Session: *Preserving Dark Skies and Protecting Against Light Pollution in a World Heritage Framework*

How to apply the UNESCO World Heritage Criteria to the "Windows to the Universe" Sites?

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1- Terms of reference issued from the UNESCO World Heritage Convention :

- ✓ The key sentence for the WH recognition is the 'Justification of the Outstanding Universal Value' (OUV) of a given place,
- ✓ What means a 'place' or a 'site' for an international convention?...
- ✓ The OUV of the site is expressed by the WH criteria:
  6 are possible for cultural value and 4 for natural value.

United Nations Educational, Scientific and Cultural Organization

World Heritage Convention

Reference booklet: *Guideline for the implementation of the World Heritage Convention*

2a- The six WH cultural criteria:

I. represent a masterpiece of human creative genius;

II. exhibit an important interchange of human values…;

III. bear a unique or at least exceptional testimony to a cultural tradition….;

IV. be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

V. be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment…;

VI. be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance;

2b- The four WH natural criteria:

VII. contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;

VIII. be outstanding examples representing major stages of earth's history;

IX. be outstanding examples representing significant on-going ecological and biological processes in the evolution … of plants and animals;

X. *in-situ* conservation of biological diversity

Remark: there are other important associated issues for the demonstration of OUV in WH meaning as :

- Integrity and authenticity of the place;
- Comparative analysis with similar sites.

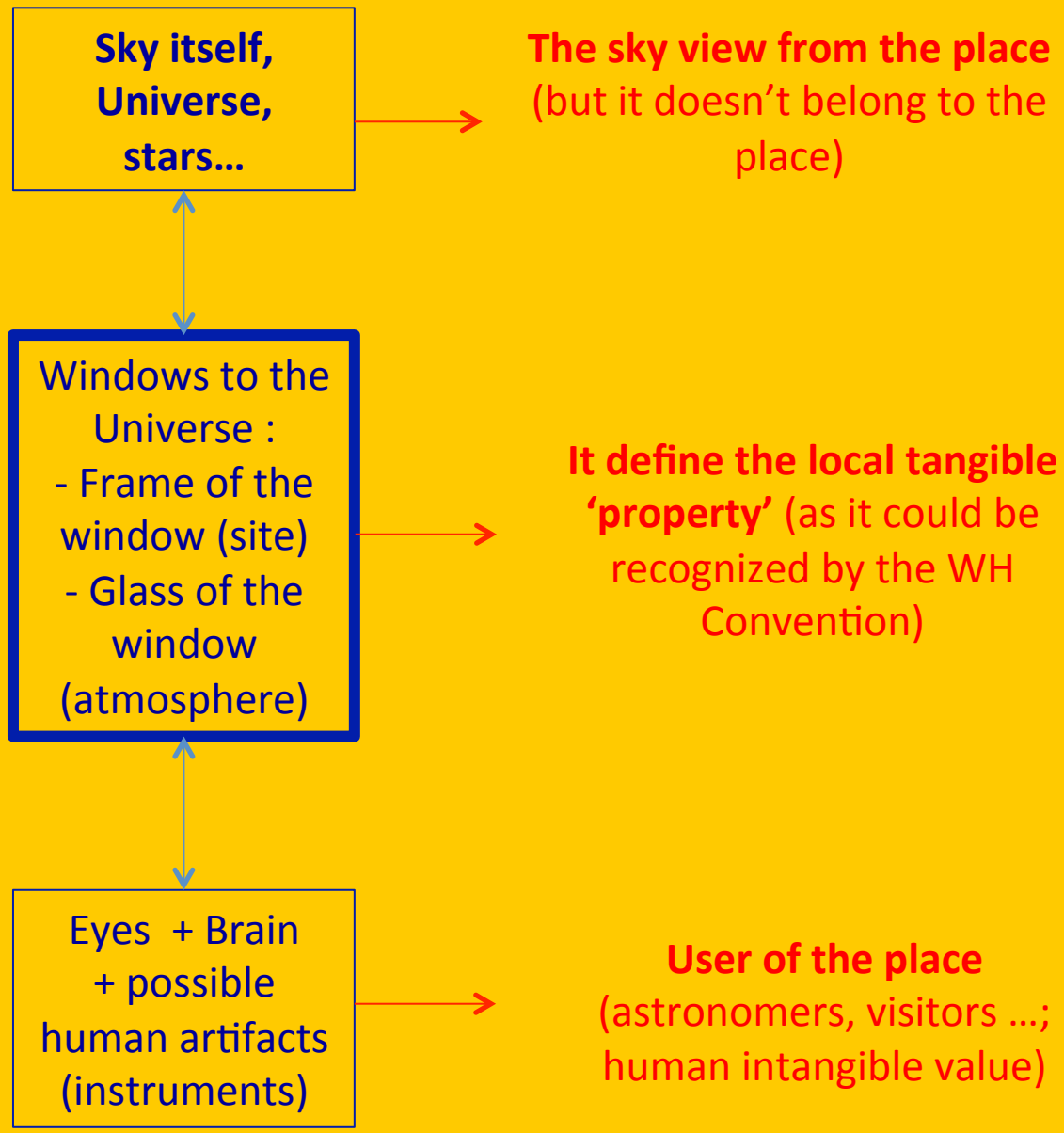
3- The “Windows to the Universe” concept in heritage view:

Now the question is: How to apply the UNESCO World Heritage Criteria to the “Windows to the Universe” Sites?

basic features shaping the ‘Windows to the Universe’ concept are:

- ✓ Sky itself (object of the observation),
- ✓ Site as a property in local permanent context (geography, atmosphere, architecture, landscape, nature…)
- ✓ and Humankind using the observation place eventually with artifacts/instruments.

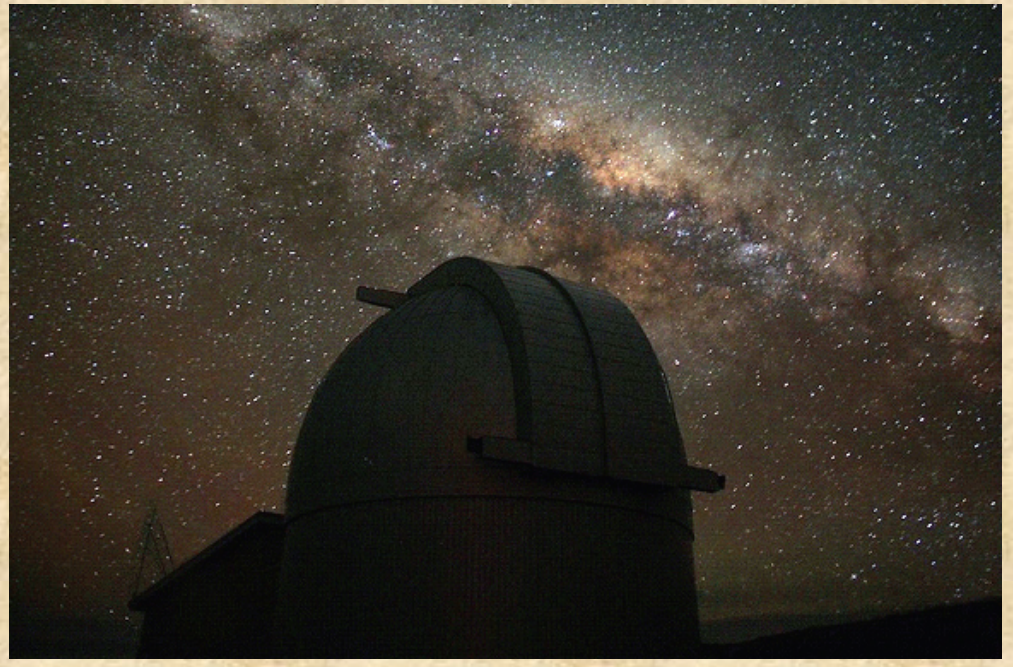
Basic features :
a trilogy

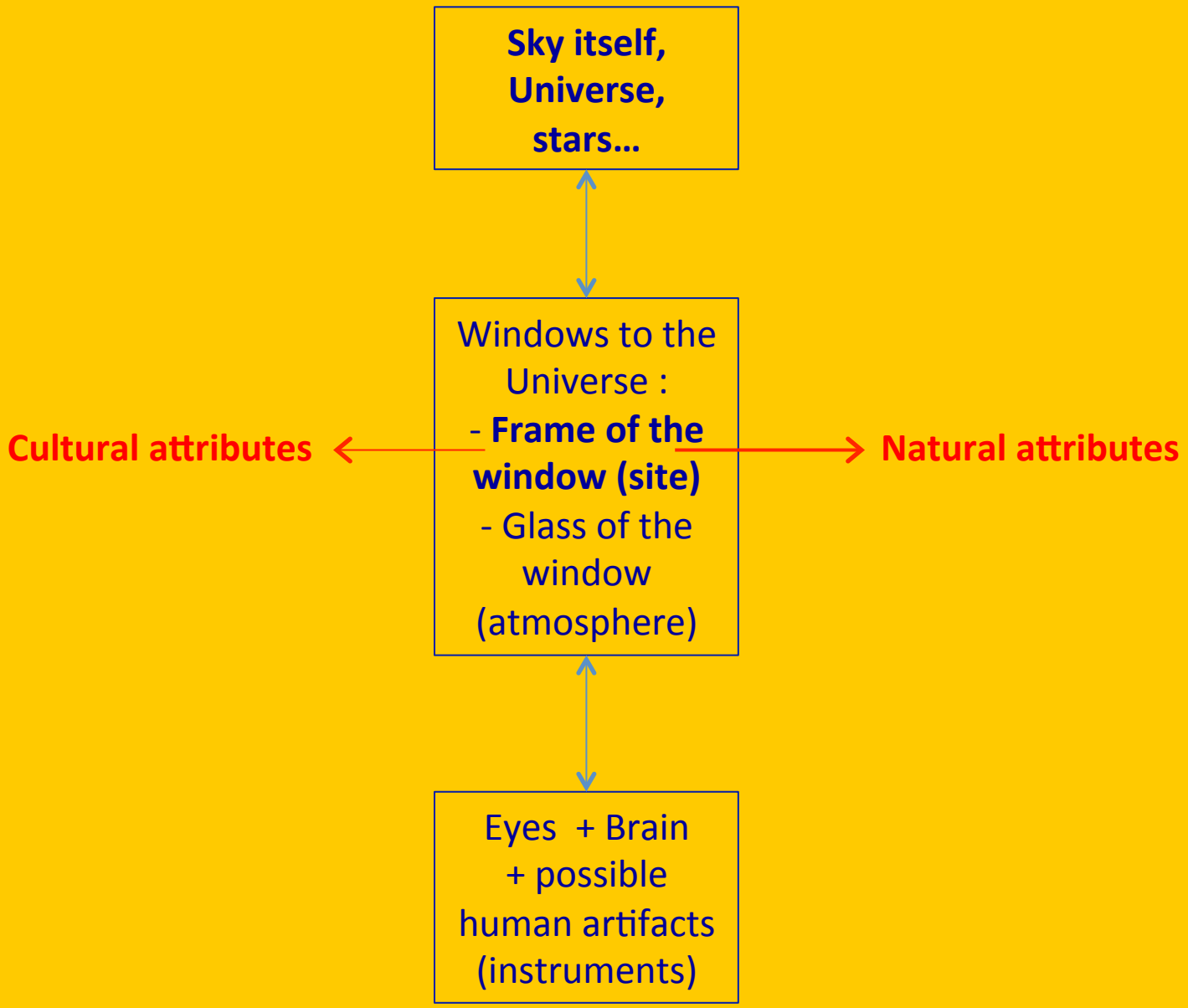

Sky itself, Universe, stars…
The sky view from the place (but it doesn't belong to the place)
Windows to the Universe : - Frame of the window (site) - Glass of the window (atmosphere)
It define the local tangible 'property' (as it could be recognized by the WH Convention)
Eyes + Brain + possible human artifacts (instruments)
User of the place (astronomers, visitors …; human intangible value)

4- Can ‘Dark Sky’ alone be taken in consideration for a WH nomination?

Of course these three basic issues of the sky observation are intimately related together. But they have not of the same sense in the WH view and difficulties arise there:

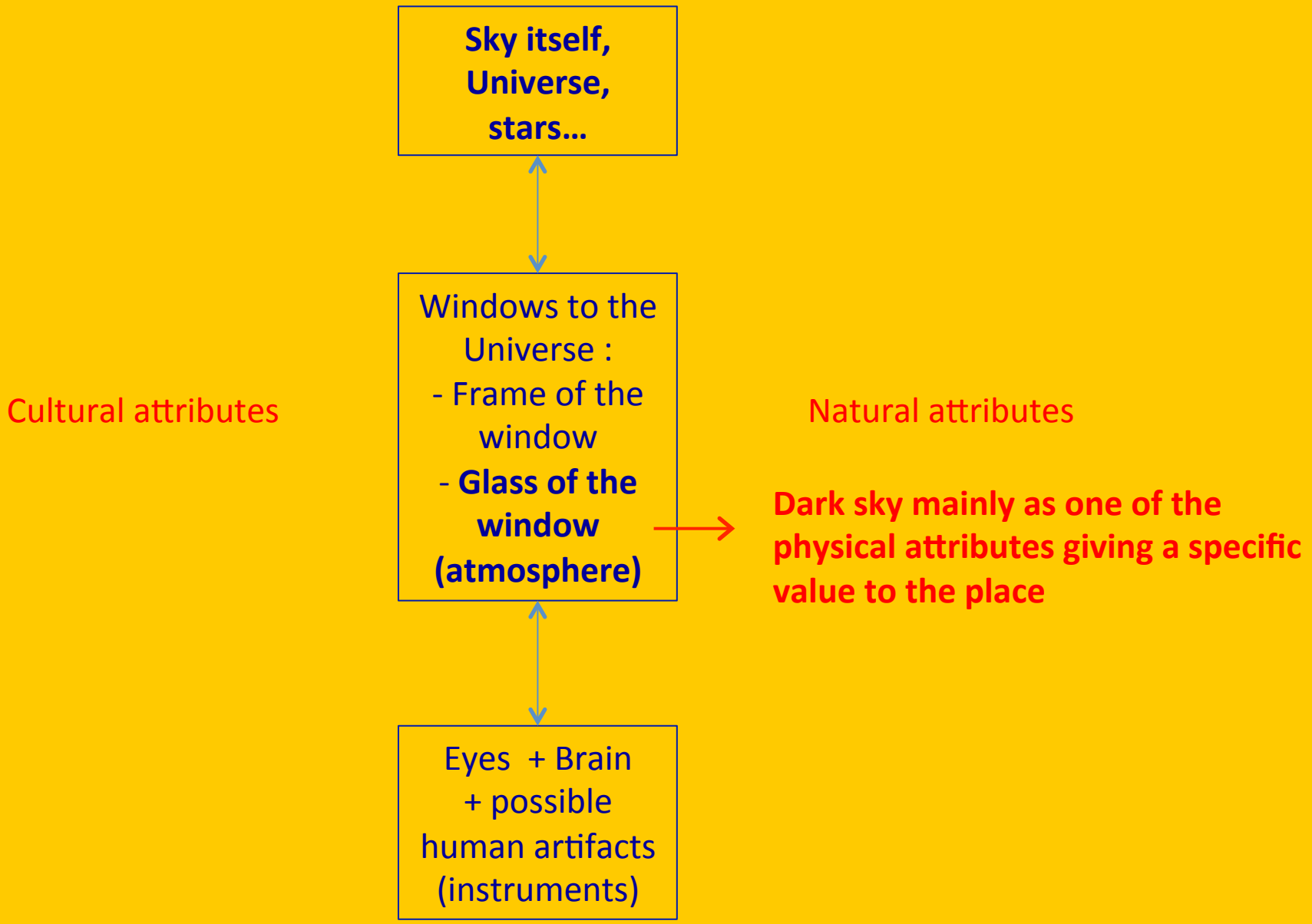
- ✓ Sky itself could not be seen as a ‘property’ in Human/Juridical sense as all the others WH sites (anthropocentrism…);
- ✓ What is the most spontaneously adapted to the WH Convention goal is the place itself, as a local tangible property;
- ✓ The human presence of the observers and astronomers gives meaning and life to the place, supporting important additional intangible value by history of knowledge and human representations.

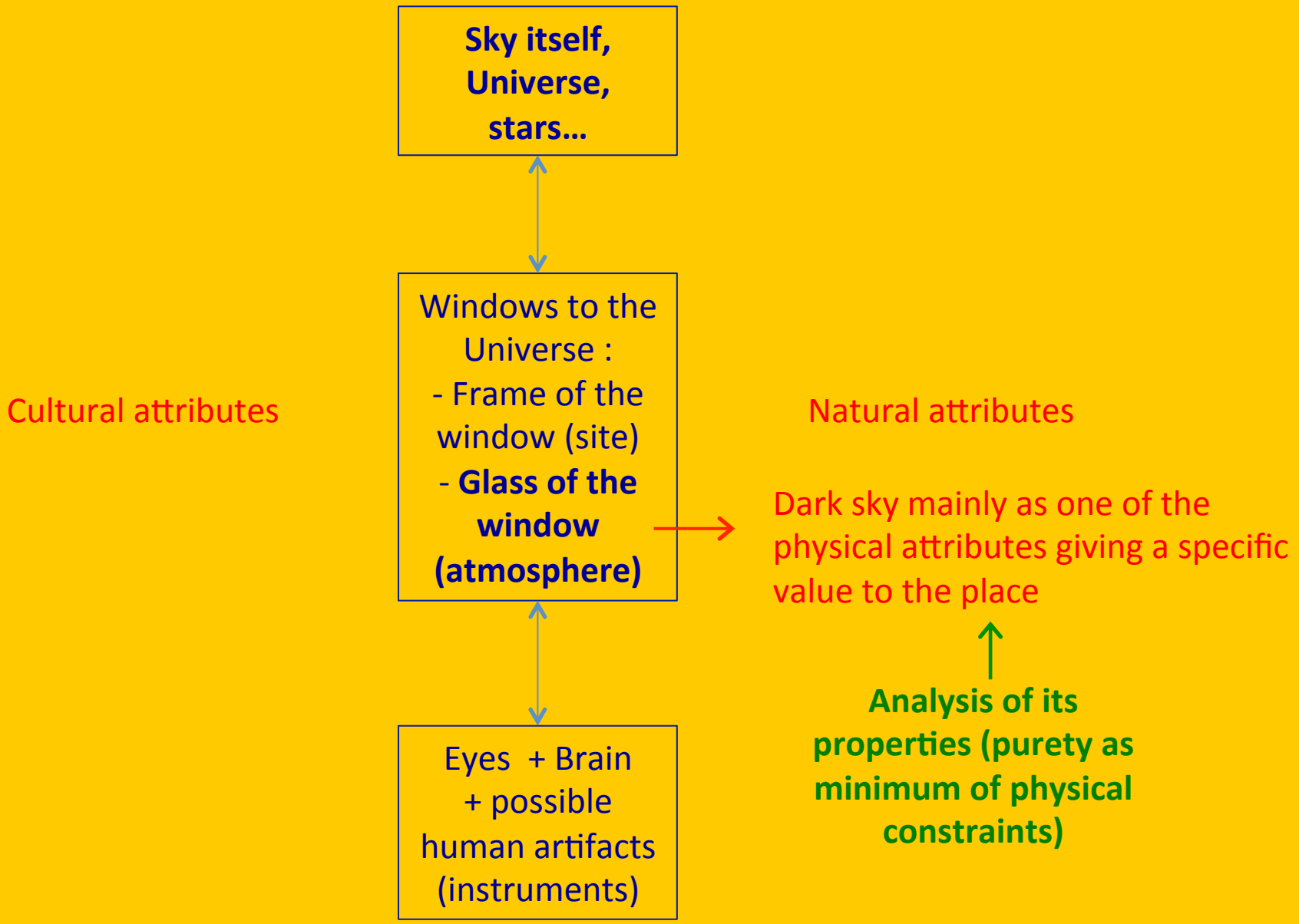



Sky itself, Universe, stars…
Windows to the Universe :
- Frame of the window (site)
- Glass of the window (atmosphere)
Cultural attributes
Natural attributes
Eyes + Brain + possible human artifacts (instruments)

5- Dark sky quality as local environmental attribute

- ✓ Studying a place in WH perspective starts by an inventory of its tangible attributes;
- ✓ Generally speaking, a given place has a series of natural attributes and cultural attributes supporting and expressing its value;
- ✓ Clearly, intrinsic Dark Sky quality is a natural attribute of the place among others;
- ✓ Analysis of its properties (purity as minimum of physical constraints);
- ✓ Visible relationships between attributes give a landscape value.

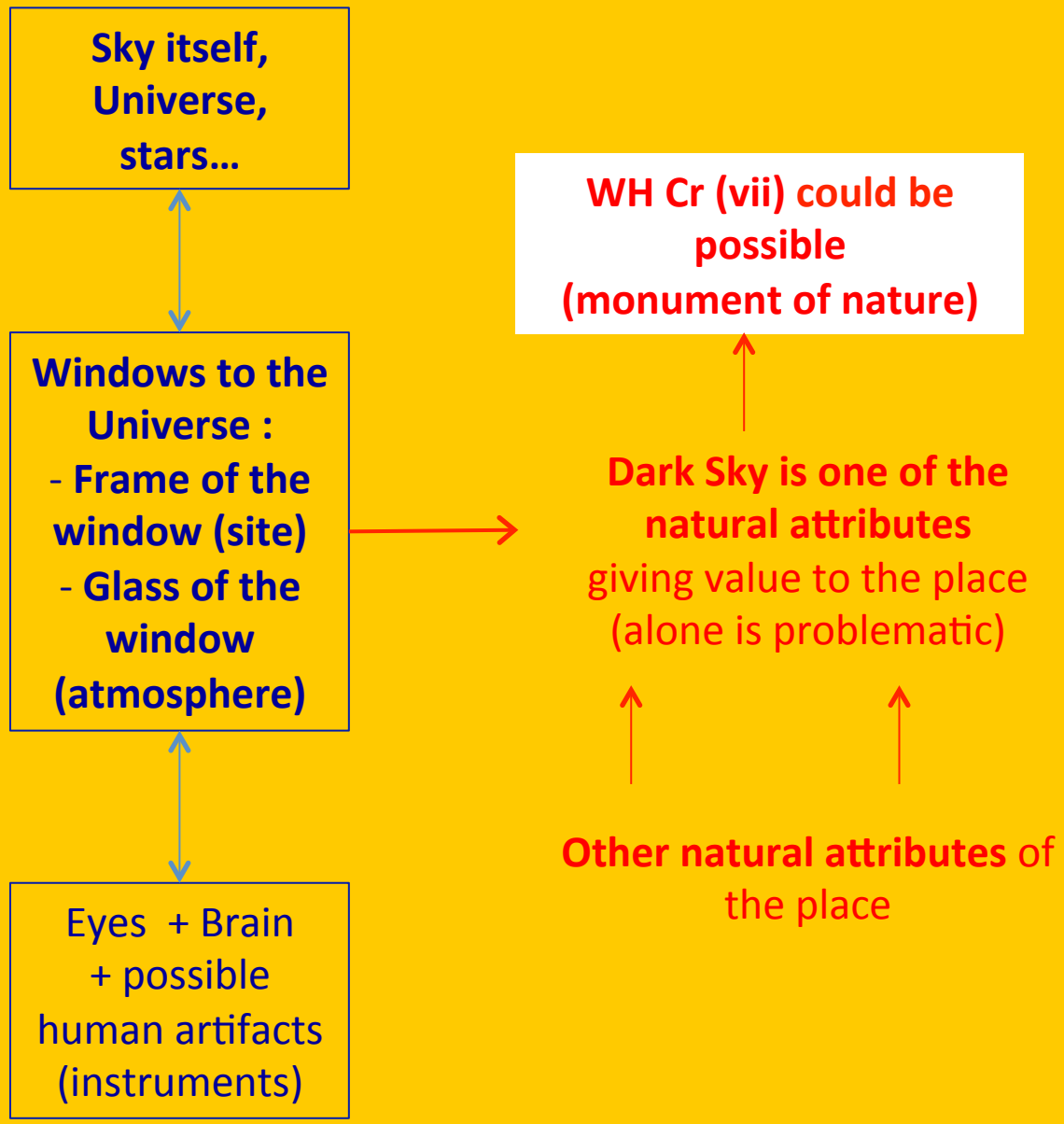

Sky itself, Universe, stars…
Windows to the Universe : - Frame of the window - Glass of the window (atmosphere)
Eyes + Brain + possible human artifacts (instruments)
Cultural attributes
Natural attributes
Dark sky mainly as one of the physical attributes giving a specific value to the place


Sky itself, Universe, stars…
Windows to the Universe : - Frame of the window (site) - Glass of the window (atmosphere)
Eyes + Brain + possible human artifacts (instruments)
Cultural attributes
Natural attributes
Dark sky mainly as one of the physical attributes giving a specific value to the place
Analysis of its properties (purety as minimum of physical constraints)

6- Dark Sky among a cluster of natural attributes

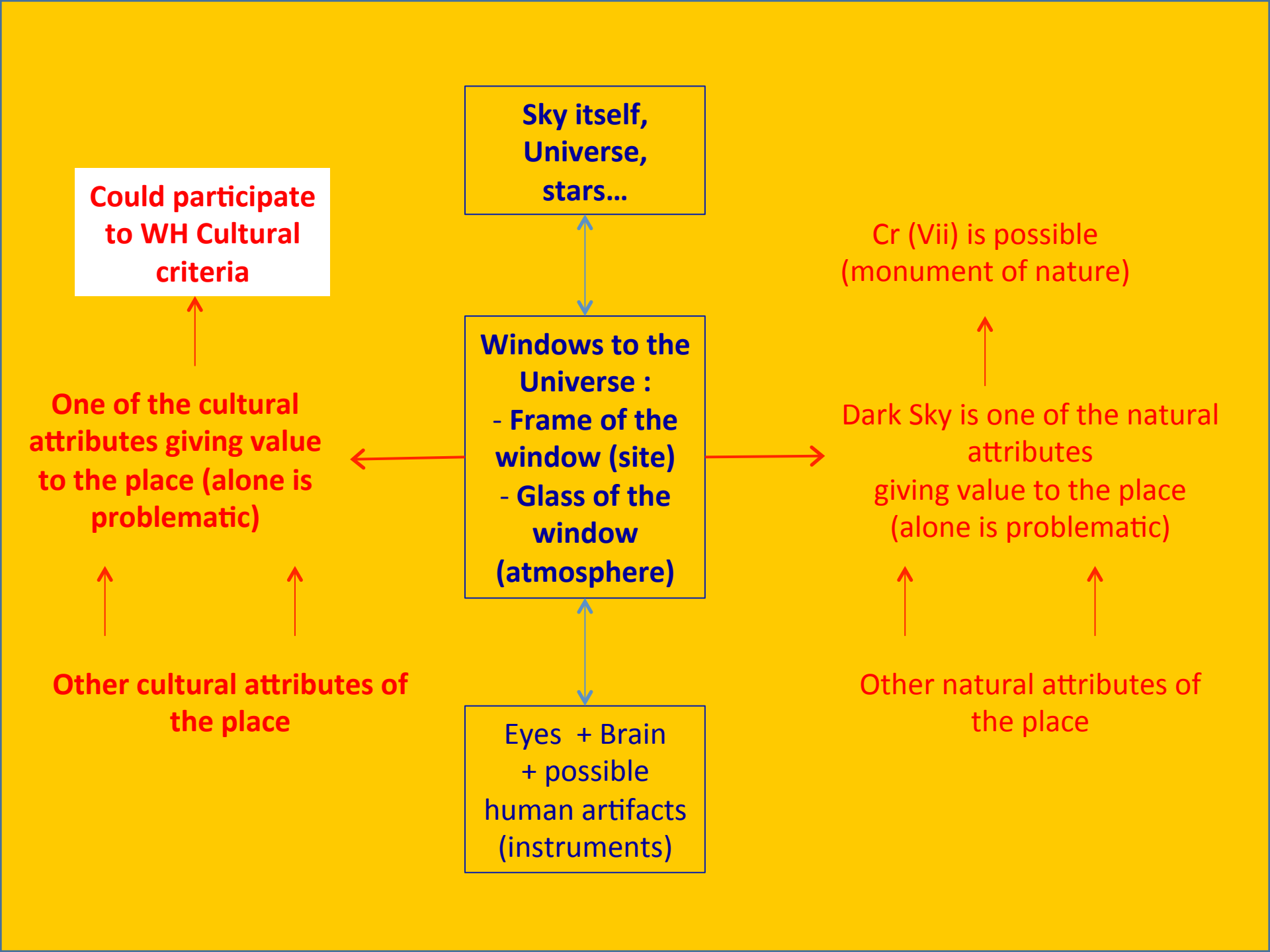
- ✓ Dark Sky quality participates to the global natural context of a giving place;
- ✓ It belongs to a larger group of natural attributes of the site, forming its natural environment components;
- ✓ One of the best way to use Dark Sky value is among a set of other remarkable attributes, making generally remarkable landscape at the turn of night and day;

- ✓ Potential OUV result of the combination of a set of remarkable attributes;
- ✓ Significance and beauty of the whole could be largely over the simple addition of individual addition of attributes.


Sky itself, Universe, stars…
Windows to the Universe : - Frame of the window (site) - Glass of the window (atmosphere)
Eyes + Brain + possible human artifacts (instruments)
WH Cr (vii) could be possible (monument of nature)
Dark Sky is one of the natural attributes giving value to the place (alone is problematic)
Other natural attributes of the place

7- Dark Sky among a cluster of cultural attributes or mixt attributes

- ✓ Dark sky quality could be considered as a cultural attribute in context of the history of the observatory place;
- ✓ A remarkable atmosphere quality for a given place as High Mountain Observatories explain its settlement: its foundation as “Windows to the Universe” is justified by the Dark Sky quality;
- ✓ The other good way to use ‘Dark Sky’ value is to link it to a set of remarkable cultural attributes, or a mixt of cultural and natural features as often.


Sky itself, Universe, stars…
Could participate to WH Cultural criteria
Cr (Vii) is possible (monument of nature)
Windows to the Universe : - Frame of the window (site) - Glass of the window (atmosphere)
One of the cultural attributes giving value to the place (alone is problematic)
Dark Sky is one of the natural attributes giving value to the place (alone is problematic)
Other cultural attributes of the place
Other natural attributes of the place
Eyes + Brain + possible human artifacts (instruments)

8- Dark Sky management for scientific efficiency and heritage preservation

- ✓ The international success and the importance of the Dark Sky reserves initiatives;
- ✓ A strong challenge to control human light pollution;
- ✓ By itself maintenance of the dark sky quality could be a strong management goal for an astronomical site and region;
- ✓ Dark Sky Reserve and WH Buffer Zone concept.

Thanks for your attention