

- FOSDEM 2020
- Open Research Tools and Technologies devroom
- Nicolas Roelandt

Shriveling world

A Three dimensional visualization development for representing geographical time-space

Shrivelling world

A Three dimensional visualization development for representing geographical time-space

Schedule

- 1) What is the problem ?
- 2) Representing geographical Time-Spaces
- 3) About the project



What is the problem ?

Shriveling world

A Three dimensional visualization development for representing geographical time-space

- Where (is something) ?
- At what distance (between 2 places)

Movement characterized by **time** (« How long does it take to go from there to there ? »)

- Geographical distance
- Geographical time-space

How to represent geographical time-space **and** geographical distances ?



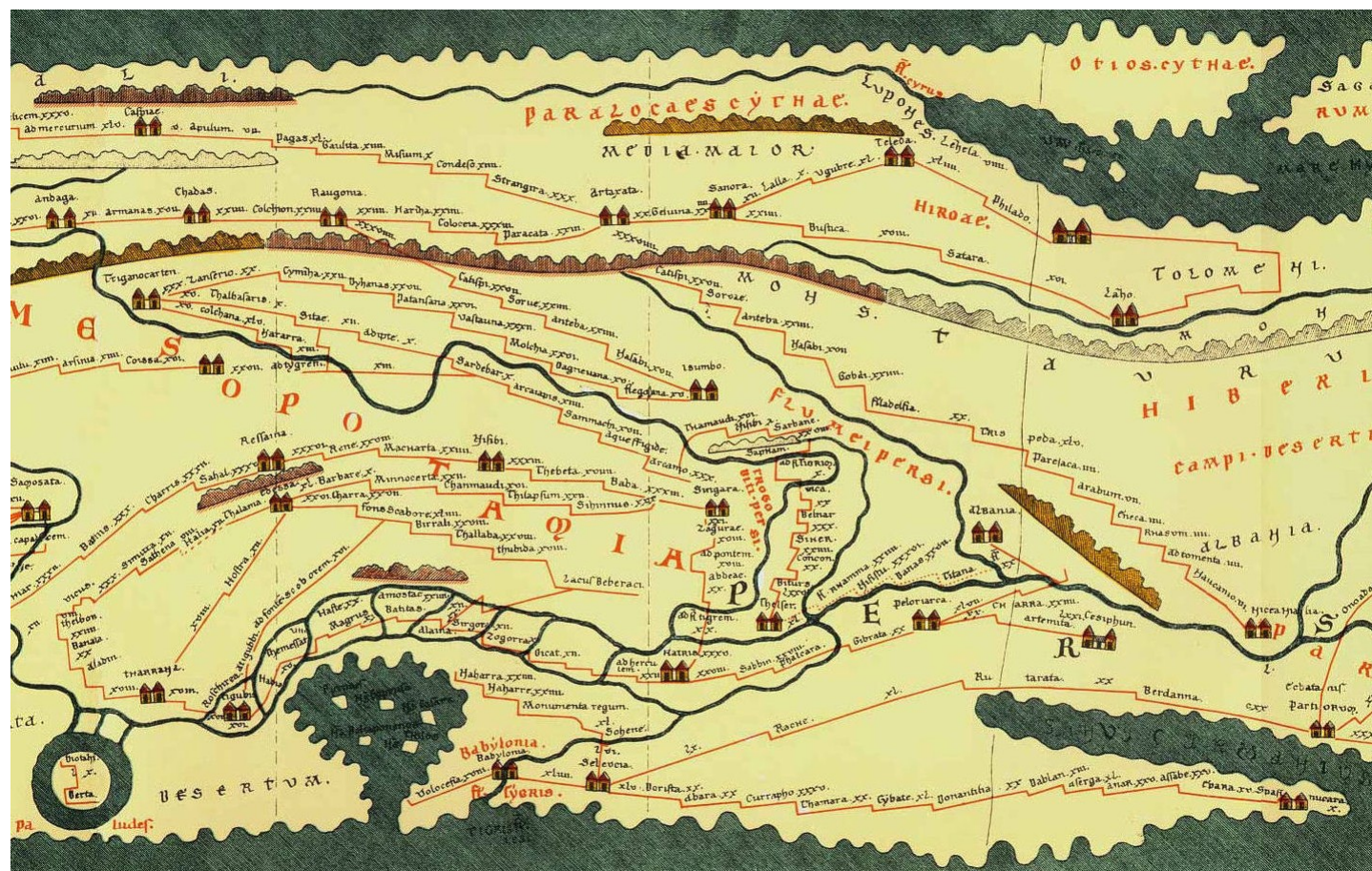


Representing geographical Time-Spaces

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Representing geographical Time-Spaces

An old question



Extract from the Tabula Peutingeriana 13th century, copy of a Roman *itinerarium*

(K Miller)

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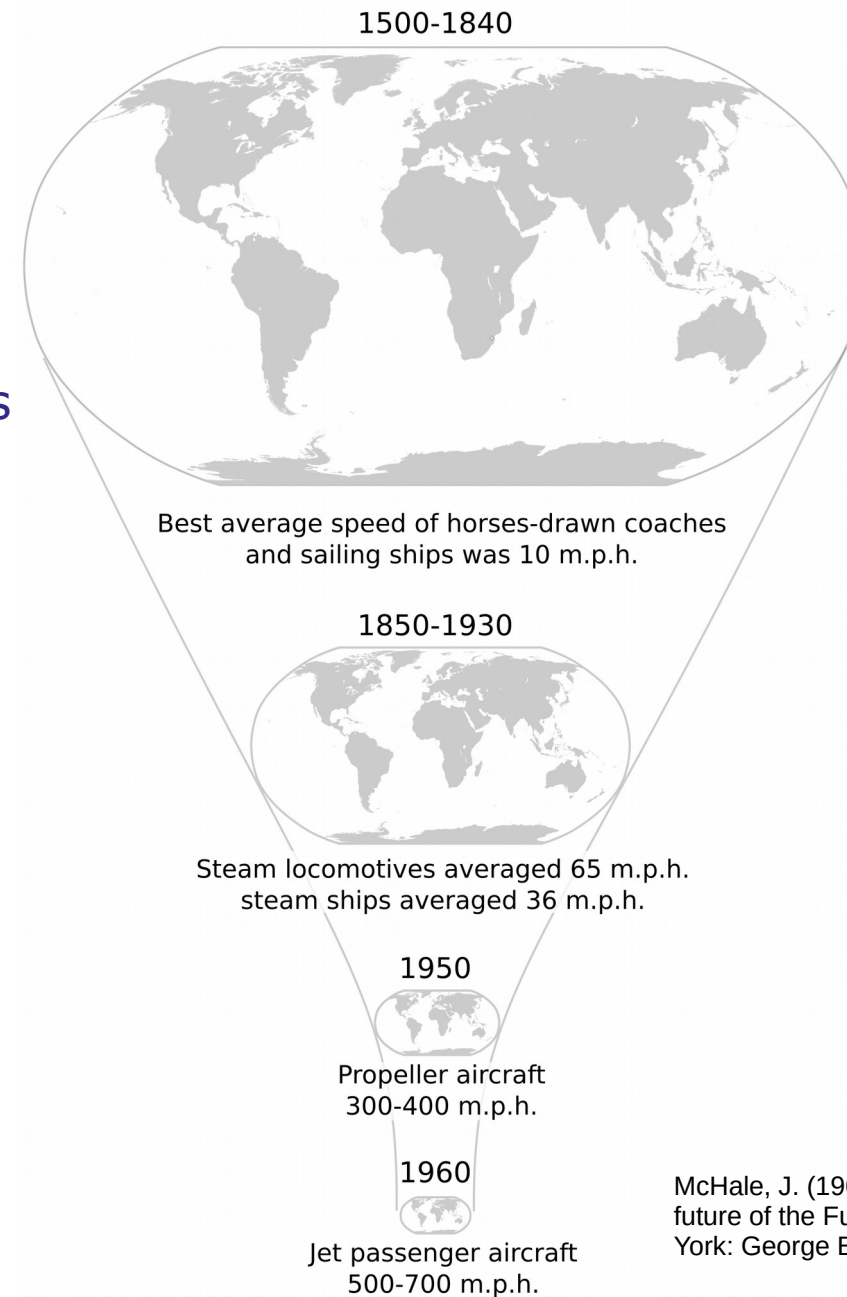
Representing geographical Time-Spaces

With an homothety ?

Great to show acceleration and compare modes

Modes can't coexist

No representation of networks



McHale, J. (1969). The future of the Future. New York: George Braziller.

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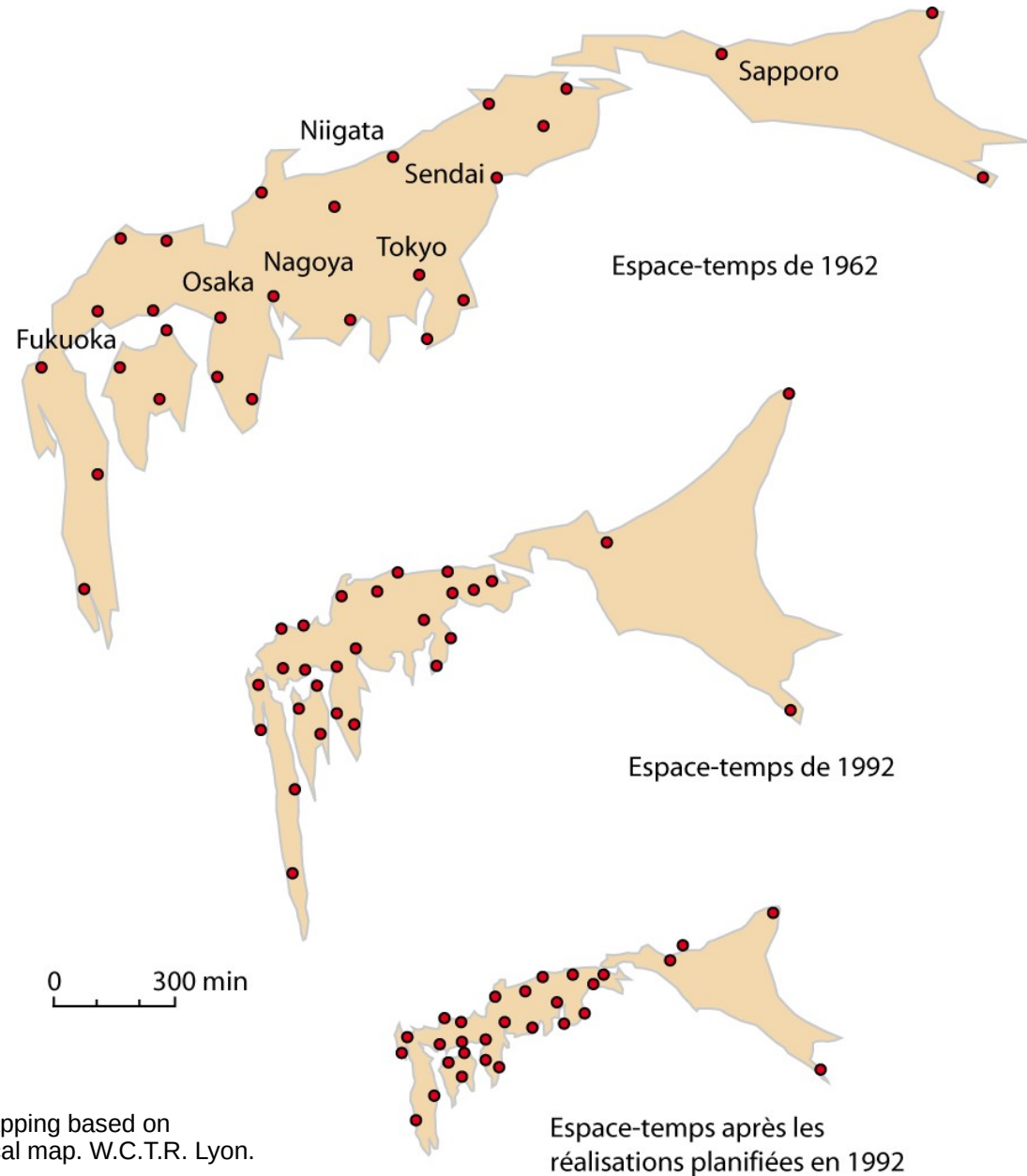
Representing geographical Time-Spaces

With anamorphic cartography ?

Great to show acceleration

Modes can coexist partially

Networks partially represented



Shimizu, E. (1992). Time-space mapping based on topological transformation of physical map. W.C.T.R. Lyon.

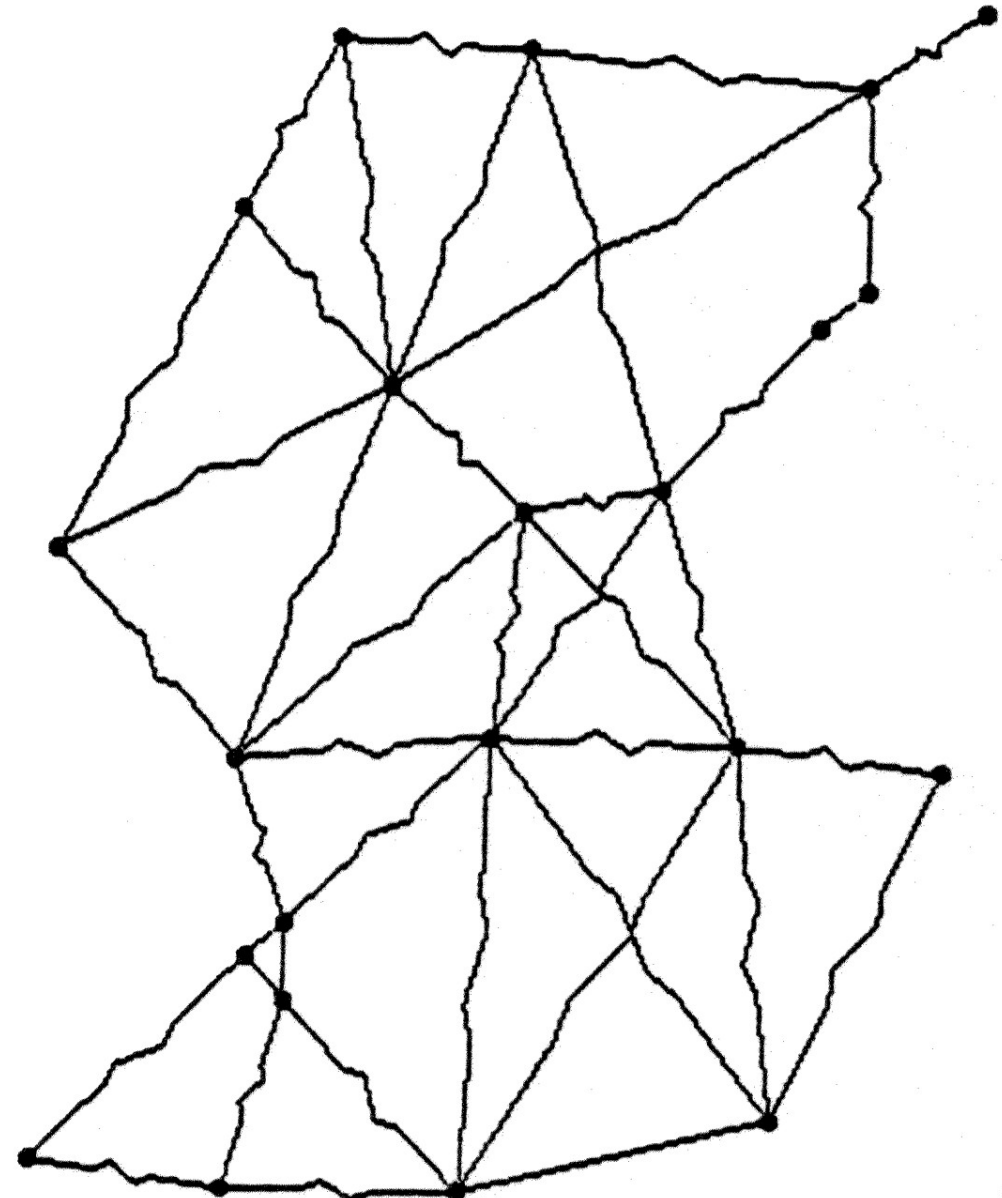
Shriving world

Representing geographical Time-Spaces

With a **spring** map ?

Networks represented and preserved

Modes can coexist partially
Does not show acceleration



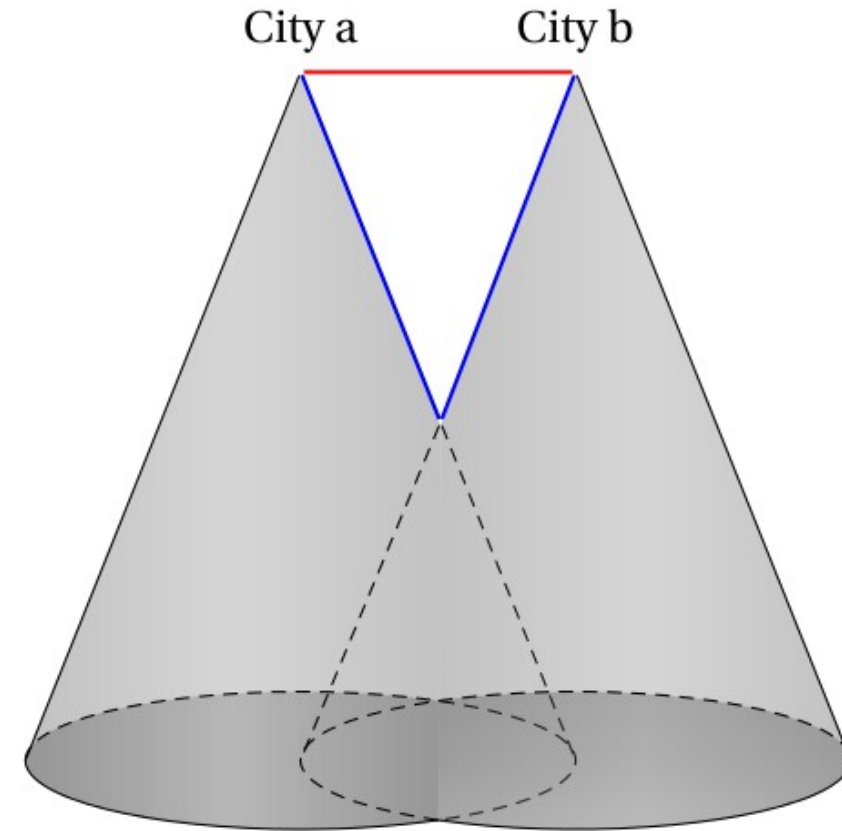
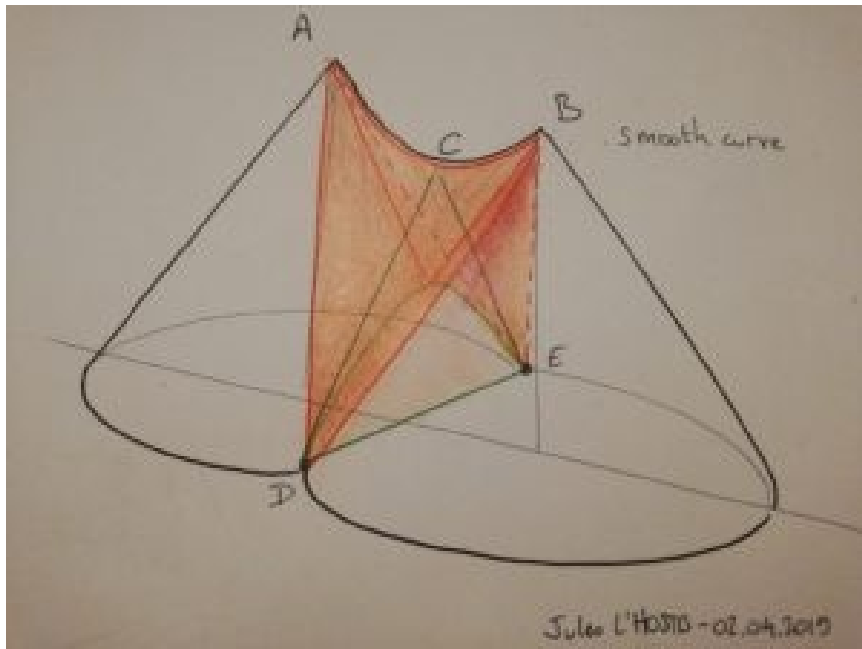
Tobler, W. R. (1997). Visualizing the impact of transportation on spatial relations.
Western Regional Science Association Meeting, 7. Hawaii.

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Representing geographical Time-Spaces

With a **3D** map ?

Networks represented and preserved
Modes can coexist
Does not show acceleration

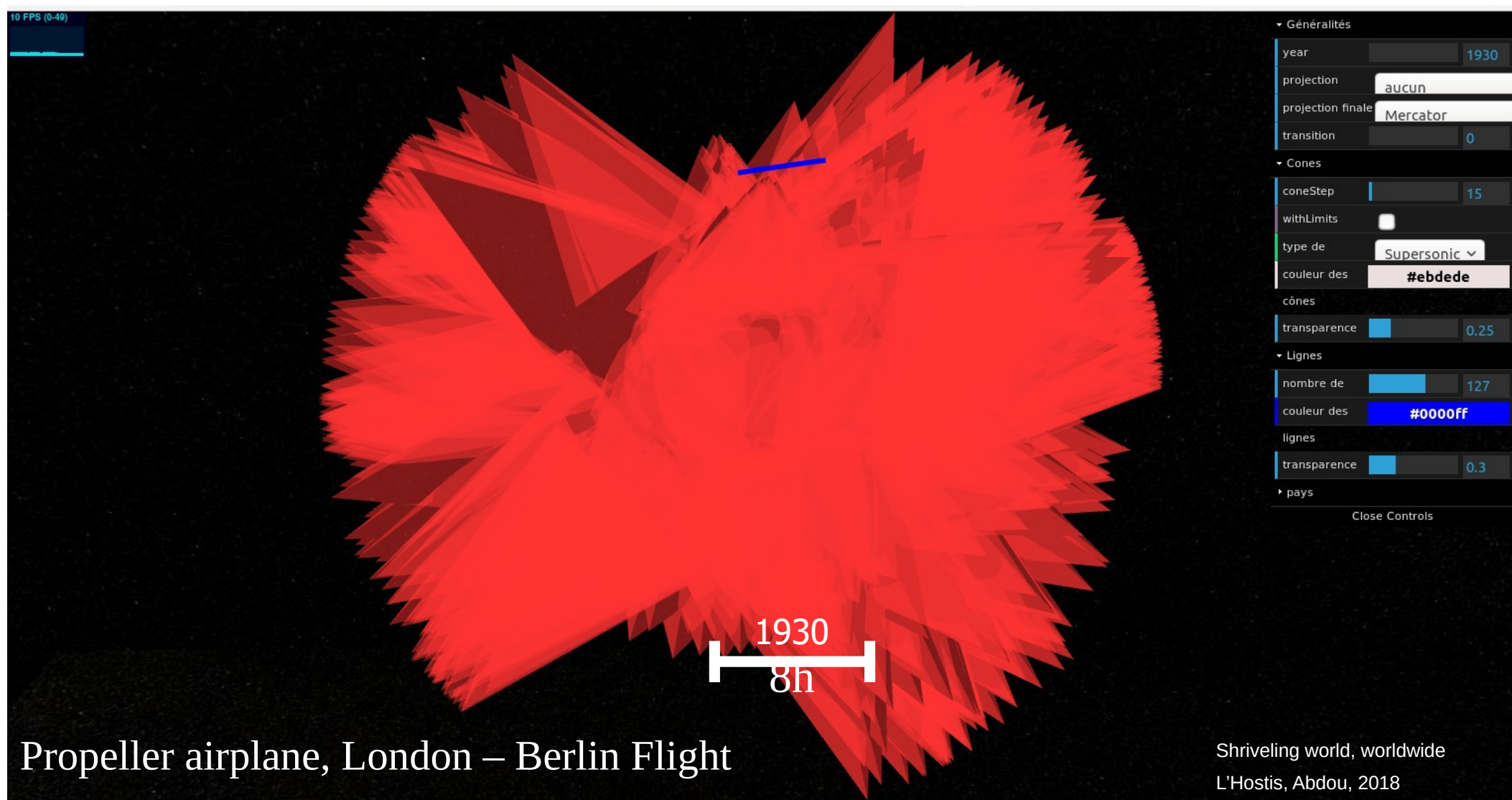


Geographical time-space relief representation, cones, rounded edge
Mathis 1990, L'Hostis 1993, 2018

L'Hostis J. (2019). New ideas for three dimensional structure of geographical time-space
<https://timespace.hypotheses.org/135>

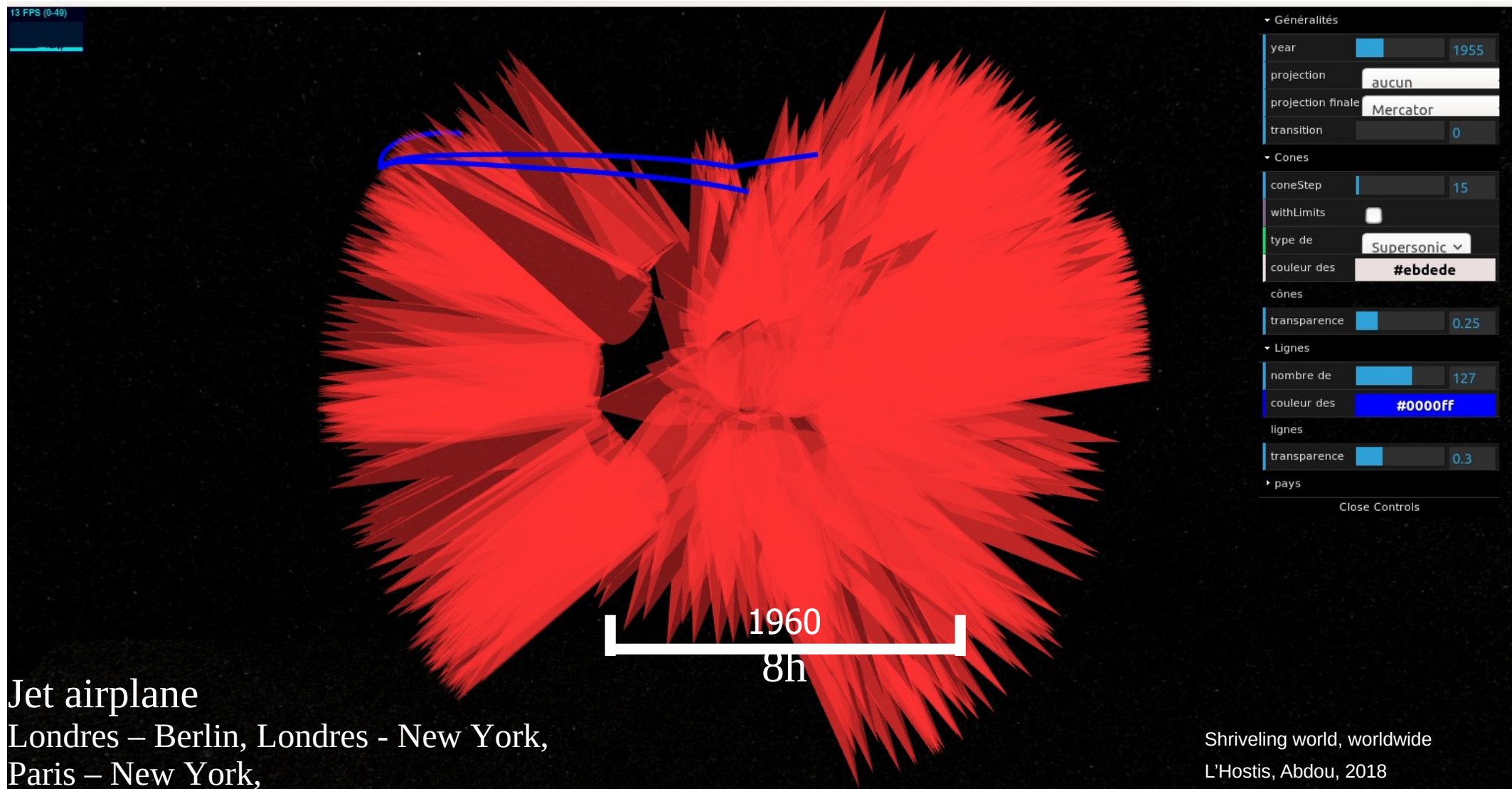
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Representing geographical Time-Spaces



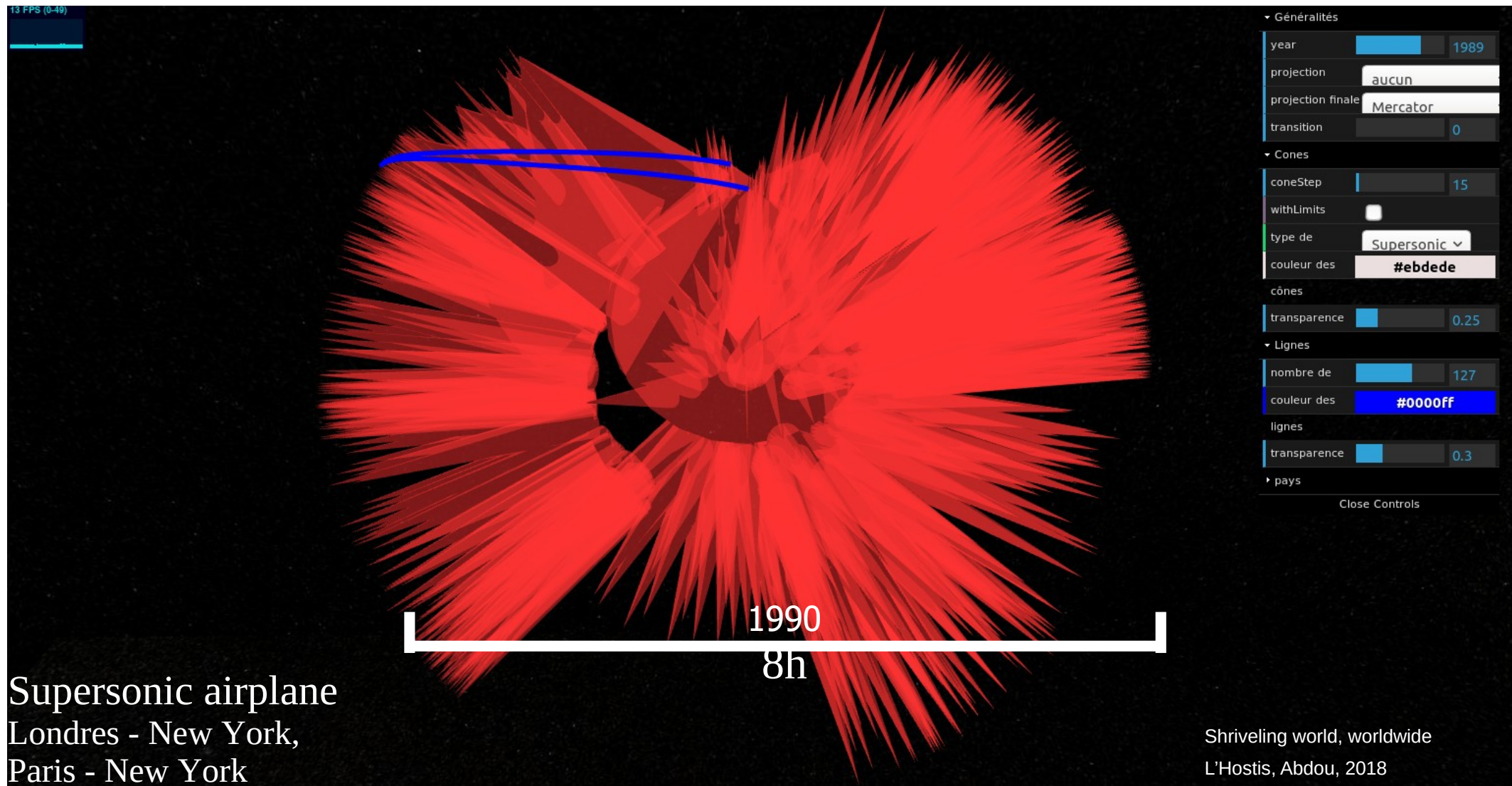
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Representing geographical Time-Spaces



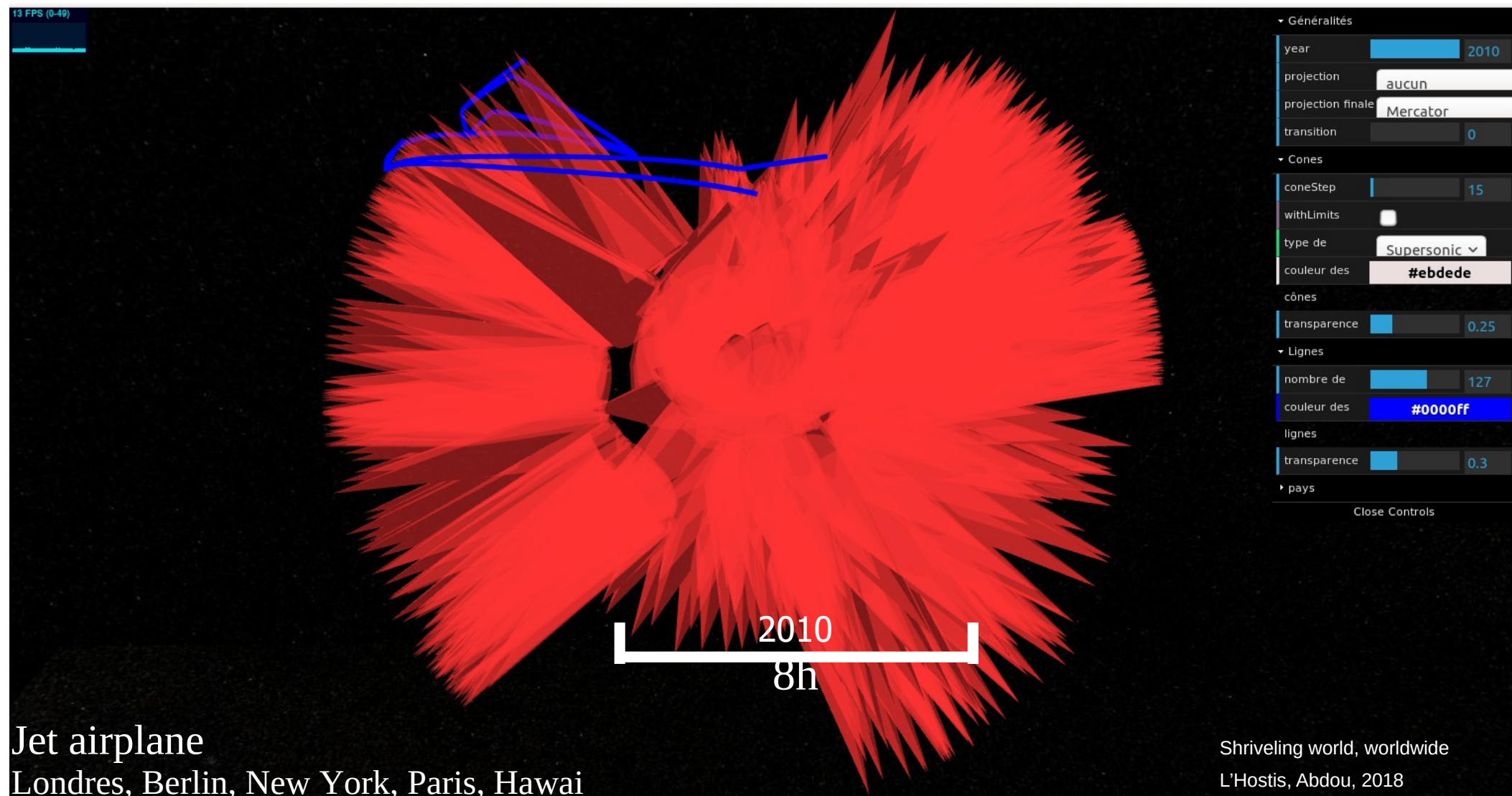
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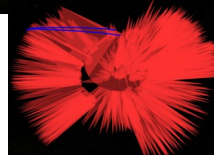
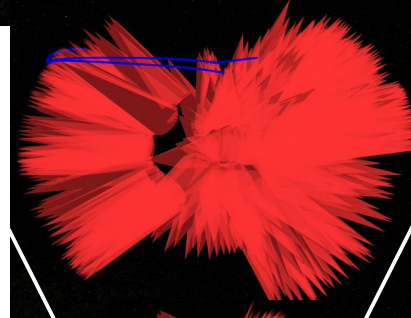
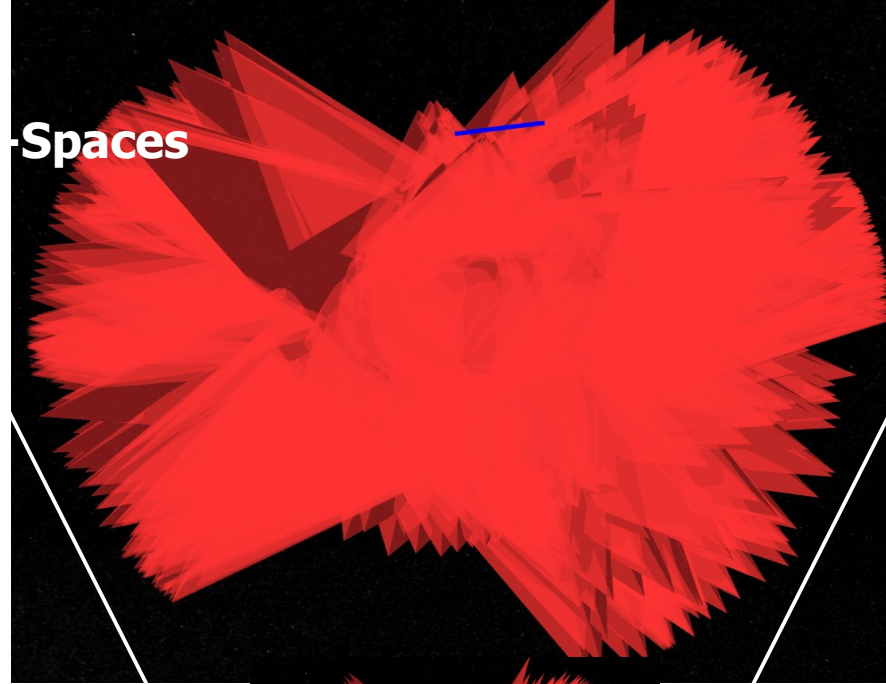
Representing geographical Time-Spaces



Shriveling world

Representing geographical Time-Spaces







About the project

Shriveling world

A Three dimensional visualization development for representing geographical time-space

About the project

Realize a legible, intelligible representation
Geographical time-space is a complex reality

At the intersection of :
Cartography
Computer graphics
Scientific visualization

Research application to help geographical time-space understanding

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https://github.com/theworldisnotflat/shriveling_world
<https://timespace.hypotheses.org/>

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- Farouk Abdou
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