channels (inner, middle, outer) 內外三門 can be used for passage. By Kun... 昆宰 there is a mountain named Gourd Mountain 葫蘆山; on the Mahu side 馬戶邊 there are many small islets 小嶼多.

Use the single-wǔ needle 單午針 (180° S) for five geng 五更 to make for Xishan 錫山, abeam of the harbor entrance 平港口, with soundings of twelve tuo 十二托.

Use the bǐng-sì needle 丙巳針 (157.5° SSE) for three geng 三更 to make for Gongpo Mountain 公婆山. These are all Kunzai 昆宰; soundings are sixteen tuo 十六托. Use the single-wǔ needle 單午針 (180° S) for five geng 五更 to make for the great Kun... mountain 昆宰大山; soundings are fourteen tuo 十四托.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for five geng 五更 to make for the Liukun harbor entrance 六坤港口; soundings are nine tuo 九托.

Outside Kun... 昆崙 there is an islet named Daimaozhou 玳瑁州; soundings are fifteen tuo 十五托.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for three geng 三更 to make for Liukun 六坤. Steer carefully 仔細行船; soundings are six to seven tuo 六七托.

Use the bǐng-wǔ needle 丙午針 (172.5° S) to make for Jiao-numao Mountain / Sungu-na Harbor Entrance 角奴貓山孫姑那港口, that is Kutoulong 堀頭隴. Soundings are twelve tuo 十二托; passing inside 內過, soundings are five to six tuo 五六托.

Use the bǐng-sì needle 丙巳針 (157.5° SSE) for three geng 三更 to make for Yunu Mountain 魚奴山; soundings are twelve tuo 十二托. Use the bǐng-sì needle 丙巳針 (157.5° SSE) for seven geng 七更 to make for Liukun 六坤 and Xiachi 下池.

Following along Kun... 昆崙 沿昆崙使, pass to the west side 西邊, follow the hills 巡山, and enter Dani Harbor 大泥港. Midway along the route 中路 there are shoals 有淺 and you must not enter 不可進; note this 記之.

From Dani Harbor entrance 大泥港口, follow along the mountains 沿山使 for seven geng 七更; the ship makes for the Kelantan harbor entrance 聲蘭丹港口.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for four geng 四更 to enter inside the “Three-Corner Islet” 三角嶼內. At the gate 門 there is a great mountain straight ahead 大山當頭夾 named Jiaoyuan Mountain 角員山; you may pass either inside or outside 內外可過. Use the single-wǔ needle 單午針 (180° S) for three geng 三更 to make for Mianhua Islet 綿花嶼.

Use the single-wǔ needle 單午針 (180° S) for five geng 五更 to make for Dou Islet 鬥嶼.

Use the single-wǔ needle 單午針 (180° S) for five geng 五更 to make for the Pahang harbor entrance 彭亨港口.

Use the single-wǔ needle 單午針 (180° S) for five geng 五更 to make for Zhupan Mountain 苧盤山. Small boats 小船 can pass inside 內過; large boats 大船 pass outside 外過.

Going onward 前去, you will see Dongxi Bamboo 東西竹 and General's Cap 將軍帽, Huoshao Mountain 火燒山, and Zhumu Mountain 豬母山 all lie outside 俱在外.

Use inner-wǔ 內午 (term as written; likely “inside along 午”) for seven geng 七更 to reach Arhat Islet 羅漢嶼. There are shoals 有淺; steer carefully 仔細. Over the shoals 淺上, soundings are eight to nine tuo 八九托. For going and returning 往來 you must use White Reef 白礁 as your reference marker 為準, with soundings of fifteen tuo 十五托. The reef 礁 lies between the Fanpu side 帆鋪邊 and the Mahu side 馬戶邊.

Also do not approach the islets 不可近嶼; beware shoals 防淺. Soundings of eight to nine tuo 八九托 mark the main route 正路.

Use the gēng-yǒu needle 庚酉針 (262.5° W) for five geng 五更 to enter Longya Gate 龍牙門. The current is swift 流水急; do not sail at night 夜不可行.

After exiting the gate 出門了, you then pass through the Danmaxi Gate 淡馬錫門. Use the gēng-yǒu needle 庚酉針 (262.5° W) together with the xīn-xū needle 辛戌針 (292.5° WNW) for three geng 三更 to make for Jilimen Mountain 吉裏悶山.

Use the qián-hài needle 乾亥針 (322.5° NW) for three geng 三更 to make for Kun... Islet 昆峯嶼; soundings are twenty-five tuo 廿五托.

Use the single-qián needle 單乾針 (315° NW) for five geng 五更 to make for Shejian Mountain 射箭山.

Use the qián-xū needle 乾戌針 (307.5° NW) for five geng 五更 to make for the Five Islets 五嶼; soundings are twenty-five tuo 廿五托.

Going onward, you reach Kun... 昆峯; after one geng 一更 you are at the Melaka harbor entrance 磨六甲港口.

磨六甲回暹羅 五嶼放洋，巽巳針五更船取射箭山。單巽五更取昆宋嶼，南邊有淺。用辰巽五更取吉裏悶山。沿昆峯使北邊，用乙辰三更取淡馬錫門及長腰嶼，防南邊涼傘礁並沙塘淺。出龍牙門南邊有牛屎礁，夜間不可行船。用乙辰五更取羅漢嶼，嶼邊有白礁，門中可過，防北昆峯尾淺，打水八九托正路。子癸並單癸三更取火燒山、將軍帽，見東西竹，前去苧盤山。用單子五更取彭亨港口。單子五更取綿花嶼，西南邊有沉礁。單子三更取三角嶼並吉蘭丹港口。單子七更取六坤、下池是大泥港口。壬子五更取孫姑那港口，是即壩頭壟。壬子十更取玳瑁州內過。單子十五更取大小蘇梅山門中過。壬子十更取佛嶼。壬子

十更取龜山，壬子五更取筆架山。單子五更取陳公嶼。子癸五更取竹嶼昆峯，船尾坐竹嶼，進去是港。

### **From Moliujia 磨六甲 [Melaka] back to Xianluo 暹羅 [Siam]**

From the Five Islets 五嶼, put out into the open sea 放洋. Use the xùn-sì needle 巽巳針 (142.5° SE) for five geng 五更 to make for Shejian Mountain 射箭山.

Use the single-xùn needle 單巽針 (135° SE) for five geng 五更 to make for Kunsong Islet 昆宋嶼; to the south 南邊 there are shoals 淺.

Use the chén-xùn needle 辰巽針 (127.5° SE) for five geng 五更 to make for Jilimen Mountain 吉裏悶山.

Follow along Kun... 昆峯 沿昆峯使 on the north side 北邊. Use the yǐ-chén needle 乙辰針 (112.5° ESE) for three geng 三更 to make for the Danmaxi Gate 淡馬錫門 and Changyao Islet 長腰嶼. Beware to the south 南邊 of the Liangsan Reef 涼傘礁 and the Shatang Shoal 沙塘淺.

After exiting Longya Gate 出龍牙門, to the south 南邊 there is Niushi Reef 牛屎礁. Do not sail at night 夜間不可行船.

Use the yǐ-chén needle 乙辰針 (112.5° ESE) for five geng 五更 to make for Arhat Islet 羅漢嶼. By the islet 嶼邊 there is White Reef 白礁; you can pass through the channel 門中可過. Beware of the shoals off the northern Kun... tail 北昆峯尾淺. Soundings of eight to nine tuo 八九托 mark the main route 正路.

Use the zǐ-guǐ needle 子癸針 (7.5° N) together with the single-guǐ needle 單癸針 (15° NNE) for three geng 三更 to make for Huoshao Mountain 火燒山 and the General's Cap 將軍帽. You will see Dongxi Bamboo 東西竹; going onward you reach Zhupan Mountain 苧盤山.

Use the single-zǐ needle 單子針 (0° N) for five geng 五更 to make for the Pahang harbor entrance 彭亨港口.

Use the single-zǐ needle 單子針 (0° N) for five geng 五更 to make for Mianhua Islet 綿花嶼; on the southwest side 西南邊 there is a submerged reef 沉礁.

Use the single-zǐ needle 單子針 (0° N) for three geng 三更 to make for the Three-Corner Islet 三角嶼 and the Kelantan harbor entrance 吉蘭丹港口.

Use the single-zǐ needle 單子針 (0° N) for seven geng 七更 to make for Liukun 六坤 and Xiachi 下池; this is the Dani harbor entrance 大泥港口.

Use the rén-zǐ needle 壬子針 (352.5° N) for five geng 五更 to make for the Sungu-na harbor entrance 孫姑那港口, that is Kutoulong 堀頭壟.

Use the rén-zǐ needle 壬子針 (352.5° N) for ten geng 十更 to make for Daimaozhou 玳瑁州, passing inside 內過.

Use the single-zǐ needle 單子針 (0° N) for fifteen geng 十五更 to reach the Greater and Lesser Sumei Mountains 大小蘇梅山 and pass through the channel 門中過.

Use the rén-zǐ needle 壬子針 (352.5° N) for ten geng 十更 to make for Fo Islet 佛嶼.

Use the rén-zǐ needle 壬子針 (352.5° N) for ten geng 十更 to make for Guishan 龜山.

Use the rén-zǐ needle 壬子針 (352.5° N) for five geng 五更 to make for Bijiashan 筆架山.

Use the single-zǐ needle 單子針 (0° N) for five geng 五更 to make for Chenggong Islet 陳公嶼.

Use the zǐ-guǐ needle 子癸針 (7.5° N) for five geng 五更 to make for Zhu Islet 竹嶼 and Kun... 昆峯. With the ship's stern lined up on Zhu Islet 船尾坐竹嶼, enter; inside is the harbor 進去是港.

### 羅灣頭往六甲針

羅灣頭用坤未針取赤坎，看不見州鴨。用坤未八更、坤申七更取昆侖北邊過。庚酉八更取真糍。單酉十更、辛酉二十三更取玳瑁州仔內，船尾坐玳瑁州，船頭對鶴頂山，又要對船頭對庚酉針坐正，方可進港。防南邊中央淺，生開遠，記之。

### From Luowantou 羅灣頭 to Liuja 六甲

From Luowantou 羅灣頭, use the kūn-wèi needle 坤未針 (217.5° SW) to make for Chikan 赤坎; do this so that you do not see the “zhou-ya” 州鴨 (as written).

Use the kūn-wèi needle 坤未針 (217.5° SW) for eight geng 八更, then use the kūn-shēn needle 坤申針 (232.5° SW) for seven geng 七更 to make for Kunlun 昆侖, passing on the north side 北邊過.

Use the gēng-yǒu needle 庚酉針 (262.5° W) for eight geng 八更 to make for Zhenzi 真糴.

Use the single-yǒu needle 單酉針 (270° W) for ten geng 十更, then use the xīn-yǒu needle 辛酉針 (277.5° W) for twenty-three geng 二十三更 to reach “Daimaozhou’s little one” 玳瑁州仔 (the inner side 內). Keep the ship’s stern lined up with Daimaozhou 玳瑁州 (船尾坐玳瑁州) and the ship’s bow facing Heding Mountain 鶴頂山 (船頭對鶴頂山), and in addition keep the bow aligned straight on the gēng-yǒu bearing 庚酉針 (262.5° W); only then can you enter the harbor 進港.

Beware that to the south 南邊 there is a central shoal 中央淺. Keep well out and do not come too close 生開遠; note this 記之.

## 回針

淺口開, 用甲卯五更取玳瑁州仔內過。用乙卯二十更、單乙及乙辰二十更取真糴。用甲寅十更取昆侖。丑癸五更、單癸一更取鶴頂及赤坎山。用單寅五更取羅灣頭。

## Return Course — 回針

From the shoal-mouth entrance 淺口開, use the jiǎ-mǎo needle 甲卯針 (82.5° E) for five geng 五更 to make for Daimaozhou’s little one 玳瑁州仔, passing inside it 內過.

Use the yǐ-mǎo needle 乙卯針 (97.5° E) for twenty geng 二十更, then use the single-yǐ needle 單乙針 (105° ESE) together with the yǐ-chén needle 乙辰針 (112.5° ESE) for twenty geng 二十更 to make for Zhenzi 真糴.

Use the jiǎ-yín needle 甲寅針 (67.5° ENE) for ten geng 十更 to make for Kunlun 昆侖.

Use the chǒu-guǐ needle 丑癸針 (22.5° NNE) for five geng 五更, then the single-guǐ needle 單癸針 (15° NNE) for one geng 一更 to make for Heding Mountain 鶴頂山 and Chikan Mountain 赤坎山.

Use the single-yín needle 單寅針 (60° ENE) for five geng 五更 to make for Luowantou 羅灣頭.

## 苧盤往丁機宜針

苧盤開船，五更過東西竹、將軍帽，有帽帶礁，仔細。丙午四更見緬丹山及過長腰嶼。用坤未及單坤入長腰第二嶼齊，用單坤入門妙。出豬母頭用庚酉、庚申二更見昆崙，使沿昆崙去，見港須認是也。

### From Zhupan [or Ningpan] 苧盤 to Dingjiyi 丁機宜

Depart from Zhupan 苧盤. After five geng 五更, pass Dongxi Bamboo 東西竹 and the General's Cap 將軍帽. There is a "hat-belt reef" 帽帶礁; proceed carefully 仔細.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for four geng 四更; you will see Miandan Mountain 緬丹山 and pass Changyao Islet 長腰嶼.

Use the kūn-wèi needle 坤未針 (217.5° SW) together with the single-kūn needle 單坤針 (225° SW) to enter alongside the second islet at Changyao 長腰第二嶼齊. Use the single-kūn needle 單坤針 (225° SW) to enter the gate 入門; this is best 妙.

After clearing Zhumu Head 豬母頭, use the gēng-yǒu needle 庚酉針 (262.5° W) and the gēng-shēn needle 庚申針 (247.5° WSW) for two geng 二更; you will see Kun... 昆崙. Follow along Kun... 沿昆崙去. When you see the harbor entrance 見港, you must recognize it correctly 須認是也.

## 回針

出獨石門，用單卯五更見後面山。用甲寅並單艮，又用丑癸及子癸，五更取長腰嶼。用壬子及單壬十更取失力馬鞍嶼山。用壬子、壬亥二更取東西竹，前去苧盤是也。

### Return Course — 回針

Leaving Dushi Gate 獨石門, use the single-mǎo needle 單卯針 (90° E) for five geng 五更 and you will see Houmian Mountain 後面山.

Use the jiǎ-yín needle 甲寅針 (67.5° ENE) together with the single-gèn needle 單艮針 (45° NE); then use the chǒu-guǐ needle 丑癸針 (22.5° NNE) and the zǐ-guǐ needle 子癸針 (7.5° N). After five geng 五更, make for Changyao Islet 長腰嶼.

Use the rén-zǐ needle 壬子針 (352.5° N) and the single-rén needle 單壬針 (345° NNW) for ten geng 十更 to make for Shilima'an Islet Mountain 失力馬鞍嶼山.

Use the rén-zǐ needle 壬子針 (352.5° N) and the rén-hài needle 壬亥針 (337.5° NNW) for two geng 二更 to make for Dongxi Bamboo 東西竹; from there, proceed onward to Zhupan 苧盤.

### 赤坎往舊港順塔

赤坎開洋，用坤未十五更取昆侖山外過，丁未四十五更取苧盤。丙巳針過東西竹。丙午十更取長腰嶼，用丁未三更取龍雅大山。單午三更取饅頭嶼。單丁三更取七嶼，在帆鋪邊。丁未七更取彭家山，牛腿琴在帆鋪邊東南邊第二山頭，對開有沉礁，用坤申針船尾坐牛腿琴山，收入舊港。昆峯有三港，中港正路，內有小嶼是也。若不入舊港，用辰巽十更出峽門，用丙巳南邊打水四五托，北邊打水七八托，正路可過。三麥嶼在馬戶邊，左邊打水八九托，右打水四五托，硬地。用坤申三更打水四五托，沙泥地，沿昆峯行船。單丁、單午取都橫港口。單丁、單行林麻塔港口，有淺，船不可離坤身看不真，亦不可太近坤身淺。若看不真是正路，打水六七托，高下地。用單丙及丙午十更見高大，覽邦港口外有二個小嶼，名曰奴沙牙。若近嶼外打水八九托，離嶼用乙辰、丁午三更見奴沙刺在帆鋪邊近，打水十四托。離了用丁午三更遠看見類旦港口大山。單午五更取石旦港口，有四五個嶼在馬戶邊，二個在帆鋪邊，船在門打水四五托住船妙。前去東南七更是順塔港。

### From Chikan 赤坎 to Jiugang 舊港 [Old Harbor] and Shunta 順塔 [Sunda]

From Chikan 赤坎, put out into the open sea 開洋. Use the kūn-wèi needle 坤未針 (217.5° SW) for fifteen geng 十五更 to make for Kunlun Mountain 昆侖山, passing outside it 外過. Use the dīng-wèi needle 丁未針 (202.5° SSW) for forty-five geng 四十五更 to make for Zhupan 苧盤.

Use the bǐng-sì needle 丙巳針 (157.5° SSE) to pass Dongxi Bamboo 東西竹.

Use the bǐng-wǔ needle 丙午針 (172.5° S) for ten geng 十更 to make for Changyao Islet 長腰嶼.

Use the dīng-wèi needle 丁未針 (202.5° SSW) for three geng 三更 to make for Longya Great Mountain 龍雅大山.

Use the single-wǔ needle 單午針 (180° S) for three geng 三更 to make for Mantou Islet 饅頭嶼.

Use the single-dīng needle 單丁針 (195° S) for three geng 三更 to make for the Seven Islets 七嶼, along the Fanpu side 帆鋪邊.

Use the dīng-wèi needle 丁未針 (202.5° SSW) for seven geng 七更 to make for Pengjia Mountain 彭家山.

Niutuiqin 牛腿琴 lies on the Fanpu side 帆鋪邊, at the second mountain-head to the southeast 東南邊第二山頭. Opposite it 對開 there is a submerged reef 沉礁. Use the kūn-shēn needle 坤申針 (232.5° SW); with the ship's stern lined up on Niutuiqin Mountain 船尾坐牛腿琴山, bring the ship in 收入 and enter Jiugang 舊港.

Kun... 昆崙 has three harbors 三港; the middle harbor 中港 is the main route 正路, and inside it there is a small islet 內有小嶼.

If you are not entering Jiugang 若不入舊港, use the chén-xùn needle 辰巽針 (127.5° SE) for ten geng 十更 to exit via the Gorge Gate 出峽門.

Use the bǐng-sì needle 丙巳針 (157.5° SSE): on the south side 南邊 soundings are four to five tuo 四五托; on the north side 北邊 soundings are seven to eight tuo 七八托; the main route 正路 can be passed.

Sanmai Islet 三麥嶼 lies on the Mahu side 馬戶邊. On the left side 左邊 soundings are eight to nine tuo 八九托; on the right 右 soundings are four to five tuo 四五托, with a hard bottom 硬地.

Use the kūn-shēn needle 坤申針 (232.5° SW) for three geng 三更; soundings are four to five tuo 四五托, with a sand-and-mud bottom 沙泥地. Follow along Kun... 昆崙 沿昆崙行船.

Use the single-dīng 單丁針 (195° S) and the single-wǔ 單午針 (180° S) to make for the Duheng harbor entrance 都橫港口.

Use the single-dīng 單丁針 (195° S) and "single-... (as written)" 單行 (term as written) to make for the Linmata harbor entrance 林麻塔港口. There are shoals 有淺. The ship must not be too far off the kūn-shēn line 船不可離坤身, or you will not see it clearly 看不真; yet you also must not come too close to the kūn-shēn line 亦不可太近坤身, for it is shallow 坤身淺.

If you cannot clearly identify the main route 若看不真是正路, soundings are six to seven tuo 六七托, with uneven bottom 高下地.

Use the single-bǐng needle 單丙針 (165° SSE) together with the bǐng-wǔ needle 丙午針 (172.5° S) for ten geng 十更; you will see a high, large feature 見高大. Outside the Lanbang harbor entrance 覽邦港口外 there are two small islets 二個小嶼 called Nushaya 奴沙牙. If you go close to the islets 近嶼, outside them the soundings are eight to nine tuo 八九托.

After leaving the islets 離嶼, use yǐ-chén 乙辰針 (112.5° ESE) and dīng-wǔ 丁午針 (187.5° S) for three geng 三更; you will see Nushaci 奴沙刺, close by the Fanpu side 帆鋪邊近. Soundings are fourteen tuo 十四托.

After leaving it 離了, use the dīng-wǔ needle 丁午針 (187.5° S) for three geng 三更; from afar you will see the great mountain at the Leidan harbor entrance 類旦港口大山.

Use the single-wǔ needle 單午針 (180° S) for five geng 五更 to make for the Shidan harbor entrance 石旦港口. There are four or five islets 四五個嶼 on the Mahu side 馬戶邊, and two islets 二個 on the Fanpu side 帆鋪邊. With the ship at the gate 船在門, soundings are four to five tuo 四五托; stop and anchor the ship 住船; this is best 妙.

Proceeding onward 前去, to the southeast 東南, after seven geng 七更, is the Shunta harbor 順塔港.

## 回針

順塔港口前去西北邊使六更取石旦港口。用甲寅針取奴沙刺山。單五十更取打水廿四托，正路。單子十更一路打水十二托。壬子十更打水七八托，取三麥嶼，左右有門可過，左邊有淺，右邊深，打水四五托，船尾坐三麥嶼，用乾亥收對內峽港口，沿西邊昆崙打四水四五托。行至峽中，見牛腿琴山，昆崙在帆鋪邊，中有一州，即舊港港口，不入舊港，用壬子針，第二山頭防有碎礁生開。離牛腿琴山頭，用單癸七更取七嶼。單癸三更取饅頭嶼。單癸三更取龍雅大山門。壬子五更取長腰嶼。單子十更取東西竹及苧盤山。用丑癸針四十五更取昆崙山外過。用丑癸十五更取赤坎。洋中有沙，可防礁鴨。

## Return Course — 回針

From the Shunta harbor entrance 順塔港口, proceed ahead toward the northwest side 前去西北邊 for six geng 六更 to make for the Shidan harbor entrance 石旦港口.

Use the jiǎ-yín needle 甲寅針 (67.5° ENE) to make for Nushaci Mountain 奴沙刺山.

Use the single-chǒu needle 單丑針 (30° NNE) for ten geng 十更; soundings are twenty-four tuo 廿四托—this is the main route 正路.

Use the single-zǐ needle 單子針 (0° N) for ten geng 十更, sounding twelve tuo 十二托 all along the way 一路打水十二托.

Use the rén-zǐ needle 壬子針 (352.5° N) for ten geng 十更, with soundings of seven to eight tuo 七八托, to make for Sanmai Islet 三麥嶼. There are passages on both sides 左右有門可過: the left side 左邊 is shallow 有淺, the right side 右邊 is deep 深, and ships can pass, with soundings of four to five tuo 四五托.

With the ship's stern lined up on Sanmai Islet 船尾坐三麥嶼, use the qián-hài needle 乾亥針 (322.5° NW) to bring the ship in and face the Inner Gorge harbor entrance 收對內峽港口.

Follow along the west side of Kun... 昆峯 沿西邊昆峯, with soundings of four to five tuo 四五托.

When you reach the middle of the gorge 行至峽中, you will see Niutuiqin Mountain 牛腿琴山. Kun... 昆峯 lies on the Fanpu side 昆峯在帆鋪邊. In the middle there is a sandbank/islet 中有一州—this is the Jiugang harbor entrance 舊港港口.

If you are not entering Jiugang 不入舊港, use the rén-zǐ needle 壬子針 (352.5° N). At the second mountain-head 第二山頭, beware there are broken reefs 碎礁; keep well out 生開.

After leaving the Niutuiqin mountain-head 離牛腿琴山頭, use the single-guǐ needle 單癸針 (15° NNE) for seven geng 七更 to make for the Seven Islets 七嶼.

Use the single-guǐ needle 單癸針 (15° NNE) for three geng 三更 to make for Mantou Islet 饅頭嶼.

Use the single-guǐ needle 單癸針 (15° NNE) for three geng 三更 to make for the gate at Longya Great Mountain 龍雅大山門.

Use the rén-zǐ needle 壬子針 (352.5° N) for five geng 五更 to make for Changyao Islet 長腰嶼.

Use the single-zǐ needle 單子針 (0° N) for ten geng 十更 to make for Dongxi Bamboo 東西竹 and Zhupan Mountain 苧盤山.

Use the chǒu-guǐ needle 丑癸針 (22.5° NNE) for forty-five geng 四十五更 to make for Kunlun Mountain 昆侖山, passing outside it 外過.

Use the chǒu-guǐ needle 丑癸針 (22.5° NNE) for fifteen geng 十五更 to make for Chikan 赤坎.

Out in mid-ocean 洋中 there is sand 沙; beware of reef-ducks/reef hazards 可防礁鴨.

### 順塔外峽

浮呂開船，壬子六更，又用單辰取奴沙刺山，中有一條大沙線。西南風用單丑十更，用丑艮十更。恐東南風，用艮寅針，取忙甲山皮大山頭脫落山尾第一門。用單子三更出門了。前面有一大山似筆架樣，西邊有二個白嶼仔，西北邊有二個白礁，西邊個水漲不見不可近。用單壬二十更，用壬亥二十更，見見西竹及苧盤。

### Shunta 順塔 [Sunda]: Outer Gorge 外峽 [Route]

Depart from Fúlǚ 浮呂. Use the rén-zǐ needle 壬子針 (352.5° N) for six geng 六更, then use the single-chén needle 單辰針 (120° ESE) to make for Nushaci Mountain 奴沙刺山. In between there is a great sand line 中有一條大沙線.

With a southwest wind 西南風, use the single-chǒu needle 單丑針 (30° NNE) for ten geng 十更, then use the chǒu-gèn needle 丑艮針 (37.5° NE) for ten geng 十更.

If you fear a southeast wind 恐東南風, use the gèn-yín needle 艮寅針 (52.5° NE) to make for Mangjia Mountain's "skin" and the great mountain-head 忙甲山皮大山頭, passing off the fallen tail of the mountain 脫落山尾 at the first gate 第一門.

Use the single-zǐ needle 單子針 (0° N) for three geng 三更 to exit the gate 出門了.

Ahead 前面 there is a great mountain that looks like a brush-rack 大山似筆架樣. On the west side 西邊 there are two little white islets 二個白嶼仔; on the northwest side 西北邊 there are two white reefs 二個白礁. On the west side 西邊 the tide rises and they cannot be seen 水漲不見—do not approach 不可近.

Use the single-rén needle 單壬針 (345° NNW) for twenty geng 二十更, then use the rén-hài needle 壬亥針 (337.5° NNW) for twenty geng 二十更, and you will see West Bamboo 西竹 and Zhupan 苧盤.

### 萬丹往池汶精妙針路

萬丹出嶼外，用乙卯、單卯、甲卯，沿茭綠巴、茭荖圓頭、遮裏問、吧哪大山及胡椒山，對開是吉裏問山，西邊有嶼四五個。乙卯八更取雙印嶼，遠看見是印樣，此嶼在隴。甲卯十更取勿流哪山，山頭內是饒潼、吉力石暨雙銀塔門在內，亦可過。巡山使盡生得平平長，山尾有門三個，頭門尾有老古淺，二門正路，三門有礁可防。用丙午三更取本仔女千山，遠看似香爐樣。用乙辰三更取麻離大山。用乙卯三更取郎木山。乙卯八更灣內是三巴哇大山，不可入灣。灣尾盡見有昆峯平嶼二個，嶼頭有老古淺，石坪看頭仔細。用乙卯針三更見一員嶼，取高螺大山東頭，山尾有三個饅頭嶼，一大二小似饅頭樣，內有灣遠看成門，與麻離大山相對連。用辰巽五更取火山門過。門右邊山尾近看似山寨嘴頭，有老古淺，東邊是火山二尖，東邊山尖高，西邊山尖出火，船近火山進門妙。過門右邊有灣好泊船，待流水過急水門祭獻。單巽更半取急水門右邊是色力礁牌港，門中有嶼一列四五個不可近，東北邊有老古坪，對中央流勢是。丙午更半取單戎武岩。山頭邊看是鵝角樣嘴頭，開有嶼，流水甚急。山門外用乙辰三更取髻仔山，山尖似髻樣。對開南邊有見巡巴山港口亦出香。前去見雲螺二大小山，用乙卯針八更見蘇律門，乃是佛郎所住之處，在左邊，右這是池汝山。用甲卯五更收山，不可高低。大山尖下是居邦，欲牧北面港口是息裏尖，對開有一嶼使進是老虎，使過是美營港，此是王居之地，出香甚多。過是啞森，前有一石頭白，過是吧哪吉知，過是六圭，又過是匏笨出蚋之處。欲收南山之門，從居邦面前對南山門，出見一白石頭是吧哪匏滴，過是修修，過是啞媽魯班，此處出香多，過是柯東央，過是匏洛，過是西寧，俱是一灣頭內，即是港門。但欲收南山，流水甚急，俱是挨洋東南起早難拋船，此一針路詳考無差。美營港門亦有淡水，港頭隴是灣，兩邊是老古，佛郎亦居此港。對面是魚油山、麻力汝沙山暨一連是食人山，天山明亮見之。

### Compass Route from Wandan 萬丹 to Chiwen Jingmiao 池汶精妙

Leaving the islets off Wandan 萬丹出嶼外, use the yǐ-mǎo needle 乙卯針 (97.5° E / E), the single-mǎo needle 單卯針 (90° E / E), and the jiǎ-mǎo needle 甲卯針 (82.5° E / E). Follow along (the coast) past Jiaolüba 茭綠巴, Jiaolao Yuantou 茭荖圓頭, Zhelíwèn 遮裏問, Bana Great

Mountain 吧哪大山, and Pepper Mountain 胡椒山. Opposite offshore is Jilǐwèn Mountain 吉裏問山; on its west side there are four or five islets 嶼四五個.

Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for eight geng 八更 to make for Shuangyin Islet 雙印嶼. From a distance it looks like a seal 印樣; this islet lies on a ridge/line 隴.

Use the jiǎ-mǎo needle 甲卯針 (82.5° E / E) for ten geng 十更 to make for Wuliuna Mountain 勿流哪山. Inside the mountain head 山頭內 are Raotong 饒潼, Jilishi 吉力石, and the Shuangyin Pagoda Gate 雙銀塔門 further inside; you can also pass through there 亦可過.

Coast-hugging here (巡山使), everything appears low, flat, and long 平平長長. At the mountain tail 山尾 there are three “gates” 門三個: at the tail of the first gate 頭門尾 there is an “old rock” shoal 老古淺; the second gate 二門 is the main route 正路; the third gate 三門 has reefs 礁 that you should watch for 可防.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for three geng 三更 to make for Benzi Nùqiānshān 本仔女千山; from afar it looks like an incense-burner 香爐樣.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for three geng 三更 to make for Mali Great Mountain 麻離大山.

Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for three geng 三更 to make for Langmu Mountain 郎木山.

Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for eight geng 八更; inside the bay 灣內 is the great mountain of Sanbawa 三巴哇大山—do not enter the bay 不可入灣.

At the bay’s end 灣尾 you will see two flat Kun... islets 昆峯平嶼二個. At the islet heads 嶼頭 there are “old rock” shoals 老古淺; watch carefully for rocky flats 石坪.

Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for three geng 三更 and you will see a round islet 一員嶼. Make for the eastern end of Gaoluo Great Mountain 高螺大山東頭. At the mountain tail 山尾 there are three “mantou” islets 饅頭嶼—one large and two small 一大二小—shaped like steamed buns. Inside there is a bay 內有灣 which from afar forms a “gate” 成門, aligned opposite and connected with Mali Great Mountain 與麻離大山相對連.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for five geng 五更 to make for Huoshan Gate 火山門, and pass through.

On the right side of the gate 門右邊, the mountain tail up close looks like a stockade-cape 山寨嘴頭, and there is an “old rock” shoal 老古淺. To the east 東邊 are the two sharp peaks of Huoshan 火山二尖: the eastern peak is high 東邊山尖高, and the western peak emits fire 西邊山尖出火. Bring the ship close and enter the Huoshan gate 船近火山進門; this is best 妙.

After passing the gate 過門, on the right there is a bay good for anchoring 右邊有灣好泊船, to wait for the current to ease before the “swift-current gate” 待流水過急水門, where sacrifices and offerings are made 祭獻.

Use the single-xùn needle 單巽針 (135° SE / SE) for half a geng 更半 to make for the area by the right side of the swift-current gate 急水門右邊; this is Seli Reef-marker Harbor 色力礁牌港. In the gate there is a line of four or five islets 門中有嶼—列四五個—do not approach them 不可近. On the northeast side 東北邊 there is an “old rock flat” 老古坪; take the central current-stream as your guide 對中央流勢是.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for half a geng 更半 to make for Dān-róng Wǔyán 單戎武岩 (name as written). By the mountain head 山頭邊 it looks like a goose-horn cape 鵝角樣嘴頭; beyond it opens into islets 開有嶼, and the current is very swift 流水甚急.

Outside the mountain gate 山門外, use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for three geng 三更 to make for Jìzi Mountain 髻仔山; its peak looks like a topknot 髻樣.

Offshore to the south 對開南邊 you can see Xúnbā Mountain Harbor 巡巴山港口, which also produces aromatic products 亦出香.

Going forward 前去 you will see the two Yunluo mountains 雲螺二大小山. Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for eight geng 八更 and you will see Sulu Gate 蘇律門—this is where the Franks/Europeans reside 佛郎所住之處—on the left side 在左邊; on the right side 右這 is Chiru Mountain 池汝山.

Use the jiǎ-mǎo needle 甲卯針 (82.5° E / E) for five geng 五更 to “close on the mountains” 收山—do not fall too high or too low 不可高低.

Below the sharp peak of the great mountain 大山尖下 is Jubang 居邦. If you want to enter the north-side harbor 欲牧北面港口, the point is Xilijian 息裏尖. Offshore opposite 對開 there is an islet: entering by it is “Tiger” 老虎; passing beyond it is Meiliao Harbor 美髯港—this is the king’s dwelling-place 此是王居之地, and it produces a great deal of aromatics 出香甚多.

Beyond that is Yasen 啞森; ahead there is a white rock 一石頭白. Beyond that is Banajizhi 吧哪吉知; beyond that is Liugui 六圭; and beyond that again is Paoben, a place where mosquitoes emerge 匏笨出蚋之處.

If you wish to enter by the south-mountain gate 欲收南山之門, from in front of Jubang 居邦面前 face due south toward the south-mountain gate 對南山門. After emerging you will see a white rock 一白石頭—this is Banapaodi 吧哪匏滴. Beyond that is Xiuxiu 修修; beyond that is Yamaluban 啞媽魯班—this area produces much aromatic product 此處出香多. Beyond that are Kedongyang 柯東央, Paoluo 匏洛, and Xining 西寧—these are all within the head of a bay 俱是一灣頭內, that is, the harbor-gate 即是港門.

But if you want to “close on” (enter) the south-mountain route 但欲收南山, the current is very swift 流水甚急; and because you are all along the ocean edge 挨洋, with morning winds rising from the southeast 東南起早, it is hard to anchor 難拋船. This compass route has been examined in detail and is accurate 此一針路詳考無差.

Meiliao Harbor 美營港門 also has fresh water 亦有淡水. The harbor-head ridge 港頭隴 is a bay 灣; on both sides are “old rock” features 兩邊是老古. The Franks/Europeans also live in this harbor 佛郎亦居此港.

Opposite is Fish-oil Mountain 魚油山, Mali Rushan 麻力汝沙山, and in a continuous line a “Man-eating Mountain” 食人山. Tian Mountain 天山 is bright and clearly visible 天山明亮見之.

(Several toponyms here are transliterations whose modern identifications depend on which manuscript/edition you’re using; if you want, paste the next segment and I’ll continue in the same format.)

### 順塔往遮裏問淡目

港口開船，用乙卯三更取茭祿巴山，用乙辰三更又辰巽沿山使巡昆峯，使四更，用乙辰三更平昆峯尾。用乙辰及丁午沿使四更取遮裏問。前面有出煙大山名特結。用辰巽三更、乙辰三更取五角嶼。用卯三更見昆峯淡目港口，打水十托，正路，防淺。

### From Shunta 順塔 [Sunda] to Zheliwen 遮裏問 and Danmu 淡目

Depart from the harbor entrance 港口. Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for three geng 三更 to make for Jiaoluba Mountain 茭祿巴山.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for three geng 三更, then use the chén-xùn needle 辰巽針 (127.5° SE / SE), following along the mountains 沿山使 and cruising along Kun... 昆峯 巡昆峯. Do this for four geng 四更.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for three geng 三更 and you will be abeam of the tail of Kun... 昆峯 昆峯尾.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) together with the dīng-wǔ needle 丁午針 (187.5° S / S), keeping along the coast 沿使, for four geng 四更 to make for Zhelíwèn 遮裏問.

Ahead 前面 there is a smoking great mountain 出煙大山 named Tejie 特結.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for three geng 三更, then the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for three geng 三更 to make for Wujiao Islet 五角嶼.

Use the mǎo needle 卯針 (90° E / E) for three geng 三更; you will see the Danmu harbor entrance on Kun... 昆峯 昆峯淡目港口. Soundings are ten tuo 十托—this is the main route 正路. Beware shoals 防淺.

## 回針

淡目開船，用辛酉三更取五角嶼。辛戌三更、乾戌沿昆峯使六更見出煙大山，遮裏問大山對開。一更有三角嶼一個可防。若船在遮裏問港內，開船用子癸。離嶼用辛戌四更平昆峯尾，用辛戌三更、乾戌四更、又辛戌四更取茭祿巴大山。單酉及辛酉近隴嶼淺。三更取順塔，昆峯開嶼，南邊有淺沙壇防之，使一更收入妙。

## Return Course — 回針

Departing from Danmu 淡目, use the xīn-yǒu needle 辛酉針 (277.5° W / W) for three geng 三更 to make for Wujiao Islet 五角嶼.

Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for three geng 三更, then use the qián-xū needle 乾戌針 (307.5° NW / NW), following along Kun... 昆峯 沿昆峯使 for six geng 六更; you

will see the smoking great mountain 出煙大山, with the great mountain of Zhelíwèn 遮裏問大山 lying opposite offshore 對開.

After one geng 一更 there is a single triangular islet 三角嶼一個; watch out for it 可防.

If your ship is inside the harbor at Zhelíwèn 若船在遮裏問港內, then when you depart 開船 use the zǐ-guǐ needle 子癸針 (7.5° N / N).

After leaving the islets 離嶼, use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for four geng 四更 to come abeam of the tail of Kun... 昆峯 昆峯尾.

Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for three geng 三更, then the qián-xū needle 乾戌針 (307.5° NW / NW) for four geng 四更, then again the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for four geng 四更 to make for the great mountain of Jiaoluba 茭祿巴大山.

Using the single-yǒu needle 單酉針 (270° W / W) and the xīn-yǒu needle 辛酉針 (277.5° W / W), keep close to the ridge/islets 近隴嶼—but the water is shallow 淺.

After three geng 三更, make for Shunta 順塔. Where Kun... 昆峯 opens into islets 昆峯開嶼, to the south 南邊 there are shallow sandy flats 淺沙壇; beware them 防之. Steer in for one geng 使一更 and enter; this is best 收入妙.

## 萬丹往馬神

港口開船, 用乙卯、乙辰針沿昆峯使, 十七更取遮裏問, 見出煙大山。用乙卯單卯十更取吧哪大山開, 是吉裏問山。放洋用艮寅三十更取三密港口。沿昆峯用乙卯二更至龜嶼。開勢有石大小六七塊, 名貓著萬里淺, 生帶嶼, 遠看似船帆樣, 亦色坐北邊, 若見石夜間使船防, 東南昆峯甚長。用單巳三更取單戎占萬丹, 有淺, 打水三托, 不可行, 五托正路, 看昆峯不見。用軍巳及巽巳, 四更, 用辰巽收隴取美啞柔港口。前面有大山, 中是馬神港口。船入港不可貪西, 東邊打水四五托, 正路。

## From Wandan 萬丹 to Mashen 馬神

Depart from the harbor entrance 港口. Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) and the yǐ-chén needle 乙辰針 (112.5° ESE / ESE), following along Kun... 昆峯 沿昆峯使. After seventeen

geng 十七更, make for Zhelíwèn 遮裏問, and you will see the smoking great mountain 出煙大山.

Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) and the single-mǎo needle 單卯針 (90° E / E) for ten geng 十更 to make for the opening at Bana Great Mountain 吧哪大山開—this is Jilǐwèn Mountain 吉裏問山.

Putting out into the open sea 放洋, use the gèn-yín needle 艮寅針 (52.5° NE / NE) for thirty geng 三十更 to make for Sanmi harbor entrance 三密港口.

Following along Kun... 昆峯 沿昆峯, use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for two geng 二更 to reach Turtle Islet 龜嶼.

At the opening/seaway 開勢 there are six or seven large and small rocks 石大小六七塊, called “Cat-touching Ten-thousand-li Shoal” 貓著萬里淺. It rises with an islet (or islet-like) 生帶嶼. From afar it looks like a ship’s sail 船帆樣, and it is “colored/appearing” seated to the north side 亦色坐北邊. If you see the rocks, at night you must steer carefully and beware 夜間使船防. To the southeast, Kun... 昆峯 is very long 東南昆峯甚長.

Use the single-sì needle 單巳針 (150° SSE / SSE) for three geng 三更 to make for Danrong / “Zhan Wandan” 單戎占萬丹 (name as written). There are shoals 有淺: sounding three tuo 三托 means you must not proceed 不可行; five tuo 五托 is the main route 正路. Watch: you may not be able to see Kun... 昆峯 clearly 看昆峯不見.

Use jūn-sì 軍巳針 (term as written; likely a scribal/variant form of a regular needle name) together with the xùn-sì needle 巽巳針 (142.5° SE / SE) for four geng 四更.

Then use the chén-xùn needle 辰巽針 (127.5° SE / SE) to “close on the ridge” 收隴 and make for Meiyarou harbor entrance 美啞柔港口. Ahead 前面 there is a great mountain 大山; in its middle is the Mashen harbor entrance 馬神港口.

When entering the harbor 船入港, do not be tempted too far to the west 不可貪西. On the east side 東邊, soundings are four to five tuo 四五托—this is the main route 正路.

## 回針

港口開船, 用單坤三十更取吉裏問, 沿山使至萬丹入港。

## Return Course — 回針

Depart from the harbor entrance 港口. Use the single-kūn needle 單坤針 (225° SW / SW) for thirty geng 三十更 to make for Jilǐwèn 吉裏問.

Then follow along the mountains 沿山使 until you reach Wandan 萬丹 and enter the harbor 入港.

## 舊港往杜蠻

開洋，用乙卯沿山使十更取山尾，見三麥嶼門，用巽巳三更取三麥東門過，打水八九托正路，西門打水四五托，硬沙地邊有老古淺可防。用乙辰十更、辰巽二十更見香爐嶼並大高山在西邊，用乙辰五更見吉裏問山在船頭。用單辰三更取胡椒山及那參、杜蠻、饒潼是也。

## From Jiugang 舊港 [Old Harbor] to Duman 杜蠻

Put out into the open sea 開洋. Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) and follow along the mountains 沿山使. After ten geng 十更, make for the mountain tail 山尾. You will see the gate at Sanmai Islet 三麥嶼門.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) for three geng 三更 to take the east gate of Sanmai 三麥東門 and pass through 過. Soundings of eight to nine tuo 八九托 mark the main route 正路.

At the west gate 西門, soundings are four to five tuo 四五托, with a hard sandy bottom 硬沙地; at the edge there is an “old rock” shoal 老古淺 that you should watch for 可防.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for ten geng 十更, then use the chén-xùn needle 辰巽針 (127.5° SE / SE) for twenty geng 二十更; you will see Incense-burner Islet 香爐嶼, and a very high mountain 大高山 on the west side 西邊.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for five geng 五更; you will see Jilǐwèn Mountain 吉裏問山 straight ahead at the bow 船頭.

Use the single-chén needle 單辰針 (120° ESE / ESE) for three geng 三更 to make for Pepper Mountain 胡椒山, and also Nacan 那參, Duman 杜蠻, and Raotong 饒潼.

## 回針

饒潼開船用壬子，離山遠了用單亥，五更取吉裏問山，東邊過，用單亥五更、乾戌三十更取三麥嶼東邊過，打水七八托正路，切不可近嶼。進西門打水四五托，用壬子進門內。使三更取彭家山港口。在馬戶邊及有一嶼名郎家嶼不可近，有老古淺。生開，對帆鋪邊昆崙尾嘴生去有淺，不可近。用乾戌十更收舊港正路，中有一州，左右看有人家是也。

## Return Course — 回針

Depart from Raotong 饒潼. When you cast off 開船, use the rén-zǐ needle 壬子針 (352.5° N / N). After you have gotten well away from the mountain 離山遠了, use the single-hài needle 單亥針 (330° NNW / NNW). After five geng 五更, make for Jilǐwèn Mountain 吉裏問山, passing on the east side 東邊過.

Use the single-hài needle 單亥針 (330° NNW / NNW) for five geng 五更, then use the qián-xū needle 乾戌針 (307.5° NW / NW) for thirty geng 三十更 to make for Sanmai Islet 三麥嶼, passing on its east side 東邊過. Soundings of seven to eight tuo 七八托 mark the main route 正路. Absolutely do not approach the islets 切不可近嶼.

Enter by the west gate 進西門: soundings are four to five tuo 四五托. Use the rén-zǐ needle 壬子針 (352.5° N / N) to enter inside the gate 進門內.

Steer for three geng 使三更 to make for the Pengjia Mountain harbor entrance 彭家山港口.

On the Mahu side 馬戶邊 there is also an islet 一嶼 named Langjia Islet 郎家嶼; do not approach it 不可近, for there is an “old rock” shoal 老古淺.

Keep well out 生開. Opposite, on the Fanpu side 對帆鋪邊, at the cape at the tail of Kun... 昆崙尾嘴 there are shoals 生去有淺; do not approach them 不可近.

Use the qián-xū needle 乾戌針 (307.5° NW / NW) for ten geng 十更 to close on Jiugang 舊港 by the main route 正路. In the middle there is a sandbank/islet 中有一州; look to left and right and you will see people’s houses 左右看有人家.

## 大泥往池汶針路

港口開船，丙午取三角嶼內過。單午五更取綿花嶼，丙巳五更取鬥嶼。單午五更取地盤山。乙辰十更取七嶼。單辰廿五更取吉寧馬踏，在帆鋪邊大山便是。單午三十更取吉裏問山，在頭前正手邊對依吧哪大山。用乙辰五更取吉力石港，打水八九托。乙辰八更取雙良港。丁丑三更取貓裏大山。單乙三更取郎木大山，山下便是三巴哇大山，有二個平嶼，嶼頭有老古淺、老古坪、當看頭。單卯五更取高麗大山。單卯五更取火山門。丙午五更取雙排，即急水門。出門齊五更船遠南邊見巡巴尋山。乙辰十五更便是池汶，或是昆宰平。若要南四五更，看見池汶大山。若要北單卯及甲卯池汶大山右邊見。若左邊見便是蘇律大山，不可進。左收山不可高低盡是池汶界也。

## Compass Route from Dani 大泥 [Pattani] to Chiwen 池汶

Depart from the harbor entrance 港口. Use the bǐng-wǔ needle 丙午針 (172.5° S / S) to take the inside passage past the Three-Corner Islet 三角嶼內過.

Use the single-wǔ needle 單午針 (180° S / S) for five geng 五更 to make for Mianhua Islet 綿花嶼.

Use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for five geng 五更 to make for Dou Islet 鬥嶼.

Use the single-wǔ needle 單午針 (180° S / S) for five geng 五更 to make for Dipan Mountain 地盤山.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for ten geng 十更 to make for the Seven Islets 七嶼.

Use the single-chén needle 單辰針 (120° ESE / ESE) for twenty-five geng 廿五更 to make for Jining Mata 吉寧馬踏; the great mountain on the Fanpu side 帆鋪邊大山 is it.

Use the single-wǔ needle 單午針 (180° S / S) for thirty geng 三十更 to make for Jilǐwèn Mountain 吉裏問山. It lies straight ahead 頭前, on your “right-hand” side 正手邊, opposite Bana Great Mountain 依吧哪大山.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for five geng 五更 to make for the Jilishí harbor 吉力石港. Soundings are eight to nine tuo 八九托.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for eight geng 八更 to make for Shuanggen Harbor 雙艮港.

Use the dīng-chǒu needle 丁丑針 (37.5° NE / NE) for three geng 三更 to make for Maoli Great Mountain 貓裏大山.

Use the single-yǐ needle 單乙針 (105° ESE / ESE) for three geng 三更 to make for Langmu Great Mountain 郎木大山. Below it 山下 is Sanbawa Great Mountain 三巴哇大山. There are two flat islets 二個平嶼; at the islet heads 嶼頭 there are “old rock” shoals 老古淺 and “old rock flats” 老古坪—watch the heads carefully 當看頭.

Use the single-mǎo needle 單卯針 (90° E / E) for five geng 五更 to make for Gaoli Great Mountain 高麗大山.

Use the single-mǎo needle 單卯針 (90° E / E) for five geng 五更 to make for Huoshan Gate 火山門.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for five geng 五更 to make for Shuangpai 雙排, that is, the Swift-Current Gate 急水門.

After exiting the gate 出門, after five geng 齊五更 the ship will, far to the south 南邊, see Xunba Mountain 巡巴 (as a landmark to “seek/identify” the mountains 尋山).

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for fifteen geng 十五更 and that is Chiwen 池汶, or else (you will see) the flat Kun... feature 昆宰平.

If you want to keep to the south 若要南, after four to five geng 四五更 you will see the great mountain of Chiwen 池汶大山.

If you want to keep to the north 若要北, use the single-mǎo needle 單卯針 (90° E / E) and the jiǎ-mǎo needle 甲卯針 (82.5° E / E); Chiwen Great Mountain 池汶大山 will appear on your right side 右邊見.

If it appears on your left side 若左邊見, that is Sulu Great Mountain 蘇律大山—do not proceed inward 不可進.

When closing on (the coast) to the left 左收山, do not be too high or too low 不可高低; all of this is within the Chiwen zone 盡是池汶界也.

## 浯嶼往杜蠻饒潼

太武、浯嶼照前原針順行，取靈山大佛。用丙午十三更取東西董。用丙午十五更單午三十更見龍蛇山，東西邊有大小山是銅鼓山，入門打水十五托，近看都是昆峯，門中有一小嶼名沙湖皮，東邊過船正路。用丁午四更取雞籠嶼。單午十四更取色蘭山，東邊高大，北邊看一小嶼是雞籠樣，西邊低長，北邊拖尾，門中有小嶼，東邊西淺，西邊過船正路。用丙午三十更取吉裏問山，單午及丙午五更取胡椒山，丁巳及丙巳十更取豬蠻。饒潼地與豬蠻相連。吧哪即吉裏問山對籠。

## From Wuyu 浯嶼 to Duman 杜蠻 and Raotong 饒潼

From Taiwu 太武 and Wuyu 浯嶼, proceed in accordance with the earlier “original needle” instructions 照前原針順行 to reach the Lingshan Great Buddha 靈山大佛.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for thirteen geng 十三更 to make for Dongxi Dong (Mountain) 東西董.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for fifteen geng 十五更, then use the single-wǔ needle 單午針 (180° S / S) for thirty geng 三十更 and you will see Longshe Mountain 龍蛇山. On the east and west sides 東西邊 there are large and small mountains 大小山—these are Tonggu Mountain 銅鼓山.

Entering the gate 入門, soundings are fifteen tuo 十五托. Up close, everything appears as Kun... 昆峯 (as written). In the gate there is a small islet 門中有一小嶼 named Shahupi 沙湖皮; the main route 正路 is to pass on the east side 東邊過船.

Use the dīng-wǔ needle 丁午針 (187.5° S / S) for four geng 四更 to make for Jilong Islet 雞籠嶼.

Use the single-wǔ needle 單午針 (180° S / S) for fourteen geng 十四更 to make for Selan Mountain 色蘭山. Its east side 東邊 is high and massive 高大. To the north 北邊 you can see a small islet 一小嶼 shaped like Jilong 雞籠樣. The west side 西邊 is low and long 低長, and to the north 北邊 it trails a tail 拖尾. In the channel/gate 門中 there is a small islet 小嶼. To the east side 東邊 it is shallow 西淺 (as written), while the main route 正路 is to pass on the west side 西邊過船.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for thirty geng 三十更 to make for Jilǐwèn Mountain 吉裏問山.

Use the single-wǔ needle 單午針 (180° S / S) and the bǐng-wǔ needle 丙午針 (172.5° S / S) for five geng 五更 to make for Pepper Mountain 胡椒山.

Use the dīng-sì needle 丁巳針 (150° SSE / SSE) and the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for ten geng 十更 to make for Zhuman 豬蠻.

Raotong 饒潼 territory is connected with Zhuman 饒潼地與豬蠻相連.

Bana 吧哪 is “opposite the enclosure/arc” (對籠) of Jilǐwèn Mountain 吉裏問山 (i.e., lying opposite/off it, as written).

## 回針

饒漁開船，壬子十五更取吉裏問山，遠看似大船牽杉板樣，近看東頭高大成一行大山。西邊昆峯尾有老古。離山若是南風，用壬子針，若是東南用單子，十更打水十七八托，硬地。用壬子十更取色蘭山，用子癸及單癸十更取假裏馬。單子十五更取蜈蚣嶼。單壬五更取塔林嶼，壬子五更取馬鞍嶼，壬子及單亥四十更取赤坎，照前針收入浯嶼。

## Return Course — 回針

Depart from Raoyu 饒漁. Use the rén-zǐ needle 壬子針 (352.5° N / N) for fifteen geng 十五更 to make for Jilǐwèn Mountain 吉裏問山. From afar it looks like a large boat towing planks; up close, the eastern end is high and massive, forming a single line of large peaks 一行大山. On the west side, at the tail of Kun... 昆峯尾, there is an “old rock” feature 老古.

After leaving the mountain 離山: if there is a south wind 若是南風, use the rén-zǐ needle 壬子針 (352.5° N / N); if there is a southeast wind 若是東南, use the single-zǐ needle 單子針 (0° N / N). After ten geng 十更, soundings are seventeen to eighteen tuo 十七八托, with a hard bottom 硬地.

Use the rén-zǐ needle 壬子針 (352.5° N / N) for ten geng 十更 to make for Selan Mountain 色蘭山.

Use the zǐ-guǐ needle 子癸針 (7.5° N / N) together with the single-guǐ needle 單癸針 (15° NNE / NNE) for ten geng 十更 to make for Jialima 假裏馬.

Use the single-zǐ needle 單子針 (0° N / N) for fifteen geng 十五更 to make for Woqi Islet 蜈蚣嶼.

Use the single-rén needle 單壬針 (345° NNW / NNW) for five geng 五更 to make for Taling Islet 塔林嶼.

Use the rén-zǐ needle 壬子針 (352.5° N / N) for five geng 五更 to make for Ma'an Islet 馬鞍嶼.

Use the rén-zǐ needle 壬子針 (352.5° N / N) together with the single-hài needle 單亥針 (330° NNW / NNW) for forty geng 四十更 to make for Chikan 赤坎.

From there, follow the earlier needle instructions 照前針 and bring the ship in to Wuyu 浯嶼 收入浯嶼.

### 豬蠻饒潼回針再詳

至色蘭山，離了用單壬及壬子十五更取假裏馬，遠著似帽樣，西南有一小嶼，打水十五托。用單壬五更見十二子山，遠著二三個，近看六七個，看相似，有大山東高西低。又一嶼有老古石，南邊過，北邊有礁似帆樣，烏屎汙白頂山為準，離了用單壬放洋，用壬子及壬女四十五更取亦坎。

### More Detailed Return Course from Zhuman 豬蠻 and Raotong 饒潼

Reaching Selan Mountain 色蘭山: after departing it 離了, use the single-rén needle 單壬針 (345° NNW / NNW) together with the rén-zǐ needle 壬子針 (352.5° N / N) for fifteen geng 十五更 to make for Jialima 假裏馬. From afar it looks like a hat 帽樣. To the southwest 西南 there is a small islet 一小嶼. Soundings are fifteen tuo 十五托.

Use the single-rén needle 單壬針 (345° NNW / NNW) for five geng 五更 and you will see Shierzi Mountain 十二子山. From afar it appears as two or three peaks 二三個; up close it appears as six or seven 六七個. The outline is similar 看相似, with a great mountain whose east side is high and west side low 大山東高西低.

There is also an islet 一嶼 with an "old rock" 老古石. Pass on the south side 南邊過. On the north side 北邊 there is a reef 礁 that looks like a sail 帆樣. Take as your marker what is called Wushiwū Baiting Mountain 烏屎汙白頂山 (name as written).

After leaving it 離了, use the single-rén needle 單壬針 (345° NNW / NNW) to put out into the open sea 放洋.

Then use the rén-zǐ needle 壬子針 (352.5° N / N) together with “rén-nǚ” 壬女 (term as written; the needle-name here is irregular in this form) for forty-five geng 四十五更 to make for Yikan 亦坎.

### 浯嶼取諸葛擔籃

太武開船，用前針順取苧盤及東西竹。用乙辰四更，用乙辰、單乙四更，又單乙及乙卯四更，見是獨嶼，名已養顏。遠看北邊高南邊低小，略似弓鞋樣。南風船在嶼北過，見外面獨嶼四個平長。內畫是淡勿蘭州府，前去見外嶼一列四五個，又見頭嶼仔大小二個在馬戶邊，俱在嶼內過，俱是北風。又見前頭嶼生開用單午使開，恐西南風內面灣裏嶼多，是三疔氏州府。恐無風船身挨開，看昆峯內獨嶼南頭高員拖尾，又見前頭大小嶼生在馬戶邊來是吉寧馬哪。丙午收第二門過，又在竹嶼邊過，用單甲收諸葛擔籃是也。

From Wuyu 浯嶼 toward Zhuge Danlan 諸葛擔籃

Depart from Taiwu 太武. Following the earlier needle instructions 前針, proceed in sequence to reach Zhupan 苧盤 and Dongxi Bamboo 東西竹.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for four geng 四更.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) together with the single-yǐ needle 單乙針 (105° ESE / ESE) for four geng 四更; then use the single-yǐ needle 單乙針 (105° ESE / ESE) together with the yǐ-mǎo needle 乙卯針 (97.5° E / E) for four geng 四更. You will see a solitary islet 獨嶼 named Siyangyan 已養顏.

From afar it looks high on the north side 北邊高 and low and small on the south side 南邊低小 —roughly like Gongxie Islet 弓鞋 (i.e., “bow-shoe” shaped).

With a south wind 南風, the ship passes north of the islet 船在嶼北過, and you will see farther out four solitary islets 外面獨嶼四個, flat and long 平長.

Inside (as marked on the chart) 內畫 is Danwulan Prefecture 淡勿蘭州府. Going onward 前去, you will see a row of four or five outer islets 外嶼一列四五個. You will also see, ahead, two

small “head islets” 頭嶼仔大小二個 on the Mahu side 馬戶邊; pass inside them 嶼內過. (This whole stretch is under north-wind conditions 俱是北風.)

Further ahead you will see the next islets. Keep off from them 生開 by using the single-wǔ needle 單午針 (180° S / S). If there is a southwest wind 恐西南風, inside the bay 內面灣裏 there are many islets 嶼多—this is Sandashi Prefecture 三疇氏州府.

If there is no wind 恐無風 and the ship is drifting off along the edge 船身挨開, look inside Kun... 昆崙: a solitary islet 獨嶼 has a rounded, high southern head 南頭高員 and a trailing tail 拖尾. You will also see ahead that large and small islets 大小嶼 are coming in from the Mahu side 馬戶邊來—this is Jining Mana 吉寧馬哪.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) to “close on” and pass through the second gate 收第二門過. Then pass by Bamboo Islet 竹嶼. Use the single-jiǎ needle 單甲針 (75° ENE / ENE) to close on and reach Zhuge Danlan 諸葛擔籃.

## 回針

出港, 用辛酉針取竹嶼吉寧馬哪山門, 離了用乾戌五更, 若遇西風大在繚使二更用乾戌三更前去見然丹山。用辛戌三更, 又用辛戌取將軍帽, 用壬子取苧盤, 照原針取浯嶼。

## Return Course — 回針

Leaving the harbor 出港, use the xīn-yǒu needle 辛酉針 (277.5° W / W) to make for the gate at Bamboo Islet 竹嶼 and Jining Mana’s mountain-gate 吉寧馬哪山門.

After leaving that point 離了, use the qián-xū needle 乾戌針 (307.5° NW / NW) for five geng 五更.

If you encounter a strong west wind 若遇西風大, then (as written) “in the liǎo track” 在繚使: for two geng 二更 use the qián-xū needle 乾戌針 (307.5° NW / NW), then again for three geng 三更; going onward 前去 you will see Randan Mountain 然丹山.

Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for three geng 三更, and then again use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) to make for the General’s Cap 將軍帽.

Use the rén-zǐ needle 壬子針 (352.5° N / N) to make for Zhupan 苧盤, then follow the original needle instructions 照原針 to reach Wuyu 浯嶼.

### 浯嶼往荖維

太武、浯嶼開船，照原針取苧盤放洋。單乙五更見偏舵嶼，乙辰十更取仙丹山在正手邊。單辰七更取旗嶼，東邊有尖山四個甚尖。單午五更見昆崙，便是荖維港口。開勢有二個大山名隴膠山，打水八九托。隴膠山門打水二十三托，流水甚緊。乙辰三更荖維港口有淺甚遠水二三托，入港用丙巳甚妙。

### From Wuyu 浯嶼 to Laowei 荖維

Depart from Taiwu 太武 / Wuyu 浯嶼. Following the original needle instructions 照原針, make for Zhupan 苧盤, then put out into the open sea 放洋.

Use the single-yǐ needle 單乙針 (105° ESE / ESE) for five geng 五更 and you will see Pianduo Islet 偏舵嶼.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for ten geng 十更 to make for Xiandan Mountain 仙丹山, which lies on your “right-hand” side 正手邊.

Use the single-chén needle 單辰針 (120° ESE / ESE) for seven geng 七更 to make for Qi Islet 旗嶼. On the east side 東邊 there are four sharp peaks 尖山四個, extremely pointed 甚尖.

Use the single-wǔ needle 單午針 (180° S / S) for five geng 五更 and you will see Kun... 昆崙— this is the Laowei harbor entrance 荖維港口.

At the opening/seaway 開勢 there are two great mountains 二個大山 named Longjiao Mountain 隴膠山. Soundings are eight to nine tuo 八九托.

At the gate of Longjiao Mountain 隴膠山門, soundings are twenty-three tuo 二十三托, and the current is very strong 流水甚緊.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for three geng 三更. Off Laowei harbor 荖維港口 there are shoals 淺 that lie very far out 甚遠, with depths of only two to three tuo 水二三

托. For entering the harbor 入港, use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE); this is best 甚妙.

### 馬神往高兜令銀

港口開船見昆崙稍現。單酉、辛酉五更取單戎占萬丹，有淺，開過。三更昆崙尾，三更見石名貓著萬里，在龜嶼，對開。有大小六七塊沙淺，共嶼相連，在北邊遠赤似船帆樣可防。二更見三密港口，有淺，開勢過船。四更見芒芒港口，有淺名鱷魚淺，開過。用單酉四更取單戎旁水，一更見單戎母丁生甚長，開充西南仔細，用單酉或庚酉一更盡昆崙尾，打水十外托，急。用壬子一更、癸丑單丑三更過灣，灣內不見昆崙。灣口有白沙，水退出水，不可見或見不可近。船頭見昆崙頭雙艾磨交見昆崙，船頭不可貪東，有沉淺。沿昆崙入港，不可貪開，有淺，過淺方妙。

### From Mashen 馬神 to Gaodou Lingyin 高兜令銀

Depart from the harbor entrance 港口; you will see Kun... 昆崙 slightly appear 昆崙稍現.

Use the single-yǒu needle 單酉針 (270° W / W) and the xīn-yǒu needle 辛酉針 (277.5° W / W) for five geng 五更 to make for Danrong / “Zhan Wandan” 單戎占萬丹. There are shoals 有淺; keep off and pass clear 開過.

After three geng 三更 you reach the tail of Kun... 昆崙 昆崙尾. After another three geng 三更 you will see the rock called “Cat-touching Ten-thousand-li” 貓著萬里, opposite Turtle Islet 龜嶼對開. There are six or seven large and small rocks/sands 大小六七塊沙淺, linked together with islets 共嶼相連, lying to the north 北邊. From afar they look reddish and like a ship’s sail 遠赤似船帆樣—watch for them 可防.

After two geng 二更 you will see the Sanmi harbor entrance 三密港口. There are shoals 有淺; keep off and pass through the opening 開勢過船.

After four geng 四更 you will see Mangmang harbor entrance 芒芒港口. There are shoals 有淺 called “Crocodile Shoal” 鱷魚淺; keep off and pass clear 開過.

Use the single-yǒu needle 單酉針 (270° W / W) for four geng 四更 to make for “Danrong side-waters” 單戎旁水. After one geng 一更 you will see Danrong “mother-dīng” 單戎母丁, which extends very long 生甚長. Keep clear to the west-southwest 開充西南 and steer carefully 仔細.

Use the single-yǒu needle 單酉針 (270° W / W) or the gēng-yǒu needle 庚酉針 (262.5° W / W) for one geng 一更 to reach the end of Kun... 昆宰’s tail 盡昆宰尾. Soundings are ten-plus tuo 十外托, with fast current 急.

Use the rén-zǐ needle 壬子針 (352.5° N / N) for one geng 一更, then use the guǐ-chǒu needle 癸丑針 (15° NNE / NNE) together with the single-chǒu needle 單丑針 (30° NNE / NNE) for three geng 三更 to cross the bay 過灣. Inside the bay 灣內 you do not see Kunzai 昆宰.

At the bay mouth 灣口 there is white sand 白沙; when the water ebbs 水退 it emerges above the surface 出水. It may be invisible 不可見, or even if you see it 或見 you must not approach it 不可近.

With the ship’s bow 船頭 you will see the head of Kun... 昆宰 昆宰頭, and “Shuang-Aimo-jiao” 雙艾磨交 (name as written), and you will again see Kun... 昆宰 交見昆宰. The ship’s bow must not be tempted too far east 船頭不可貪東, for there are submerged shoals 沉淺.

Follow along Kunzai 沿昆宰 to enter the harbor 入港. Do not stray too far out 不可貪開; there are shoals 有淺. Only after passing the shoals 過淺, is it best 方妙.

## 阿齊回萬丹

阿齊開船港口出淺, 一更到山尾名蠻突, 有一小嶼出椰子, 嶼上有聖人。出急水門有嶼四個在西邊, 不可近, 不可拋出額頭, 巡山邊關勢流水急, 單午四更取匏呂你沙, 有人家可拋船, 打水二十托。丙午四更匏呂你沙開, 有嶼可拋, 內可過, 打水十托。沿昆宰在北邊大山, 單巳二更、巽巳三更取單戎十馬厭, 打水十托可拋。單巽四更沿昆宰打水十托, 單巽三更是泥地, 辰巽二更打水三十五托, 到大山沿山行, 辰巽四更、巽巳二更到蘆水澳, 有小人可拋。巽巳四更到浮呂 [魚/力], 內有老古石, 打水二十托, 是泥地。丙午三更沿昆宰有死樹高高看見, 有港口, 開有老古淺, 打水四托, 仔細內過, 不可開西邊。對開有尖山三個, 昆宰尾近東北行, 有小嶼三個。辰巽四更巡昆宰收入貓律港, 港口前面有老古石, 後面可拋開, 有大山出泉在半山, 白色流落。須認此山為記。

From Aqi 阿齊 [Aceh] back to Wandan 萬丹

Depart from Aqi 阿齊. Leaving the harbor mouth and clearing the shoals 港口出淺, after one geng 一更 you reach the tail of the mountain 山尾 named Mantū 蠻突. There is a small islet 小嶼 producing coconuts 出椰子; on the islet there is a “sage/holy man” 聖人 (i.e., a shrine or sacred figure is noted there).

After passing the Swift-Current Gate 出急水門, there are four islets 嶼四個 on the west side 西邊; do not go near them 不可近. Do not anchor/cast off there 不可拋 (text reads 不可拋出額頭). Follow along the mountains 巡山邊; at this pass the current is very fast 關勢流水急.

Use the single-wǔ needle 單午針 ( $180^{\circ}$  S / S) for four geng 四更 to make for Paolǔnisha 匏呂你沙. There are houses/settlement there 有人家; you can anchor 可拋船. Soundings are twenty tuo 二十托.

Use the bǐng-wǔ needle 丙午針 ( $172.5^{\circ}$  S / S) for four geng 四更 to reach the opening off Paolǔnisha 匏呂你沙開. There are islets where you can anchor 嶼可拋; you may pass inside 內可過. Soundings are ten tuo 十托.

Following along Kun... 昆崙 with the great mountain on the north side 沿昆崙在北邊大山:

Use the single-sì needle 單巳針 ( $150^{\circ}$  SSE / SSE) for two geng 二更, then use the xùn-sì needle 巽巳針 ( $142.5^{\circ}$  SE / SE) for three geng 三更 to make for Danrong “Shima-yan” 單戎十馬厭 (name as written). Soundings are ten tuo 十托; you can anchor 可拋.

Use the single-xùn needle 單巽針 ( $135^{\circ}$  SE / SE) for four geng 四更, following along Kun... 沿昆崙, with soundings of ten tuo 十托.

Use the single-xùn needle 單巽針 ( $135^{\circ}$  SE / SE) for three geng 三更; the bottom is muddy 泥地.

Use the chén-xùn needle 辰巽針 ( $127.5^{\circ}$  SE / SE) for two geng 二更; soundings are thirty-five tuo 三十五托. You reach the great mountain 到大山; proceed along the mountain-coast 沿山行.

Use the chén-xùn needle 辰巽針 ( $127.5^{\circ}$  SE / SE) for four geng 四更, then use the xùn-sì needle 巽巳針 ( $142.5^{\circ}$  SE / SE) for two geng 二更 to reach Lúshuǐ Bay 蘆水澳. There are small households there 小人家; you can anchor 可拋.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) for four geng 四更 to reach Fúlǚ \_\_\_ 浮呂[魚/力] (one character is unclear in your text). Inside there are “old rock” features 老古石. Soundings are twenty tuo 二十托; muddy bottom 泥地.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for three geng 三更, following along Kun... 沿昆崙. You will see dead trees standing tall 死樹高高看見. There is a harbor mouth 港口. At the opening 開 there are “old rock” shoals 老古淺; soundings are four tuo 四托. Pass carefully inside 仔細內過. Do not stand out to the west 不可開西邊.

Offshore opposite 對開 there are three sharp peaks 尖山三個. Kun...’s tail 昆崙尾 is close; proceed toward the northeast 近東北行. There are three small islets 小嶼三個.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for four geng 四更, cruising along Kunzai 巡昆宰, and bring the ship in to Maolù Harbor 貓律港 收入貓律港. In front of the harbor mouth 港口前面 there are “old rock” stones 老古石; behind it 後面 you can anchor in the open water 可拋開. There is a great mountain with a spring issuing from mid-slope 大山出泉在半山, with white water flowing down 白色流落. You must recognize this mountain as your marker 須認此山為記.

### 貓律回加裏仔巒

港口開船，丙午七更巡昆崙到浮呂武郎員，員內過可拋。巡大山，單午六更，打水二十托，西邊有昆崙一條不可開使，內有大尖山一個。丙巳六更到掘心巒港口，有人物。丙巳三更到池渠面有小嶼三個，中嶼可拋。辰巽三更到加裏仔巒山，似筆架樣，港口有老古石線二條，開有小嶼三個，頭嶼可拋，嶼上有井不可取水，有聖人在焉。

### From Maolu 貓律 back to Jializi Man 裏仔巒

Depart from the harbor entrance 港口. Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for seven geng 七更, cruising along Kun... 巡昆崙, to reach Fúlǚ Wǔlángyuán 浮呂武郎員. You can pass inside the bay/inlet 員內過 and anchor 可拋.

Cruising along the great mountain-coast 巡大山, use the single-wǔ needle 單午針 (180° S / S) for six geng 六更. Soundings are twenty tuo 二十托. On the west side 西邊 there is a single

Kun... ridge/island line 昆峯一條; do not stand out toward it 不可開使. Inside it 內 there is a single great sharp mountain 大尖山一個.

Use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for six geng 六更 to reach the “Duxinman” harbor entrance 掘心蠻港口. There are people/settlement there 有人物.

Use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for three geng 三更 to reach Chiqumian 池渠面. There are three small islets 小嶼三個; the middle islet 中嶼 is a place you can anchor 可拋.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for three geng 三更 to reach Jializi Luanshan 加裏仔巒山, shaped like a brush-rack 筆架樣. At the harbor entrance 港口 there are two “old rock” stone-lines 老古石線二條. Outside/off it 開 there are three small islets 小嶼三個. You can anchor at the “head” islet 頭嶼可拋.

On that islet 嶼上 there is a well 井, but you must not draw water from it 不可取水; there is a holy man/sage there 有聖人在焉.

### 加裏仔蠻回萬丹

加裏仔蠻開船，丙午四更到浮呂，有小嶼四個。丙巳七更到雞裏蠻，丙午五更到昆峯，打水十五托，沙地。巽巳九更到大山，下是浮呂螺爰，外有浮呂居靜浮呂池掘二嶼，內行，十六托水。單巳四更、巽巳五更到大山尾，看山行船，不可開，流水拖開甚緊，到息裏巫洋。辰巽七更取大山尾，巽巳三更到雞裏蠻，嶼內過，打水二十托，近嶼行，不可貪灣。單卯五更到浮呂勿係可拋。單卯三更浮呂上香順覽旁邊仔盡了，須看風汛可緊過門，門中流水甚緊，拋南。單卯四更取師公大山，巡山行入班讓進港。

### From Jializi Man 裏仔蠻 back to Wandan 萬丹

Depart from Jializi Man 加裏仔蠻. Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for four geng 四更 to reach Fúlǚ 浮呂; there are four small islets 小嶼四個.

Use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for seven geng 七更 to reach Jilǐman 雞裏蠻.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for five geng 五更 to reach Kun... 昆峯. Soundings are fifteen tuo 十五托, sandy bottom 沙地.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) for nine geng 九更 to reach the great mountain 大山. Below it 下 is Fúlǚ Luóyuán 浮呂螺爰. Outside/off it 外 there are two islets 浮呂居靜 and 浮呂池掘 (as written) 二嶼. Proceed inside 內行; depth is sixteen tuo 十六托水.

Use the single-sì needle 單巳針 (150° SSE / SSE) for four geng 四更, then the xùn-sì needle 巽巳針 (142.5° SE / SE) for five geng 五更 to reach the tail of the great mountain 大山尾. Keep the mountain in view and sail by it 看山行船; do not stand out to sea 不可開. The current drags you outward strongly 流水拖開甚緊. Reach Xilǚ Wūyáng 息裏巫洋.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for seven geng 七更 to make for the tail of the great mountain 大山尾.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) for three geng 三更 to reach Jilǐman 雞裏蠻. Pass inside the islets 嶼內過. Soundings are twenty tuo 二十托. Sail close by the islets 近嶼行; do not be tempted into the bay 不可貪灣.

Use the single-mǎo needle 單卯針 (90° E / E) for five geng 五更 to reach Fúlǚ Wùxì 浮呂勿係 (name as written); you can anchor there 可拋.

Use the single-mǎo needle 單卯針 (90° E / E) for three geng 三更 to reach “Fúlǚ Shangxiang / Shunlan pangbian” 浮呂上香順覽旁邊 (as written) and go on until it ends 仔盡了. You must watch the wind and tides 須看風汛 so you can quickly clear the gate 可緊過門. Inside the gate the current is very strong 門中流水甚緊. Anchor to the south 拋南.

Use the single-mǎo needle 單卯針 (90° E / E) for four geng 四更 to make for Shigong Great Mountain 師公大山. Cruise along the mountains 巡山行 and enter Banrang 班讓, bringing the ship into the harbor 進港.

#### 磨六甲往阿齊

五嶼開船，單乾並乾戌五更取假五嶼。單乾五更取綿花嶼，辛戌過洋，四更過淺，取雞骨嶼。乾戌十更取雙喚。乾戌並辛戌四更取單嶼。辛戌十更取亞嶼港口，防沙淺。辛戌、乾亥離山遠了。乾戌十五更取巴鹿頭。單亥並乾女五更取急水灣頭，水八九托，有礁淺仔細遠過妙。辛酉五更取蘇門噠喇為妙。

## From Moliujia 磨六甲 [Melaka] to Aqi 阿齊 [Aceh]

Depart from the Five Islets 五嶼. Use the single-qián needle 單乾針 (315° NW / NW) together with the qián-xū needle 乾戌針 (307.5° NW / NW) for five geng 五更 to make for the “False Five Islets” 假五嶼.

Use the single-qián needle 單乾針 (315° NW / NW) for five geng 五更 to make for Mianhua Islet 綿花嶼.

Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) to cross the open sea 過洋. After four geng 四更 you will cross shoals 過淺 and make for Jigu Islet 雞骨嶼.

Use the qián-xū needle 乾戌針 (307.5° NW / NW) for ten geng 十更 to make for Shuanghuan 雙喚.

Use the qián-xū needle 乾戌針 (307.5° NW / NW) together with the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for four geng 四更 to make for the Single Islet 單嶼.

Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for ten geng 十更 to make for the harbor entrance of Ya Islet 亞嶼港口. Beware sandy shoals 防沙淺.

Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) and the qián-hài needle 乾亥針 (322.5° NW / NW) after you have gotten well away from the mountain 離山遠了.

Use the qián-xū needle 乾戌針 (307.5° NW / NW) for fifteen geng 十五更 to make for Balutou 巴鹿頭.

Use the single-hài needle 單亥針 (330° NNW / NNW) together with “qián-nǚ” 乾女 (needle term as written; irregular form) for five geng 五更 to make for the head of Swift-Current Bay 急水灣頭. Depths are eight to nine tuo 水八九托. There are reefs and shoals 有礁淺—carefully pass well outside 仔細遠過; this is best 妙.

Use the xīn-yǒu needle 辛酉針 (277.5° W / W) for five geng 五更 to make for Sumentala 蘇門噠喇; this is best 為妙.

回針 開船艮寅，離山乙辰，取急水灣，頭內有礁淺，船隴行妙。辰巽沿山五更，又五更取巴鹿頭。辰巽十五更取亞路港口，辰巽五更取單嶼內過。單辰、辰巽四更取雙嶼，又單

辰、辰巽十五更取雞骨嶼，乙辰三更取綿花嶼，水廿四托，正路。辰巽五更取假五嶼進入妙也。

### Return Course — 回針

Cast off 開船 using the gèn-yín needle 艮寅針 (52.5° NE / NE). After getting away from the mountain 離山, use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) to make for Swift-Current Bay 急水灣. At the head/inside of it 頭內 there are reefs and shoals 礁淺; it is best to keep to the ridge/line 船隴行妙.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE), following along the mountains 沿山, for five geng 五更, and then for another five geng 又五更 to make for Balutou 巴鹿頭.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for fifteen geng 十五更 to make for the Yalu harbor entrance 亞路港口.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for five geng 五更 to make for the Single Islet 單嶼, passing inside it 內過.

Use the single-chén needle 單辰針 (120° ESE / ESE) together with the chén-xùn needle 辰巽針 (127.5° SE / SE) for four geng 四更 to make for the Twin Islets 雙嶼.

Use the single-chén needle 單辰針 (120° ESE / ESE) together with the chén-xùn needle 辰巽針 (127.5° SE / SE) for fifteen geng 十五更 to make for Jigu Islet 雞骨嶼.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for three geng 三更 to make for Mianhua Islet 綿花嶼. Depth is twenty-four tuo 水廿四托—this is the main route 正路.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for five geng 五更 to make for the “False Five Islets” 假五嶼; enter by it 進入, which is best 妙也.

### 阿齊往羅裏

開船單子離山遠，乾戌十二更取伽侖貌，龍涎嶼北邊時月早過洋。辛戌、單辛十更取翠蘭嶼山。單亥十更、辛戌五十更取色蘭山，番名僧伽那。若船身高有鶯歌嘴，恐犯石城礁，

開過妙。沿山二十更取竹牌、鐵鑽嶼。單酉、庚酉八更取大佛堂。辛酉五更取牙裏坎，有礁打浪，開妙。壬亥十更取羅裏山進港，妙。

### **From Aqi 阿齊 [Aceh] to Luoli 羅裏**

Cast off 開船 using the single-zǐ needle 單子針 (0° N / N). Once you are well away from the mountain 離山遠, use the qián-xū needle 乾戌針 (307.5° NW / NW) for twelve geng 十二更 to make for Jia'nanmao 伽楠貌. Pass north of Longxian Islet 龍涎嶼北邊, crossing the open sea early in the month/time 時月早過洋 (as written).

Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) and the single-xīn needle 單辛針 (285° WNW / WNW) for ten geng 十更 to make for Cuilan Islet Mountain 翠蘭嶼山.

Use the single-hài needle 單亥針 (330° NNW / NNW) for ten geng 十更, then use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for fifty geng 五十更 to make for Selan Mountain 色蘭山, whose foreign name 番名 is Sengqiana 僧伽那.

If the ship rides high 若船身高 and you see Yingge Cape 鶯歌嘴, beware you may strike Shicheng Reef 恐犯石城礁; keep well clear and pass outside 開過, which is best 妙.

Follow along the mountains 沿山 for twenty geng 二十更 to make for Zhupai 竹牌 and Tiezhuan Islet 鐵鑽嶼.

Use the single-yǒu needle 單酉針 (270° W / W) and the gēng-yǒu needle 庚酉針 (262.5° W / W) for eight geng 八更 to make for the Great Buddha Hall 大佛堂.

Use the xīn-yǒu needle 辛酉針 (277.5° W / W) for five geng 五更 to make for Yalikan 牙裏坎. There are reefs that throw up breaking waves 有礁打浪; keep off and pass outside 開, which is best 妙.

Use the rén-hài needle 壬亥針 (337.5° NNW / NNW) for ten geng 十更 to make for Luoli Mountain 羅裏山 and enter the harbor 進港; this is best 妙.

回針

開船，丙午十更取牙裏坎放洋。乙卯五更取大佛堂，單卯八更取鐵鑽山並竹牌礁，苦看見鶯歌嘴放開使，若船身高見色蘭山，用乙辰五十更、單巳三十更取翠蘭山。乙辰針時月早過洋，取龍涎並伽楠貌，辰巽十二更沿山使單午取阿齊。

### Return Course — 回針

Departing 開船, use the bǐng-wǔ needle 丙午針 (172.5° S / S) for ten geng 十更 to make for Yalikan 牙裏坎, then put out into the open sea 放洋.

Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for five geng 五更 to make for the Great Buddha Hall 大佛堂.

Use the single-mǎo needle 單卯針 (90° E / E) for eight geng 八更 to make for Tiezhuān Mountain 鐵鑽山 and the Zhupai Reef 竹牌礁.

If you clearly see Yingge Cape 苦看見鶯歌嘴, keep well out and steer off 放開使. If the ship rides high and you see Selan Mountain 若船身高見色蘭山, then use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for fifty geng 五十更, and the single-sì needle 單巳針 (150° SSE / SSE) for thirty geng 三十更, to make for Cuilan Mountain 翠蘭山.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) and, “early in the month/time” 時月早過洋, cross the open sea 過洋 to make for Longxian 龍涎 and Jia’nanmao 伽楠貌.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for twelve geng 十二更, following along the mountains 沿山使; then use the single-wǔ needle 單午針 (180° S / S) to make for Aqi 阿齊.

### 阿齊往傍伽喇

開船，單子離山遠，乾戌十二更取伽楠貌山邊。單乾、乾亥四十五更取安德巒南頭山，單壬及子十二更取平中尖大小山。單亥五十更取赤塗山，水十托，單亥五更見襄列當頭來，水六七托，尋擦地港口入門，是傍伽喇矣。

### From Aqi 阿齊 [Aceh] to Banggala 傍伽喇

Depart Aqi 阿齊. Use the single-zǐ needle 單子針 (0° N) for getting well away from the mountain 離山遠.

Use the qián-xū needle 乾戌針 (307.5° NW) for twelve geng 十二更 to make for the vicinity of Jia'nanmao Mountain 伽備貌山邊.

Use the single-qián needle 單乾針 (315° NW) together with the qián-hài needle 乾亥針 (322.5° NW) for forty-five geng 四十五更 to make for the south headland mountain of Andeman 安德蠻南頭山.

Use the single-rén needle 單壬針 (345° NNW) together with the zǐ needle 子針 (0° N) for twelve geng 十二更 to make for Pingzhongjian's large-and-small peaks 平中尖大小山.

Use the single-hài needle 單亥針 (330° NNW) for fifty geng 五十更 to make for Chitu Mountain 赤塗山; depth is ten tuo 水十托.

Use the single-hài needle 單亥針 (330° NNW) for five geng 五更 and you will see Xianglie coming straight toward you 襄列當頭來; depth is six to seven tuo 水六七托.

Look for the Scraping-ground harbor entrance 尋擦地港口入門—this is Banggala 傍伽喇.

## 回針

離淺單坤六更水廿五托，單坤五更，單巳六十更取佛心米山。若緊見山，單丙、丙巳五更取竹牌礁。若淺戩起用辛戌，水四十托，北頭正路水四托，過淺用巽巳七更平渤住速山，單巳平九嶼各門速過船。單午二十更取阿齊、蘇文噠喇是也。

## Return Course — 回針

After clearing the shoals 離淺, use the single-kūn needle 單坤針 (225° SW / SW) for six geng 六更. Depth is twenty-five tuo 水廿五托.

Use the single-kūn needle 單坤針 (225° SW / SW) for five geng 五更.

Use the single-sì needle 單巳針 (150° SSE / SSE) for sixty geng 六十更 to make for Foxinmi Mountain 佛心米山.

If you catch sight of the mountain at close range 若緊見山, use the single-bǐng needle 單丙針 (165° SSE / SSE) together with the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for five geng 五更 to make for the Zhupai Reef 竹牌礁.

If the shoals “rise up” in front of you 若淺戩起, use the xīn-xū needle 辛戌針 (292.5° WNW / WNW). Depth is forty tuo 水四十托.

On the north headland route 北頭正路, depth is four tuo 水四托. After crossing the shoals 過淺, use the xùn-sì needle 巽巳針 (142.5° SE / SE) for seven geng 七更 to come abeam of Bozhusu Mountain 渤住速山.

Use the single-sì needle 單巳針 (150° SSE / SSE) to come abeam of the “Nine Islets” 九嶼; at each gate 各門, pass through quickly 速過船.

Use the single-wǔ needle 單午針 (180° S / S) for twenty geng 二十更 to make for Aqi 阿齊— this is also Sumentala 蘇文嚨喇 (as written).

### 阿齊往古裏

開船用乾戌, 沿山十五更取伽備貌山。皮劍離華蓋隻星八指, 辛酉二十更、辛戌五十更、乾亥五更, 看華蓋雙星七指三角, 取色蘭山。壬亥五更、壬子十五更、單子十五更、壬子十五更, 取甘巴裏山頭。壬子十更取小葛蘭山, 單子、壬子十五更取柯枝, 子癸針沿山使收古裏也。

### From Aqi 阿齊 [Aceh] to Guli 古裏

Depart Aqi 阿齊 using the qián-xū needle 乾戌針 (307.5° NW / NW). Follow along the mountains 沿山 for fifteen geng 十五更 to make for Jia’nanmao Mountain 伽備貌山.

“At Pijian” 皮劍: when the Huágài (Canopy) double-star pair 華蓋雙星 is “eight zhǐ” (eight finger-widths) from the lone star “Zhīxīng” 隻星 (as written), then:

Use the xīn-yǒu needle 辛酉針 (277.5° W / W) for twenty geng 二十更, then use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for fifty geng 五十更, then use the qián-hài needle 乾亥針 (322.5° NW / NW) for five geng 五更. Watch the Huágài double stars 華蓋雙星: when they are “seven zhǐ” 七指 from the “triangle” 三角 (as written), make for Selan Mountain 色蘭山.

Use the rén-hài needle 壬亥針 (337.5° NNW / NNW) for five geng 五更, then the rén-zǐ needle 壬子針 (352.5° N / N) for fifteen geng 十五更, then the single-zǐ needle 單子針 (0° N / N) for fifteen geng 十五更, then the rén-zǐ needle 壬子針 (352.5° N / N) for fifteen geng 十五更, to make for the headland of Ganbali Mountain 甘巴裏山頭.

Use the rén-zǐ needle 壬子針 (352.5° N / N) for ten geng 十更 to make for Little Gelan Mountain 小葛蘭山.

Use the single-zǐ needle 單子針 (0° N / N) together with the rén-zǐ needle 壬子針 (352.5° N / N) for fifteen geng 十五更 to make for Kezhi 柯枝.

Use the zǐ-guǐ needle 子癸針 (7.5° N / N) following along the mountains 沿山使 to close on and enter Guli 古裏.

## 回針

離山單午並丙午取柯枝。丙午十五更取小葛蘭山，丙午十更取甘巴裏山頭開洋。用單午十更、丙午十五更、丙巳五更取色蘭山。離華蓋雙星八指，甲卯七十更取伽備貌山，沿山使落用辰巽五更取蘇文嚙喇也。

## Return Course — 回針

After leaving the mountain 離山, use the single-wǔ needle 單午針 (180° S / S) together with the bǐng-wǔ needle 丙午針 (172.5° S / S) to make for Kezhi 柯枝.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for fifteen geng 十五更 to make for Little Gelan Mountain 小葛蘭山.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for ten geng 十更 to make for the headland of Ganbali Mountain 甘巴裏山頭, then put out into the open sea 開洋.

Use the single-wǔ needle 單午針 (180° S / S) for ten geng 十更, then the bǐng-wǔ needle 丙午針 (172.5° S / S) for fifteen geng 十五更, then the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for five geng 五更, to make for Selan Mountain 色蘭山.

When the Huágài double stars 華蓋雙星 are eight “finger-widths” 八指 away (as written) 離華蓋雙星八指, use the jiǎ-mǎo needle 甲卯針 (82.5° E / E) for seventy geng 七十更 to make for Jia’nanmao Mountain 伽楠貌山.

Following along the mountains 沿山使, use the chén-xùn needle 辰巽針 (127.5° SE / SE) for five geng 五更 to reach Sumentala 蘇文唵喇.

### 古裏往忽魯謨斯

開船乾亥離石欄, 水十五托, 看北辰星四指、燈籠星正十一指半, 單亥五更取白礁。沿山使用壬亥四十五更取丁得把昔。著北辰星七指, 看燈籠骨七指半, 好風過洋。乾戌、單戌一百更姑馬山, 若戩風用單戌八十五更, 見山遠的打水五托, 船身低了見美之那山。見看北辰星四指半, 沿山使用辛酉五更取伽裏塔馬山頭, 壬亥、單亥三更取迭微討水。乾亥五更取麻裏實吉。辛戌取龜山門中過船, 水十一托, 是老去地。單亥及乾亥四更討亞刺食機山南邊, 看山平成三個。乾亥廿五更取沙刺抹山, 看東西二處都是山。用單子五更馭忽魯謨斯, 看北辰星十四指, 燈籠星一指半是也。

### 古裏往忽魯謨斯 From Guli 古裏 to Hulumosi 忽魯謨斯 [Hormuz]

Depart Guli 古裏. Use the qián-hài needle 乾亥針 (322.5° NW / NW) to clear the stone-barrier reef 離石欄. Depth is fifteen tuo 水十五托.

Observe the stars: the North Star 北辰星 is four “finger-widths” 四指 away; the “Lantern Star(s)” 燈籠星 is exactly eleven and a half finger-widths 正十一指半 (as written).

Use the single-hài needle 單亥針 (330° NNW / NNW) for five geng 五更 to make for White Reef 白礁.

Follow along the mountains 沿山使, using the rén-hài needle 壬亥針 (337.5° NNW / NNW) for forty-five geng 四十五更 to make for Dingdebaxi 丁得把昔.

When the North Star is at seven finger-widths 著北辰星七指, and the “Lantern bones/structure” 燈籠骨 is at seven and a half finger-widths 七指半, and you have a fair wind 好風, cross the open sea 過洋.

Use the qián-xū needle 乾戌針 (307.5° NW / NW) together with the single-xū needle 單戌針 (300° WNW / WNW) for one hundred geng 一百更 to make for Guma Mountain 姑馬山.

If you meet a headwind 若戩風, use the single-wù needle 單戌針 (195° SSW / SSW) for eighty-five geng 八十五更. When the mountains are still far off 見山遠的, soundings are five tuo 打水五托. When the ship rides low 船身低了, you will see Meizhina Mountain 美之那山.

When you see that the North Star is four and a half finger-widths 見看北辰星四指半, follow along the mountains 沿山使 and use the xīn-yǒu needle 辛酉針 (277.5° W / W) for five geng 五更 to make for the headland of Jialitama Mountain 伽裏塔馬山頭.

Use the rén-hài needle 壬亥針 (337.5° NNW / NNW) together with the single-hài needle 單亥針 (330° NNW / NNW) for three geng 三更 to “seek the water” at Diweitǎo 迭微討水 (as written).

Use the qián-hài needle 乾亥針 (322.5° NW / NW) for five geng 五更 to make for Malishiji 麻裏實吉.

Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) to make for Turtle Mountain Gate 龜山門, and pass through the middle 門中過船. Depth is eleven tuo 水十一托. This is “old rock ground” 老古地 (as written).

Use the single-hài needle 單亥針 (330° NNW / NNW) together with the qián-hài needle 乾亥針 (322.5° NW / NW) for four geng 四更 to make for the south side of Yalashiji Mountain 討亞刺食機山南邊. Looking at the mountain, it appears flattened into three peaks 看山平成三個.

Use the qián-hài needle 乾亥針 (322.5° NW / NW) for twenty-five geng 廿五更 to make for Shalimuo Mountain 沙刺抹山; looking, there are mountains in two places to the east and west 看東西二處都是山.

Use the single-zǐ needle 單子針 (0° N / N) for five geng 五更 to reach Hormuz 忽魯謨斯. (Star check: North Star fourteen finger-widths 北辰星十四指; Lantern Star one and a half finger-widths 燈籠星一指半.)

回針

開船取嘴頭水四托。單午五更取沙刺抹山。單丙十更、單巳五更、巽巳十更取亞喇食機山外過。巽巳五更取迭微山討水，取伽裏馬塔山頭並龜山外過。巽巳十更內是麻裏實吉。沿山五更取沙姑馬山，看北辰及華蓋雙星各十二指，看燈籠星四指半開洋。單巽、巽巳五十更，水五十托，泥地，見山及見花□[check]空。若不見山，乙辰、辰巽，單辰三十更著北辰四指、燈籠星十一指取古裏山過，白礁水十三四托。夜間不可行，怕流水急，沿山使乙辰三更也。

### Return Course — 回針

Departing, take the cape/headland water soundings 開船取嘴頭水四托: depth is four tuo 四托.

Use the single-wǔ needle 單午針 (180° S / S) for five geng 五更 to make for Shalimuo Mountain 沙刺抹山.

Use the single-bǐng needle 單丙針 (165° SSE / SSE) for ten geng 十更, then the single-sì needle 單巳針 (150° SSE / SSE) for five geng 五更, then the xùn-sì needle 巽巳針 (142.5° SE / SE) for ten geng 十更 to make for Yalashiji Mountain 亞喇食機山, passing outside it 外過.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) for five geng 五更 to make for Diewei Mountain 迭微山 to “seek water” 討水, and to take the headland of Jialimata Mountain 伽裏馬塔山頭, passing outside Turtle Mountain 龜山 外過.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) for ten geng 十更; inside is Malishiji 麻裏實吉.

Following along the mountains 沿山 for five geng 五更 to make for Saguma Mountain 沙姑馬山.

Star check: the North Star 北辰 and the Huágài double stars 華蓋雙星 are each at twelve “finger-widths” 各十二指; the Lantern Star 燈籠星 is at four and a half finger-widths 四指半. Then put out into the open sea 開洋.

Use the single-xùn needle 單巽針 (135° SE / SE) together with the xùn-sì needle 巽巳針 (142.5° SE / SE) for fifty geng 五十更. Depth is fifty tuo 水五十托, muddy bottom 泥地. You will see mountains 見山 and you will see “hua \_\_\_ kong” 見花□[character unclear]空 (as written; one character is unclear).

If you do not see mountains 若不見山, use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) together with the chén-xùn needle 辰巽針 (127.5° SE / SE), and the single-chén needle 單辰針

(120° ESE / ESE) for thirty geng 三十更. When the North Star is at four finger-widths 著北辰四指 and the Lantern Star is at eleven finger-widths 燈籠星十一指, make for Guli Mountain 古裏山 and pass by it 過.

At White Reef 白礁, depth is thirteen to fourteen tuo 水十三四托.

Do not sail at night 夜間不可行, for fear the current is swift 怕流水急. Follow along the mountains 沿山使 and use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for three geng 三更.

### 古裏往阿丹

開洋乾亥離石欄外十五托, 看北斗星四指、看燈籠星十一指半。單亥五更取白礁外過, 乾戌五更平希星嶼。用乾亥二十更, 看北斗辰五指三角, 看燈籠星正十指三角, 平莽角雙兒。過礁開洋, 用辛酉一百二十五更平直蕉塔那山, 看北辰五指、燈籠星十指取塔巴裏付山。沿山一更取小赤塔密兒, 取水, 巡山使單坤二十更取阿丹馬頭。看北斗五指、燈籠星十指半, 水六七托, 沙泥地, 是阿丹港矣。

### From Guli 古裏 to Adan 阿丹 [Aden]

Put out into the open sea 開洋. Use the qián-hài needle 乾亥針 (322.5° NW / NW) to clear the stone-barrier reef 石欄, with depth fifteen tuo 外十五托.

Star check: observe the Big Dipper 北斗星 at four “finger-widths” 四指, and the Lantern Star 燈籠星 at exactly eleven and a half finger-widths 十一指半.

Use the single-hài needle 單亥針 (330° NNW / NNW) for five geng 五更 to make for White Reef 白礁, passing outside it 外過.

Use the qián-xū needle 乾戌針 (307.5° NW / NW) for five geng 五更 to come abeam of Xixing Islet 希星嶼.

Use the qián-hài needle 乾亥針 (322.5° NW / NW) for twenty geng 二十更. Star check: the “Dipper’s chén” 北斗辰 is at five finger-widths with the “triangle” 五指三角 (as written), and the Lantern Star 燈籠星 is exactly ten finger-widths with the “triangle” 正十指三角. You come abeam of Mangjiao Shuang'er 莽角雙兒.

After passing the reefs 過礁, put out into the open sea 開洋. Use the xīn-yǒu needle 辛酉針 (277.5° W / W) for one hundred twenty-five geng 一百二十五更 to come abeam of Zhijiaotana Mountain 直蕉塔那山.

Star check: with the North Star 北辰 at five finger-widths 五指 and the Lantern Star 燈籠星 at ten finger-widths 十指, make for Tabalifu Mountain 塔巴裏付山.

Follow along the mountains 沿山 for one geng 一更 to reach Little Chitamier 小赤塔密兒. Take on water 取水.

Cruising along the mountain-coast 巡山使, use the single-kūn needle 單坤針 (225° SW / SW) for twenty geng 二十更 to make for Adan “horse-head” headland 阿丹馬頭.

Star check: the Big Dipper 北斗 is at five finger-widths 五指 and the Lantern Star 燈籠星 at ten and a half finger-widths 十指半. Depth is six to seven tuo 水六七托, sandy-muddy bottom 沙泥地—this is Adan harbor 阿丹港.

## 回針

開船, 用艮寅沿山使三十更平乃加泥。甲寅三十更平法塔喇山嘴, 看北斗五指半、燈籠星十指, 單卯廿五更平莽角雙兒, 水四十托, 乙辰、辰巽十五更平希星嶼, 巽巳五更取白礁, 單巳五更取古裏也。

## Return Course — 回針

Departing 開船, use the gèn-yín needle 艮寅針 (52.5° NE / NE), following along the mountains 沿山使, for thirty geng 三十更 to come abeam of Naijiani 乃加泥.

Use the jiǎ-yín needle 甲寅針 (60° ENE / ENE) for thirty geng 三十更 to come abeam of the cape/mountain-point at Fatala 法塔喇山嘴. Star check: the Big Dipper 北斗 is at five and a half finger-widths 五指半, and the Lantern Star 燈籠星 is at ten finger-widths 十指.

Use the single-mǎo needle 單卯針 (90° E / E) for twenty-five geng 廿五更 to come abeam of Mangjiao Shuang'er 莽角雙兒. Depth is forty tuo 水四十托.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) together with the chén-xùn needle 辰巽針 (127.5° SE / SE) for fifteen geng 十五更 to come abeam of Xixing Islet 希星嶼.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) for five geng 五更 to make for White Reef 白礁.

Use the single-sì needle 單巳針 (150° SSE / SSE) for five geng 五更 to make for Guli 古裏.

### 古裏往祖法兒

開船，乾戌離石欄外水十五托，單亥五更取白礁外過。乾亥五更平希星山。單乾二十更，看北辰五指一角，燈籠十指一角，平莽角雙兒。過礁頭開洋，辛戌五十更，看北辰六指三角、燈籠星八指三角；單辛七十更，看北斗七指三角、燈籠星七指三角，取祖法兒馬頭，水六托，泊船是也。

### 往 From Guli 古裏 to Zufa'er 祖法兒 [Zufar]

Depart Guli 古裏. Use the qián-xū needle 乾戌針 (307.5° NW / NW) to clear the stone-barrier reef 石欄, with depth fifteen tuo 外水十五托.

Use the single-hài needle 單亥針 (330° NNW / NNW) for five geng 五更 to make for White Reef 白礁, passing outside it 外過.

Use the qián-hài needle 乾亥針 (322.5° NW / NW) for five geng 五更 to come abeam of Xixing Mountain 希星山.

Use the single-qián needle 單乾針 (315° NW / NW) for twenty geng 二十更. Star check: the North Star 北辰 is at “five finger-widths, one corner” 五指一角, and the Lantern Star 燈籠星 is at “ten finger-widths, one corner” 十指一角. You come abeam of Mangjiao Shuang'er 莽角雙兒.

After passing the reef-head 過礁頭, put out into the open sea 開洋.

Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for fifty geng 五十更. Star check: the North Star 北辰 is at “six finger-widths, three corners” 六指三角, and the Lantern Star 燈籠星 is at “eight finger-widths, three corners” 八指三角.

Use the single-xīn needle 單辛針 (285° WNW / WNW) for seventy geng 七十更. Star check: the Big Dipper 北斗 is at “seven finger-widths, three corners” 七指三角, and the Lantern Star 燈籠星 is at “seven finger-widths, three corners” 七指三角.

Make for the “horse-head” headland of Zufar 祖法兒馬頭. Depth is six tuo 水六托. Anchor there 泊船 is it.

## 回針

開洋，乙辰五更離山遠，看北辰七指半、燈籠八指，單乙五十更、乙卯四十更取礁頭。看北辰五指半、燈籠十指，單乙、乙卯廿五更取莽角雙兒，水四十托。乙辰、辰巽二十更平希星嶼。巽巳五更取白礁，巽巳五更取古裏國是也。

## Return Course — 回針

Put out into the open sea 開洋. Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for five geng 五更 to get well away from the mountain 離山遠. Star check: the North Star 北辰 is at seven and a half finger-widths 七指半, and the Lantern Star 燈籠星 is at eight finger-widths 八指.

Use the single-yǐ needle 單乙針 (105° ESE / ESE) for fifty geng 五十更, then use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for forty geng 四十更 to make for the reef head 礁頭.

Star check: the North Star 北辰 is at five and a half finger-widths 五指半, and the Lantern Star 燈籠星 is at ten finger-widths 十指.

Use the single-yǐ needle 單乙針 (105° ESE / ESE) together with the yǐ-mǎo needle 乙卯針 (97.5° E / E) for twenty-five geng 廿五更 to make for Mangjiao Shuang'er 莽角雙兒. Depth is forty tuo 水四十托.

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) together with the chén-xùn needle 辰巽針 (127.5° SE / SE) for twenty geng 二十更 to come abeam of Xixing Islet 希星嶼.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) for five geng 五更 to make for White Reef 白礁.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) for five geng 五更 to make for the state/country of Guli 古裏國.

柬埔寨南港往筆架並彭坊西

港口用乙辰看北勢上昆崙尾齊，宜貪東，打水三托，泥沙地，正路。離淺了，用坤申十三更取真崙山。用單戌十更取大橫山。用辛戌五更取小橫山，用辛戌二十更取筆架山。用壬子五更取陳公嶼及黎頭嶼。用壬子五更取烏泥淺，沿昆崙約二更見內山有塔是淺，乃彭坊西也。

**From Jianpuzhai's 柬埔寨 [Cambodia's] South Port 南港 to Bijashan and west of Pengfang 彭坊 [Pahang]**

From the harbor entrance 港口, use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) and align it by sighting the “north current”/north trend 北勢 so that you have the tail of Kun... 昆崙 aligned/level 齊 with it. You should favor the east 宜貪東. Soundings are three tuo 打水三托, with a muddy-sandy bottom 泥沙地—this is the main route 正路.

After clearing the shoals 離淺了, use the kūn-shēn needle 坤申針 (232.5° SW / SW) for thirteen geng 十三更 to make for Zhenzi Mountain 真崙山.

Use the single-xū needle 單戌針 (300° WNW / WNW) for ten geng 十更 to make for Great Heng Mountain 大橫山.

Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for five geng 五更 to make for Little Heng Mountain 小橫山.

Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) for twenty geng 二十更 to make for Bǐjià Mountain 筆架山.

Use the rén-zǐ needle 壬子針 (352.5° N / N) for five geng 五更 to make for Chen Gong Islet 陳公嶼 and Litou Islet 黎頭嶼.

Use the rén-zǐ needle 壬子針 (352.5° N / N) for five geng 五更 to make for Wuni Shoal 烏泥淺.

Following along Kun... 沿昆崙, after roughly two geng 約二更 you will see, on the inner mountains 內山, a pagoda 塔—this marks the shoals (as noted) and indicates you are at Pengfang West 乃彭坊西也.

## 回針

筆架聞船，用單巳及巽巳二十更，用巽巳五更取大橫山。若外過用乙辰，若內過用辰巽。十更取具糞山內過。用單寅十三更進南港是也。

## Return Course — 回針

From Bijià Mountain 筆架山, set sail.

Use the single-sì needle 單巳針 (150° SSE / SSE) together with the xùn-sì needle 巽巳針 (142.5° SE / SE) for twenty geng 二十更.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) for five geng 五更 to make for Great Heng Mountain 大橫山.

If passing outside 若外過, use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE). If passing inside 若內過, use the chén-xùn needle 辰巽針 (127.5° SE / SE).

After ten geng 十更, make for Zhenzi Mountain 真糞山 and pass inside it 內過.

Use the single-yín needle 單寅針 (60° ENE / ENE) for thirteen geng 十三更 to enter the South Port 南港 進南港 is it.

## 柬埔寨往烏丁礁林

宜貪東，用乙辰看昆峯尾齊出淺。用單丁三更離小昆侖山。用丁未十一更、用單未十五更、用坤未十八更取苧盤山，在帆鋪邊。用單坤收入將軍帽，帽內有帽帶生開仔細。用單丁沿昆峯使至羅漢嶼收入，防淺，不可遠不可近，量看使船。港口邊有淺礁出水，水大看不見。頭灣北邊有淺，又轉灣北有礁。船使至半路，收入烏丁礁林，在北邊為是也。

## From Jianpuzhai 柬埔寨 [Cambodia] to Wuding Jiaoli 烏丁礁林

You should favor the east 宜貪東. Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) and sight so that the tail of Kun... 昆峯尾 is aligned 齊 while you clear the shoals 出淺.

Use the single-dīng needle 單丁針 (210° SSW / SSW) for three geng 三更 to get away from Little Kunlun Mountain 小昆侖山.

Use the dīng-wèi needle 丁未針 (202.5° SSW / SSW) for eleven geng 十一更; then use the single-wèi needle 單未針 (210° SSW / SSW) for fifteen geng 十五更; then use the kūn-wèi needle 坤未針 (217.5° SW / SW) for eighteen geng 十八更 to make for Zhupan Mountain 苧盤山, which lies on the fanpu side 在帆鋪邊.

Use the single-kūn needle 單坤針 (225° SW / SW) to bring the ship in toward Jiangjunmao 將軍帽 (“General’s Cap”). Inside the cap 帽內 there is a “cap-strap” reef/hazard 帽帶 that runs out (as written) 生開—be careful 仔細.

Use the single-dīng needle 單丁針 (210° SSW / SSW), following along Kun... 沿昆峯使, until you bring the ship in to Luohan Islet 羅漢嶼 收入. Beware the shoals 防淺: do not stand too far off 不可遠 and do not come too close 不可近—judge by eye and handle the ship accordingly 量看使船.

Near the harbor entrance 港口邊 there are shallow reefs that break the surface 淺礁出水; at high water 水大 they are not visible 看不見. On the north side of the head of the bay 頭灣北邊 there are shoals 淺, and further around the turn of the bay 又轉灣北 there are reefs 礁.

Sail until you are about halfway 船使至半路, then bring the ship in to Wuding Jiaolin 烏丁礁林 收入, which lies on the north side 在北邊.

## 回針

出港用乙辰，使出羅漢嶼北邊。用軍癸及癸丑十一更取苧盤山，內外俱可過。用單癸五更取鬥嶼。用單癸二十更、用子癸三十更、用丑癸五更，取真糞山。沿昆峯使打水三四托，正路。用甲寅十二更到港口，淺上二托水。過西北些兒，莫貪東，恐犯呂宋淺。船尾坐昆侖，收入港下。崎頭內有一假港，使至中州，須南邊行船，讓風頭使至赤面港仔，不從北面欲從南入。使至撻浪港仔口有山，船尾坐山，從東邊入港是也。

## Return Course — 回針

Exit the harbor 出港 and use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) to come out north of Luohan Islet 羅漢嶼北邊.

Use the “jūn-guǐ” needle 軍癸針 (term as written; irregular form) together with the guǐ-chǒu needle 癸丑針 (15° NNE / NNE) for eleven geng 十一更 to make for Zhupan Mountain 苧盤山. You may pass either inside or outside 內外俱可過.

Use the single-guǐ needle 單癸針 (15° NNE / NNE) for five geng 五更 to make for Dou Islet 鬥嶼.

Use the single-guǐ needle 單癸針 (15° NNE / NNE) for twenty geng 二十更; then use the zǐ-guǐ needle 子癸針 (7.5° N / N) for thirty geng 三十更; then use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for five geng 五更, to make for Zhenzi Mountain 真糞山.

Follow along Kun... 沿昆峯. Take soundings of three to four tuo 打水三四托—this is the main route 正路.

Use the jiǎ-yín needle 甲寅針 (60° ENE / ENE) for twelve geng 十二更 to reach the harbor mouth 港口. Over the shoals 淺上 the depth is two tuo 二托水.

Pass a little to the northwest 過西北些兒; do not favor the east 莫貪東, for fear of striking the Luzong Shoal 恐犯呂宋淺.

Keep the ship's stern aligned on Kunlun 昆侖 船尾坐昆侖, and bring the ship in below the harbor entrance 收入港下.

Inside Qitou 岐頭內 there is a “false harbor” 假港. Sail as far as the middle sandbank/islet 中州. You must navigate on the south side 須南邊行船, keeping to windward 讓風頭, until you reach the small inlet/harbor at Chimian 赤面港仔. Do not approach from the north side 不從北面; instead enter from the south 欲從南入.

Sail until you reach the mouth of Dalang inlet 撻浪港仔口, where there is a mountain 有山. Keep the ship's stern aligned on that mountain 船尾坐山, and enter the harbor from the east side 從東邊入港.

柬埔寨往暹羅

出淺開船，用坤未五更、用單坤八更見真糴山。用乾亥四更見假真糴山。用單辛戌十更取大橫。用乾戌三十五更取筆架山。用子癸取暹羅港是也。

### From Jianpuzhai 柬埔寨 [Cambodia] to Xianluo 暹羅 [Siam]

After clearing the shoals 出淺, set sail 開船.

Use the kūn-wèi needle 坤未針 (217.5° SW / SW) for five geng 五更, then use the single-kūn needle 單坤針 (225° SW / SW) for eight geng 八更; you will see Zhenzi Mountain 真糴山.

Use the qián-hài needle 乾亥針 (322.5° NW / NW) for four geng 四更; you will see the “false” Zhenzi Mountain 假真糴山.

Use the single-xīn-xū needle 單辛戌針 (as written) for ten geng 十更 to make for Great Heng Mountain 大橫.

(Note: 單辛戌 is an expanded “single” form combining xīn 辛 and xū 戌; the underlying bearing is the xīn-xū sector 辛戌 = 292.5° WNW / WNW in the 24-point system.)

Use the qián-xū needle 乾戌針 (307.5° NW / NW) for thirty-five geng 三十五更 to make for Bǐjià Mountain 筆架山.

Use the zǐ-guǐ needle 子癸針 (7.5° N / N) to make for the Siam harbor 暹羅港.

### 回針

出港開船，用丙午五更取烏頭山。用單午五更取筆架山。放洋用單巳及巽巳三十更取大橫，若不見恐見內山。用單巳及丙巳十二更取真糴。恐南風見假糴，用單巳四更見真糴。用甲寅及單寅取南港口，貪隴不可犯淺，仔細入港。

### Return Course — 回針

Depart the harbor 出港開船.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for five geng 五更 to make for Wutou Mountain 烏頭山.

Use the single-wǔ needle 單午針 (180° S / S) for five geng 五更 to make for Bǐjià Mountain 筆架山.

Put out into the open sea 放洋. Use the single-sì needle 單巳針 (150° SSE / SSE) together with the xùn-sì needle 巽巳針 (142.5° SE / SE) for thirty geng 三十更 to make for Great Heng Mountain 大橫. If you do not see it 若不見, you may instead be seeing the inner mountains 恐見內山.

Use the single-sì needle 單巳針 (150° SSE / SSE) together with the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for twelve geng 十二更 to make for Zhenzi 真嵴.

If a south wind makes you see the “false” Zhenzi 恐南風見假嵴, use the single-sì needle 單巳針 (150° SSE / SSE) for four geng 四更 and you will see the true Zhenzi 真嵴.

Use the jiǎ-yín needle 甲寅針 (60° ENE / ENE) together with the single-yín needle 單寅針 (60° ENE / ENE) to make for the South Harbor entrance 南港口. Favor the ridge/line 貪隴 and do not strike the shoals 不可犯淺—enter carefully 仔細入港.

### 暹羅往馬軍

離淺用單午十更取筆架山。丙巳五更取大橫山。辰巽八十更取亦土白頂山，打水三十二托。丑艮十五更取淡水港。丑艮十更取長腰嶼，此是索羅港口。在馬戶邊，有一昆峯，東北邊有一小嶼，丑艮五更取昆侖山，遠看三個尖山內過，丑艮十更取聖山五嶼，在帆鋪邊。艮寅五更取犀角山。子癸五更取蘿蔔山，門中有青嶼在馬戶邊，帆鋪邊有香爐礁，大小四個。辰巽及巽巳取羅婆畔。甲卯、乙卯三十更取馬鞍山。丑艮十更取巴裏山，巡山使丑艮十更取陀羅山，望見馬軍山婆婆門，進港是也。

### From Xianluo 暹羅 [Siam] to Majun 馬軍

After clearing the shoals 離淺:

Use the single-wǔ needle 單午針 (180° S / S) for ten geng 十更 to make for Bǐjià Mountain 筆架山.

Use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for five geng 五更 to make for Great Heng Mountain 大橫山.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for eighty geng 八十更 to make for Yitǔ “white-topped” mountain 亦土白頂山. Soundings are thirty-two tuo 打水三十二托.

Use the chǒu-gèn needle 丑艮針 (45° NE / NE) for fifteen geng 十五更 to make for Freshwater Harbor 淡水港.

Use the chǒu-gèn needle 丑艮針 (45° NE / NE) for ten geng 十更 to make for Changyao Islet 長腰嶼. This is the Suoluo harbor entrance 索羅港口. On the mahu side 在馬戶邊 there is a Kun... ridge/island 昆崙. On the northeast side 東北邊 there is a small islet 小嶼.

Use the chǒu-gèn needle 丑艮針 (45° NE / NE) for five geng 五更 to make for Kunlun Mountain 昆侖山. From afar 遠看 there are three sharp peaks 三個尖山; pass inside them 內過.

Use the chǒu-gèn needle 丑艮針 (45° NE / NE) for ten geng 十更 to make for the “Sacred Mountain Five Islets” 聖山五嶼, on the fanpu side 在帆鋪邊.

Use the gèn-yín needle 艮寅針 (52.5° NE / NE) for five geng 五更 to make for Xijiao Mountain 犀角山.

Use the zǐ-guǐ needle 子癸針 (7.5° N / N) for five geng 五更 to make for Luobo Mountain 蘿蔔山. In the gate/strait 門中 there is Qing Islet 青嶼 on the mahu side 在馬戶邊. On the fanpu side 帆鋪邊 there are “Incense-burner Reefs” 香爐礁, four in all 大小四個.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) together with the xùn-sì needle 巽巳針 (142.5° SE / SE) to make for Luopopan 羅婆畔.

Use the jiǎ-mǎo needle 甲卯針 (82.5° E / E) and the yǐ-mǎo needle 乙卯針 (97.5° E / E) for thirty geng 三十更 to make for Ma’an Mountain 馬鞍山.

Use the chǒu-gèn needle 丑艮針 (45° NE / NE) for ten geng 十更 to make for Bali Mountain 巴裏山.

Cruising along the mountains 巡山使, use the chǒu-gèn needle 丑艮針 (45° NE / NE) for ten geng 十更 to make for Tuoluo Mountain 陀羅山.

When you sight Majun Mountain 馬軍山 and the “Grandmother Gate” Popo Gate 婆婆門, enter the harbor 進港 is it.

## 回針

離淺辛酉五更取陀羅山，丁未十更取巴裏山尾，單酉十更、庚酉十更見北邊沙塘淺，有礁出水。單酉十更見衝山，有一大山是七峰山，山尾有處長昆峯在山邊。單酉五更見一小嶼，三牙嶼相對，小喚不可拋船，水十七八托。庚酉三更見白嶼在帆鋪邊，入門是蘿蔔山。單午及丁午十更取五嶼，取聖山。庚酉十更取真昆侖山內過，單未五更取長腰嶼。單未十更取淡水港口。東風用辛酉，北風單坤，四十更取東蛇羅。若在亦土白面上放洋用辛戌、單亥五十更、單乾四十五更取筆架山邊。用丑艮取竹嶼，子癸取淺，是港也。

## Return Course — 回針

After clearing the shoals 離淺, use the xīn-yǒu needle 辛酉針 (277.5° W / W) for five geng 五更 to make for Tuoluo Mountain 陀羅山.

Use the dīng-wèi needle 丁未針 (202.5° SSW / SSW) for ten geng 十更 to make for the tail of Bali Mountain 巴裏山尾.

Use the single-yǒu needle 單酉針 (270° W / W) for ten geng 十更, then the gēng-yǒu needle 庚酉針 (262.5° W / W) for ten geng 十更. You will see, on the north side 北邊, the Shatang Shoal 沙塘淺; there are reefs breaking the surface 有礁出水.

Use the single-yǒu needle 單酉針 (270° W / W) for ten geng 十更 and you will see Chong Mountain 衝山. One large mountain there is Seven-Peaks Mountain 七峰山. At the tail of the mountain 山尾 there is a long Kun... ridge/island 長昆峯 along the mountain side 在山邊.

Use the single-yǒu needle 單酉針 (270° W / W) for five geng 五更 and you will see a small islet 一小嶼, opposite the Three-Fang Islets 三牙嶼相對. Do not anchor at Xiaohuan 小喚不可拋船. Depth is seventeen to eighteen tuo 水十七八托.

Use the gēng-yǒu needle 庚酉針 (262.5° W / W) for three geng 三更 and you will see White Islet 白嶼 on the fanpu side 在帆鋪邊. Entering the gate/strait 入門 brings you to Luobo Mountain 蘿蔔山.

Use the single-wǔ needle 單午針 (180° S / S) together with the dīng-wǔ needle 丁午針 (187.5° S / S) for ten geng 十更 to make for the Five Islets 五嶼, i.e., to make for Sacred Mountain 聖山.

Use the gēng-yǒu needle 庚酉針 (262.5° W / W) for ten geng 十更 to make for the “true” Kunlun Mountain 真昆侖山 and pass inside 內過.

Use the single-wèi needle 單未針 (210° SSW / SSW) for five geng 五更 to make for Changyao Islet 長腰嶼.

Use the single-wèi needle 單未針 (210° SSW / SSW) for ten geng 十更 to make for the Freshwater Harbor entrance 淡水港口.

With an east wind 東風, use the xīn-yǒu needle 辛酉針 (277.5° W / W). With a north wind 北風, use the single-kūn needle 單坤針 (225° SW / SW). For forty geng 四十更 make for Dong Sheluo 東蛇羅.

If instead you are off the “Yitǔ white-face” area 若在亦土白面上, then put out into the open sea 放洋 and use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) and the single-hài needle 單亥針 (330° NNW / NNW) for fifty geng 五十更, then use the single-qián needle 單乾針 (315° NW / NW) for forty-five geng 四十五更 to make for the vicinity of Bǐjià Mountain 筆架山邊.

Use the chǒu-gèn needle 丑艮針 (45° NE / NE) to make for Bamboo Islet 竹嶼, and use the zǐ-guǐ needle 子癸針 (7.5° N / N) to make for the shoals 淺—this is the harbor 是港也.

### 苧盤往文萊

在苧盤開，用乙卯十五更取林哪喏山，在帆鋪邊。乙卯二十五更見東邊有大山，即是東西蛇羅山，番名叫單戎獨山，並有小嶼。用單寅二十更取單戎嘮梅山，番名叫單絨絲立山，小平是昆峯，並有淺，打水三托。用單寅十一更取亦土白麵山，遠看山上有石壁似帆樣，沿山使十更取淡水港口，亦有淺，打水三四托，船不可開。甲寅並單寅十更取文萊港口，有二個小嶼是石，東邊有大山，北是長腰嶼，港口取毛花蠟，住船為是。

### Zhupan 苧盤 to Wenlai 文萊 [Brunei]

Depart from Zhupan 苧盤. Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for fifteen geng 十五更 to make for Linna'ruo Mountain 林哪喏山, on the fanpu side 在帆鋪邊.

Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for twenty-five geng 二十五更 and you will see a large mountain on the east side 東邊有大山—this is the Dongxi Sheluo Mountain 東西蛇羅山. Its “foreign name” 番名 is given as Dānróng Dúshān 單戎獨山, and there are also small islets 並有小嶼.

Use the single-yín needle 單寅針 (60° ENE / ENE) for twenty geng 二十更 to make for Dānróng Laomei Mountain 單戎嘜梅山. Its “foreign name” 番名 is given as Dānróng Sīlì Mountain 單絨絲立山. A small flat feature is described as a kun... ridge/island 小平是昆峯, and there are also shoals 淺. Soundings are three tuo 打水三托.

Use the single-yín needle 單寅針 (60° ENE / ENE) for eleven geng 十一更 to make for Yitǔ “White-face” Mountain 亦土白麵山. From afar 遠看, there is a stone cliff on the mountain 石壁 that looks like a sail 似帆樣.

Following along the mountain-coast 沿山使 for ten geng 十更, make for Freshwater Harbor 淡水港口. There are also shoals 亦有淺; soundings are three to four tuo 打水三四托, and the ship must not stand out too far/too open 船不可開.

Use the jiǎ-yín needle 甲寅針 (60° ENE / ENE) together with the single-yín needle 單寅針 (60° ENE / ENE) for ten geng 十更 to make for the Brunei harbor entrance 文萊港口.

There are two small rocky islets 有二個小嶼是石. To the east 東邊 there is a large mountain 大山, and to the north 北 is Changyao Islet 長腰嶼. At the harbor entrance 港口 one obtains/collects “maohua wax” 毛花蠟; anchoring there is appropriate 住船為是.

## 回針

文萊港口開船，二嶼是石。單辛並庚十更取淡水港口，船不可開，打水三托有淺，便是港口。沿山使十更取赤土白麵，遠看山上有石壁似船帆樣。單庚十更取單  [check] 戎嘜梅山，一小平生是昆峯，對開有淺，打水三托。單申二十更取西蛇龍山，辛酉二十五更取林嘜山，在馬戶邊。辛酉十五更取苧盤，是也。

## Return Course — 回針

Depart from the Brunei harbor entrance 文萊港口開船. The two islets 二嶼 are rocky 石.

Use the single-xīn needle 單辛針 (285° WNW / WNW) together with the gēng (as written) 庚 (understood here as the gēng-yǒu sector 庚酉針, 262.5° W / W) for ten geng 十更 to make for the Freshwater Harbor entrance 淡水港口. The ship must not stand out too open 船不可開.

Soundings are three tuo 打水三托 and there are shoals 有淺—this is the harbor entrance 便是港口.

Following along the mountains 沿山使 for ten geng 十更, make for “Red-earth White-face” mountain 赤土白麵. From afar 遠看, there is a stone cliff 石壁 on the mountain that looks like a sail 似船帆樣.

Use the single-gēng needle 單庚針 (255° WSW / WSW) for ten geng 十更 to make for Dān...róng Laomei Mountain 單[unclear]戎嘜梅山 (one character is unclear). A small flat feature is described as a Kun... ridge/island 一小平生是昆峯. Off/open to seaward 對開 there are shoals 淺; soundings are three tuo 打水三托.

Use the single-shēn needle 單申針 (240° SW / SW) for twenty geng 二十更 to make for the West “She-long” Mountain 西蛇龍山.

Use the xīn-yǒu needle 辛酉針 (277.5° W / W) for twenty-five geng 二十五更 to make for Linlao’ruo Mountain 林嘜喏山, on the mahu side 在馬戶邊.

Use the xīn-yǒu needle 辛酉針 (277.5° W / W) for fifteen geng 十五更 to make for Zhupan 苧盤—this is it 是也.

### 瞞喇咖往舊港

開船用辰巽五更取射箭山，打水二十托。辰巽三更取昆宋嶼，西邊有淺，打水四五托。巽巳、單巳五更取吉裏問山，夜不可行。丙巳、單巳四更馭鬼嶼東南過，西南恐犯牛屎礁，水漲不見，對過是甘巴港口有仁義礁。單巽四更取甘巴門過。單丙及丙巳十更取鱷魚嶼。單巳四更取佛寺嶼西邊過。單巳四更取單嶼。單巳及丙巳五更沿山打水六七托，使五更取舊港口，中有一州是正路，須認真為是。

### From Manlajia 瞞喇咖 [Melaka] to Jiugang 舊港 [Old Harbor]

Depart from Melaka 瞞喇咖.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for five geng 五更 to make for Shejian Mountain 射箭山. Soundings are twenty tuo 打水二十托.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for three geng 三更 to make for Kunsong Islet 昆宋嶼. On the west side 西邊 there are shoals 淺; soundings are four to five tuo 打水四五托.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) together with the single-sì needle 單巳針 (150° SSE / SSE) for five geng 五更 to make for Jilīwen Mountain 吉裏問山. Do not sail at night 夜不可行.

Use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) together with the single-sì needle 單巳針 (150° SSE / SSE) for four geng 四更 to pass southeast of Gui Islet 鬼嶼東南過. To the southwest 西南 there is danger of striking Niushi Reef 恐犯牛屎礁; at high water 水漲 it is not visible 不見. Directly opposite 對過 is Ganba harbor entrance 甘巴港口, where there is Renyi Reef 仁義礁.

Use the single-xùn needle 單巽針 (135° SE / SE) for four geng 四更 to make for and pass through Ganba Gate 甘巴門過.

Use the single-bǐng needle 單丙針 (165° SSE / SSE) together with the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for ten geng 十更 to make for Crocodile Islet 鱷魚嶼.

Use the single-sì needle 單巳針 (150° SSE / SSE) for four geng 四更 to pass west of Fosi Islet 佛寺嶼西邊過.

Use the single-sì needle 單巳針 (150° SSE / SSE) for four geng 四更 to make for the Single Islet 單嶼.

Use the single-sì needle 單巳針 (150° SSE / SSE) together with the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for five geng 五更, following along the mountains 沿山, taking soundings of six to seven tuo 打水六七托. Then sail on for five geng 使五更 to reach the Old Harbor entrance 舊港口.

In the middle there is an islet 中有一州—this is the main route 正路. You must identify it carefully 須認真為是.

## 回針

開船壬亥三更取彭家山尾，中間有沉礁，沙淺可過，帆鋪邊沿昆峯使，打水六七托。壬癸、單癸十更取單嶼，單壬四更取佛堂嶼。單亥四更取鱷魚嶼。壬亥、單壬十更取甘巴

門。單乾四更取仁義礁。對甘巴門港口可防，恐犯牛屎礁，水漲不見，近北邊中央行妙。單壬及壬癸取鬼嶼東邊過。單壬四更取吉裏問山。單亥四更取昆宋嶼過，西邊有淺打水四五托。單亥、乾亥取大小射箭山。單乾五更取五嶼，內是瞞喇咖。

若船往柬埔寨，至靈山大佛，單丙三更取伽備貌。丁未五更取羅灣頭。坤末五更取亦坎，坤申三更取鶴頂山。坤壬四更收外任山落定。看水漲船頭對南船尾坐外任山。使一二更之久，便見西南有毛蟹州。欲入港，船頭對毛蟹州，船尾坐甲卯，使至淺打水四托乃正路。船當近毛蟹州北邊邊過，內昆身腰見港口入港內，船沿北邊昆峯使甚妙，不可偏南。使四五日至外昆廊。若船柬埔寨出港口，離坤身船頭對毛蟹州，尾去近毛蟹州，可轉北邊出淺。船頭對東近看見州近或泥或沙無防，當用甲卯離毛蟹州昆身至淺上打水隻有三四托，乃是正路。用甲卯四更取鶴頂山，餘依前法而行為妙也。

### Return Course — 回針

Departing 開船, use the rén-hài needle 壬亥針 (337.5° NNW / NNW) for three geng 三更 to make for the tail of Pengjia Mountain 彭家山尾. In between there are submerged reefs 中間有沉礁; sandy shoals 沙淺 are passable 可過. On the fanpu side 帆鋪邊, follow along the Kun... ridge/islands 沿昆峯使, taking soundings of six to seven tuo 打水六七托.

Use the rén-guǐ needle 壬癸針 (352.5° N / N) together with the single-guǐ needle 單癸針 (15° NNE / NNE) for ten geng 十更 to make for the Single Islet 單嶼.

Use the single-rén needle 單壬針 (345° NNW / NNW) for four geng 四更 to make for Buddha Hall Islet 佛堂嶼.

Use the single-hài needle 單亥針 (330° NNW / NNW) for four geng 四更 to make for Crocodile Islet 鱷魚嶼.

Use the rén-hài needle 壬亥針 (337.5° NNW / NNW) together with the single-rén needle 單壬針 (345° NNW / NNW) for ten geng 十更 to make for Ganba Gate 甘巴門.

Use the single-qián needle 單乾針 (315° NW / NW) for four geng 四更 to make for Renyi Reef 仁義礁.

Opposite Ganba Gate harbor entrance 對甘巴門港口, this can serve as a warning point 可防. Beware of Niushi Reef 恐犯牛屎礁; at high water 水漲 it is not visible 不見. It is best to pass near the north side, through the middle 近北邊中央行妙.

Use the single-rén needle 單壬針 (345° NNW / NNW) together with the rén-guǐ needle 壬癸針 (352.5° N / N) to pass east of Gui Islet 鬼嶼東邊過.

Use the single-rén needle 單壬針 (345° NNW / NNW) for four geng 四更 to make for Jilǐwén Mountain 吉裏問山.

Use the single-hài needle 單亥針 (330° NNW / NNW) for four geng 四更 to make for Kunsong Islet 昆宋嶼 and pass it 過. On the west side 西邊 there are shoals 淺; soundings are four to five tuo 打水四五托.

Use the single-hài needle 單亥針 (330° NNW / NNW) together with the qián-hài needle 乾亥針 (322.5° NW / NW) to make for the Large and Small Shejian Mountains 大小射箭山.

Use the single-qián needle 單乾針 (315° NW / NW) for five geng 五更 to make for the Five Islets 五嶼; inside is Melaka 內是瞞喇咖.

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If the ship is going to Cambodia 若船往柬埔寨:

When you reach Lingshan Great Buddha 靈山大佛, use the single-bǐng needle 單丙針 (165° SSE / SSE) for three geng 三更 to make for Jia'nánmao 伽楠貌.

Use the dīng-wèi needle 丁未針 (202.5° SSW / SSW) for five geng 五更 to make for Luowan Head 羅灣頭.

Use the kūn-wèi needle 坤未針 (217.5° SW / SW) for five geng 五更 to make for Yikan 亦坎.

Use the kūn-shēn needle 坤申針 (232.5° SW / SW) for three geng 三更 to make for Hedǐng Mountain 鶴頂山.

Use the kūn-rén needle 坤壬針 (247.5° WSW / WSW) for four geng 四更 to close on Outer Ren Mountain 收外任山 and anchor/settle 落定.

At high water 看水漲: keep the ship's bow pointing south 船頭對南, and keep the stern aligned on Outer Ren Mountain 船尾坐外任山.

Sail on for a while 使一二更之久, and you will then see to the southwest 西南 a place called Mao-xie Islet/zhou 毛蟹州.

To enter the harbor 欲入港: keep the bow pointing at Mao-xie Islet 船頭對毛蟹州, and align the stern on the jiǎ-mǎo bearing 船尾坐甲卯 (82.5° E / E). Continue until you reach the shoals 使至淺; soundings of four tuo 打水四托 mark the main route 乃正路.

The ship should pass close by the north side of Mao-xie Islet 船當近毛蟹州北邊過. Inside, at the “waist” of the Kun... ridge/islands 內昆身腰, you will see the harbor entrance 見港口 and enter.

Inside the harbor, it is best to follow along the north-side Kun... ridge/islands 船沿北邊昆岸使甚妙; do not veer south 不可偏南. Sail four to five days 使四五日 until (you reach) Outer Kunlang 外昆廊.

If sailing out of Cambodia 若船柬埔寨出港口:

After leaving the Kun... ridge/islands 離坤身, keep the bow pointing toward Mao-xie Islet 船頭對毛蟹州; keep the stern close past/near Mao-xie Islet 尾去近毛蟹州; then you can turn to the north side 可轉北邊 and clear the shoals 出淺.

Keep the bow toward the east 船頭對東. When close-in you will see the islet/zhou nearby 近看見州近; whether the bottom is mud or sand 或泥或沙, there is no danger 無防.

You should use the jiǎ-mǎo needle 甲卯針 (82.5° E / E) to leave Mao-xie Islet and the Kun... ridge/islands 離毛蟹州昆身. When you reach the shoals 至淺上, soundings are only three to four tuo 打水隻有三四托—this is the main route 乃是正路.

Use the jiǎ-mǎo needle 甲卯針 (82.5° E / E) for four geng 四更 to make for Hedǐng Mountain 鶴頂山; the rest should proceed as in the earlier method 餘依前法而行為妙也.

## 往澎湖

南風時東牆萊嶼往澎湖。萊嶼開船乙辰十更見西嶼頭，入門內庵前拋船為妙。

## To Penghu 澎湖

When there is a south wind 南風時, from Dongqianglai Islet 東牆萊嶼 sail to Penghu 澎湖.

Depart Lai Islet 萊嶼. Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for ten geng 十更; you will sight the head of West Islet 西嶼頭.

Enter the passage/gate 入門. Inside, anchor in front of the hut/monastery 內庵前拋船—this is best 為妙.

### 回萊嶼

開船用辛戌、單亥十更取萊嶼為妙。

### Back to Lai Islet 萊嶼

Set sail 開船. Use the xīn-xū needle 辛戌針 (292.5° WNW / WNW) together with the single-hài needle 單亥針 (330° NNW / NNW) for ten geng 十更 to make for Lai Islet 萊嶼—this is best 為妙.

又

北風時萊嶼往澎湖前沙開船，辰巽及單巽七更取西嶼及門內庵前為妙，拋船。

### Also 又 [another method]

When there is a north wind 北風時, sail from Lai Islet 萊嶼 to the Qiansha anchorage 前沙 at Penghu 澎湖.

Depart from Qiansha 前沙. Use the chén-xùn needle 辰巽針 (127.5° SE / SE) together with the single-xùn needle 單巽針 (135° SE / SE) for seven geng 七更 to make for West Islet 西嶼, and for the hut/monastery area inside the passage 門內庵前—this is best 為妙. Anchor there 拋船.

### 回前沙

用壬亥及單亥七更取前沙為妙。

### **Back to Qiansha 前沙**

Use the rén-hài needle 壬亥針 (337.5° NNW / NNW) together with the single-hài needle 單亥針 (330° NNW / NNW) for seven geng 七更 to make for Qiansha 前沙—this is best 為妙.

### **南澳往澎湖**

用乙卯十五更取西嶼頭，若船身南邊打水十六七托，硬地，入門住船為妙。

### **From Nan'ao 南澳 to Penghu 澎湖)**

Use the yǐ-mǎo needle 乙卯針 (97.5° E / E) for fifteen geng 十五更 to make for the head of West Islet 西嶼頭.

If the ship is on the south side 若船身南邊, take soundings of sixteen to seventeen tuo 打水十六七托, with a hard bottom 硬地.

Enter the passage/gate 入門 and anchor there 住船—this is best 為妙.

### **回**

用單酉及庚酉十更取澎湖山，收南澳為妙。

### **Return**

Use the single-yǒu needle 單酉針 (270° W / W) together with the gēng-yǒu needle 庚酉針 (262.5° W / W) for ten geng 十更 to make for Penghu Mountain 澎湖山, then close on Nan'ao 南澳—this is best 為妙.

## 太武往呂宋

太武開船，辰巽七更取澎湖山。巳丙五更見虎仔山，單丙及巳丙六更取沙馬歧頭。單丙二十更取筆架山，與大港口相對及紅豆嶼，丙午七更取射昆美山。丙午及單巳十更取月投門。單丙三更、坤未三更取麻裏荖表山，平長，過夜不可貪睡，可防。丙午及單午五更取裏銀大山，二港相連開勢沙表，表生在洋中可防。表尾記之極仔細。巳丙五更取頭巾礁，單午五更取呂宋港口，雞嶼內外俱可過船，無沉礁有流水。其船可從東北山邊入港篇妙。

## From Taiwu 太武 to Luzon 呂宋

Depart Taiwu 太武. Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for seven geng 七更 to make for Penghu Mountain 澎湖山.

Use the sì-bǐng needle 巳丙針 (157.5° SSE / SSE) for five geng 五更; you will sight Huzai Mountain 虎仔山.

Use the single-bǐng needle 單丙針 (165° SSE / SSE) together with the sì-bǐng needle 巳丙針 (157.5° SSE / SSE) for six geng 六更 to make for the headland of Shamaqi 沙馬歧頭.

Use the single-bǐng needle 單丙針 (165° SSE / SSE) for twenty geng 二十更 to make for Bijià Mountain 筆架山, facing opposite the Great Harbor entrance 大港口 and Hongdou Islet 紅豆嶼.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for seven geng 七更 to make for Shekunmei Mountain 射昆美山.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) together with the single-sì needle 單巳針 (150° SSE / SSE) for ten geng 十更 to make for Yuetou Gate 月投門.

Use the single-bǐng needle 單丙針 (165° SSE / SSE) for three geng 三更, then the kūn-wèi needle 坤未針 (217.5° SW / SW) for three geng 三更, to make for Malilao-biao Mountain 麻裏荖表山. It is flat and long 平長. Do not be careless and sleep too deeply overnight 過夜不可貪睡—this is something to watch out for 可防.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) together with the single-wǔ needle 單午針 (180° S / S) for five geng 五更 to make for Liyin Great Mountain 裏銀大山. The two harbors are connected 二港相連. The coastal “opening”/shoreline is sandy and shallow 開勢沙表; the

“shoal/bank” 表 lies out in mid-sea 表生在洋中 and can be used as a marker to beware of 可防. Note the tail/end of this bank carefully 表尾記之極仔細.

Use the sì-bǐng needle 巳丙針 (157.5° SSE / SSE) for five geng 五更 to make for Toujin Reef 頭巾礁.

Use the single-wǔ needle 單午針 (180° S / S) for five geng 五更 to make for the Luzon harbor entrance 呂宋港口.

At Chicken Islet 雞嶼 you may pass either inside or outside 雞嶼內外俱可過船. There are no submerged reefs 無沉礁, but there are currents 有流水. It is best to enter the harbor by keeping close along the mountains on the northeast side 從東北山邊入港篇妙.

### 回針【往回或遇春多宜加節衷】

雞嶼出洋，壬子、單亥十更，壬亥、單亥七更，取麻裏荖，見表放洋。壬子、單子二十五更往回取彩船祭獻。此處流界甚多，則是浯嶼洋。壬子、壬亥二十更，單亥五更，取太武。

### Return Course — 回針

[Bracketed note: “On the return voyage, or if you encounter much springtime (weather), it is appropriate to add moderation / keep to a regulated pace.”]

From Nan Islet 雞嶼, put out into the open sea 出洋.

Use the rén-zǐ needle 壬子針 (352.5° N / N) together with the single-hài needle 單亥針 (330° NNW / NNW) for ten geng 十更.

Use the rén-hài needle 壬亥針 (337.5° NNW / NNW) together with the single-hài needle 單亥針 (330° NNW / NNW) for seven geng 七更, to make for Malilao 麻裏荖. When you see the offshore bank/marker 表, then stand out into the open sea 見表放洋.

Use the rén-zǐ needle 壬子針 (352.5° N / N) together with the single-zǐ needle 單子針 (0° N / N) for twenty-five geng 二十五更, returning 往回 to “release the colored-flag boat” 彩船 for ritual offerings 祭獻.

This area has many current boundaries 此處流界甚多—this is the open sea off Wuyu 浯嶼洋.

Use the rén-zǐ needle 壬子針 (352.5° N / N) together with the rén-hài needle 壬亥針 (337.5° NNW / NNW) for twenty geng 二十更; then use the single-hài needle 單亥針 (330° NNW / NNW) for five geng 五更, to make for Taiwu 太武.

### 表上放洋

若表上放洋，壬子二十更取射昆美大山。單子三更取紅豆嶼。丑癸十更是浯嶼洋。丑癸八更取沙馬歧頭。癸十一更取澎湖。壬亥七更取太武入浯嶼。

### 表上放洋 (standing out to sea from the offshore bank) [??]

If you stand out to sea from the bank 若表上放洋:

Use the rén-zǐ needle 壬子針 (352.5° N / N) for twenty geng 二十更 to make for the great mountain Shekunmei 射昆美大山.

Use the single-zǐ needle 單子針 (0° N / N) for three geng 三更 to make for Hongdou Islet 紅豆嶼.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for ten geng 十更—this is the open sea off Wuyu 浯嶼洋.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for eight geng 八更 to make for the headland of Shamaqi 沙馬歧頭.

Use the guǐ needle 癸針 (7.5° N / N) for eleven geng 十一更 to make for Penghu 澎湖.

Use the rén-hài needle 壬亥針 (337.5° NNW / NNW) for seven geng 七更 to make for Taiwu 太武, and enter Wuyu 浯嶼入浯嶼.

呂宋往文萊

雞嶼開船，用巳丙及乙辰十更沙塘石開船，到呂蓬港口。若是呂蓬山外過討麻裏呂。坤未五更取芒煙山。丁未及午丁十更取麻幹洋了討峰山，無風搖櫓二日三夜。單午及丁未取小煙山前密。丁未五更取三牙七峰山。單丁五更取芭荖員。丁未五更取蘿蔔山文滴古襍山頭，高大有雲，犀角山。單未、單了見聖山。單未、坤未取昆侖山外有老古石過門去，坤未、坤申使見長腰嶼。丁未討鯉塘嶼，丁未便是文萊勃泥港也。

### From Lusong 呂宋 [Luzon] to Wenlai 文萊 [Brunei]

Depart from Chicken Islet 雞嶼.

Use the sì-bǐng needle 巳丙針 (157.5° SSE / SSE) together with the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) for ten geng 十更 to reach Shatang-shi 沙塘石, and depart from there 開船, arriving at Lüpeng Harbor 呂蓬港口.

If you pass outside Lüpeng Mountain 呂蓬山外過, then go to seek Malilü 討麻裏呂.

Use the kūn-wèi needle 坤未針 (217.5° SW / SW) for five geng 五更 to make for Mangyan Mountain 芒煙山.

Use the dīng-wèi needle 丁未針 (202.5° SSW / SSW) together with the wǔ-dīng needle 午丁針 (187.5° S / S) for ten geng 十更 to reach the Magan Sea/Expanse 麻幹洋, then go on to seek Feng Mountain 討峰山. If there is no wind 無風, row with the sweeps 搖櫓 for two days and three nights 二日三夜.

Use the single-wǔ needle 單午針 (180° S / S) together with the dīng-wèi needle 丁未針 (202.5° SSW / SSW) to make for “Xiaoyanshan—Qianmi” 小煙山前密 (as written).

Use the dīng-wèi needle 丁未針 (202.5° SSW / SSW) for five geng 五更 to make for the “Three-Fang Seven-Peaks Mountain” 三牙七峰山.

Use the single-dīng needle 單丁針 (210° SSW / SSW) for five geng 五更 to make for Balao Yuan 芭荖員.

Use the dīng-wèi needle 丁未針 (202.5° SSW / SSW) for five geng 五更 to make for Luobo Mountain 蘿蔔山 and the headland of Wendigu-pu Mountain 文滴古襍山頭—tall and imposing 高大, with clouds 有雲—as well as Xijiao Mountain 犀角山.

Use “single-wèi” 單未針 (210° SSW / SSW) and “single-...” 單了 (term unclear as written) until you sight Sacred Mountain 聖山.

Use the single-wèi needle 單未針 (210° SSW / SSW) together with the kūn-wèi needle 坤未針 (217.5° SW / SW) to make for Kunlun Mountain 昆侖山. Outside it there are “laogu stones”/old rocks 老古石; pass through the gate/channel 過門去.

Use the kūn-wèi needle 坤未針 (217.5° SW / SW) together with the kūn-shēn needle 坤申針 (232.5° SW / SW) until you sight Changyao Islet 長腰嶼.

Use the dīng-wèi needle 丁未針 (202.5° SSW / SSW) to make for Litang Islet 鯉塘嶼. Using dīng-wèi 丁未 is then Brunei—Boni Harbor 文萊勃泥港.

### 文萊回呂宋

港口開船出鯉塘嶼，單癸五更取長腰嶼門中通，丑艮三更取昆侖，遠看見成三個嶼是昆侖。丑癸五更取望煙山，高大有雲，往回放彩船祭獻。丑艮三更取五侖，丑艮八更取襍山，對開有老古石，行船極仔細。癸五更取淺馬頭。丑癸五更取芭荖員。丑癸五更取七峰山。丑癸五更取亦葉，水色清淥，打水六十托。丑艮十更取呂蓬山外過。丑癸五更取藤綁大山，是呂宋港口中一雞嶼，北邊是覆鼎安大山。南邊豬黎尾入妙。

### From Wenlai 文萊 [Brunei] back to Lusong 呂宋 [Luzon]

Depart from the harbor 港口開船 and come out by Litang Islet 鯉塘嶼.

Use the single-guǐ needle 單癸針 (15° NNE / NNE) for five geng 五更 to make for the gate/channel at Changyao Islet 長腰嶼門中通 (i.e., pass through the middle passage there).

Use the chǒu-gèn needle 丑艮針 (45° NE / NE) for three geng 三更 to make for Kunlun 昆侖. From afar 遠看 it appears as three islets 見成三個嶼—that is Kunlun 是昆侖.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for five geng 五更 to make for Wangyan Mountain 望煙山, tall and cloud-capped 高大有雲. On the return voyage 往回, release the colored-flag boat 放彩船 for ritual offerings 祭獻.

Use the chǒu-gèn needle 丑艮針 (45° NE / NE) for three geng 三更 to make for Wǔlún 五侖.

Use the chǒu-gèn needle 丑艮針 (45° NE / NE) for eight geng 八更 to make for Pu Mountain 襍山. Off/open to seaward 對開 there are “laogu stones” 老古石 (dangerous rocks/reefs). Navigate with extreme care 行船極仔細.

Use the guǐ needle 癸針 (7.5° N / N) for five geng 五更 to make for the Shallow Headland 淺馬頭.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for five geng 五更 to make for Balao Yuan 芭荖員.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for five geng 五更 to make for Seven-Peaks Mountain 七峰山.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for five geng 五更 to make for Yiyè 亦葉. The water color is clear 水色清深; soundings are sixty tuo 打水六十托.

Use the chǒu-gèn needle 丑艮針 (45° NE / NE) for ten geng 十更 to make for Lüpeng Mountain 呂蓬山, passing outside it 外過.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for five geng 五更 to make for Tengbang Great Mountain 藤綁大山. This is “Chicken Islet” 雞嶼 in the middle of the Luzon harbor entrance 呂宋港口中一雞嶼.

To the north 北邊 is Fuding’an Great Mountain 覆鼎安大山. Enter well by the south side, via Zhuli Tail 南邊豬黎尾入妙.

## 松浦往呂宋

柯子門開船，丙丁午及丁未十更見五島山。過去遠用坤申放洋五十四更，若不見山，用丁未二更見小琉球雞籠頭山。巡山使上用丙午六更見北港沙馬頭大灣山。丙午三十五更取射昆美山。丙午、單巳十更取月投門。丙午三更、坤未三更取麻裏荖表崎尾邊平過，夜不可睡，仔細。單巳五更取東樓山，丙午五更取裏銀山。壬丙五更取裏安山。丙巳五更取覆鼎安山，上是大小藤綁山，下是呂宋港，有雞嶼，內外俱可過船，無沉礁，有流水，進從東北邊妙。南邊是佳逸，拋佛郎船，取銃城，妙矣。

## From Songpu 松浦 to Lusong 呂宋 [Luzon]

Depart from Kezi Gate 柯子門.

Use the bǐng-dīng-wǔ needle 丙丁午針 (180° S / S) together with the dīng-wèi needle 丁未針 (202.5° SSW / SSW) for ten geng 十更; you will see Wudao Mountain 五島山.

After passing it 過去, stand out to sea at the kūn-shēn bearing 坤申針 (232.5° SW / SW) for fifty-four geng 五十四更. If you do not see land 若不見山, then use the dīng-wèi needle 丁未針 (202.5° SSW / SSW) for two geng 二更 and you will see the headland/mountain of Xiaoliuqiu Jilong 小琉球雞籠頭山.

Cruise along the mountains 巡山使. Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for six geng 六更 and you will see the Beigang sand headland and the Dawan Mountain 北港沙馬頭大灣山.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for thirty-five geng 三十五更 to make for Shekunmei Mountain 射昆美山.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) together with the single-sì needle 單巳針 (150° SSE / SSE) for ten geng 十更 to make for Yuetou Gate 月投門.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for three geng 三更, then the kūn-wèi needle 坤未針 (217.5° SW / SW) for three geng 三更, to pass level with the promontory/tail by Malilao's offshore bank Malilao-biao 麻裏老表崎尾邊平過. At night 夜, do not sleep carelessly 不可睡— be very careful 仔細.

Use the single-sì needle 單巳針 (150° SSE / SSE) for five geng 五更 to make for Donglou Mountain 東樓山.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for five geng 五更 to make for Liyin Mountain 裏銀山.

Use the rén-bǐng needle 壬丙針 (as written; likely a variant “single-bǐng” bearing) (165° SSE / SSE) for five geng 五更 to make for Lian Mountain 裏安山.

Use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for five geng 五更 to make for Fuding'an Mountain 覆鼎安山. Above it are the Greater and Lesser Tengbang Mountains 大小藤綁山; below is the Luzon harbor 呂宋港. There is Chicken Islet 雞嶼; you may pass either inside or outside 內外俱可過船. There are no submerged reefs 無沉礁, but there are currents 有流水. Entering from the northeast side 進從東北邊 is best 妙.

On the south side 南邊 is Jiayi 佳逸. One can anchor “Frank” (European) ships 拋佛郎船 and obtain firearms at the gun fort 取銃城—excellent 妙矣.

### 呂宋回松浦

雞嶼開船離洋，巳亥及壬子五更取裏安山。丑癸五更取裏仁大山。單癸五更取東樓山。壬亥、單亥五更取麻裏荖表。俱是平平昆峯，過夜不可睡。用壬子放洋二十五更取浯嶼，放彩船。單癸、子癸十更取沙馬頭大灣內山。巡山使子癸六更見雞籠頭山為準。離山有四五更放洋，艮寅五十六更見山。船身在南，見野故山，在北有雲貳山、天堂。欲至鬆浦，船過天堂，用壬亥、壬子十更收入柯子門。鬆浦即平戶津，土名魚鱗島。港內水急，中有一小員嶼，須當水平進。欲往護屋，平戶出港用艮寅三更收入護屋，即隴車仔也，若去西北風大，或從雞籠後過之，若來西南風大，或雞籠後過有之，須當仔細。

### From Lusong 呂宋 [Luzon] back to Songpu 松浦

Depart from Chicken Islet 雞嶼 and stand out from the open sea 離洋.

Use the sì-hài needle 巳亥針 (337.5° NNW / NNW) together with the rén-zǐ needle 壬子針 (352.5° N / N) for five geng 五更 to make for Lǐān Mountain 裏安山.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for five geng 五更 to make for Lǐrén Great Mountain 裏仁大山.

Use the single-guǐ needle 單癸針 (15° NNE / NNE) for five geng 五更 to make for Donglou Mountain 東樓山.

Use the rén-hài needle 壬亥針 (337.5° NNW / NNW) together with the single-hài needle 單亥針 (330° NNW / NNW) for five geng 五更 to make for the Malilao offshore bank 麻裏荖表. These are all flat kun... ridges/islands 俱是平平昆峯; when you pass the night there 過夜, do not sleep carelessly 不可睡.

Use the rén-zǐ needle 壬子針 (352.5° N / N) to put out into the open sea 放洋 for twenty-five geng 二十五更 to make for Wuyu 浯嶼, and “release the colored-flag boat” 放彩船.

Use the single-guǐ needle 單癸針 (15° NNE / NNE) together with the zǐ-guǐ needle 子癸針 (7.5° N / N) for ten geng 十更 to make for Shama Headland and the inner Dawan mountains 沙馬頭大灣內山.

Cruising along the mountains 巡山使, use the zǐ-guǐ needle 子癸針 (7.5° N / N) for six geng 六更; sighting Jilong Head Mountain 雞籠頭山 is your reference point 為準.

After leaving that mountain 離山, put out into the open sea for four to five geng 有四五更放洋, then use the gèn-yín needle 艮寅針 (52.5° NE / NE) for fifty-six geng 五十六更 and you will see land 見山.

If the ship is to the south 船身在南, you will see Yegu Mountain 野故山. To the north 在北 there are Yun'er Mountain 雲貳山 and "Heaven Hall" 天堂.

To reach Songpu 欲至鬆浦, sail past "Heaven Hall" 船過天堂, then use the rén-hài needle 壬亥針 (337.5° NNW / NNW) together with the rén-zǐ needle 壬子針 (352.5° N / N) for ten geng 十更 to enter Kezi Gate 收入柯子門.

Songpu 松浦 is Hirado Harbor 平戶津; the local name 土名 is Fish-Scale Island 魚鱗島. Inside the harbor 港內 the water/current is swift 水急. In the middle there is a small round islet 中有一小員嶼; you must time the tide/current and enter levelly/steadily 須當水平進.

If you want to go to Huqu (Okinawa) 欲往護屋: after leaving Hirado 平戶出港, use the gèn-yín needle 艮寅針 (52.5° NE / NE) for three geng 三更 to enter Huqu 收入護屋—also called "Long-cart Islet" 隴車仔也.

If a strong west-northwest wind is blowing 若去西北風大, you may pass behind Jilong 雞籠後過之. If a strong west-southwest wind is blowing on the return 若來西南風大, you may also pass behind Jilong 雞籠後過有之. In all cases you must be very careful 須當仔細.

### 泉州往勃泥即文萊

長枝頭開船, 單丙一夜一日、丙午針好風五日, 看見小呂蓬山。丙午一日一夜見芒煙大山, 北邊是呂蓬大山, 見門內從邊落去。丁未見有一門不可入, 沿山邊落用單丁見三牙七峰, 洋中有凌礁, 礁行船仔細。又使二日一夜見沙奇頭有淺, 船使竹山邊, 見一列老古, 船身半奇頭。單午一夜一日出見大小羅模山, 見古襍山, 又見聖山, 對開來高大有雲, 犀

角山尖。坤未取昆侖山，外有老古淺，平使船門。坤未、單未沿昆峯使，取長腰嶼有門，丁午取鯉魚嶼，收毛花蠟，是勃泥也，即文萊。

### **From Quanzhou 泉州 to Boni 勃泥, i.e. Wenlai 文萊 [Brunei]**

Depart from Changzhi Head 長枝頭.

Use the single-bǐng needle 單丙針 (165° SSE / SSE) for one night and one day 一夜一日; then use the bǐng-wǔ needle 丙午針 (172.5° S / S) with fair wind 好風 for five days 五日, and you will sight Little Lüpeng Mountain 小呂蓬山.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for one day and one night 一日一夜, and you will see Mangyan Great Mountain 芒煙大山. To the north 北邊 is Great Lüpeng Mountain 呂蓬大山. You will see a “gate”/opening 見門; drop in along the side and go down into it 從邊落去.

Using the dīng-wèi needle 丁未針 (202.5° SSW / SSW), you will see a gate/entrance 一門 that you must not enter 不可入. Follow down along the mountain side 沿山邊落; using the single-dīng needle 單丁針 (210° SSW / SSW) you will see Three-Fang Seven-Peaks 三牙七峰. In mid-sea 洋中 there are “ling reefs” 凌礁; when navigating reefs 礁, steer with great care 行船仔細.

Sail on another two days and one night 又使二日一夜 and you will see Shaqi Head 沙奇頭; there are shoals 淺. Keep the ship running along by Zhushan 竹山邊. You will see a line of “laogu” rocks 一列老古; your ship will be abreast of/halfway along Shaqi Head 船身半奇頭.

Use the single-wǔ needle 單午針 (180° S / S) for one night and one day 一夜一日 and you will come out to sight the Greater and Lesser Luomo Mountains 大小羅模山. You will also see Gupu Mountain 古禰山, and then see Sacred Mountain 聖山. Off/open to seaward 對開 it rises tall and cloud-capped 高大有雲; there is the sharp peak of Xijiao Mountain 犀角山尖.

Use the kūn-wèi needle 坤未針 (217.5° SW / SW) to make for Kunlun Mountain 昆侖山. Outside it 外 there are laogu shoals 老古淺; keep level with it and follow the ship through the gate/channel 平使船門.

Use the kūn-wèi needle 坤未針 (217.5° SW / SW) together with the single-wèi needle 單未針 (210° SSW / SSW), following along the Kun... ridge/islands 沿昆峯使, to make for Changyao Islet 長腰嶼, where there is a gate/channel 有門.

Use the dīng-wǔ needle 丁午針 (187.5° S / S) to make for Carp/Fish Islet 鯉魚嶼.

Close in to obtain “maohua wax” 收毛花蠟—this is Boni 勃泥, i.e. Brunei 文萊.

### 浯嶼往麻裏呂

太武開船，單已廿五更取浯嶼洋，往來放彩船祭獻，丙巳取射昆美山。沿山使三更取白土山並萬安旦港口及玳瑁港討蘇安。單丙四更取麻裏荖斷嶼過表是裏銀並陳公大山，尾見裏安大山。看見八個安山開洋，中是呂蓬山，平沿山使取呂宋港口，有雞嶼，下是居民港，看見豬來尾山。貓荖英開山是呂裏山，上有白處是麻裏呂也。

### From Wuyu 浯嶼 to Malilü 麻裏呂

Depart from Taiwu 太武.

Use the single-sì needle 單巳針 (150° SSE / SSE) for twenty-five geng 廿五更 to reach the open sea off Wuyu 浯嶼洋. On the outward and return passages 往來, release the colored-flag boat 放彩船 for ritual offerings 祭獻.

Use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) to make for Shekunmei Mountain 射昆美山.

Following along the mountains 沿山使 for three geng 三更, make for White Earth Mountain 白土山, together with Wan’andan Harbor 萬安旦港口, and Dai’mao Harbor 玳瑁港, to seek Su’an 討蘇安.

Use the single-bǐng needle 單丙針 (165° SSE / SSE) for four geng 四更 to make for the broken islets of Malilao 麻裏荖斷嶼. Passing beyond the offshore bank 過表, you (then) have Liyin 裏銀 and Chen Gong Great Mountain 陳公大山; at their tail/end you will see Lǐān Great Mountain 尾見裏安大山.

When you can see the “Eight An Mountains” 看見八個安山, stand out into the open sea 開洋. In the middle is Lüpeng Mountain 中是呂蓬山. Keeping level and following along the mountains 平沿山使, make for the Luzon harbor entrance 呂宋港口. There is Chicken Islet 有雞嶼. Below/southward is the Residents’ Harbor 下是居民港. You will see “Zhūlái Tail Mountain” 看見豬來尾山.

“Maolao Ying” 貓荖英 is the mountain you open on; it is Lǔlǐ Mountain 呂裏山. The white area on it 上有白處 is Malilü 麻裏呂.

## 回針

貓裏呂開船，丑癸單丑四十更取裏銀山並麻裏荖表平平長。壬子、壬癸廿五更取浯嶼洋中，用壬子廿五更取浯嶼入太武也。

### Return Course — 回針

Depart from Maolilü 貓裏呂.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) together with the single-chǒu needle 單丑針 (30° NNE / NNE) for forty geng 四十更 to make for Liyin Mountain 裏銀山, and the Malilao offshore bank 麻裏荖表—flat and long 平平長.

Use the rén-zǐ needle 壬子針 (352.5° N / N) together with the rén-guǐ needle 壬癸針 (352.5° N / N) for twenty-five geng 廿五更 to reach the open sea off Wuyu 浯嶼洋 (mid-sea 洋中).

Then use the rén-zǐ needle 壬子針 (352.5° N / N) for twenty-five geng 廿五更 to make for Wuyu 浯嶼 and enter Taiwu 太武 入太武.

### 泉州往彭家施闌

長枝開船，丙巳七更取彭湖。丙午七更取虎尾山。沿山五更取沙馬頭，住船二邊有雞籠嶼。辰巽十更取毛架及五嶼，遠看見是紅豆嶼並東浮甲在東邊及甘裏，輕取大港，若風東用辰巽取小港出港。辛酉七更取射昆美，若見紅豆嶼如不收入大港，當用丙午沿山使一二更取哪哦山尾見白土山，沿山使好風，使一日一夜收三嶼密雁港口，便是襍頭門，即殺牛坑。丙午、單午十一更取十六兒山，下是四嶼。單巳五更取郎梅嶼下住船。單午取麻裏荖斷嶼，丁午五更取蘇安港，沿山使是玳瑁港，過東是傍家施蘭港。

### From Quanzhou 泉州 to Pengjia Shilan 彭家施闌

Depart from Changzhi 長枝.

Use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) for seven geng 七更 to make for Penghu 澎湖.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for seven geng 七更 to make for Huwei Mountain 虎尾山.

Following along the mountains 沿山 for five geng 五更, make for Shama Headland 沙馬頭 and anchor there 住船. On both sides 二邊 there are Jilong Islets 雞籠嶼.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) for ten geng 十更 to make for Maojia 毛架 and the Five Islets 五嶼. From afar 遠看 you will see Hongdou Islet 紅豆嶼, and Dongfu-jia 東浮甲 to the east 東邊, as well as Ganli 甘裏. Lightly/closely take the Great Harbor 輕取大港. If the wind is easterly 若風東, use the chén-xùn needle 辰巽針 (127.5° SE / SE) to take the Small Harbor 小港 and exit the harbor 出港.

Use the xīn-yǒu needle 辛酉針 (277.5° W / W) for seven geng 七更 to make for Shekunmei 射昆美.

If you see Hongdou Islet 若見紅豆嶼 and do not enter the Great Harbor 如不收入大港, then you should use the bǐng-wǔ needle 丙午針 (172.5° S / S) and follow along the mountains 沿山 使 for one or two geng 一二更 to make for the tail of Nao Mountain 哪哦山尾, and you will see White Earth Mountain 見白土山.

Follow along the mountains 沿山使 with favorable wind 好風, sailing for one day and one night 一日一夜 to close on the harbor entrance of “Three Islets—Miyan” 收三嶼密雁港口. This is the Pu-tou Gate 襍頭門, i.e. Sha-niu-keng 便是襍頭門, 即殺牛坑.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) together with the single-wǔ needle 單午針 (180° S / S) for eleven geng 十一更 to make for “Sixteen-zi Mountain” 十六兒山; below it 下 are the Four Islets 四嶼.

Use the single-sì needle 單巳針 (150° SSE / SSE) for five geng 五更 to make for Langmei Islet 郎梅嶼, and anchor below it 下住船.

Use the single-wǔ needle 單午針 (180° S / S) to make for the broken islets of Malilao 麻裏老斷嶼.

Use the dīng-wǔ needle 丁午針 (187.5° S / S) for five geng 五更 to make for Su'an Harbor 蘇安港.

Following along the mountains 沿山使, this is Dai'mao Harbor 玳瑁港; passing eastward 過東 from there is Bangjia Shilan Harbor 傍家施蘭港.

### 泉州往杉木

長枝頭開船，丙午七更取澎湖。丙午三十更、丙巳取三嶼。沿山使丙午收表。丙巳見裏銀大山。辰巽入呂宋。單巽取芒煙大山，沿山使用巽巳，取平嶼過洋。單辰五更取高西山右邊離山。辰巽取裏沙大山，沿山落丙巳取大山尾，丙巳好風二十更單巳取麻安大山，單午見雙裏山，船在山西邊過。丙午十五更取蘇祿。單酉並坤申出昆峯門，庚酉並辛酉三十更取麻裏奔山，在北連離山。巽巳十更入昆峯尾在右邊來。單巳取筆架山入港，東加蠟拋船，是杉木。

### From Quanzhou 泉州 to Shanmu 杉木

Depart from Changzhi Head 長枝頭.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for seven geng 七更 to make for Penghu 澎湖.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for thirty geng 三十更, then use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) to make for the Three Islets 三嶼.

Cruising along the mountains 沿山使, using bǐng-wǔ 丙午, close on the offshore bank/shoal 收表.

Using bǐng-sì 丙巳, you will see Liyin Great Mountain 裏銀大山.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) to enter Luzon 呂宋.

Use the single-xùn needle 單巽針 (135° SE / SE) to make for Mangyan Great Mountain 芒煙大山; then, following the coast 沿山, use the xùn-sì needle 巽巳針 (142.5° SE / SE) to make for the flat islets 平嶼 and stand out to sea 過洋.

Use the single-chén needle 單辰針 (120° ESE / ESE) for five geng 五更 to make for the right-hand side of Gaoxi Mountain 高西山右邊, off the mountain (i.e., away from it) 離山.

Use the chén-xùn needle 辰巽針 (127.5° SE / SE) to make for Lǐshā Great Mountain 裏沙大山. Following along the mountains 沿山落, use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) to make for the tail/end of the Great Mountain 大山尾.

Use the bǐng-sì needle 丙巳針 (157.5° SSE / SSE) with fair wind 好風 for twenty geng 二十更; then use the single-sì needle 單巳針 (150° SSE / SSE) to make for Ma'an Great Mountain 麻安大山.

Using the single-wǔ needle 單午針 (180° S / S), you will see Shuangli Mountain 雙裏山; pass to the west of the mountain 船在山西邊過.

Use the bǐng-wǔ needle 丙午針 (172.5° S / S) for fifteen geng 十五更 to make for Sulu 蘇祿.

Use the single-yǒu needle 單酉針 (270° W / W) together with the kūn-shēn needle 坤申針 (232.5° SW / SW) to exit the "Kun..." passage 出昆峯門.

Use the gēng-yǒu needle 庚酉針 (262.5° W / W) together with the xīn-yǒu needle 辛酉針 (277.5° W / W) for thirty geng 三十更 to make for Maliben Mountain 麻裏奔山; it is connected to the north 北連, and you keep off the mountain 離山.

Use the xùn-sì needle 巽巳針 (142.5° SE / SE) for ten geng 十更 to enter the tail/end of the Kun... ridge/islands 昆峯尾, with it coming on your right side 在右邊來.

Use the single-sì needle 單巳針 (150° SSE / SSE) to make for Bijià Mountain 筆架山 and enter the harbor 入港.

Anchor at Dongjiala 東加蠟 拋船—this is Shanmu 杉木.

### 杉木回浯嶼

東加蠟開船見麻裏奔山。離昆峯尾用乾亥取麻裏奔山，若見半洋小嶼在東邊過船。乾亥取麻裏奔山，離山尾壁頭起身。子癸五更取半洋離昆峯。子癸十更壬子並壬癸取三牙七峰，沿山使見南頭高。單酉取糞箕嶼。單女取蘇祿出門過洋。乾亥五更單亥離巴漢頭山。十更單子取裏銀山，並麻裏荖表。壬子廿五更取浯嶼洋中，壬子廿五更取浯嶼也。

### From Shanmu 杉木 back to Wuyu 浯嶼

Depart from Dongjiala 東加蠟. You will see Maliben Mountain 麻裏奔山.

Leaving the tail of the Kun... ridge/islands 離昆峯尾, use the qián-hài needle 乾亥針 (322.5° NW / NW) to make for Maliben Mountain 麻裏奔山. If you see a mid-sea small islet 若見半洋小嶼, pass to its east 東邊過船.

Use the qián-hài needle 乾亥針 (322.5° NW / NW) to make for Maliben Mountain 麻裏奔山; when leaving the mountain's tail/cliffhead 離山尾壁頭起身 (i.e., after getting underway off the mountain's tail).

Use the zǐ-guǐ needle 子癸針 (7.5° N / N) for five geng 五更 to make for "mid-sea"/halfway point 半洋, away from the Kun... ridge/islands 離昆峯.

Use the zǐ-guǐ needle 子癸針 (7.5° N / N) for ten geng 十更; then use the rén-zǐ needle 壬子針 (352.5° N / N) together with the rén-guǐ needle 壬癸針 (352.5° N / N) to make for Three-Fang Seven-Peaks 三牙七峰. Following along the mountains 沿山使, you will see the southern headland high 見南頭高.

Use the single-yǒu needle 單酉針 (270° W / W) to make for Fenji Islet 糞箕嶼.

Use the single-nǚ needle 單女針 (as written; "nǚ 女" is not a standard compass branch term here) to make for Sulu 蘇祿, exiting the passage 出門 and then standing out to sea 過洋.

Use the qián-hài needle 乾亥針 (322.5° NW / NW) for five geng 五更, then use the single-hài needle 單亥針 (330° NNW / NNW) to stand off from Bahan Head Mountain 離巴漢頭山.

Use the single-zǐ needle 單子針 (0° N / N) for ten geng 十更 to make for Liyin Mountain 裏銀山, together with the Malilao offshore bank 麻裏朥表.

Use the rén-zǐ needle 壬子針 (352.5° N / N) for twenty-five geng 廿五更 to reach the open sea off Wuyu 浯嶼洋中, and then use the rén-zǐ needle 壬子針 (352.5° N / N) for another twenty-five geng 廿五更 to make for Wuyu 浯嶼.

## 福建往琉球

太武放洋，用甲寅針七更船取烏坵。用甲寅並甲卯針正南東牆開洋。用乙辰取小琉球頭。又用乙辰取木山。北風東湧開洋，用甲卯取彭家山。用甲卯及單卯取釣魚嶼。南風東湧放洋，用乙辰針取小琉球頭，至彭家花瓶嶼在內。正南風梅花開洋，用乙辰取小琉球。用單

乙取釣魚嶼南邊。用卯針取赤坎嶼。用反針取枯美山。南風用單辰四更，看好風單甲十一更取古巴山，即馬齒山，是麻山亦嶼。用甲卯針取琉球國為妙。

不入港欲往日本，對琉球山豪霸港可開洋。琉球放洋用單丁針，四更船取椅山外過。單癸針二更半是葉壁山，離椅山了。單癸四更取流橫山。又用丑癸五更取田家地。用丑癸三更半取萬者通七島山邊。用單寅針，五更取野故山內過船。離野故山用艮針二更半船取但爾山。又單艮四更取西甫山平港口，其水望東流十分緊。單寅十更船取啞慈子裏美山，其山用單艮二更、單寅三更沿度奴烏佳眉山。用癸針三更，船若是船開單子一更取是麻山邊，南邊有沉礁，名做長礁，東邊過船。單丑一更船是正路。用子針四更船取大山門中傍西邊門過船，用單丑是兵庫港為妙。

### **From Fujian 福建 to Liuqiu 琉球 [Ryukyu]**

Taiwu puts out to sea 太武放洋. Use the jiǎ-yín needle 甲寅針 (67.5° ENE / ENE) for seven geng 七更; the ship makes for Wuqiu 烏坵.

Use the jiǎ-yín needle 甲寅針 (67.5° ENE / ENE) together with the jiǎ-mǎo needle 甲卯針 (82.5° E / E) and stand out into the open sea due south of Dongqianglai 東牆 (i.e., “due south of Dongqianglai, stand out to sea” 正南東牆開洋).

Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) to make for the head of Little Ryukyu 小琉球頭.

Again use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) to make for Mushan 木山.

With a north wind: from Dongyong 東湧 stand out to sea. Use the jiǎ-mǎo needle 甲卯針 (82.5° E / E) to make for Pengjia Mountain 彭家山.

Use the jiǎ-mǎo needle 甲卯針 (82.5° E / E) together with the single-mǎo needle 單卯針 (90° E / E) to make for Diaoyu Islet 釣魚嶼.

With a south wind: from Dongyong 東湧 stand out to sea. Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) to make for the head of Little Ryukyu 小琉球頭; as for the Pengjia “Huaping” islets 彭家花瓶嶼, they lie inside/on the inner side 在內.

With a due south wind: from Meihua 梅花 stand out to sea. Use the yǐ-chén needle 乙辰針 (112.5° ESE / ESE) to make for Little Ryukyu 小琉球.

Use the single-yǐ needle 單乙針 (105° ESE / ESE) to pass the south side of Diaoyu Islet 釣魚嶼南邊.

Use the mǎo needle 卯針 (90° E / E) to make for Chikan Islet 赤坎嶼.

Use the “reverse needle” 反針 (i.e., the reciprocal course) to make for Kume Mountain 枯美山.

With a south wind 南風: use the single-chén needle 單辰針 (120° ESE / ESE) for four geng 四更; then, with favorable wind 看好風, use the single-jiǎ needle 單甲針 (75° ENE / ENE) for eleven geng 十一更 to make for Guba Mountain 古巴山—also called Mǎchǐ Mountain 馬齒山; this is also Mashan Islet 麻山亦嶼.

Use the jiǎ-mǎo needle 甲卯針 (82.5° E / E) to make for the Ryukyu kingdom 琉球國—this is best 為妙.

不入港欲往日本 (if you do not enter port and instead wish to go on to Japan)

Opposite the Ryukyu mountains, at Haoba Harbor 豪霸港, you may stand out to sea 可開洋.

From Ryukyu, stand out to sea 琉球放洋 using the single-dīng needle 單丁針 (210° SSW / SSW). After four geng 四更, the ship makes for Yishan 椅山, passing outside it 外過.

Use the single-guǐ needle 單癸針 (15° NNE / NNE) for two-and-a-half geng 二更半; this is Yebi Mountain 葉壁山—after leaving Yishan 離椅山了.

Use the single-guǐ needle 單癸針 (15° NNE / NNE) for four geng 四更 to make for Liuheng Mountain 流橫山.

Then use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for five geng 五更 to make for Tianjiadi 田家地.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for three-and-a-half geng 三更半 to make for the side of Wanzhetong “Seven-Islands Mountain” 萬者通七島山邊.

Use the single-yín needle 單寅針 (60° ENE / ENE) for five geng 五更 to make for Yegu Mountain 野故山, passing inside it 內過船.

After leaving Yegu Mountain 離野故山, use the gèn needle 艮針 (45° NE / NE) for two-and-a-half geng 二更半; the ship makes for Dan'er Mountain 但爾山.

Then use the single-gèn needle 單艮針 (45° NE / NE) for four geng 四更 to make for Youfu Mountain 酉甫山, bringing it level with the harbor mouth 平港口. Here the current sets eastward very strongly 其水望東流十分緊.

Use the single-yín needle 單寅針 (60° ENE / ENE) for ten geng 十更; the ship makes for Yacizi-limei Mountain 啞慈子裏美山. From that mountain, use the single-gèn needle 單艮針 (45° NE / NE) for two geng 二更 and the single-yín needle 單寅針 (60° ENE / ENE) for three geng 三更, following along Dunu-wujiamei Mountain 度奴烏佳眉山.

Use the guǐ needle 癸針 (7.5° N / N) for three geng 三更. If the ship is running too far off (i.e., “if the ship opens out”) 船若是船開, then use the single-zǐ needle 單子針 (0° N / N) for one geng 一更 to make for the side of Shima Mountain 是麻山邊. To the south 南邊 there is a submerged reef 沉礁 called Chang Reef 長礁; pass to its east 東邊過船. Use the single-chǒu needle 單丑針 (30° NNE / NNE) for one geng 一更—this is the correct route 是正路.

Use the zǐ needle 子針 (0° N / N) for four geng 四更; the ship makes for the passage through the great mountain gate 大山門中, passing through the western side gate 傍西邊門過船. Use the single-chǒu needle 單丑針 (30° NNE / NNE): this is Hyōgo Harbor 兵庫港—this is best 為妙.

### 琉球往日本針路

計山對四個椅山, 共五十七更, 船豪羈港口開船。單子四更取椅山外過。用癸針二更半取葉壁。單癸四更取流橫山。用丑癸五更取田家地山。用丑癸三更半取夢加利山。單癸三更取大羅山。單癸二更半取萬者通七坵山邊過。單寅五更取野故山內過。艮針二更半取但爾山。又艮針四更取野角利出平港口, 流水望東十分急。離野裏山單寅十更取啞慈子裏美山妙, 佳眉。單癸三更若是船開, 單子一更取而麻山, 邊一個沉礁名做長礁, 東邊過船。單丑十更船是正路。子針三更取大山門中傍西邊門過船。單丑三更取兵庫港為妙。

### Compass Route from Liuqiu 琉球 [Ryukyu] to Rinan 日本 [Japan]

From Jishan 計山 facing the four “Yishan” peaks 椅山 (making five in all 共五), the passage is a total of fifty-seven geng 共五十七更. Depart from Haoba Harbor 豪羈港口.

Use the single-zǐ needle 單子針 (0° N / N) for four geng 四更 to make for Yishan 椅山, passing outside it 椅山外過.

Use the guǐ needle 癸針 (7.5° N / N) for two-and-a-half geng 二更半 to make for Yebi 葉壁.

Use the single-guǐ needle 單癸針 (15° NNE / NNE) for four geng 四更 to make for Liuheng Mountain 流橫山.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for five geng 五更 to make for Tianjiadi Mountain 田家地山.

Use the chǒu-guǐ needle 丑癸針 (37.5° NE / NE) for three-and-a-half geng 三更半 to make for Mengjiali Mountain 夢加利山.

Use the single-guǐ needle 單癸針 (15° NNE / NNE) for three geng 三更 to make for Daluo Mountain 大羅山.

Use the single-guǐ needle 單癸針 (15° NNE / NNE) for two-and-a-half geng 二更半 to pass by the side of Wanzhetong “Seven-mounds Mountain” 萬者通七坵山邊過.

Use the single-yín needle 單寅針 (60° ENE / ENE) for five geng 五更 to make for Yegu Mountain 野故山, passing inside it 內過.

Use the gèn needle 艮針 (45° NE / NE) for two-and-a-half geng 二更半 to make for Dan'er Mountain 但爾山.

Again use the gèn needle 艮針 (45° NE / NE) for four geng 四更 to make for Yejiaili 野角利, bringing it level with the harbor mouth 出平港口. The current sets eastward strongly 流水望東十分急.

After leaving Yeli Mountain 離野裏山, use the single-yín needle 單寅針 (60° ENE / ENE) for ten geng 十更 to make for Yacizi-limei Mountain 啞慈子裏美山—this is best 妙; (then) Jiamei 佳眉.

Use the single-guǐ needle 單癸針 (15° NNE / NNE) for three geng 三更. If the ship is standing too far off 若是船開, use the single-zǐ needle 單子針 (0° N / N) for one geng 一更 to make for Erma Mountain 而麻山. Off to the side there is a submerged reef 邊一個沉礁 called Chang Reef 長礁; pass to its east 東邊過船.

Use the single-chǒu needle 單丑針 (30° NNE / NNE) for ten geng 十更—this is the correct route 船是正路.

Use the zǐ needle 子針 (0° N / N) for three geng 三更 to make for the passage through the great mountain gate 大山門中, passing through the western side gate 傍西邊門過船.

Use the single-chǒu needle 單丑針 (30° NNE / NNE) for three geng 三更 to make for Hyōgo Harbor 兵庫港—this is best 為妙.

#### 兵庫港回琉球針路

港口開船，單未三更、單午四更，取大門山中傍西邊過。用午四更取麻山。單丁三更取沿渡奴鳥佳眉山。單辛針取啞慈子裏美山，其山用辛針十一更取啞甫利山。單坤六更取但爾山。坤申四更取野故山。坤申五更取萬者通七島山內過，山名曰坵奴名山，共野山對面一更船有小礁，五更船千萬仔細，使船在北邊過。單丁三更取大羅山，丁未三更取夢加利山。用丁未五更取葉壁山外過。單丁三更取馬蹄山。單午四更取琉球港口為妙。

#### 兵庫港回琉球針路 (route from Hyōgo Harbor 兵庫港 back to Ryukyu 琉球)

Depart from the harbor 港口開船.

Use the single-wèi needle 單未針 (210° SSW / SSW) for three geng 三更, then the single-wǔ needle 單午針 (180° S / S) for four geng 四更, to make for the Great Gate Mountain 大門山, passing through the western side of the middle passage 山中傍西邊過.

Use the wǔ needle 午針 (180° S / S) for four geng 四更 to make for Ma Mountain 麻山.

Use the single-dīng needle 單丁針 (210° SSW / SSW) for three geng 三更 to make for (and follow along) Dunu-niao Jiamei Mountain 渡奴鳥佳眉山.

Use the single-xīn needle 單辛針 (as written; “xīn 辛” is a standard stem but “single-xīn” is not a common standard needle name in this text) to make for Yacizi-limei Mountain 啞慈子裏美山. From that mountain 其山, use the xīn needle 辛針 (277.5° W / W) for eleven geng 十一更 to make for Yafuli Mountain 啞甫利山.

Use the single-kūn needle 單坤針 (225° SW / SW) for six geng 六更 to make for Dan'er Mountain 但爾山.

Use the kūn-shēn needle 坤申針 (232.5° SW / SW) for four geng 四更 to make for Yegu Mountain 野故山.

Use the kūn-shēn needle 坤申針 (232.5° SW / SW) for five geng 五更 to pass inside the Wanzhetong “Seven-Islands Mountain” 萬者通七島山內過. The mountain is called Qiunu Famous Mountain 山名曰坵奴名山. Opposite Yeshan 共野山對面, after one geng 一更 there is a small reef 船有小礁; for five geng 五更 you must be extremely careful 千萬仔細, and keep the ship passing on the north side 使船在北邊過.

Use the single-dīng needle 單丁針 (210° SSW / SSW) for three geng 三更 to make for Daluo Mountain 大羅山.

Use the dīng-wèi needle 丁未針 (202.5° SSW / SSW) for three geng 三更 to make for Mengjiali Mountain 夢加利山.

Use the dīng-wèi needle 丁未針 (202.5° SSW / SSW) for five geng 五更 to make for Yebi Mountain 葉壁山, passing outside it 外過.

Use the single-dīng needle 單丁針 (210° SSW / SSW) for three geng 三更 to make for Matí Mountain 馬蹄山.

Use the single-wǔ needle 單午針 (180° S / S) for four geng 四更 to make for the Ryukyu harbor 琉球港口—this is best 為妙.

### 琉球回福建

港口用坤申一更半平古巴山是麻山。用辛酉四更年，用辰戌十二更、單乾四更、單辛五更、辛酉十六更認是東路山，望下勢便是南犯，坤未三更半台山，三更是鳥麻山，坤針見官塘。五更平官塘，取定海千戶所前拋為妙。

### Liuqiu 琉球 [Ryukyu] back to Fujian 福建

Depart from the harbor 港口.

Use the kūn-shēn needle 坤申針 (232.5° SW / SW) for one-and-a-half geng 一更半 to bring Kuba Mountain 古巴山 level—this is Mashan 麻山.

Use the xīn-yǒu needle 辛酉針 (277.5° W / W) for four geng 四更.

Then use the chén-xū needle 辰戌針 for twelve geng 十二更. (Note: 辰戌 as a “needle” term is not a standard adjacent-pair needle name in the usual 24-direction / 48-needle practice, so I’m treating it here as it appears in your text without confidently assigning a degree value.)

Then use the single-qíán needle 單乾針 (315° NW / NW) for four geng 四更.

Then use the single-xīn needle 單辛針 (285° WNW / WNW) for five geng 五更.

Then use the xīn-yǒu needle 辛酉針 (277.5° W / W) for sixteen geng 十六更, recognizing that this is the “Eastern Route Mountain” 東路山.

When you sight its downward trend 望下勢, that means you are drifting too far south (risking “running south” / going off to the south) 便是南犯.

Use the kūn-wèi needle 坤未針 (217.5° SW / SW) for three-and-a-half geng 三更半 to reach Taishan 台山.

After three geng 三更 you reach Niaoma Mountain 烏麻山.

With a kūn needle 坤針 (225° SW / SW), you will sight Guantang 官塘.

After five geng 五更 you bring Guantang 官塘 level; then make for the anchorage in front of Dinghai Qianhu Office 定海千戶所前 and anchor there—this is best 取定...前拋為妙.

日本港山形水勢

船見雲貳山直隴是久誌澳，下是秋日澳。

船見鳥嶼直隴是山川。

### 日本港山形水勢 (harbor landforms and waters in Japan)

If the ship sights “Yun’er Mountain” 雲貳山, then on the same straight bearing (i.e., directly in line) 直隴 lies Kyūshi Anchorage 久誌澳; below it (i.e., further down along the coast / nearer the foot of the landform) 下 is Akihi Anchorage 秋日澳.

If the ship sights “Bird Islet” 鳥嶼, then on the same straight bearing 直隴 lies Yamakawa 山川.

## 女澳內浦港

船見天堂頭是片浦港。天堂內是阿久根。下處是京泊津。

船見天堂，北隴是天草，即野馬掘沙。用艮丑針取支岐在東南邊進人去即口津，在北邊名曰屈津澳子，即及有馬大山，即裏馬國。

船見日嶼即五島頭，美甚焉。直隴用單寅收入長岐視，即籠仔沙機，有佛郎番在此。船見天堂，用壬子、壬亥取鬆浦港。船見五島頭，用艮寅取髻仔山進柯子人去即平戶津，名魚鱗島。

船見對馬島，用乙長、乙卯取鬆浦為妙也。

或船使高有收上銀山港門經紀更妙。

## 女澳內浦港 (Na-ao inner bay / inner-harbor notes)

If the ship sights Tiāntáng Head 天堂頭, that is Pianpu Harbor 片浦港. Inside Tiāntáng (i.e., farther in) 天堂內 is Akune 阿久根. Farther down the coast/below 下處 is Jingbo Ferry 京泊津.

If the ship sights Tiāntáng 天堂, then to its north, in line 北隴, is Amakusa 天草—also called “Yema-juesha” 野馬掘沙. Use the gèn-chǒu needle 艮丑針 (37.5° NE / NE) to make for Zhīqí 支岐. On the southeast side 東南邊, when you enter in 進人去, it is called Kǒujīn 口津; on the north side 北邊 it is called Qūjīn-àozǐ 屈津澳子. It is also (the area of) Arima Great Mountain 有馬大山, i.e. the country of Lǐmǎ 裏馬國.

If the ship sights Sun Islet 日嶼, that is the head of the Five Islands 五島頭—very beautiful 美甚焉. Keeping it straight in line 直隴, use the single-yín needle 單寅針 (60° ENE / ENE) to enter Shàngqí / Chángqí 視 (as written). This is “Longzai Shaqi” 籠仔沙機, and there are Franks/Europeans 佛郎番 here.

If the ship sights Tiāntáng 天堂, use the rén-zǐ needle 壬子針 (352.5° N / N) and the rén-hài needle 壬亥針 (337.5° NNW / NNW) to make for Songpu Harbor 鬆浦港.

If the ship sights the head of the Five Islands 五島頭, use the gèn-yín needle 艮寅針 (52.5° NE / NE) to make for Jizi Mountain 髻仔山, and enter through Kezi 柯子; going in leads to Hirado Harbor 平戶津, named “Fish-Scale Island” 魚鱗島.

If the ship sights Tsushima Island 對馬島, use the yǐ-cháng needle 乙長針 (as written; this is not a standard needle-name, so the degree is uncertain) together with the yǐ-mǎo needle 乙卯針 (97.5° E / E) to make for Songpu 鬆浦—this is best 為妙也.

Alternatively, if the ship is running “high” (farther offshore / in deeper water) 或船使高, it is even better to take the route that “closes on”/makes for Shàngyín Mountain Silver-Mountain Harbor Gate 收上銀山港門—more advantageous and orderly 經紀更妙.