Interpreting the Tropical Atlantic Climate: Diaries from the Mid-Nineteenth-Century Australian Voyage

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(Manuscript received 8 July 2009, in final form 8 December 2009)

ABSTRACT

This article analyses representations of the tropical Atlantic and its climate in diaries written during sailing voyages from Britain to the Australian colonies in the middle third of the nineteenth century. It argues that writers employed a wide range of formal and informal knowledge about weather and climate to evaluate the physical experience of sailing through the maritime tropics. These interpretive frames include geographical conventions of latitude and longitude, colonial medical topography, natural observation, sailor’s expertise, maritime culture, and literary tropes. The article’s exploration of vernacular knowledge in an underexplored social and geographic context makes two contributions: first, to historical and geographical discussions about the distinction between expertise and belief and second, to recent attempts to emphasize the material importance of the ocean in an unprecedented era of industrial, scientific, and colonial expansion.

1. Introduction

In 1863, a young emigrant wrote a diary during a voyage from Liverpool as he sailed to join his brother on a government contract building a breakwater in New South Wales. James Espie White entitled the third chapter “Tropics” and recorded exactly when the ship’s crew calculated they crossed the northern Tropic of Cancer: “Thursday 2nd October at 6pm” (White 1863). He described his first tropical impressions in verse:

The slumb’ring sea lies still
unstirred by the breezes breath
And its stillness almost seems
The pulseless calm of death.

He added: “nothing but scorching rays from a burning sun fills the atmosphere—the sails hang from the yards and are motionless.” Except for circling sharks, everything seemed “at a standstill” (White 1863, Part 3). Later in the diary, White wrote that a consumptive girl had “lingered on and on through the hot weather gradually getting weaker and weaker til [sic] at last conveyed to the hospital she died” (White 1863, Part 4).

The scorching sun, pulseless calm, and hot weather illustrate how a host of interpretative devices mediated the physical experience of climate in White’s diary: a tropical structure, observation, poetry, sickness, an exact record of latitude, and nautical omens such as sharks all emerge from the narrative. Many diaries of mid-nineteenth-century oceanic passengers include striking portrayals of tropical climate. Using examples archived in Britain and Australia, written on sailing voyages to Australia between 1830 and 1863, this article argues that writers such as White interpreted their physical experience of the changing environment and climate using a wide spectrum of informal and formal knowledge. Writers defined the tropics by its latitude but also by a colonial history that associated the Brazilian coast with recuperation and the African coast with sickness. They observed and measured weather and tropical fauna. As passengers’ bodies and other objects reacted to the heat, a medical framework that emphasized climate, heat, humidity, and calms remained highly relevant. As they wrote about these experiences, passengers recalled literary paradigms and styles that further shaped their engagement with the culture and working knowledge of the sailors.

Through the process of writing, Gillian Beer has suggested, “the physical hand makes contact with a repertoire of scenes, figures and emotions already, even amidst the tumult of current impressions, not before [the writer’s]
eyes” (Beer 1996, p. 30). Similarly, it can be argued that geographical knowledge is “constituted through a range of embodied practices—travelling, seeing, collecting, recording, mapping and narrating” (Driver 2001, p. 12). The writers in this article are not scientists, surgeons, or colonial officials trained in, or required to undertake, meteorological observation. Yet they anticipated, feared, observed, felt, and wrote extensively about climate and weather. Although the narrators were literate, and mostly men, they did not claim authority, or a public audience for their representations. These passengers are perhaps best described as incidental tropical narrators: they include teenagers, priests, missionaries, steerage emigrants, and invalids. One source, the *Tropical Times*, is a collective voyage narrative presented as a weekly newspaper. These diaries suggest the extent to which ordinary people mobilized an eclectic range of corporeal, scientific, cultural, medical, and colonial frameworks to travel through, evaluate, and narrate their encounter with the tropical climate.

Never before the mid-nineteenth century had so many Europeans—whalers, convicts, laborers, explorers, traders, migrants, and health tourists—experienced the sea. As Rozwadowski has suggested, the ocean became “a workplace, a leisure area, a stage for adventure and a natural environment” (Rozwadowski 2005, p. 4). Physicians recommended that consumptives and other invalids undertake voyages (Deacon 2000; Jankovic 2006; Jennings 2006). The sea became, as Rothman suggests, “both medicinal and magical” (Rothman 1994, p. 34). Highly publicized Arctic and scientific explorations and authors such as Herman Melville, Henry Dana, and Frederick Maryat brought the ocean and its culture into everyday life (Reed 1983; Rozwadowski 2005; Walton 1983; Deacon 1971). In Britain, the Australian voyage played an important part in this maritime moment. Government-assisted and privately funded emigration to the Australian colonies increased rapidly during the 1830s; in 1839, 10,000 emigrants sailed to Australia on assistance schemes. By the 1850s, with the discovery of gold, double-decked sailing ships carried up to 900 colonial emigrants to the Australian colonies at once, in voyages lasting from three to six months. In an important sense, therefore, the ocean also became a colonial test.

The article’s attention to a particular type of vernacular weather and climate knowledge makes a historiographical contribution in two main ways. First, it attends closely to the ways in which different forms of knowledge became useful in particular climatic and geographical circumstances (Berg 2007; Anderson 2005; Mokyr 2002). Historians and sociologists of science have long been concerned to dissolve easy distinctions between the “knowledge” of experts and the “beliefs” of others (Latour 1987; Colwill 1998; Tambiah 1990). Discussing meteorology, Jankovic emphasizes the importance of a late eighteenth-century shift from elite theory to a “down to earth empiricism” of everyday weather. If, as he suggests, “everyone could be a meteorologist—convalescents especially—because everyone was in a state of dependence upon the elements” (Jankovic 2000, 137–144), then these diaries provide a rich source for showing how this worked in practice. Of particular relevance to this article are recent suggestions that traditional “weather wisdom” of sailors and shepherds promised special meteorological insight in the nineteenth century; the continuing *usefulness* of these traditional authorities “raised fundamental questions about observation, precision, and scientific exchange” (Anderson 2005, p. 183; see also Jankovic 2000, p. 133). And yet, Rozwadowski suggests, maritime cultures and superstitions entertained rather than convinced nineteenth-century “landlubbers” (Rozwadowski 1996, p. 423). Under what geographical, temporal, and cultural circumstances did formal and informal knowledge, whether derived from land or sea, become useful? The diaries examined in this article suggest that passengers did not distinguish between sailors’ navigational authority and the more cultural aspects of their meteorological knowledge. Yet this is explicitly maritime knowledge: the utility of different forms of weather and environmental knowledge is as much a geographically determined question related to the immediate relevance of other types of knowledge (e.g., medical) as it is about the chronological development of new scientific modes of understanding and predicting weather.

Second, the diaries put travelers’ physical experience and the material agency of the tropical climate in the foreground (Livingstone 2000). While it seems obvious that passengers *felt* the tropics, the profoundly corporeal effect of this maritime environment is at odds with recent suggestions that in the era of industrial capitalism, the ocean had become “an empty space to be crossed by atomistic ships” (Steinberg 2001, p. 105). Maritime history has enjoyed a recent expansion. Studies of maritime empires have explored scientific knowledge, trade, commodities, and human movement (Cannadine 2007; Killingray et al. 2004). However, Marcus Rediker has recently warned about a continuing tendency to write maritime history with a *terracentric* bias, “a land-based set of assumptions about place” (Rediker 2004). Indeed, historians have begun to emphasize the importance of the sea’s agency in the formation of geographical and scientific knowledge (Burnett 2009; Driver 2004; Drayton 2007). Knowledge derived at sea was geographically specific, and nowhere was this more apparent than the tropics. Passengers’ diaries suggest a way to broaden our approach to maritime knowledge by showing how
travelers constructed different colonial, medical, and cultural geographies around physical experience. Until the opening of the Suez Canal in 1869, access to colonial lands south of the equator or east of Africa generally required a long voyage; as Denis Cosgrove has argued, “the initial and most immediate site of tropical experience was the deck of the ship” (Cosgrove 2005, p. 201). The ocean was the route to colonial lands and crucial to the development of modern industrial society; how travelers evaluated this space has an important role in our historical understanding of an unprecedented era of colonial expansion and consolidation.

The remainder of this article proceeds in three sections. First, it shows how passengers framed their entrance into the tropics by relating weather and climate to formal measurements of latitude and longitude, their own observational activities, and their position in regard to Atlantic coasts and islands. But observation did not remain distinct from experience, and the second section shows how a contemporary medical framework that emphasized the environmental causes of disease—particularly heat, humidity, and calms—ratified physical changes effected by the tropical environment on living and inert bodies. In the third section, I suggest that tropes of maritime literature aided passengers in processing and writing down their experiences. However, literary influence, and engagement with the sailors’ navigational and cultural performances, should not be disentangled from experience and observation. Together, these sections begin to show ways in which passengers mobilized a range of different frames of tropical reference. Climate and weather acted as a focus around which these different modes of understanding coalesced. Different kinds of knowledge became useful because they mutually reinforced, and could be used in dialogue with, each other. In conclusion, I briefly relate these tropical experiences to the context of the voyage as a whole and suggest how these interpretations changed in a later period characterized by steam rather than sail.

2. Measuring the tropics

The voyage from Europe to Australia involved a particularly prolonged immersion in the maritime environment. Travelers to Australia crossed through temperate, tropical, and stormy oceans as they sailed first through the Northern and then through the Southern Hemisphere. Many of these voyages effectively crossed the Atlantic twice; from the vicinity of Madeira, captains utilized the trade winds, sailing southwest toward Brazil and the equator, and then southeast to round the Cape of Good Hope, before sailing east across the Southern Ocean.

The tropics form a belt around the earth from 23.27° north of the equator to 23.27° south, defining the outer limits of the regions where the sun shines directly overhead, although the seasonal limits vary. Nicolás Wey Gómez has argued that in the fifteenth century, the act of crossing lines of latitude was both a philosophical question and a geopolitical process (Wey Gómez 2008, 44–49). Throughout the colonial period, as many historians have shown, “the tropics” remained firmly implanted in ideas about climate, race, science, and medicine (Arnold 2006; Driver and Martins 2005; Grove 1996; Harrison 2002). Translated onto charts and maps, longitude and latitude provided the spatial coordinates by which Europeans interpreted, ordered, and colonized the physical territories and peoples of the globe—racially, botanically, and climatologically (Carter 1987; Headrick 2002). “Going south,” as Greg Dening has observed, remained even in the nineteenth century “no unimportant thing for a European whose world was north” (Dening 1992, p. 76).

In navigating the ocean, sailors measured latitude and longitude daily; writers’ incorporation of these calculations suggest that they took a keen interest and invested a great deal in the sailor’s navigational skill. For ocean travelers, latitude and longitude did not so much fix or enclose the desolate horizons of maritime space; rather, they demonstrated movement. In 1831 a missionary wrote a letter from the coordinates “Lat 13.29S, Long 34.38W,” illustrating Burnett’s suggestion that locational coordinates “amounted to the places themselves” (Burnett 2009, p. 218). After two months at sea, James Backhouse could not “conceive of anything more desolate than the ocean over which we have sailed week after week a circle of blue waters surrounding us” (Backhouse 1831). When passengers such as Backhouse could find nothing of solace or interest, sailors’ calculations provided some reassurance that the ship made progress.

Around a month’s sail from the southern ports of the English coast, the moment of tropical arrival marked a significant point in the voyage to Australia and diarists recorded it exactly; in Henry Curr’s diary this was 4.53 a.m. on 20 July 1856. Curr noted his first impressions of the torrid zone. “The sun is exactly perpendicular,” he wrote. “No shadow whatever, and the heat most oppressive.” Curr did not just rely on the sailor’s understanding of latitude. He felt a distinct, uncomfortable change in the climate that, along with the vertical sun, corroborated in sensory terms the sailors’ calculations of their tropical arrival. One passenger described hanging bottles above the deck to observe the shadows that fell vertically below, while others took careful notes of the air temperature in and out of the shade as they advanced south (Hall 1852–53, 8 February).
Two decades after Backhouse’s voyage, by the 1850s passengers appear more prepared for the tedium of the sea. The importance of environmental engagements is apparent in the collective activities of the *Elizabeth’s* passengers, as they sailed from Bristol to Melbourne in 1853. Intended to entertain the passengers “during a long and tedious voyage,” the weekly *Tropical Times (TT)* contained common newspaper conventions such as advertisements and opinion pieces as well as a medical report. Each issue meticulously recorded the ship’s daily position and wind direction in a “statistical account of the progress of the ship.” The passengers of the *Elizabeth* adapted a contemporary “weather collecting culture” (Naylor 2006, p. 410) to chart quotidian changes in the maritime climate and presented daily comments on weather, air temperature, and pressure in a meteorological table (*TT* 1853). As the *Elizabeth* sailed before the trade winds during early January, the editor remarked that

> during the past week there has been but a slight variation, in either Thermometer or Barometer, which is accounted for by our having been in those latitudes where a wind, commonly called a trade wind, constantly blows from the Eastward, and in a great measure, tends to equalise the action of the Quick-Silver (*TT*, Issue 2).

As they reached tropical waters, the *TT* describes how strange fauna became the subject of intense scrutiny and impromptu demonstrations. The passengers harpooned a shark and sighted a whale, shoals of flying fish, and “porpoises in vast numbers”. They caught and carefully examined two nautiluses. “It swims on the back of its shell,” one contributor wrote, “which closely resembles the hull of a ship. A membrane is extended over it, which serves as a sail” (*TT*, Issue 5). The interest sparked by the nautilus suggests the importance of the ship as a reference point for understanding the changing natural environment. Nautiluses, with hulls and sails, navigated just as people did.

Supplementing measurements and observations, islands and coasts loomed in the imagination as passengers paid careful attention to the geographical course that they sailed; this geography was also a colonial medical topography, which navigated healthiness in terms of climate, sea breezes, and longitude and latitude (Grove 1996; Deacon 2000). The *Tropical Times* described how, two days after catching the northeast trade winds, the *Elizabeth’s* passengers enjoyed “the delightful climate of the Madeiras; and we are not surprised that invalids should recover under its genial influence.” As the ship passed the Canaries, they again benefitted from “a fine climate” before heading west toward the coast of Brazil (*TT*, Issue 5). On 8 March, after a month in the tropics, the *Elizabeth* “bade adieu to the Torrid Zone.” Reflecting on their tropical experience, the passengers of the *Elizabeth* observed that they had been fortunate: “the heat has been often oppressive, and sometimes almost insupportable, but not at any time so intolerable as we had anticipated” (*TT*, Issue 6). The passengers’ relatively benign tropical experience reflected the season of their voyage (the Northern Hemisphere summer), as well as the westerly route sailed by the *Elizabeth’s* captain, sailing close to the Brazilian shore. Rio de Janeiro was an important outpost providing fresh food and water and facilities for refitting and repairing European ships (Martins 1998).

The Brazilian coast benefited from the ventilating trade winds. Like the Cape of Good Hope, it had earned the reputation of a healthy and restorative land. Other passengers’ tropical geographies focused on the opposite, and very different, Atlantic coast of West Africa. The diary of Hugh May Wilson displays a continual preoccupation with illness throughout the voyage (Wilson 1849). Seven deaths occurred on board in the first month at sea. Wilson described himself as “weak” and often fretted that fellow passengers made themselves and their children ill with the wrong diet. For himself, Wilson was “resigned to meet the end which God may in his providence may see fit to appoint,” and yet his diary also indicates the collective belief that disease was intimately linked to climate and latitude. The equator, Wilson wrote on 18 September, was “anxiously talked about. Instead of spending your first breath when you meet a friend in the usual way it is generally … how is she going? How far are we now from the line? … Any more deaths last night?” Five days later Wilson reported that “disease and death reign around us.” Even stout passengers dropped fast and without warning. While reaching the latitude of the equator became a general focus, Wilson’s relief was palpable as on 4 October, he described how the captain of the *Sarah* had finally altered their course to head toward Brazil: “We ran westward to get clear of the fatal African atmosphere, which seemed to breathe disease among us”, he said (Wilson 1849, 4 October).

Colonial and geographical knowledge, as well as the captain’s actions, guided Wilson and his fellow passengers’ hopes and fears. As soon as the *Sarah* “got into fine weather and a good breeze,” the health of all on board “improved wonderfully” (30 September).

The influential British physician James Johnson found it extraordinary that “no work on the diseases of Africa should have emanated from the medical press of this country … Africa is the grave of Europeans” (Johnson 1841, p. 4). Richard Phillips has observed that by the 1830s, the “white man’s grave” had become a clichéd image that nevertheless reflected a mortal reality: between 1819 and 1836 the Sierra Leone Command lost...
48% of its men, mostly to sickness (Phillips 2002, p. 195; Curtin 1964). Even at a significant distance, passengers frequently and explicitly made this connection between West Africa and illness. In 1838, an anonymous writer—becalmed and surrounded by sharks, eight degrees north of the equator—lamented his ship’s proximity to the African coast: “the Doctor’s list of the sick still presents a long melancholy number. Oh! If we could only get a good rattling breeze to carry us out of these deadly latitudes.” Medical confirmed nautical authority: the captain’s chart showed that “we are now nearly opposite to Sierra Leone, which must be truly described as ‘The White Man’s Grave’” (Anon. 1838, 16 September).

In 1841, William Charles Wills emigrated to Australia on the Louisa in an attempt to improve his asthmatic ill health, having previously worked in the London Foundling Hospital. He wrote with relief as the Louisa cleared the coast of West Africa “where the climate is considered so unhealthy.” This fact was borne out “not only by the indisposition of two or three of the passengers, but also by the appearance and colour of the sails, which are of a brownish yellow, and assume a jaundiced complexion” (Wills 1841–42, 1 December). Even at sea, passengers understood West African latitudes as characterized by a stillness that seemed heavy and pathologically laden. Victorians understood winds to be both lucratively laden. Tropical Times reported medical cases of “serious disturbances of the nervous system, resembling sunstroke, attended with fits in one case” as they crossed the equator. Passengers suffered from headaches “induced almost immediately” by the sun’s rays, and ankles and arms burnt in the sun (TT, Issue 5).

Henry Curr, a Catholic priest sailing from Liverpool to Australia, wrote of the pervasive power of the tropical sun: “many of the passengers suffer from skinburn, the skin shaling off their faces the same as the skin off a new potato just before it comes of age.” The ship both provided protection and itself became a dangerous object. One passenger described pitch oozing out of the decks and “running about like water—feet burnt if walking around barefoot” (Thompson 1856, 13 July). Curr continued that “to put one’s hand on a piece of iron that has been exposed to the sun sometimes causes a blister” (Curr 1856, 20 July). A few days later, the tropical heat affected all aspects of daily life:

> We are all without exception suffering from the effects of extreme heat. Every article of food is so impregnated by it that it is almost impossible to eat. The water is positively warm, the butter is perfect liquid, and even old biscuits one would suppose only just taken out of the oven (24 July).

The putrefying power of the sun recurs throughout European tropical discourse from the earliest colonial experience: it could produce verdant wealth and putrefy objects under its influence (Kupperman 1984; Naraindas 1996). Putridity—of air, food, and living and dead bodies—also recurs through maritime diaries, compounding the problems of a sea diet. After 10 days of calm William Fordham wrote that all the passengers and emigrants on board the Trade Wind were “very queer with sores about their bodies from the bad water and salt meat” (Fordham 1857–58, 20 December). Another emigrant, contemplating the body of the ship’s recently deceased third mate, declared himself “astonished at the rapidity with which decomposition goes on in these latitudes.” Five hours after death, the body “was spotted all over, & tainted the air” (Muir 1838–39, 21 October). With “nothing but calm,” the taint lingered.

Whereas changing latitude and longitude provided reassurance, inertness produced fear, particularly in the windless doldrums, where a ship became “her own mistress … veering round and round but making no progress whatever towards raking us out of this dreadful heat” (Anon. 1838, 13 October). Others worried what might happen if they should encounter calms ahead. While the tropical heat was trying enough for “weak constitutions,” Hall suggested, “a calm of long continuance . . . would be disastrous” to the health of the passengers in general (Hall 1852–53, 22 and 26 January).

A huge literature demonstrates the intertwined histories of colonialism, climate, and health (Harrison 2002;
Kennedy 1990; Jennings 2006). Colonial experience reinforced the eighteenth-century revival of a neo-Hippocratic framework that emphasized the effects of heat, winds, and humidity on human health (Glacken 1967; Golinski 2007), and medicine was “a conspicuous element in the process of European expansion and colonization” (Arnold 1996, p. 5). Calms played a specific role in this understanding. In Hygiene, Henry Pickford described the doldrums as disruptions of the atmosphere. These were “the hottest [calms] of the earth,” which exercised “a powerful influence in the production of the trade winds” (Pickford 1858, p. 106). Invoking the three-week calm that preceded London’s plague outbreak in 1665 and nineteenth-century cholera epidemics, Pickford argued that calms favored “the concentration of miasms, and of animal and vegetable effluvia, particularly among a crowded and uncleanly population . . . . Calms contribute in the highest possible degree to the production, aggravation and propagation of epidemic disease, and are associated with plagues and pestilence” (Pickford 1858, p. 106).

Three bands of calm straddle the Atlantic. (Fig. 1) The middle band, commonly known as the doldrums, was flanked by two subtropical bands north and south of the equator, known as the “horse latitudes.” These were variable and unpredictable, shifting north and south with the season.1 Ships sailing south from Europe around Africa had no choice but to cross these calm regions; dealing with them was at once a navigational, meteorological, and medical concern. In Physical Geography of the Sea (Maury 1855), often considered a foundational text in the history of oceanography, Matthew Fontaine Maury described the doldrums as a region of “calms and baffling winds.” To denote these “calm places” where no regular winds existed to be represented by arrows, Maury drew shaded belts (Fig. 1). Such charts, as Anderson suggests, point to “the limitations of numbers and the observation programs that produced them” (Anderson 2005, 171); Maury resorted to words to fully convey the significance of the doldrums. As his proof, he evoked the emigrants’ Australian voyage, calling the area

one of the most oppressive and disagreeable places on earth. The emigrant ships from Europe for Australia have to cross it. They are often baffled in it for two or three weeks; then the children and the passengers who are of delicate health suffer most. It is a frightful graveyard on the way to that golden land (Maury 1855, p. 171).

Maury and Pickford depicted calms as regions of fear, threat, and death, yet the diaries of emigrants who sailed through the doldrums in the middle third of the nineteenth century reveal that, although frightening, they were psychologically and physically more manageable than Maury allowed. Ship’s captains no longer feared, as Columbus had done, that their “vessels and crew would burst into flames” as they traveled south into the doldrums (Wey Gómez 2008, p. 28), and mortality on these voyages was in fact remarkably low (Haines 2005, 17–18).

Nevertheless, passengers’ fearful expectations of the doldrums may have only recently moderated as the voyage to Australia became a more common occurrence from the 1830s on. Henry Widdowson had sailed to Australia with horses and cattle in 1825. The Albion also carried a blacksmith and his family, and servants for the fledgling Australian colony, still at this time firmly a penal destination, its distance calculated to effect total social removal. Widdowson regretted that the ship, with only forty-nine passengers, fell short (by one) of the number required for a surgeon. The ship’s crew explained to Widdowson that lightning, thunder, and rain were “visitations exceedingly common to this atmosphere.” Widdowson had been unwell. He fainted in the hold and had to be carried back to the deck. To potential future readers of his diary he wrote: “You can form no idea of natural heat in England compared with the climate we are now living in” (Widdowson 1825, 9 January). As the heat of the tropics continued, he feared that they might “share the same fate as some ships becalmed here for a month or more, and living under the constant dread of having their ships set on fire by the burning sun, their water exhausted and people dying with fever” (10 January).

For ordinary travelers, as well as their surgeons, months at sea reinforced the relevance of a colonial topography and medical system that foregrounded winds and humidity. In addition, Mark Harrison argues that while astrological understanding of the relationship between bodies and the atmosphere declined on land, it flourished in overseas medical service (Harrison 2000, p. 26). Overt astrological explanations are evident in some diaries: the teenage passenger James Espie White risked the “falling dews” and “moonstroke” to sleep on deck and escape the stifling atmosphere below (White 1863, Part 3). On one emigrant ship the doctor explained to passengers fishing over the side that “deep sea fish are sometimes poisonous, said to be caused by the moon’s rays shining upon them.” In a demonstration of great importance, the doctor taught the passengers to put

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1 The “doldrums” are most commonly known as the calms of the intertropical convergence zone (ITCZ), where the northeast and southeast trade winds meet. Moist air forced upward creates clouds and heavy squalls. The doldrums shift seasonally from roughly 5° south of the equator in January to 15° north in July. At roughly 30° north and south of the equator two further belts of calms known as the “horse latitudes” signal a zone of subtropical high pressure, characterized by light winds (Riehl 1954; Oliver 2005).
silver coins inside their fish before cooking. William Hodkinson declared that his fish “was all right as the silver came out quite bright had they been poisonous it would be green” (Hodkinson 1860, 30 September). Although by the 1860s astrological interpretations can be seen as an exception rather than a norm, the physical experience of lassitude, overcrowding, heat, calms, and sun profoundly influenced emigrants’ understandings of the effects of tropical climate on bodies, objects, and their relationships with other people on board.
Georgina Endfield and David Nash have argued that British missionaries circulated a new kind of knowledge about Africa that was based on physical presence rather than derived from an “anticipative pathological geography” of the “torrid zone” (Endfield and Nash 2007). Although reflecting the influence of popular ideas about climate, the diaries and letters of passengers must have shown contemporaries that the tropical Atlantic, while certainly threatening and debilitating, was rarely the graveyard that writers such as Maury and Pickford described. The passengers who dwelled most pessimistically on the tropical climate seem to have been those, like Wilson and Wills, who described themselves as sickly anyway. James Espie White explicitly implicated the hot weather in the death of the consumptive girl, but she had been, after all, unlikely to survive for very long.

However, the extent to which passengers perceived the tropics to be a mortal threat also diminished with class, as well as with the increasing frequency of the Australian voyage. While weather in many senses was an experience shared by all on ship, some diaries suggest the classed and gendered ways in which passengers experienced the tropics differently. While becalmed, Fanny Davis, a single female emigrant, described how the crew closed the hatches to the women’s deck at night:

We got a broomstick and hammered it till they came and opened it for it was so suffocating with the close air; we had it left open all night as it always is. I never saw such an advocate for fresh air as our Doctor is, and I do think that is the secret of all being in such good health. He will not let anyone stop down all day and woe betide any one who is found in their berth in the daytime (Davis 1858).

Further illustrating the heightened effects of heat for those confined below, Henry Wellings’ diary is a family account, dominated by the sickness and eventual death of his young son Willie. Making short entries, Wellings divided his diary into three columns, entitled Weather, Health, and General Remarks. The entry for 26 June, for example, records the continuing daily decline of Willie, between notes on the “scorching” heat and the “great unpleasantness” of erupting social tensions in the steerage quarters (Wellings 1857–58). Yet Wellings’ diary evokes the external as well as the internal environment of the ship. He sketched a map of the voyage, including the major land masses of Europe, South America, Africa, and Australia. Like many other travelers, Wellings superimposed his family’s experience onto a grid of latitude and longitude, including the tropical lines of Cancer and Capricorn, signposted by significant maritime coasts and islands including the Canaries, St. Helena, and the Cape of Good Hope. The map also indicates with a cross Willie’s burial at sea, to the west of Australia in the southern ocean. Wellings recorded its position in his diary entry for 7 September: “Long 104.0 E, Lat 43.59 S”. Passengers who berthed in the poorly ventilated steerage, more than cabin passengers, continued to experience calms and heat as a very serious matter indeed.

4. Interpreting and performing the tropics

More ethereal interpretations also influenced passengers’ understandings of the tropical climate and its weather events. While writers drew directly from the navigational knowledge and authority of sailors’ charts and measurements, they also noted their supernatural explanations, particularly of atmospheric phenomena. The diary of the priest Henry Curr clearly shows the complexity with which writers used formal and informal knowledge frameworks together. As the Morning Light entered the tropics, Curr was unable to stand the heat below and “determined to go on deck.” Perhaps surprisingly, Curr’s diary suggests little of his religious leanings; he does not (as Wilson had done) declare his trust in providence when faced with sickness on board the ship. As Curr emerged on deck, the ship’s captain asked whether he had “come to see the light.” Curr recorded the conversation that ensued:

What light do you mean? I can see no light. On the contrary, I should call this perfect darkness. “Look up”, [the Captain] says, “to the top of the main mast at Corpo Santo.” I turned up my eyes and saw what I at first took to be a large star, but soon concluded it must be some phenomena and asked for an explanation. [I] could only ascertain that the sailors believed it to be the soul of a witch who never failed to make her appearance at the commencement of a storm, and when disappearing, if she ascended it was taken as a good sign; but if she descended toward the deck they must struggle for it. All eyes were now steadfastly fixed on this interesting object. It soon disappeared but no-one could say in what direction. I felt not a little amused at the sailors’ opinion of Will o’ the Wisp at the mast head, but I must confess I felt a little unnerved and a good deal interested, as it became more evident that we should experience a stormy night (Curr 1856, 24 July).

Although Curr believed that the ship was well ventilated he feared that “if we should be becalmed the consequences might be very serious.” Later that day the Morning Light was stranded in a dead calm. “We have not moved a fathom forward the last six hours,” Curr wrote; “three sharks are swimming about the ship which is taken by some to be an ill omen” (27 July). After the storm, omens no longer seem to have amused Curr: he states them as seriously as the fact of illness and the ship’s lack of movement. Curr’s observations demonstrate...
a deepening regard for the sailors’ culture, against a back-
ground of accumulating problems of sun, heat, bad food,
ventilation, and illness.

As smallpox broke out among the sailors, the doctor
provided Curr with no reassurance about the sickness on
board; an obvious potential source of authority for the
well-being of the ship’s company instead fretted about
the possibility of quarantine on arrival in Australia
(Curr 1856, 27 July and 8 August). Thus, while Curr’s
descriptions of the light at the top of the mast and sub-
sequent events on the Morning Light incorporate many
of the common tropical interpretations and experiences
this article has explored, they also alert us to how they
might have become more useful as other forms of knowl-
dege failed.

In writing his experiences down, Curr also illustrates
how passengers often echoed the literary phrasing of
writers such as Melville, Dana, Shelley, Coleridge, and
Dampier, who had themselves been profoundly influ-
enced by colonialism (Bewell 2003). Curr’s language
bears a resemblance to the well-known prose of popular
literature. When Corpo Santo appears in Moby Dick, for
example, “few words were heard from the enchanted
crew; who in one thick cluster stood on the forecastle, all
their eyes gleaming in that pale phosphorescence” (Melville
2004, p. 670). Other tropical descriptions and
atmospheric phenomena in passengers’ diaries draw di-
rectly on literary tropes even as contemporary treatises
on physical geography and meteorology attempted to
divest these phenomena of their supernatural explana-
tions (Jeans 2004, p. 323; Parker 1996; Comstock 1837;
Brocklesby 1851). For example, The Flying Dutchman
appeared regularly in literature and drama (Millington
1886; Anon. 1821). Coleridge’s Ancient Mariner de-
scribed a “spectre bark”—“at first it seem’d a little
speck/And then it seemed a mist” (Quiller-Couch 1943,
p. 650). One night, sailing through the tropics on board
the Kohinoor, an emigrant, Francis Maybury, described
how by the light of the moon a “spectre ship was seen to
slide with its silent crew rapidly and mysteriously along
and then vanish like the airey mist” (Maybury 1856).
The “pulseless calm of death” in James Espie White’s
poem, and Widdowson’s fears of fire and fever, although
based in their very real experience, also echo Coleridge’s
evocations of the rotting deep and the slimy sea (Quiller-
Couch 1943, p. 649) and the awful images in Percy Bysshe
Shelley’s “Vision of the Sea” (c. 1820):

Where the death-darting sun cast no shadow at noon,
And there seemed to be fire in the beams of the moon,
Till a lead-coloured fog gathered up from the deep,
Whose breath was quick pestilence; then, the cold sleep
(Sherley 2009)

Eric C. Brown has suggested that literary creations
emphasized the continuing hold that the “supernatural
power of such locales” had on the British imagination
(Brown 1998, p. 658). Victorians were, Rozwadowski
suggests, “well-schooled in the art of voyaging”: the nar-
ratives they read to prepare for their travels directed their
behavior at sea (Rozwadowski 2005, p. 29). Yet by them-

selves neither supernatural stories nor contemporary
literature were persuasive enough to thoroughly explain
how travelers experienced the tropical climate of the
Atlantic. As part of a diverse tropical framework, how-
ever, they were, perhaps, erudite and appealing narrative
models.

The sailors’ authority and traditions emerge most
clearly in the passengers’ diaries as ships crossed the
equator. Since the sixteenth century, European sailors
had invested the equator with as much geographical
significance and cultural meaning as land itself. As the
North Star disappeared below the horizon, they marked
this moment of departure and transition with a “crossing
the line” ceremony: a ritual dominated by gender am-
biguity and the turning upside-down of social structures
(Bronner 2006; Dening 1992; Hersh 2002). Accounts of
the ceremony are remarkably consistent; Neptune’s en-
tourage included the queen, a barber, a doctor, and a
baby who represented the “Royal Belly,” and the ritual
included the shaving, tarring, and ducking of those who
had never previously crossed the equator. Afterward,
Neptune departed back to his realm, represented by
sailors dropping a barrel of flaming tar behind the ship.
Captains often ensured that the sailors did not interfere
with unwilling passengers. Nevertheless, his regard for
the sailors apparently vanished, the priest Curr found the
experience “perfectly disgusting” (Curr 1856). Others,
however, “resolved to take part in the fun” and duly
endured being washed and shaved (Anon. 1838). Con-
temporaries such as Charles Darwin confirmed the equa-
torial significance. On the Beagle, in the evening after
the shavings and soakings, Darwin marveled that he had
gone south of the equator; “I certainly am in the
southern hemisphere . . . I can gaze at the southern cross,
Magellan’s cloud and the great crown of the south”
(Darwin 1979, p. 110).

Sailors’ traditions and supernatural meanings did not
just die out, as Marcus Rediker has suggested, after the
eighteenth century (Rediker 1987, p. 182). Sailors ac-
cepted and worked with weather; they continued to har-
ness the winds to their advantage. Their incorporation
of supernatural stories, and the geographically defined
ritual accompanying equatorial crossings, was an integral
(if unpleasant) aspect of this expertise. Simon Bronner
has suggested that “in the liminal, mythical space of
blazing heat, of an alpha location demarcated as zero, of
unnerving calm and monotony, perceived as unknown and dangerous, the sailor effects that reversible world by assuming the roles ‘out there’ that frighten him” (Bronner 2006, p. 46). For passengers, the sailors’ performance of the crossing of the line ritual confirmed the strangeness of, but also marked the successful passage through, their tropical initiation.

5. Conclusions

In meteorologically, climatically, geographically, and culturally suggestive ways, the maritime tropics inspired some of the richest accounts of the sailing voyage in travelers’ diaries. While some passengers took a great deal of interest in the natural environment, others including invalids and steerage passengers experienced the tropics as an extreme test of the human ability to withstand pressures such as heat and overcrowding. Yet it was not just in the tropics that weather and climate proved significant. In the southern ocean, frames of reference shifted from heat to cold, calms to storms; as passengers’ diaries focused on the accumulating effects of maritime weather and climate, they resonated with the colonial implications of the voyage. In 1841, for example, a cabin passenger recorded the death of a woman who had declined throughout the voyage, her death ultimately “accelerated by [a] storm.” A delicate woman, she had been “not at all calculated for the wear and tear the wife of a first settler will have to endure” (Fell 1841).

This article has shown that passengers drew on an extensive repertoire of cultural, geographical, colonial, and medical knowledge to understand, interpret, and process their tropical encounter. The tropics, David Arnold suggests, were “invented as much as they were encountered” (Arnold 2006, p. 5). But invention and encounter also necessitated interpretation. The range of knowledge on which writers drew included traditional colonial representations of West Africa and Brazil, navigational terms and markers, a medical system that emphasized calms, humidity, and winds, maritime culture, and literary tropes. Passengers spent months with sailors whose own world view and culture emerged from their navigational and practical need to interpret geography, meteorology, topography, and more supernatural phenomena and omens. By putting different sources of knowledge in dialogue with each other, passengers could interpret the significance of their own and others’ corporeal experience of the tropics and its climate. Understanding the experience of maritime climate begins to say something about how travelers established a sense of their own colonial identity and personal limits.

The opening of the Suez Canal in 1869 and the introduction of reliable steamers on transoceanic routes broke the reliance of ships on the wind and began to negate the tropical problems that were so central to the experience of sailing voyages. By 1880, as New Zealand and Australia actively competed to attract British health migrants and their money, William Wilson declared that the voyage to Australia round the Cape of Good Hope had become “emphatically the invalid’s route . . . . The favorite passenger ships, especially in the autumn, are half-filled with invalids of every kind and degree, who are looking forward hopefully to testing the restorative influences of the ocean climate” (Wilson 1880, p. 2).

In other ways, however, evidence from later diaries suggests that steaming through Suez ushered in new climatic concerns for travelers rather than signaling their end. Hannah Wright’s diary, written on the steam ship Duke of Westminster, a day past Aden during a voyage from London to Brisbane in 1886, suggests that the speed of the voyage and the Red Sea route left little time to get used to the rapidly increasing heat and intense sun: “one died of sunstroke and another of convulsions,” Wright wrote.

There is no wonder at sickness and death when we have it so hot. The temperature is 100 and 60 degrees in the shade today. Nearly everybody has fainted today amongst the single women . . . . Our two friends attended well to us until they fainted themselves and then we all had to help one another. It is really marvellous to see, the girls faint with the great heat.

The problems were not just confined to the women. Wright continued that “the young men we hear are worse than us. The Doctor says they are all in faints” (Wright 1886, 1 June). Diarists’ climatic interpretations may have simply adapted to a new era of tropical travel. How mechanically driven speed and new routes affected passengers’ use of medical, cultural, and environment reference points at sea is an important question that deserves further analysis.

Acknowledgments. I would like to acknowledge the assistance of James Fleming, John Pickstone, Vladimir Jankovic, Deborah Coen, Sarah Easterby-Smith, and two anonymous WCAS reviewers for their constructive criticism on drafts of this article.

APPENDIX

Abbreviations Used in the References

ANMM Australian National Maritime Museum, Darling Harbour, NSW, Australia
ML Mitchell Library, State Library of New South Wales, Sydney, NSW, Australia
REFERENCES


——, 1838–39: Diary written on board _Alfred_ from Plymouth to New South Wales. MS ALF, ANMM.


Bannister, G. C., 1853: Diary on *Credenda*, from England to Geelong. MS CRE, ANMM.


Bloxome, O., 1838: Journal of a Voyage to New South Wales. MS 336 Folder 1, National Library of Australia, Parkes, ACT, Australia.


Davis, F., 1858: Diary on Conway to Melbourne. MS CON, ANMM.


Fell, A., 1841–42: Diary on emigrant ship _Lord Auckland_, London to New Zealand. Mgr. 151, NMM.

Fordham, W., 1857–58: Diary of a voyage on _Trade Wind_, Gravesend to Hobart. NS 1518/1, State Archives of Tasmania, Hobart, Tasmania.


Hall, R., 1852–53: Diary on _Kate_. Liverpool to Melbourne. MS KAT, ANMM.


Hodkinson, W., 1860: Diary of second cabin passenger aboard the White Star Line ship _Phoenix_, Auckland to Liverpool. DX/1481, MMM.


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