

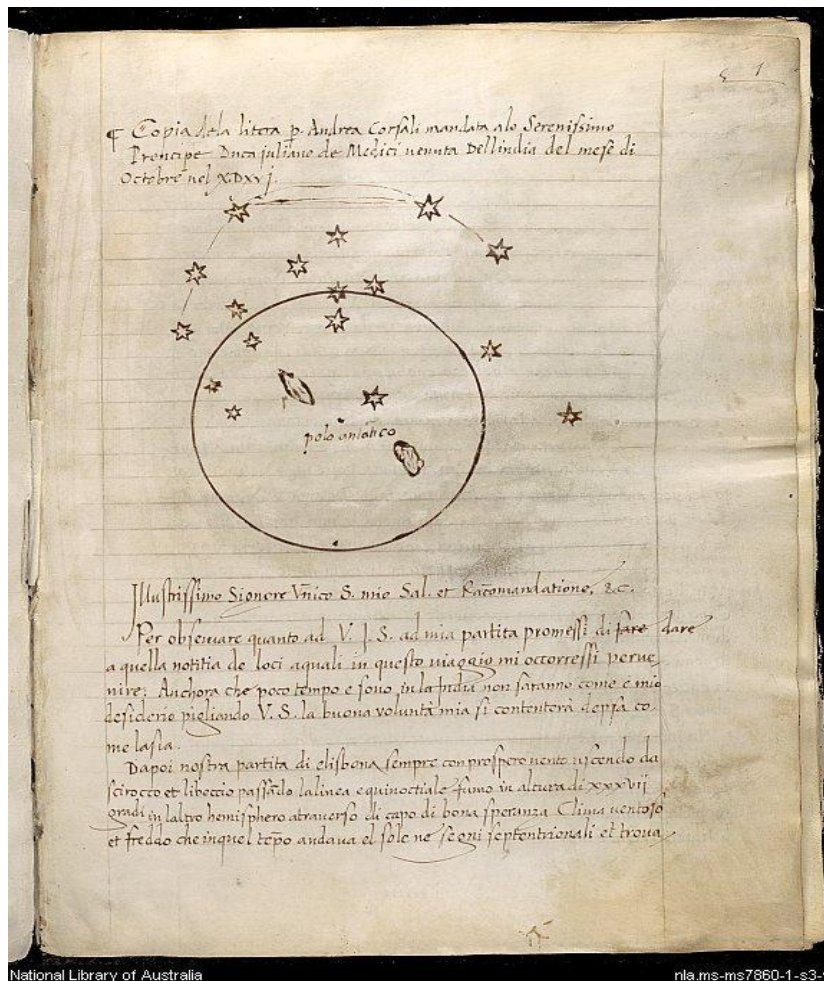
A Star to Steer Her By

It seems that when the earliest European navigators began to regularly venture out into the open ocean, perhaps 6,000 years ago, they came to rely on the Pole Star to guide them on their voyages. The Pole Star is close to the north celestial pole, in effect it appears to sit above the North Pole. When Europeans began to venture into the southern hemisphere they assumed there would be an equivalent star to guide them sitting above the south celestial pole. Needless to say, they searched in vain. Nevertheless they began to observe and record the constellations in the southern skies. Cadamosto, in the service of Henry the Navigator, may have first noted the Southern Cross around 1455 when he was in the vicinity of Gambia River on Africa's west coast. Amerigo Vespucci possibly observed the Southern Cross off the coast of Brazil in 1499. In November 1522 Pigafetta, the chronicler of Magellan and Elcano's first circumnavigation of the world, also described what may have been the Southern Cross, seen as the *Vittoria* sailed through the Strait of Magellan.

The Southern Cross, also known as Crux, is of course closely associated with southern lands, such as Australia, New Zealand, Brazil, New Guinea, who all have it in some form on their flag. But few would be aware that the Southern Cross was actually visible in the northern hemisphere in antiquity. It has only disappeared beneath the horizon in the northern hemisphere because of the precession of the equinoxes. It was completely visible in Britain in the 4th millennium BC and formed part of Centaurus constellation in Claudius Ptolemy's *Almagest* in the 2nd century AD. For Aboriginal Australians it was part of the Emu in the Sky constellation.

Although the Southern Cross is not an antipodean version of the Pole Star it can still be used for navigation. A line through the main stars at the "top" and "bottom", Gacrux and Acrux, usually points in the approximate direction of the South Pole. However, as I learnt as a youngster in the bush, the point at which a line through the Pointers intersects with the Gacrux/Acrux axis gives a more precise determination of south, as it sits almost directly above the South Pole. The Southern Cross also can be a proxy clock, and thus help in determining longitude. When it passes the meridian it is almost straight up and down, and by determining its inclination from the perpendicular, navigators could calculate their present time.

Although the Southern Cross was observed and noted from an early date, when European navigators first sailed the southern oceans they were confronted with millions of stars in unfamiliar formations. Trying to describe and accurately represent these, at a time when star charts were in their infancy, so that others could recognise them, was an almost insurmountable problem. To make proper star charts required many meticulous and accurate measurements. But even before star charts of the southern skies made their appearance, drawings of groups of stars were made. Some are claimed to be representations of the Southern Cross, but the earliest that is accepted was done by a Florentine, Corsali, on a Portuguese diplomatic mission to India, in 1515. Corsali's original drawing is held by the State Library of New South Wales.



Corsali manuscript: Depiction of Southern Cross, 1515
 (State Library of New South Wales)

In an endeavour to create accurate star charts for the southern hemisphere, the eminent astronomer and cartographer Plancius asked Pietr Keyser, the pilot for the first Dutch expedition to the East Indies from 1595-97, to accurately chart the main constellations. Keyser died, however, during the expedition and the work was taken over by his assistant, Frederick de Houtman. Houtman, it should be noted, has a couple of significant connections with Australian exploration and cartography. In July 1619 he was on board the *Dordrecht*, in company with the *Amsterdam*, when they encountered the west coast of Australia around Perth, which they named Dedel's Land. And shortly after they sighted the Abrolhos Islands for the first time, and they are now officially known as the Houtman Abrolhos.

Houtman completed his observations during the second Dutch expedition to the East Indies (1598-99), while he was a prisoner of the King of Achin. The new constellations then began to appear on celestial globes, such as those by Hondius in 1598 and Blaeu in 1603. There were problems with these globes, however, they had erred in the exact position and orientation of the Southern Cross. It was not until 1613 that Hondius Jnr. and Adrien Vaen were able to produce a globe that depicted the Southern Cross in form, placement and orientation with some degree of accuracy. The relevant portion can be seen below.



Cruzero Hispanis
(Hondius and Vaen 1613)

One rather surprising fact evident in this representation is the name they used, *Cruzero Hispanis*, the Spanish Cross. Our dear Southern Cross was in fact originally known as the Spanish Cross!

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