

MA CAA Module HPCA7009 — Term 2 2019

Identification & Interpretation in Skyscape Archaeology

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A Common Approach in Archaeoastronomy

Interpretation = identification of celestial object or event

eg Winter Solstice sunrise, major standstill
moonrise, Sirius rising

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this leaves little room for cultural contextualisation of the celestial alignment
and leads to what Kim Malville describes as “thin description”

Identification vs Interpretation

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identification : what celestial object was the target of the alignment?

interpretation : why was the alignment built? what did it mean? what purpose did it serve, if any?

Identification vs Interpretation

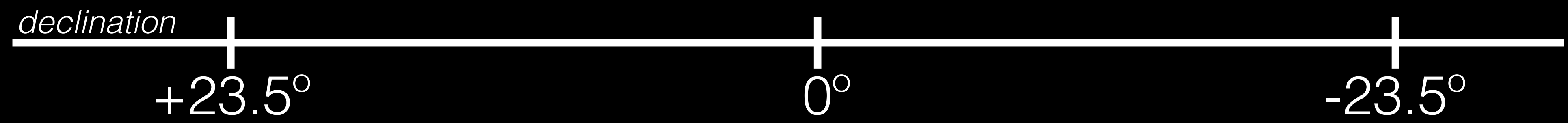
Interpretation (*sensu lato*) should consist of **identification** and **interpretation** (*sensu stricto*).

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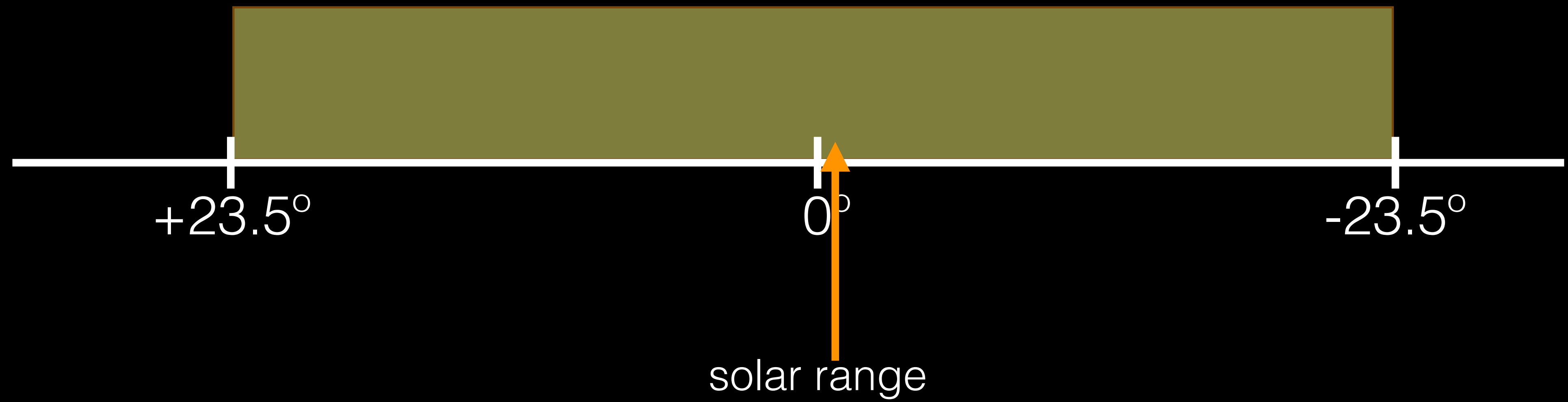
quantitative argument

interpretation : why was the alignment built? what did it mean? what purpose did it serve, if any?

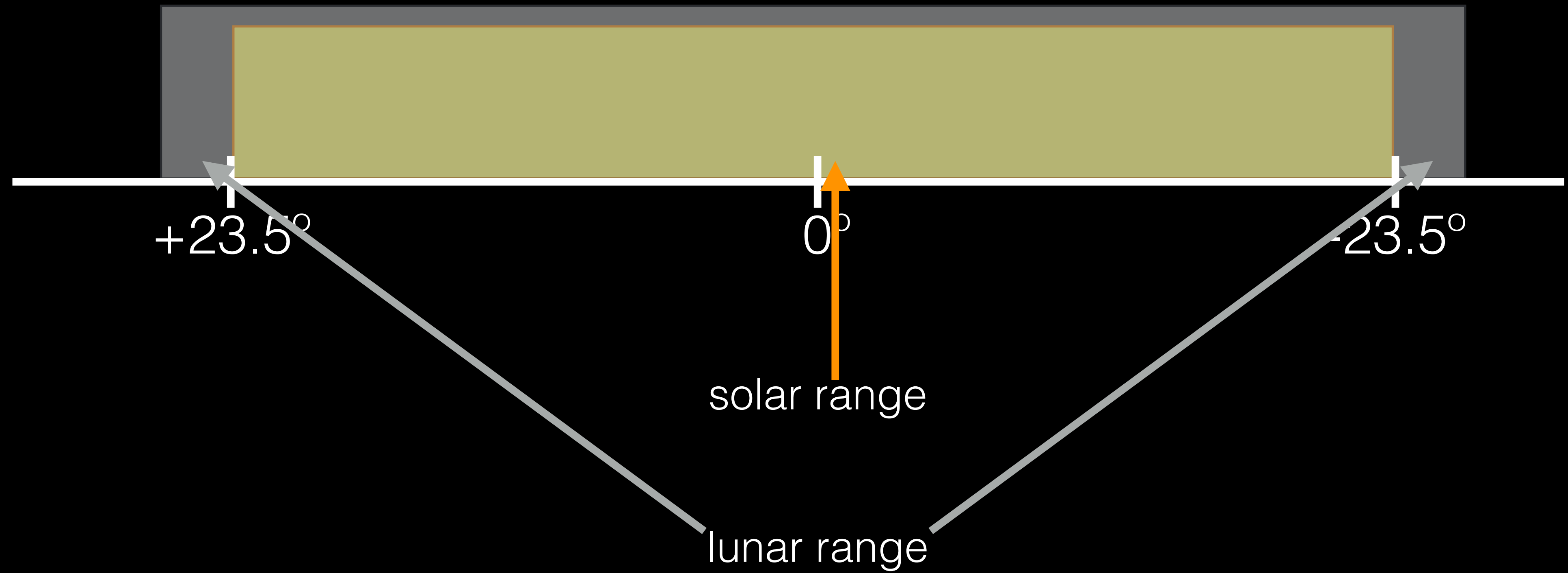
cultural context



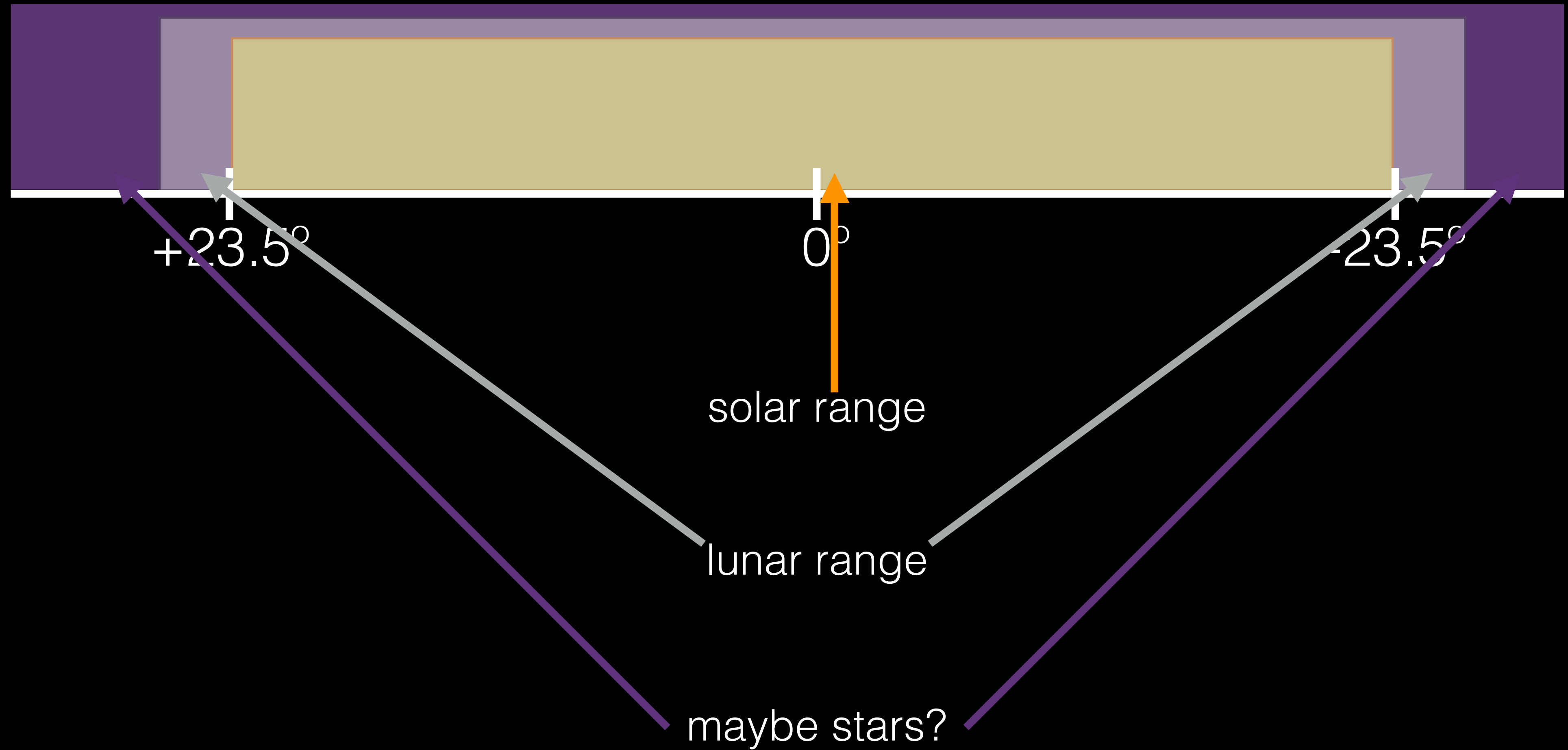
A Common Approach to Identification



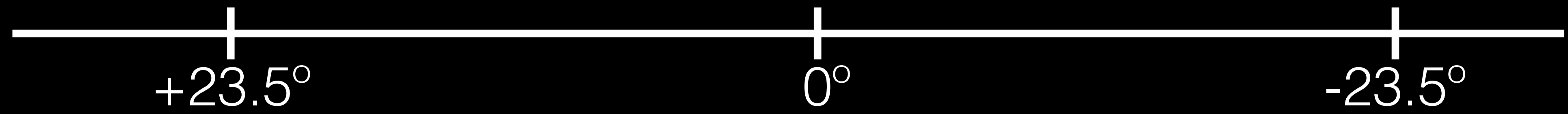
A Common Approach to Identification

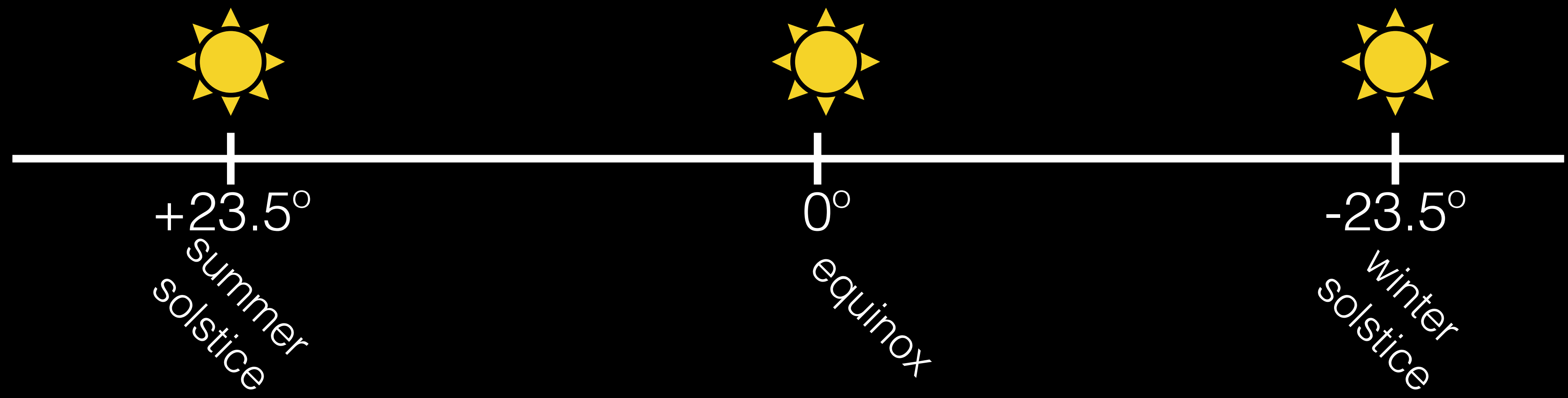


A Common Approach to Identification

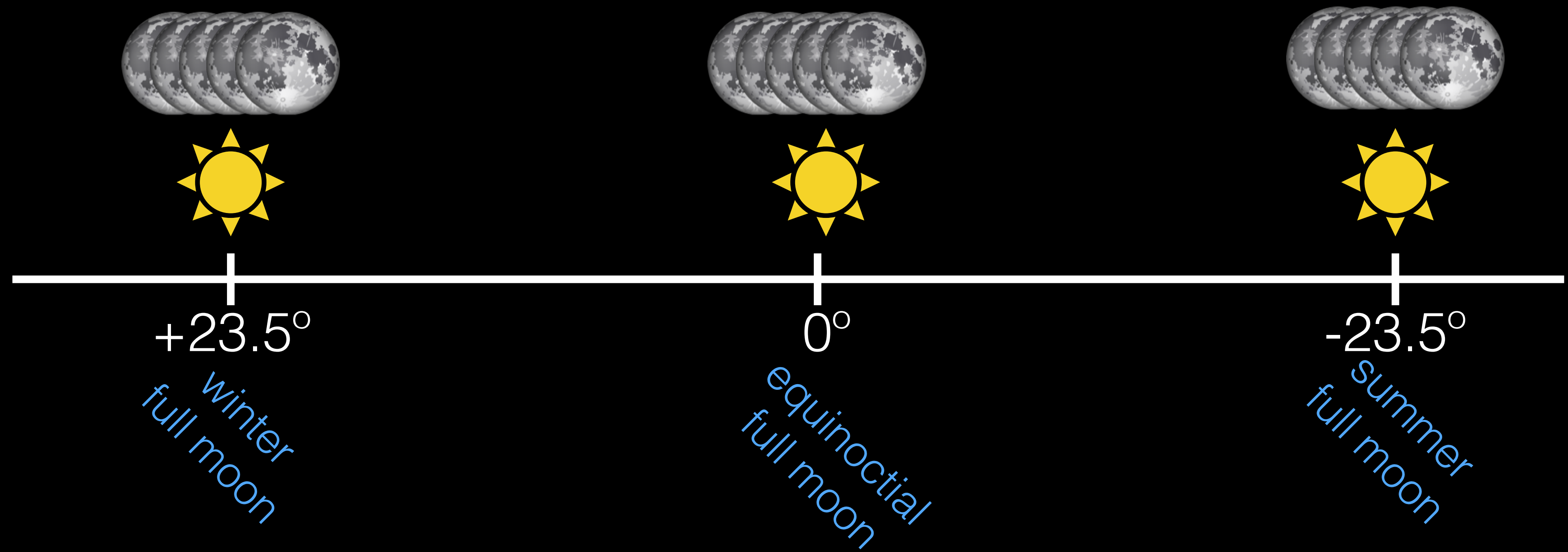


However...

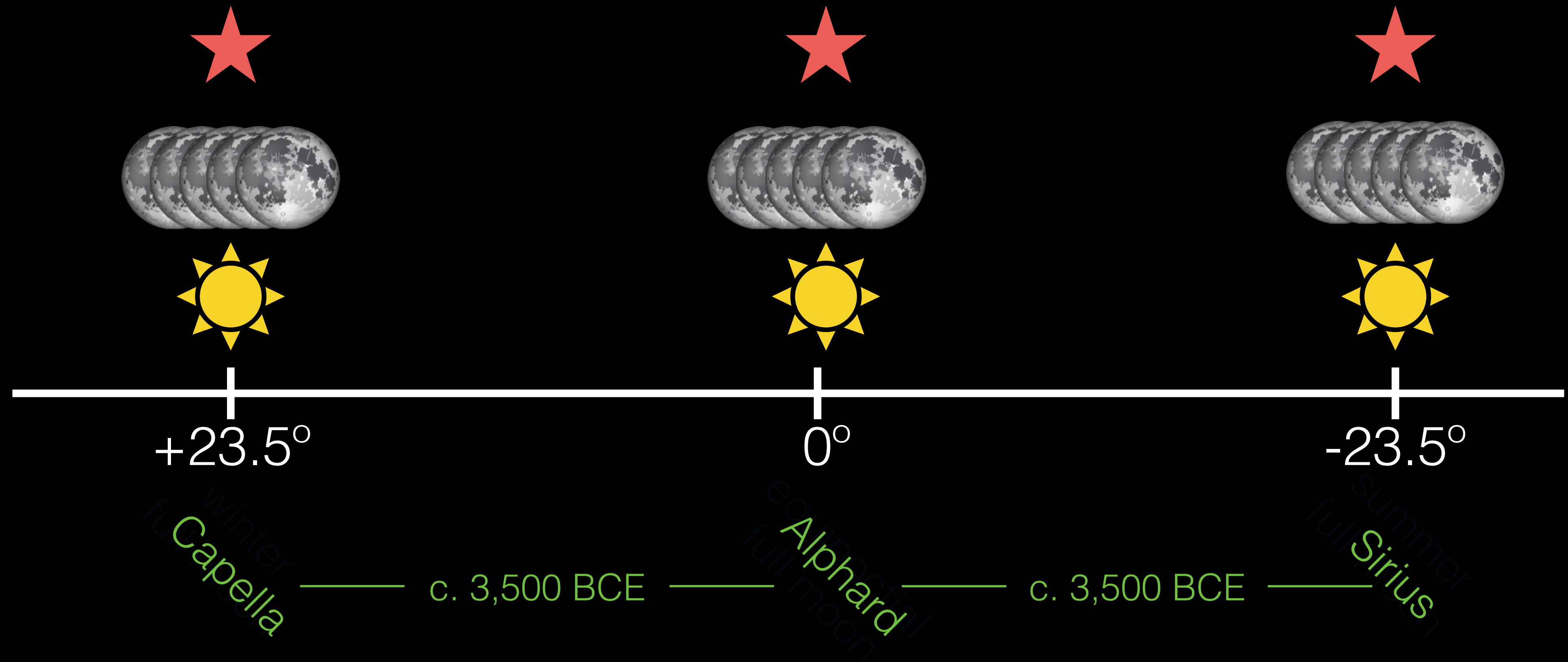




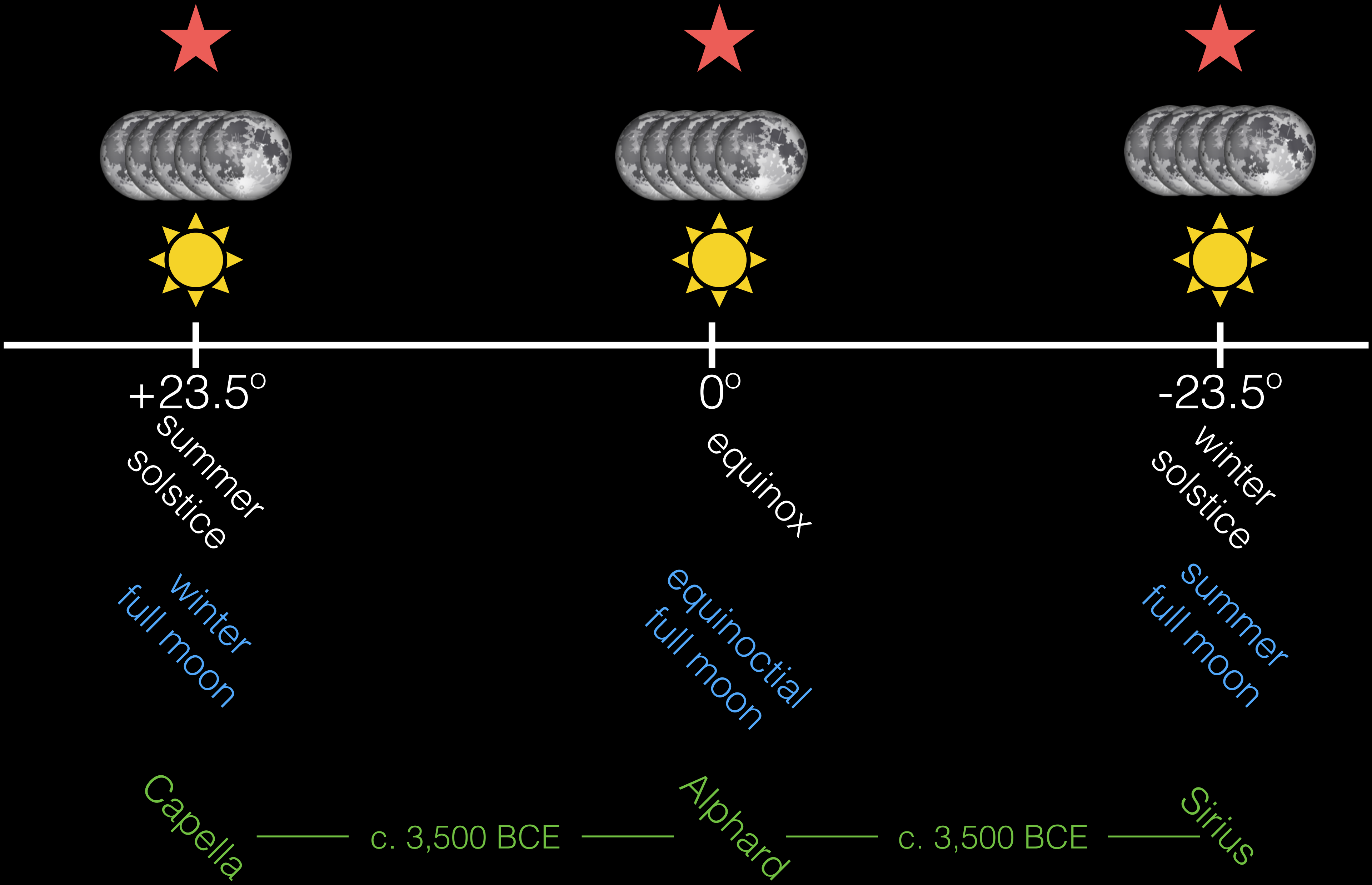
solar alignments



lunar alignments



stellar alignments



Identification

At any one moment in time, there is **a coincidence of celestial targets**

Choosing one over another should not be based on *a priori* assumptions nor on the value of declination found (as in the range approach)

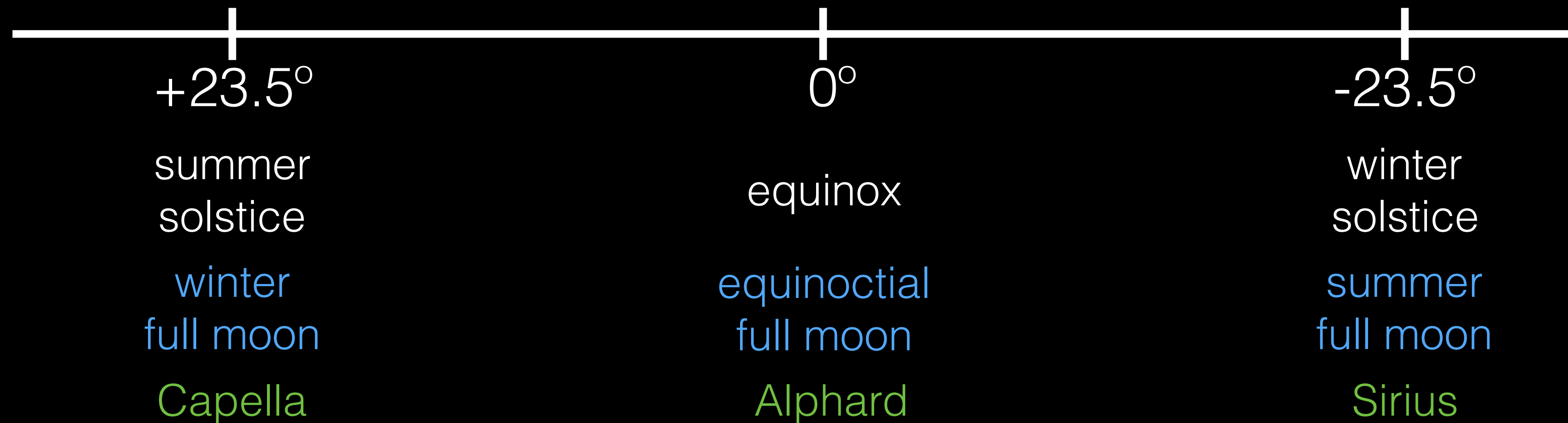
...it should be based on cultural contextualisation...

i.e. on the archaeological, historical and/or ethnographic record(s)
available

Identification

As an example:

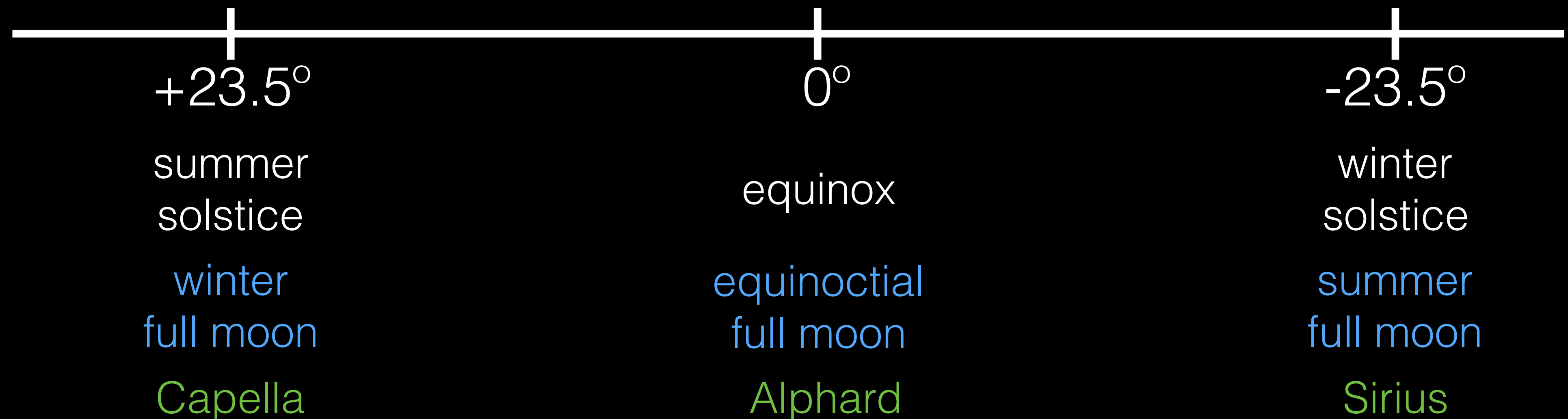
- the events below occurred at the same declinations, but at different times in the year;



Identification

As an example:

- the events below occurred at the same declinations, but at different times in the year;
- so **seasonality** can be used to differentiate them;



Identification

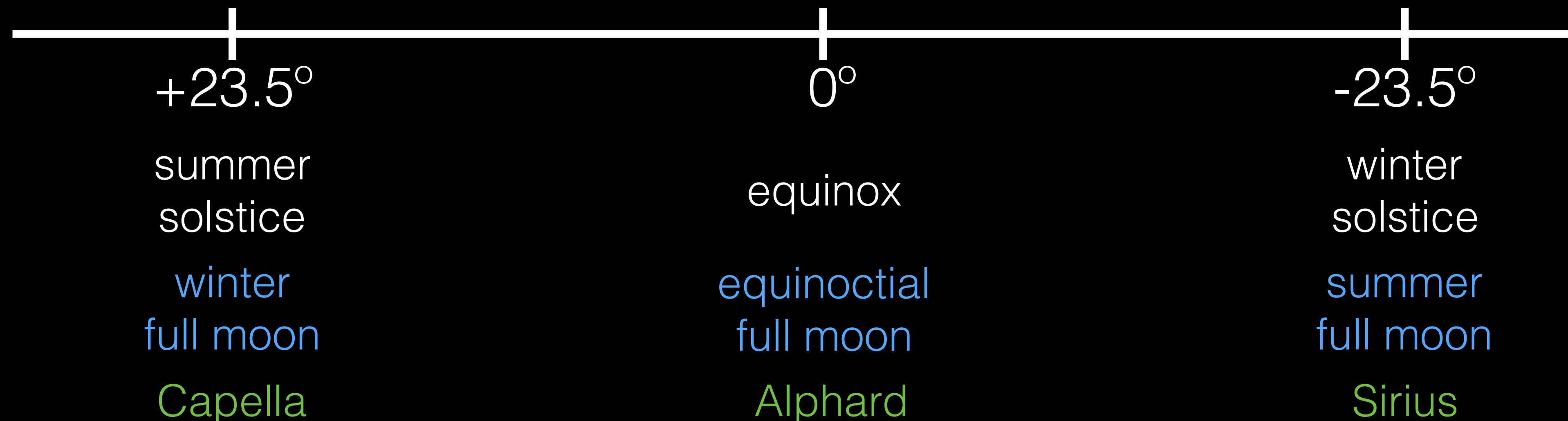
As an example:

- the events below occurred at the same declinations, but at different times in the year;
- so **seasonality** can be used to differentiate them;

Ask yourself:

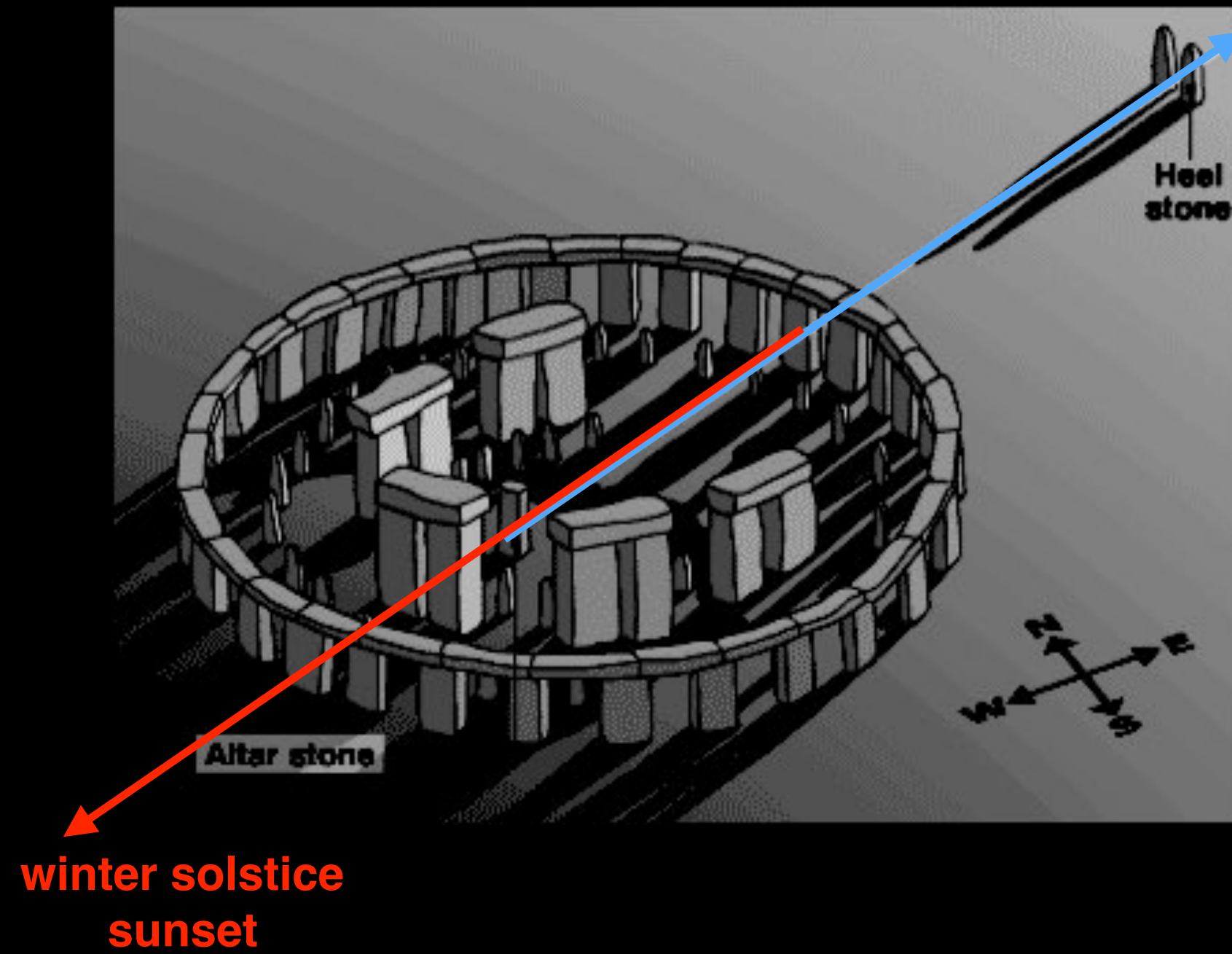
Is there anything in the material, environmental, historical or ethnographic record(s) that indicates the site was used only in a particular season?

If so, does it match any of these celestial events?



Identification

Case in point: Stonehenge and Durrington Walls

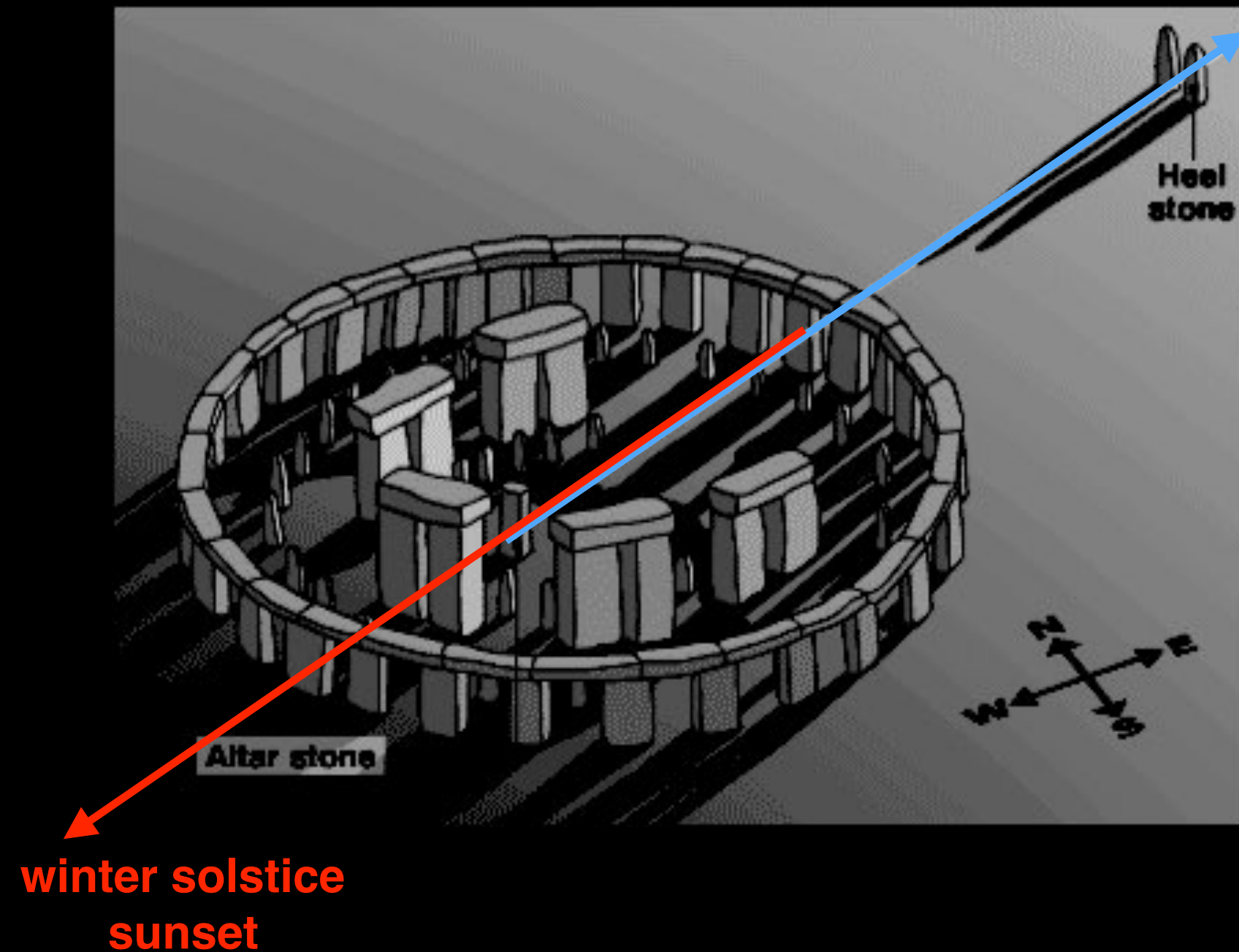


summer solstice
sunrise

Alignment to both summer and winter solstice

Identification

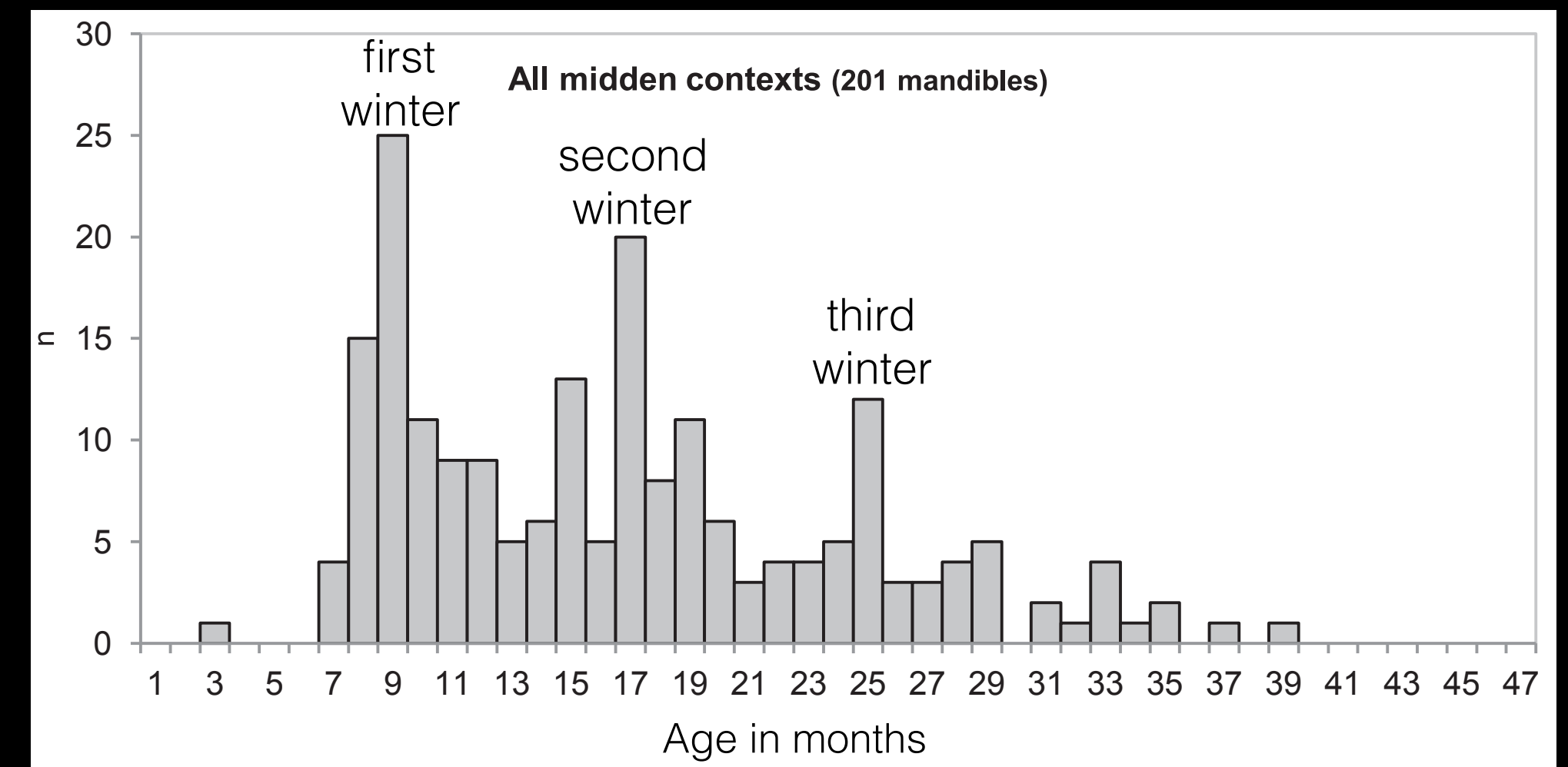
Case in point: Stonehenge and Durrington Walls



summer solstice
sunrise

Alignment to both summer and winter solstice

pig mandibles indicate major feasts at
winter



Wright et al (2014) Age and season of pig slaughter at Late Neolithic Durrington Walls (Wiltshire, UK) as detected through a new system for recording tooth wear. *Journal of Archaeological Science* 52: 497-514.

Identification vs Interpretation

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identification : what celestial object was the target of the alignment?

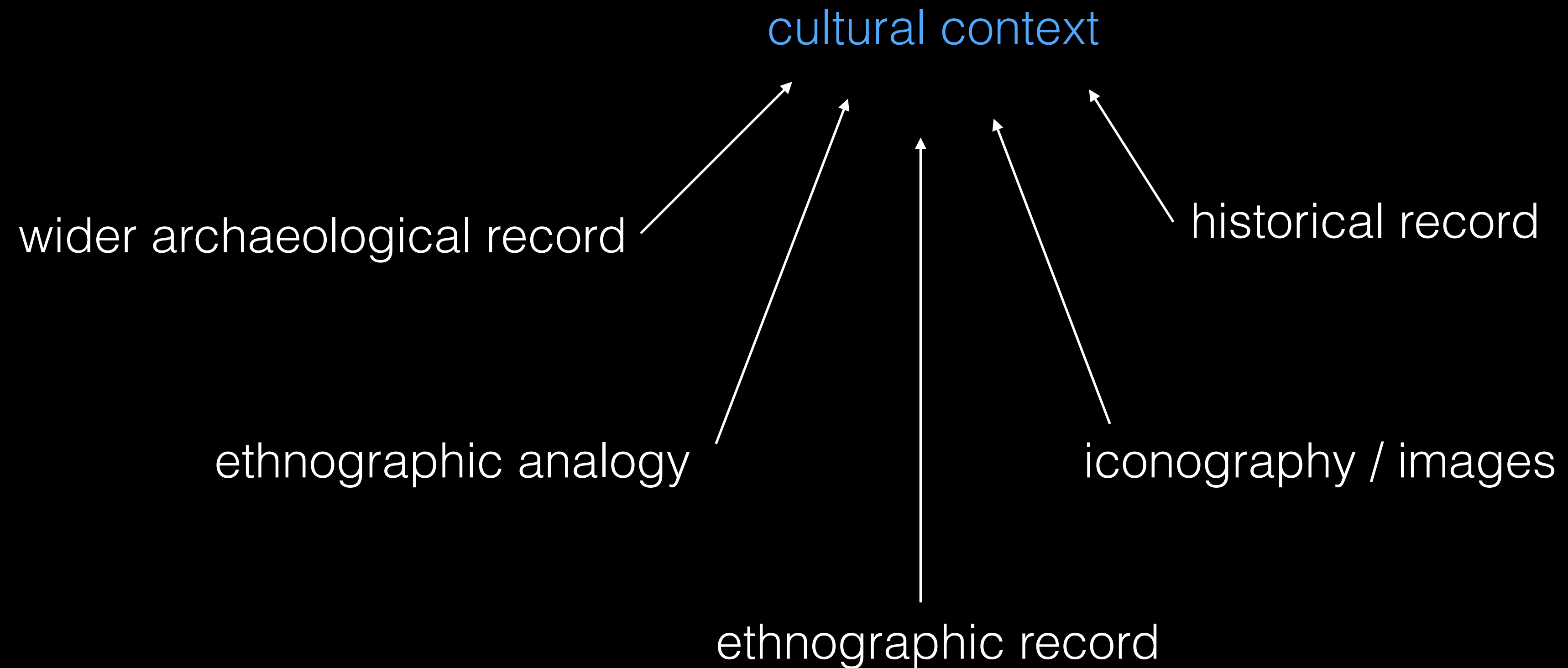
quantitative argument
& **cultural context**

interpretation : why was the alignment built? what did it mean? what purpose did it serve, if any?

cultural context

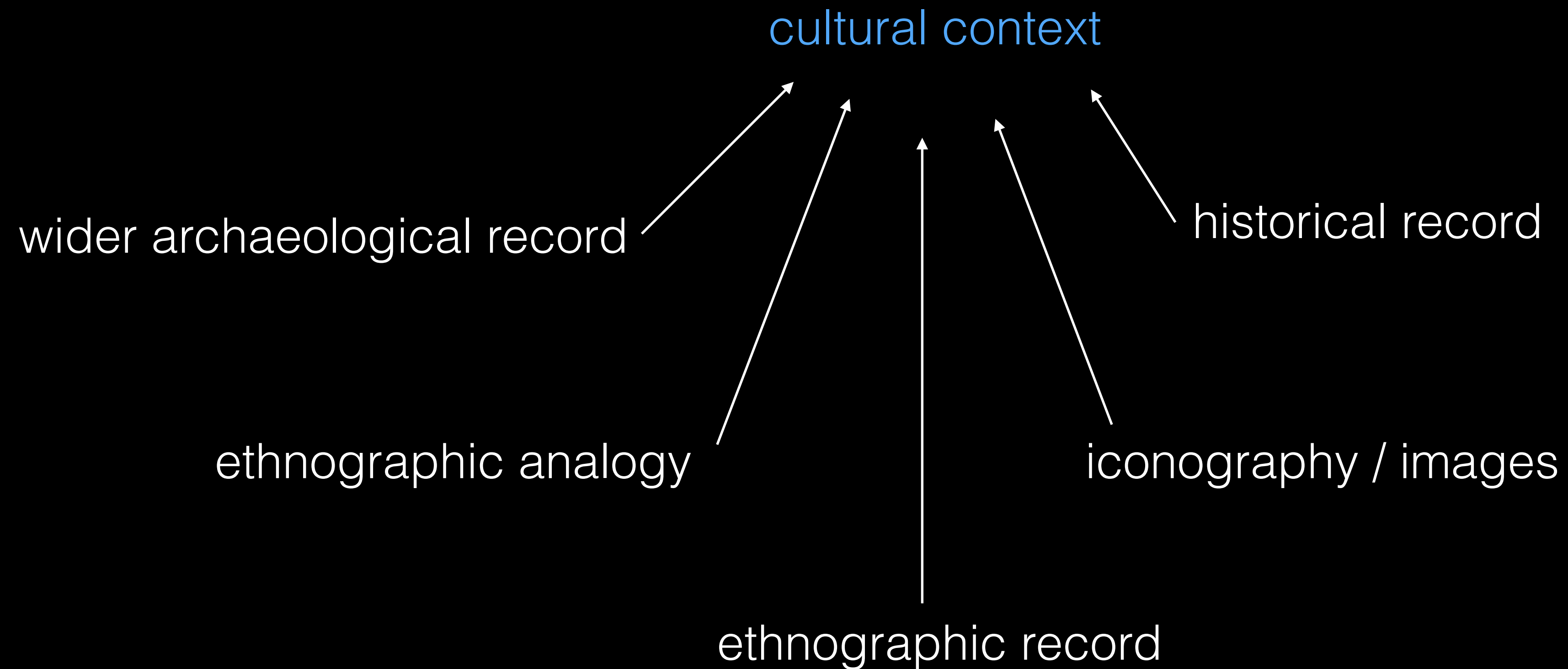
Interpretation

interpretation : why was the alignment built? what did it mean? what purpose did it serve, if any?



Interpretation

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this will help you avoid what I have called *Hawkins fallacy*,
but is more formally called *affirming the consequent*.

Interpretation

1258

NATURE

June 27, 1964 VOL. 202

454

NATURE

JULY 30, 1966 VOL. 211

STONEHENGE: A NEOLITHIC COMPUTER

By PROF. GERALD S. HAWKINS
Boston University and Harvard-Smithsonian Observatory, Cambridge, Mass.

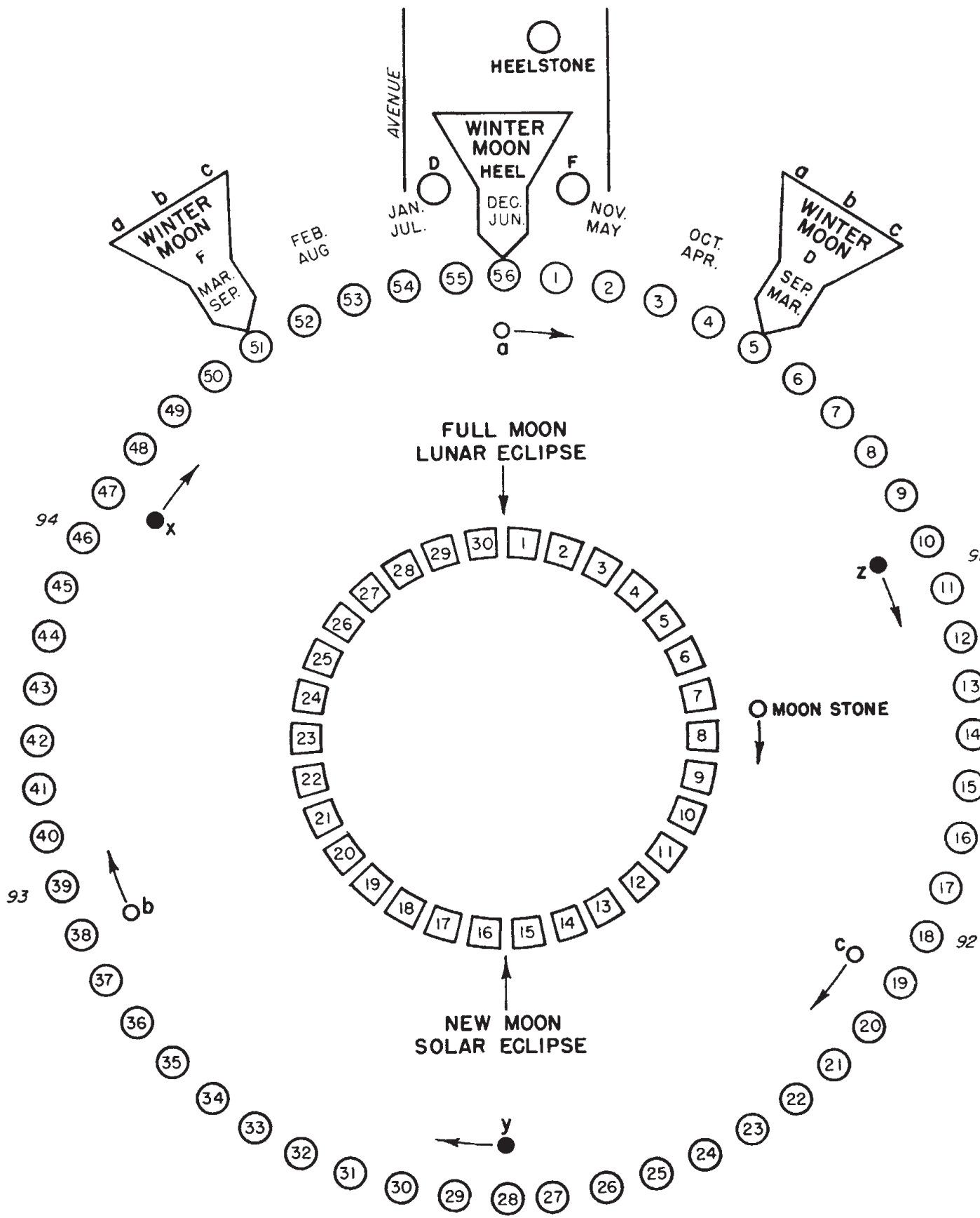


Fig. 2. Stonehenge computer: schematic plan

STONEHENGE—AN ECLIPSE PREDICTOR

By PROF. FRED HOYLE
University of Cambridge

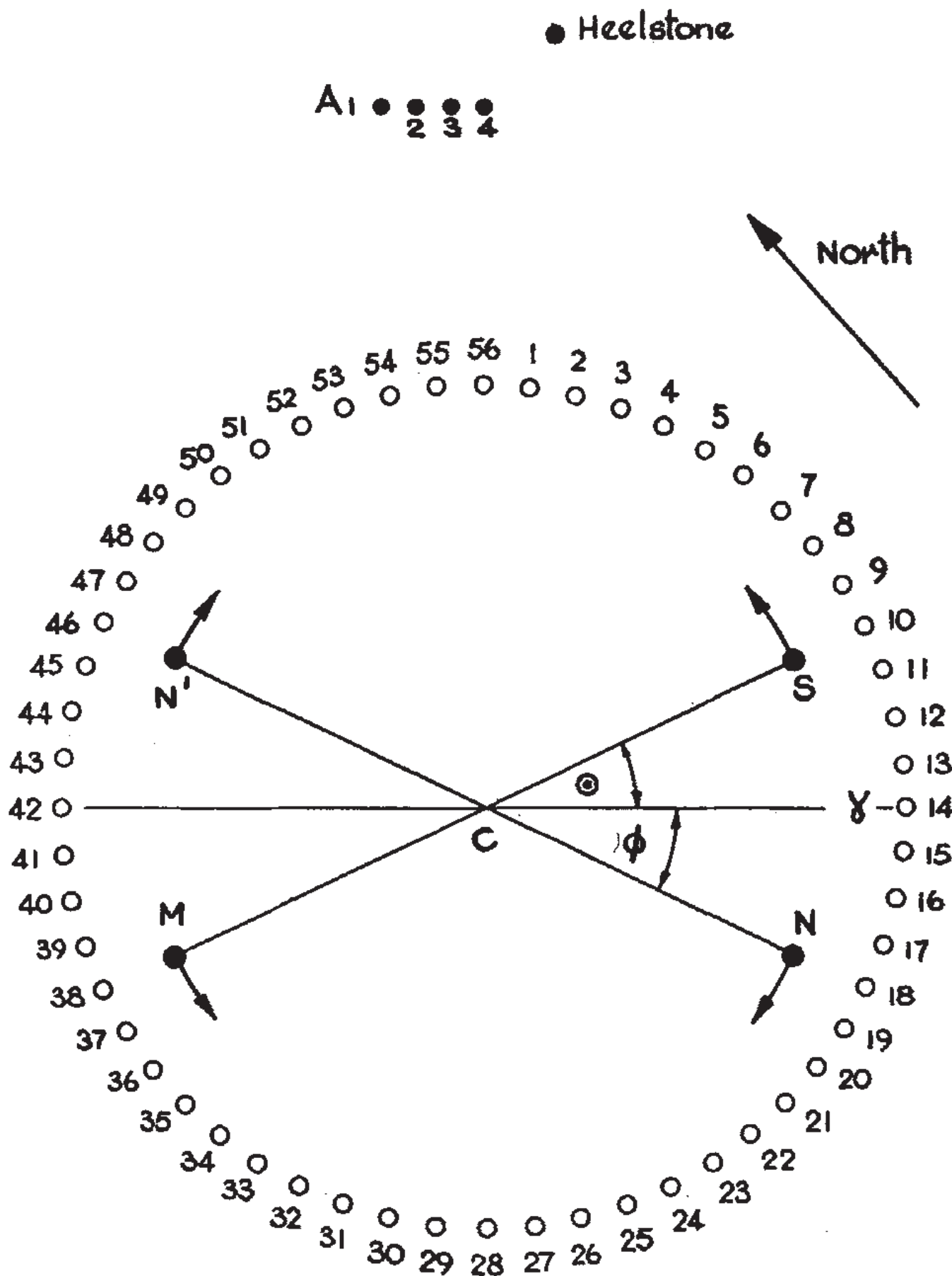


Fig. 1

Interpretation

Such arguments are based on flawed logic:

If the Aubrey Holes were built to predict eclipses, then I would be able to use them to predict eclipses.

I am able to use them to predict eclipses.

... Therefore, the Aubrey Holes were built to predict eclipses.

This is known as *affirming the consequent* and is a logical fallacy.

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If Bill Gates owns Fort Knox, then Bill Gates is rich.

Bill Gates is rich.

....Therefore, Bill Gates owns Fort Knox. **NO!**

if p implies q and you observe q , p does **not** necessarily follow

Interpretation

Rule of thumb to always keep in mind:

**just because we can see something there today,
it doesn't *automatically* mean others saw the same back then**

Another variant:

**just because we can see something there today, it doesn't
automatically mean it was built for that purpose back then**

Interpretation

**just because we can see something there today,
it doesn't *automatically* mean others saw the same back then**

Case in point:

- 1.** We see animals, people, objects (constellation) by uniting stars;
- 2.** Most hunter-gatherer societies see individual stars as animals, people, etc (Hayden and Villeneuve 2011);
- 3.** Some societies see animals, etc in the dark spaces, the so-called *dark cloud constellations*.



Interpretation

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Be reflexive:

what are you assuming?

what are the assumptions of your methodology?

what are the assumptions of your theoretical framework?

what are the assumptions of your/western ontology?

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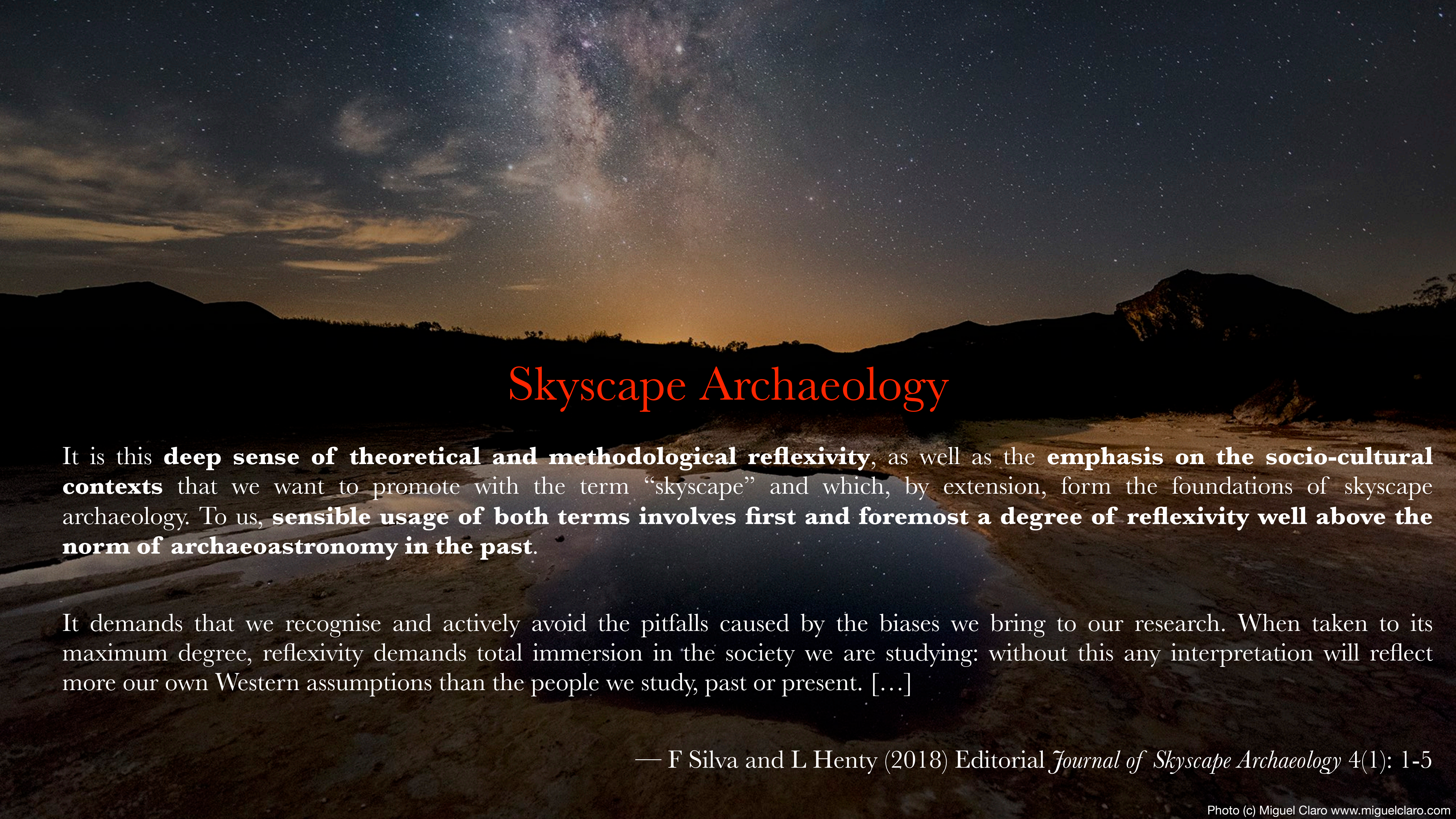
what are the assumptions of your theoretical framework?

what are the assumptions of your/western ontology?

Immerse yourself in the socio-cultural context:

how is it contrasting with your preconceptions?

how would that society have perceived or conceived the alignment?



Skyscape Archaeology

It is this **deep sense of theoretical and methodological reflexivity**, as well as the **emphasis on the socio-cultural contexts** that we want to promote with the term “skyscape” and which, by extension, form the foundations of skyscape archaeology. To us, **sensible usage of both terms involves first and foremost a degree of reflexivity well above the norm of archaeoastronomy in the past.**

It demands that we recognise and actively avoid the pitfalls caused by the biases we bring to our research. When taken to its maximum degree, reflexivity demands total immersion in the society we are studying: without this any interpretation will reflect more our own Western assumptions than the people we study, past or present. [...]

— F Silva and L Henty (2018) Editorial *Journal of Skyscape Archaeology* 4(1): 1-5

Summary

Identification is to answer the question of what celestial object was the target of the alignment?

Interpretation is to ask why was the alignment built? What did it mean? What purpose did it serve, if any?

Reflexivity and **cultural contextualisation** play a key role in both.

At any one moment in time there is a **coincidence** of solar, lunar and stellar targets for any one alignment.

Choosing between them (i.e. arguing for one of them) requires engaging with the material, environmental, historical and/or ethnographic record(s) available, just as much as interpretation itself.