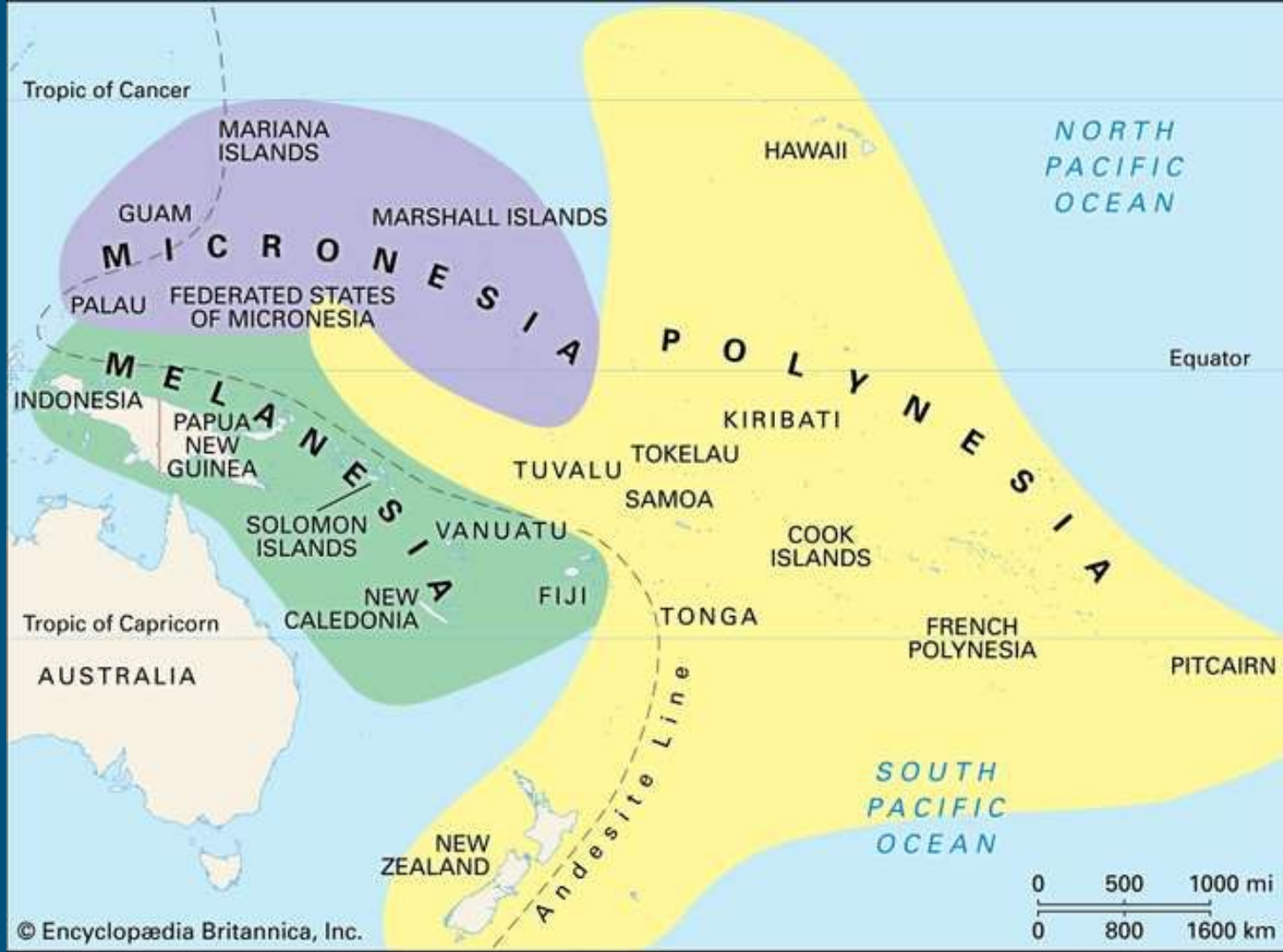




PACIFIC ISLANDER
WAYFINDING &
ASTRONOMY

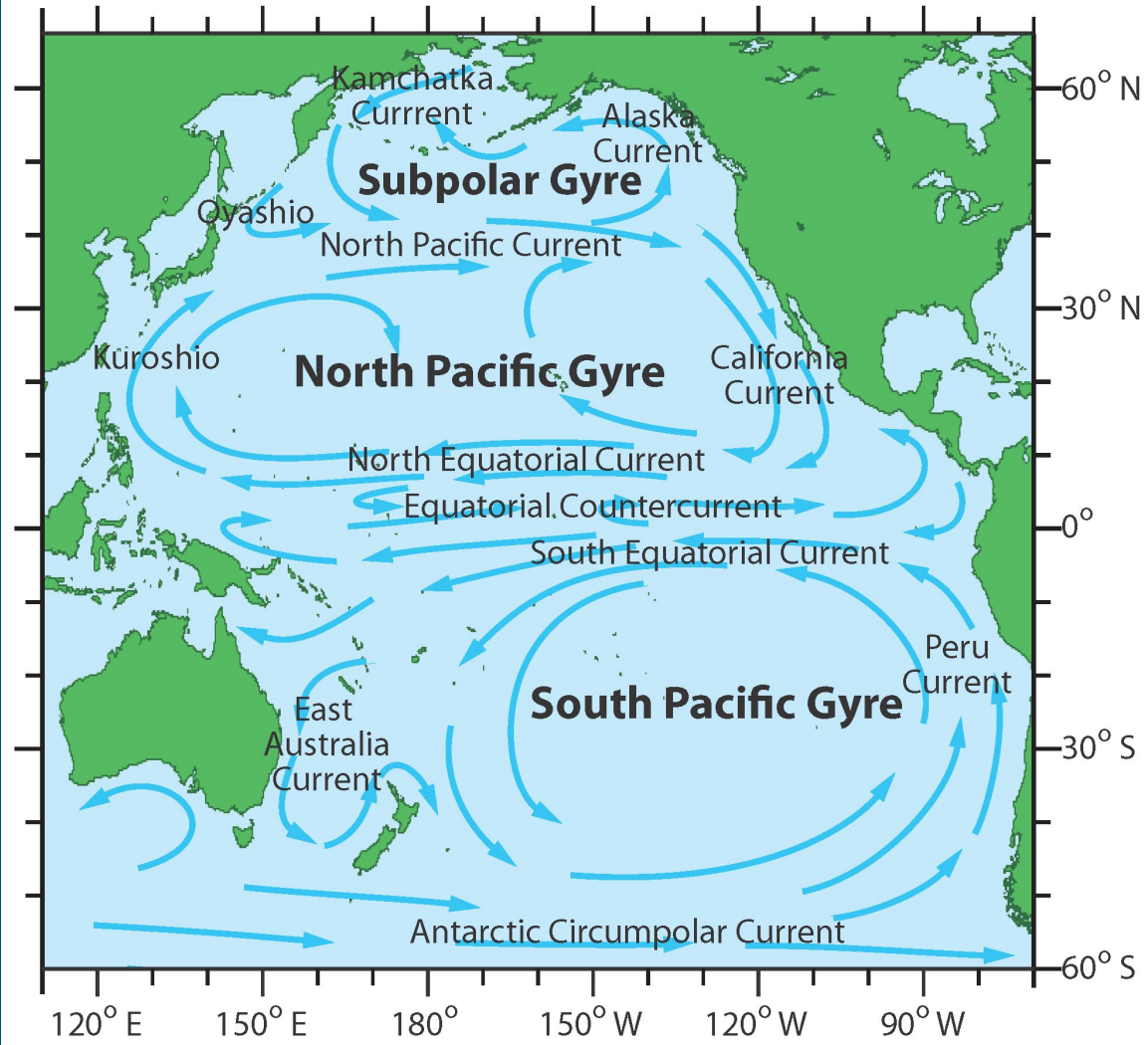
Logistical Stuff and Reminders

- **Wiki project**
 - Due Oct 12th (Tuesday before the W7 class)
 - <https://docs.google.com/document/d/1eh3i6zrhrv9RsyhcYkLMxyxqi8Kkc1boYQZ75W9ZqX4/edit?usp=sharing>
 - Pick a scientist from an underrepresented background and write/expand their Wikipedia entry
 - 10-12 min presentation
- **Anonymous comment form:** <https://forms.gle/oP4stLCrtwmZD7km6>
- **Guest speaker recommendations:** <https://forms.gle/7mhXmrawiBqjwc149>
- **Discussion posts**



Pacific Islanders

- Diverse ethnic origins but all connected
- Believed to began migrating around 40, 000 BC from Southeast Asia
- Might have reached South America before the European “discovered” it (sweet potato evidence by Carbon-14 dating, linguistic and genetic traces)
- Geography’s major role in their culture (wayfinding, voyaging, and astronomy)
- Navigation and Cartography: e.g. Use of ocean currents, islands as landmarks
- Astronomy: e.g. Stars’ locations and night sky maps



How did Polynesian wayfinders navigate the Pacific Ocean? - Alan Tamayose and Shantell De Silva - YouTube



Article Discussion

Exploring the Renaissance of Wayfinding and Voyaging by Bunte et al. 2020

Motivation: *“How is revival of indigenous practices of navigation or wayfinding reflected in knowledge representation, organization, discovery systems as well as scholarly publications in general?”*

Conclusion: *“The concept of ethical knowledge representation, organization and discovery systems assumes recognition of the rich cultural values, beliefs and histories of diverse population of individuals and communities. Therefore, the indigenous perspective should be one of foundational blocks of ethical systems of knowledge representation, organization and discovery systems. Regrettably, the findings of this study do not support this assumption.”*

Discussion

- Are classifications “linguistically unadulterated” ? [See the *Knowledge Representation and Organization* section.] What can we say about knowledge representation and organization? Explain with examples from the article.
- How are indigenous people marginalized in knowledge organization systems? [See *Indegenous knowledge representation and organization.*]

354 records in LCC for *wayfinding* and *voyaging*

JD

Web of science category	Number of resources
Anthropology	22
Archaeology	9
Multidisciplinary sciences	8
Area studies	2
Oceanography	2
Astronomy astrophysics	1
Computer science cybernetics	1
Computer science software engineering	1
Education educational research	1
Geography	1
Geosciences multidisciplinary	1
History	1
Humanities multidisciplinary	1
Theater	1

Table 3.

Distribution of WoS indexed resources across the Web of Science categories

354 records in LCC for *wayfinding* and *voyaging*

Web of science category	Relevant studies, #
Anthropology	22
Archaeology	9
Science technology other topics	8
Area studies	2
Oceanography	2
Arts humanities other topics	1
Astronomy astrophysics	1
Computer science	1
Education educational research	1
Geography	1
Geology	1
History	1
Theater	1

Table 4.
Distribution of WoS
indexed resources
across the Web of
Science research areas

Versatile Use of 'Wayfinding'

- Needed reframing for the study in Buente et al. 2020
- E.g. : “wayfinding ... in the context of the built environment, that is, architecture and graphics for humans' spatial orientation”

Wayfinding: A Conceptual Framework
by Romedi Passini (1981)

Wayfinding: A Conceptual Framework by Passini 1981

“Research on cognitive maps and imagery emphasizes a static phenomenon, i.e., to have a cognitive map or image, to be oriented. Wayfinding, quite on the contrary, is a dynamic affair; it points to behavior and to the cognitive processes involved in reaching a destination.”

“An identified wayfinding problem involves both a task and environmental information. We can say that a wayfinding problem is an interpretation of the task in the light of environmental information.”

Wayfinding: A Conceptual Framework by Passini 1981

“Contrary to the system of western navigation which localizes both destination and the vessel’s position within a system of coordinates, Polynesian navigation operated on the knowledge of how to get to a destination; that is, they knew the process involved in reaching a destination.”

“While cognitive maps emphasize a person’s information structure, the idea of wayfinding styles emphasizes the type of information a person tends to rely on and the type of information a person seeks in the environmental context when solving wayfinding problems.”

Hokule'a



Hokule'a ("Star of Gladness")

- Polynesian voyaging
- Series of voyages using traditional methods and canoes
- First successful voyage from Hawaii to Tahiti 1976
- At the verge of cultural extinction
- Traditional navigator Mau Piailug from Micronesia
- Recovering of heritage
- Current mission to loop in the Pacific ocean
- Documentary (if interested) : <https://youtu.be/E8dZnyxdgFw>

[He Kani Ko Luna: A Sky Above: Kālepa Baybayan at TEDxMaui - YouTube](#)



Exploring the Renaissance of Wayfinding and Voyaging by Buente et al. 2020

However, as observed by indigenous scholar and voyager Chad Kālepa Baybayan and his colleagues (1987), there has also been considerable skepticism with regard to the unique indigenous knowledge of wayfinding and voyaging:

Yet, many modern armchair scholars doubt the historicity of these legends of return voyages . . . to the homeland area, as well as of subsequent colonisation voyages back to the North Island based on information supplied by the returnees. Nor do they consider seriously the possibility that the tales might contain valuable information about routes in question and the problems in sailing over them. Instead, they hypothesise that these tales refer to voyaging and colonisation events along the coast of the North Island and were composed primarily for validating tribal identity, pressing land claims or other local purposes . . ., or, alternatively, that they are simply religious myths. . . (Baybayan *et al.*, 1987, p. 197)

Discussion

- What are some ways we can inquire about the science of a cultural practice without invalidating the people of that culture? What methods should we use and what questions should we ask?
- What is the key to recovering indigenous knowledge? [See *Indigenous knowledge representation and organization.*]

Exploring the Renaissance of Wayfinding and Voyaging by Buente et al. 2020

As fair inclusion of various perspectives and cultures is considered a foundation of ethical knowledge representation, organization and discovery systems, the question arises as to whether these systems facilitate discovery of and learning from indigenous knowledge of wayfinding and voyaging. [Simpson \(2004\)](#), whose response to this question was negative, stated that the answers to the further questions of how and why indigenous knowledge has become threatened lie embedded in the crux of the colonial infrastructure, and unless properly dismantled and accounted for, this infrastructure will only continue to undermine efforts to strengthen indigenous systems (p. 375).

about the full depth and range of Native ways of knowing” (p. 685). By appropriating only particular fragments of the rich oral, communal, aesthetic, kinesthetic and emergent blend of indigenous knowledge, mainstream knowledge representation and organization systems not only separate the fragments from their context but also treat them as static and inflexible ([Duarte and Belarde-Lewis, 2015](#); [Grenersen, 2012](#)). [Duarte and Belarde-](#)

More Native vs Non-Native Thinking/ Science

[Ancient Wayfinding for Modern Challenges - Faumuina Felolini Tafunai at New Frontiers Nov 2018 - YouTube](#)



Discussion

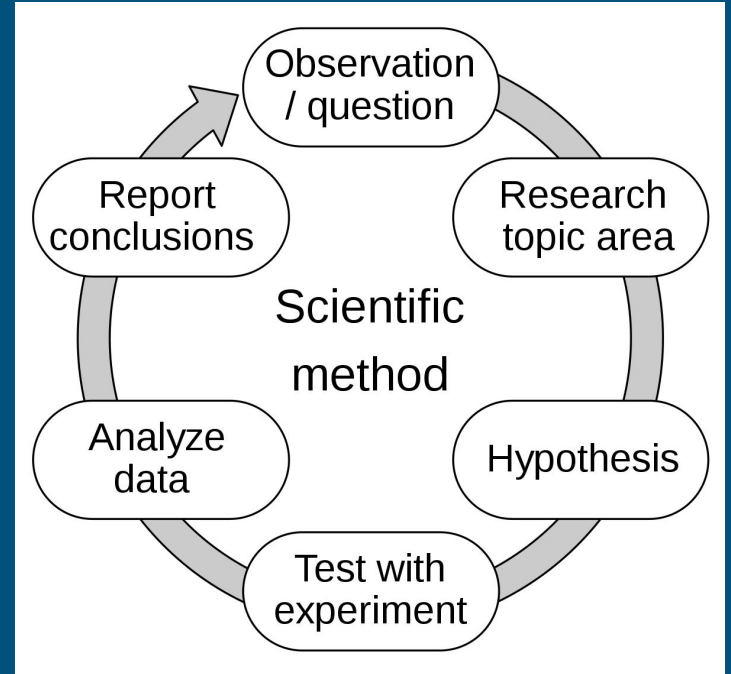
- Pacific Islander vs Western compasses: What are some differences in the actual compasses and wayfinding methods? How do the differences between Pacific Islander and Western navigation relate to the way they approach goals in other areas of life?
- Do you have personal examples of how your background affected your science or decision making?

The Scientific Method

- First documented by Francis Bacon (1561 - 1626), “father of empiricism”
- Relies on inquiry-based learning

Global recognition and acceptance of a study requires;

i) replicability and ii) universality.



Ending Question

How do we unite the endemic knowledge of indigenous people and Native ways of thinking with non-Native thinking and science? What is the suggestion in Buente et al. 2020? In which fields of study would the suggested transformation pose challenges? What could be other alternatives?

Works Cited

Ocean currents image: https://oceantracks.org/sites/oceansofdata.org/files/pacific-currents_0.png

Pacific Island map by Britannica

[Hōkūleʻa — The Story of Hōkūleʻa - Hōkūleʻa \(hokulea.com\)](#)

Scientific method chart: https://en.wikipedia.org/wiki/Scientific_method#/media/File:The_Scientific_Method.svg