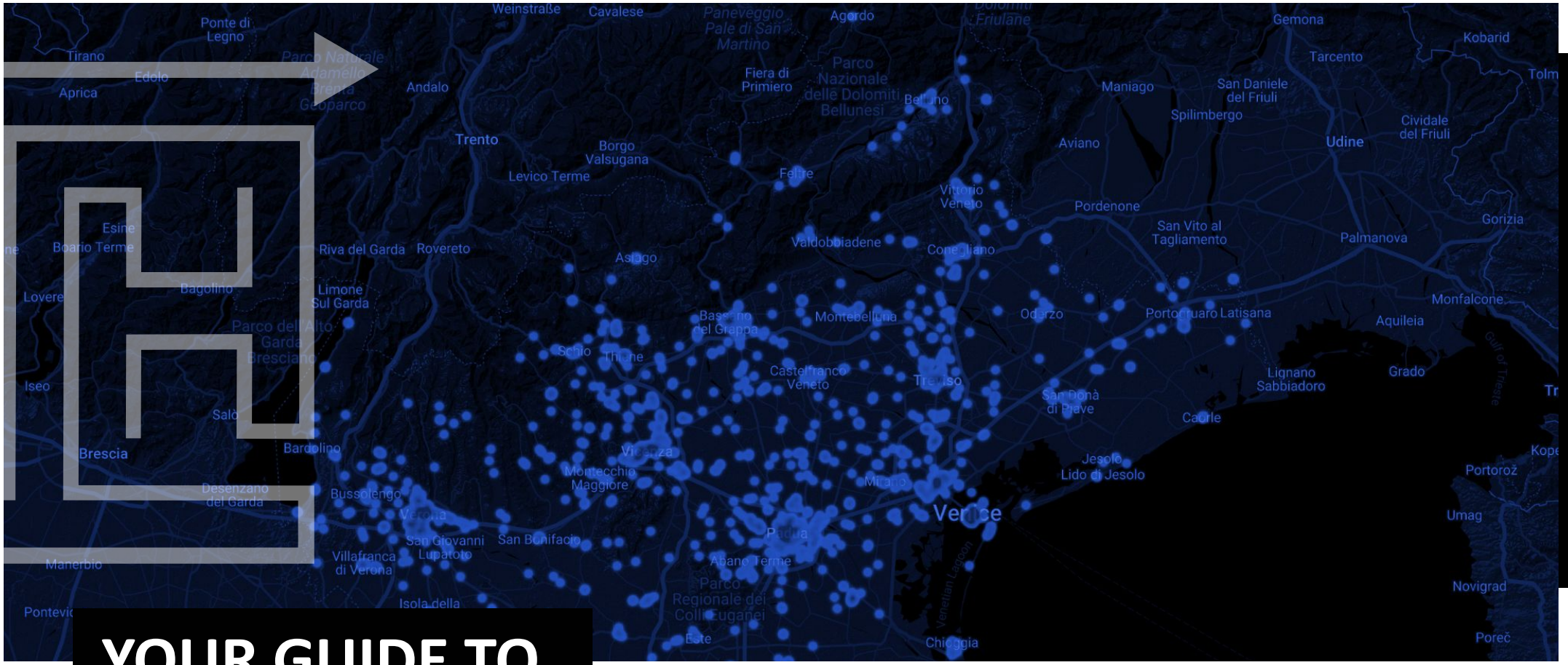

CULTURAL O. HERITAGE N

YOUR GUIDE TO

QUANTITATIVE ANALYSIS TOOLS FOR CULTURAL HERITAGE ORGANISATIONS

Co-funded by the Erasmus+ Programme of the European Union

TABLE OF CONTENTS

CULTURAL HERITAGE 2.0

This programme as been funded with support from the European Commission. The author is solely responsible for this publication (communication) and the Commission accepts no responsibility for any use that may be made of the information contained therein 2021-1-IT02-KA220-HED-000032050

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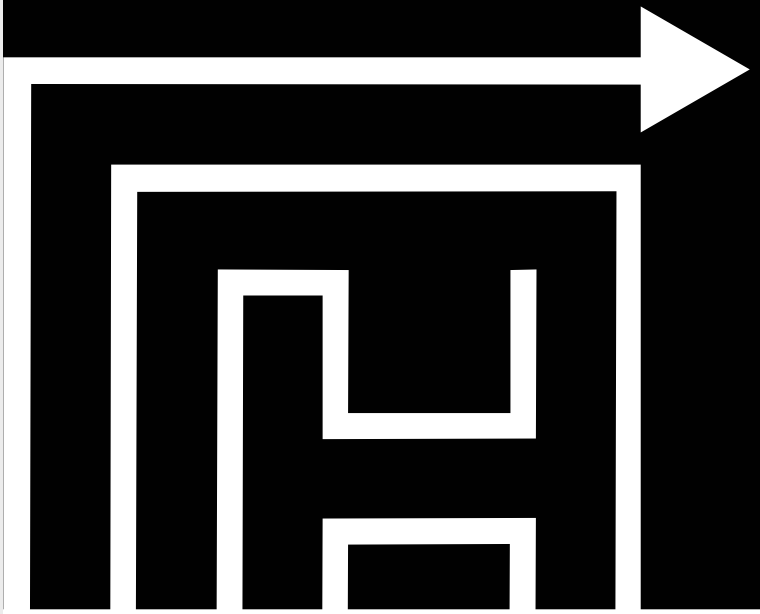
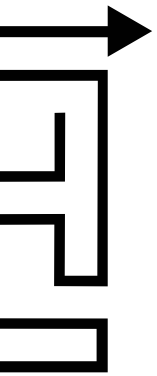


CULTURAL OBSERVATION & MAPPING

CULTURAL OBSERVATION & MAPPING

- **Cultural observation practices** started in the 1960's and kept proliferating until the late 1990's with the English Creative Industries Mapping Document of 1998 (DMCS, 1998).

- By 2009 there were more than **100 national or regional cultural observatories** worldwide, most of them in South America and Europe (ENCACT - Ortega-Nuere, 2015)

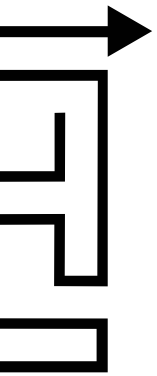


CULTURAL OBSERVATION & MAPPING

- Cultural mapping and monitoring practices came out of the need to **legitimize culture** as an important sector of the economy, deserving funds and attention.

- The emphasis is mostly on **quantitative analysis,** to assess **economic and occupational impact** of the sector.

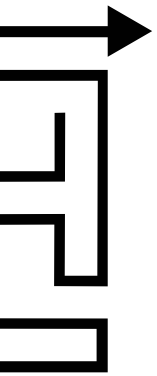
- More recent approaches also involve mixed methodologies that may incorporate **geographic information system** (GIS) and **network analysis** (SNA) in the attempt to take into account internal dynamics and the assessment of **social impact**



CULTURAL OBSERVATION & MAPPING

Cultural mapping and monitoring practices can be extremely useful to:

- Understand and even discover tangible and intangible cultural assets
- Promote them and make them accessible if appropriate
- Preserve heritage where relevant
- Nurture community cohesion and integration
- Inform effective policy making accordingly



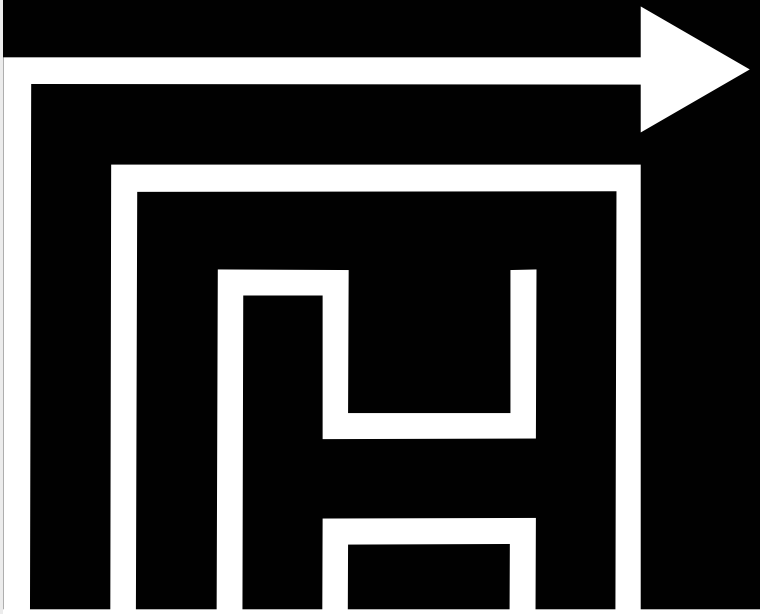
CULTURAL OBSERVATION & MAPPING

Some examples of mapping toolkits and projects for cultural heritage

- UNESCO World Heritage Centre - link
- Pericles Cultural Heritage Mapping Portal - link
- Cultural Mapping Toolkit - link
- Heritage Mapping Toolkit - link
- Pacific Intangible Cultural Heritage Mapping Toolkit - link

NOTE: as you see in the examples **maps** are a very good way to analyse cultural heritage so we'll focus on maps a lot in this lesson.

02

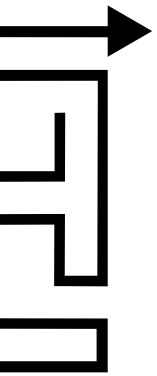


QUANTITATIVE DATA IN HERITAGE MAPPING

QUANTITATIVE DATA IN HERITAGE MAPPING

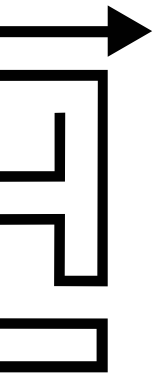
- Any mapping project requires **collecting** and **organising data systematically** into a **database**.

- Data may be also qualitative (interviews, ethnography, participant observation) but in this lesson we focus on **quantitative**, that is **measurable**, **dimensions**.



QUANTITATIVE DATA IN HERITAGE MAPPING

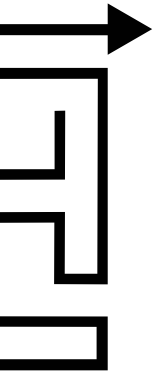
Can you think of some **measurable aspects** of tangible and intangible cultural heritage?



QUANTITATIVE DATA IN HERITAGE MAPPING

Some examples of **measurable dimensions** in cultural heritage:

- **Where?** (Nation, region, address, postal code, neighborhood, geographic coordinates, web or IP addresses)
- **When?** (When was something built or instituted? When did a certain practice or tradition begin? When did it enter mainstream culture? When did it disappear?
- **How?** (Building materials, tools, documented techniques)
- **What/why?** (Think of purpose, function, use … what did a certain theatre produce? or what did a certain tribe use to wear/paint/sing?)
- **How much/many?** (Is there an economic and/or social value that can be measured? how many people are/were involved?)

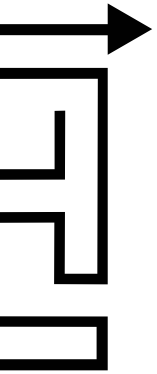


QUANTITATIVE DATA IN HERITAGE MAPPING

But you could also take into account:

- **Demographics** (Age, gender, occupation…)

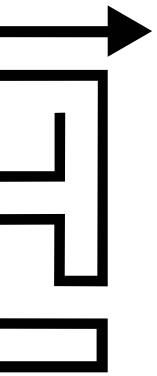
- **Codes/categories** (ZIP codes, SIC/NACE codes and any other applicable **taxonomies** (*example: classification of musical instruments*)… this will help you make your measurement **less** '**arbitrary**' …that is **more objective** and leads to a more **systematic** approach)



QUANTITATIVE DATA IN HERITAGE MAPPING

What does **systematic** mean and why is it important?

- Data needs to be collected and organized systematically, meaning that for each item or event you observe you will need to **apply exactly the same criteria and measurement standards.**
- This also means that, as you set out to collect data, you need to **define what can actually be measured consistently** across your sample.
- For example if it's hard to know when something started you may need to a) think of alternative research methods to find out or eventually (only if that fails) b)consider not including the 'when' observations in your dataset.
- Bear in mind that **subjective assessments** are **not good** for quantitative analysis.

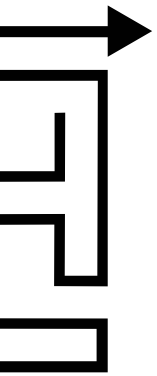


QUANTITATIVE DATA IN HERITAGE MAPPING

Organising data:

- Computers and most data analysis / visualisation software prefer to think in terms of **records** (rows) and **fields** (columns).

- We try to collect **as many records as relevant,** so computers come in handy to help with the subsequent sorting, analysis and visualisation of our findings.



QUANTITATIVE DATA IN HERITAGE MAPPING

Database structure example 1**:**

Record # or ID	**Name of the building**	**Building category** *(Residential, educational, institutional…)*	**Country**	**Address**	**Latitude & Longitude** (these are necessary when creating maps)	**Year built** *(is it building completion you are interested in?)*	**Current status (***needs restoration,destroyed,collapsed, burnt..)*	**Architect**	**Main Building materials (walls)**
1									
2									
3									
…									

QUANTITATIVE DATA IN HERITAGE MAPPING

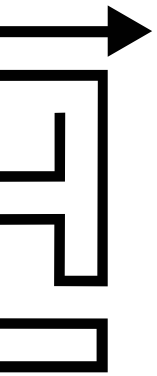
Database structure example 2**:**

Record # or ID	**Theatre company name**	**Type of production** *(are there any classifications we can use?)*	**Year funded**	**Legal form** *(Sole Proprietors, General Partnership, cooperative LLC, Corporations)*	**Address**	**Latitude & Longitude** *(these are necessary when creating maps)*	**Website**	**Professional or amateur**	…	**# of productions per year**
1										
2										
3										
…										

QUANTITATIVE DATA IN HERITAGE MAPPING

Preparing and Cleaning data:

- To minimise errors:
- Use ‘data validation’ for your fields whenever possible. That’s when you define a set of values or categories and tell your spreadsheet to refer to that list to check that the values entered match.
- Double check all numerical values for consistency (i.e. use and type of decimal separators, use of currency and percentage)

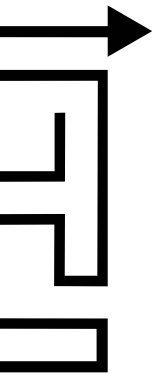


QUANTITATIVE DATA IN HERITAGE MAPPING

Preparing and Cleaning data:

- Remove unnecessary spaces and line breaks (i.e. _Educational and Educational count as two different categories for a computer!)

- Tip: if you are not a spreadsheet expert there may be some tools that automate or support some of these housekeeping procedures. (see www.ablebits.com for some examples for Excel and GoogleSheets)



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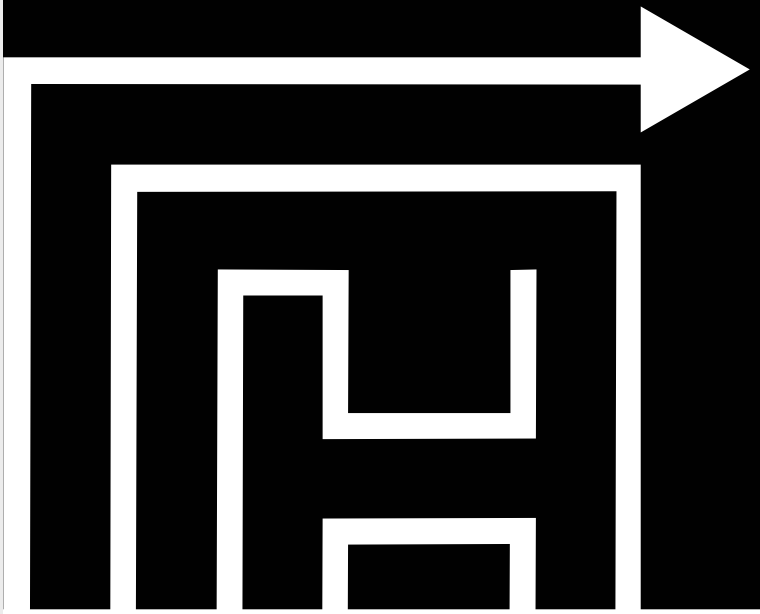
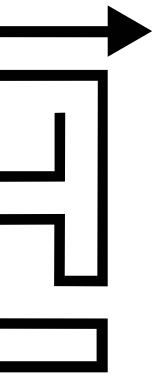


DATA ANALYSIS AND VISUALISATION

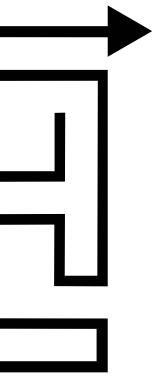
DATA ANALYSIS AND VISUALISATION

- You will want to familiarise with **Data analysis and visualization** software like Google Looker Studio, Flourish, Datamatic or Tableau.
- Visualisation is useful both for the, first, **exploratory** phase of **data analysis** and for the last phase, known as **explanatory**
- In the first phase you need to explore the data and understand what is worth presenting and how, depending on the target audience and the purpose.
- The explanatory phase is the public facing phase, where you will show your final visualizations.



DATA ANALYSIS AND VISUALISATION

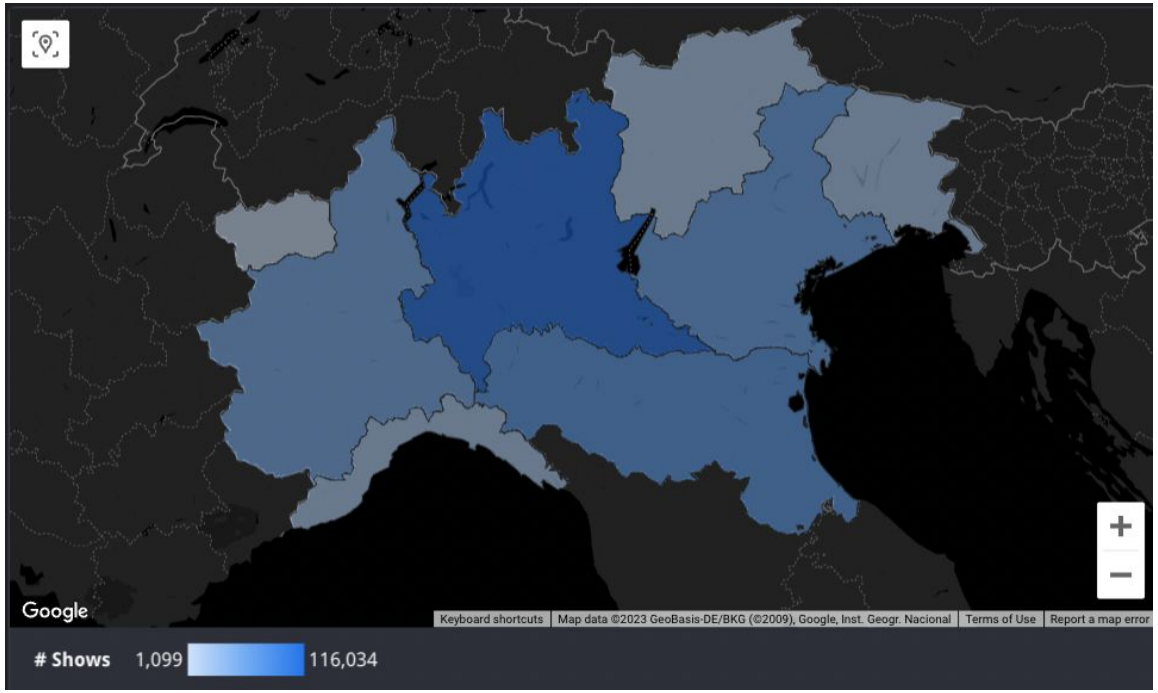
- As mentioned, **interactive maps** are very common and useful visualisation tools for cultural heritage mapping projects as they naturally show location and distribution of your entries.
- Interacting with a record point on the map may also provide **additional information** based on the data fields you collected and can be typically set to **filter out other data** or **zoom into a point**.
- Most software requires you to enter **Latitude** and **Longitude** fields in order to **geolocalise** your entries. Batch Geocoding for long lists of addresses is available as a paid service (see here)



DATA ANALYSIS AND VISUALISATION

Map types: **Filled area maps.**

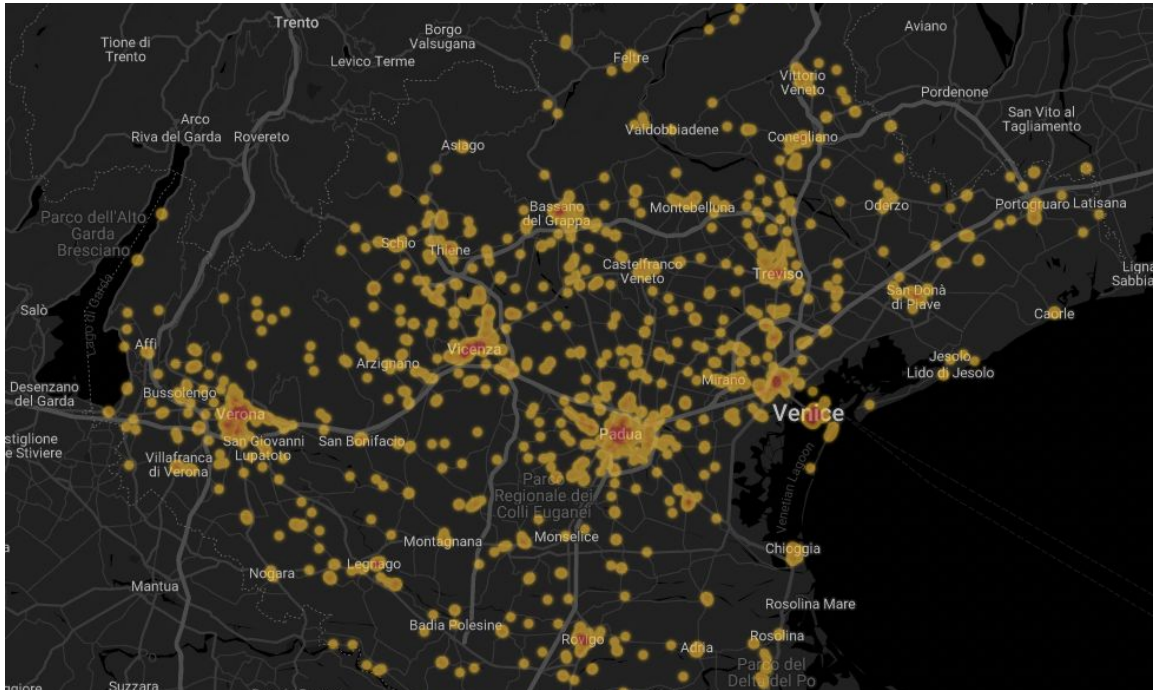
- Typically colour-coding quantities for given regions/areas



DATA ANALYSIS AND VISUALISATION

Map types: **Heat maps**

- Show distribution and territorial density



DATA ANALYSIS AND VISUALISATION

Map types: **Point maps**

- Show geocoded locations - shape, size or colour defined by categories

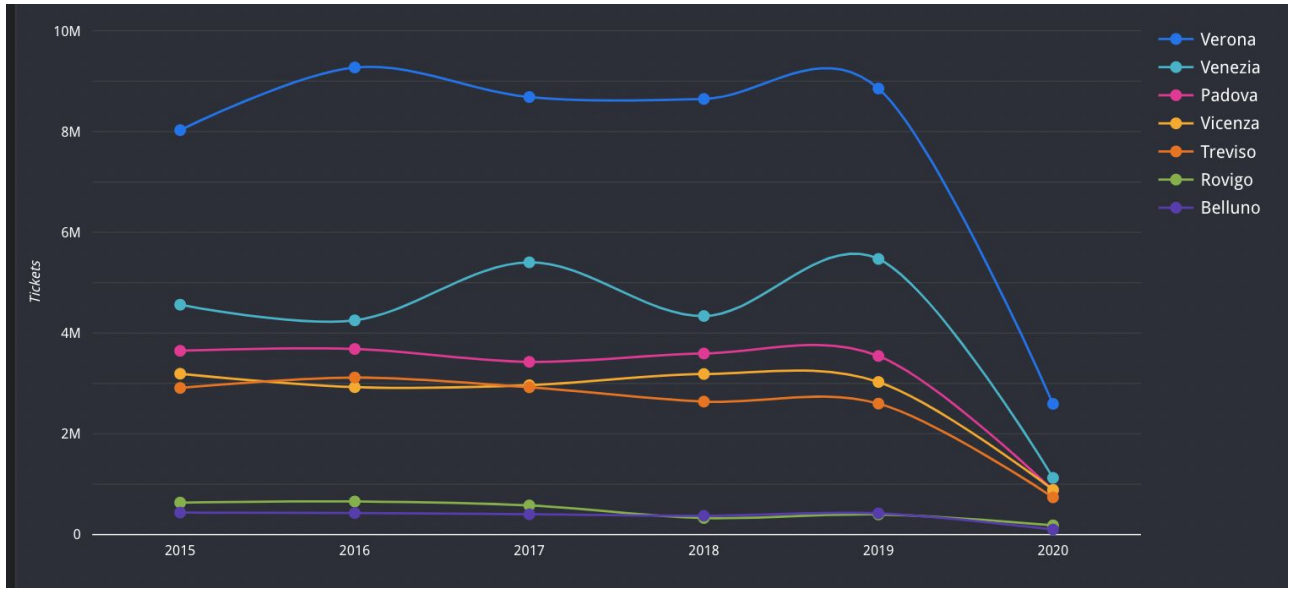
DATA ANALYSIS AND VISUALISATION

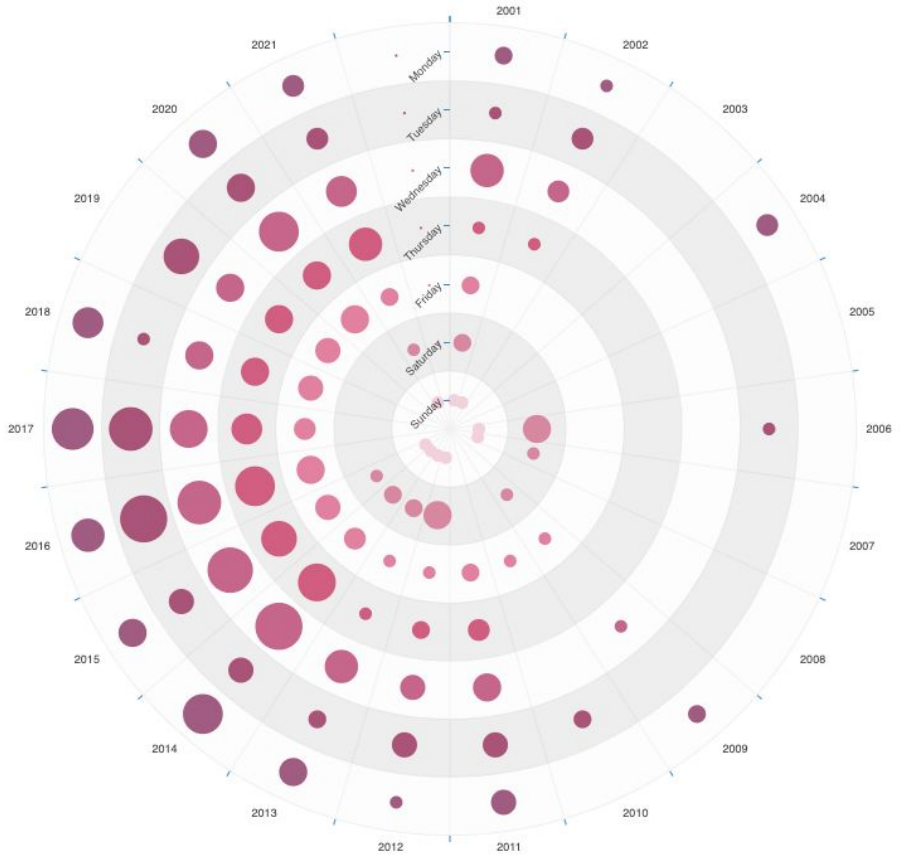
- **Bar graphs** or **heat tables** > to **sort** and show values for specific categories (*example: types of building within a given geographical area, number of events per region etc*)

	Region	Shows ▾	Tickets	Audience spending	# Venues	Avg cost
1.	Lombardia	116,034	22,269,484	487,587,368 €	13,725	129 €
2.	Emilia-Romagna	72,529	10,899,331	148,594,607 €	8,406	79 €
3.	Veneto	62,629	11,022,362	282,269,164 €	7,390	144 €
4.	Piemonte	53,217	8,449,032	138,126,621 €	7,287	95 €
5.	Friuli Venezia Giulia	20,849	3,368,901	53,532,956 €	2,804	92 €
6.	Liguria	19,384	3,561,953	56,842,578 €	1,961	95 €
7.	Trentino-Alto Adige	17,673	2,583,665	26,075,184 €	2,776	60 €
8.	Valle d'Aosta	1,099	166,315	1,782,788 €	270	63 €

DATA ANALYSIS AND VISUALISATION

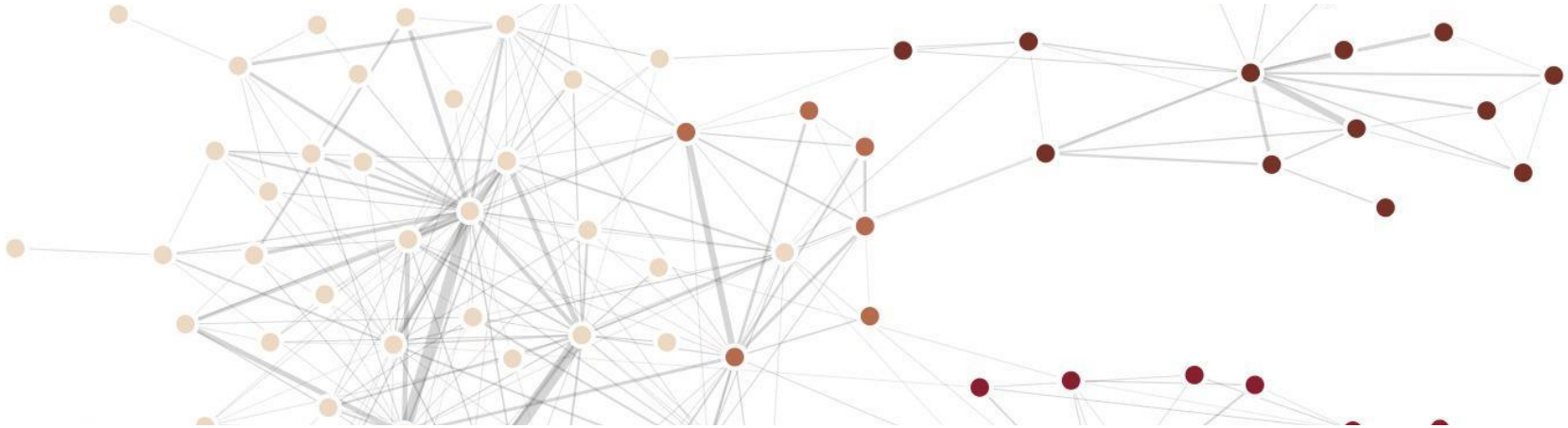
- **Line** and **radial charts** can be used to show **values changing over time** *(visitors, ticket prices, new sites… etc)*





DATA ANALYSIS AND VISUALISATION

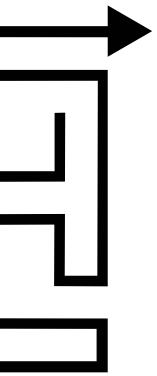
- **Network plots** may be interesting if you need to explain relationships between records and their groupings
- Note that in this case the database configuration is more elaborate as it requires **additional fields** to determine origin-destination patterns (relationships), groupings and link thickness. (Flourish has simple tools to do this)



DATA ANALYSIS AND VISUALISATION

Visualising data in different ways in the exploratory phase should help you to:

- Identify **patterns** and **trends**
- Study **geographical distribution and concentration**
- Identify **outliers** and/or possible **anomalies** in your dataset (so you can fix them)
- Identify what aspects of your data are **most relevant** for your **target audience**



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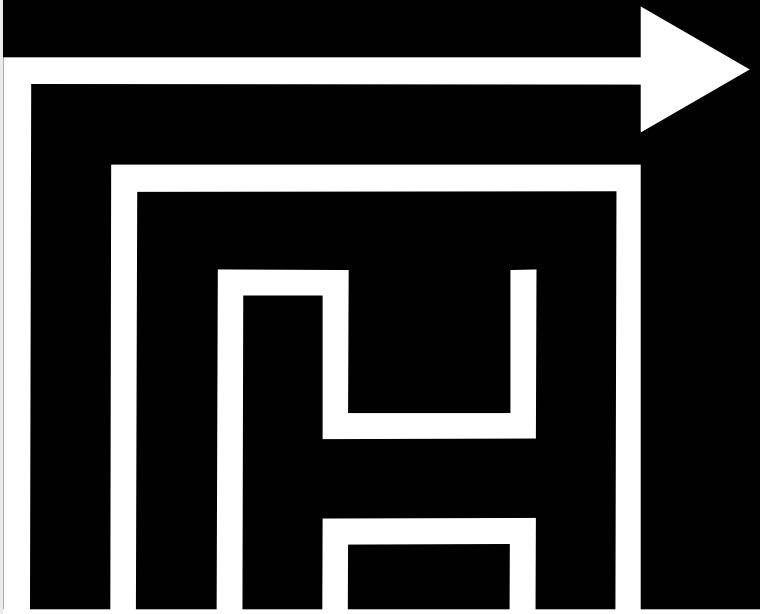
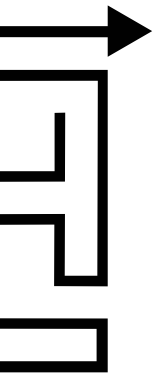


PRESENTING YOUR DATA

PRESENTING YOUR DATA

At this point you can use the data visualisation software of your choice to present your findings. This cane be:

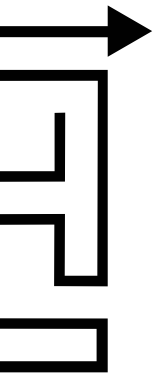
- In **static form** (one or more static graphs or maps)
- In **a dynamic interactive form** (one or more graphs or maps, connected to each other with options to visualise additional information and/or filter the data dynamically)
- In a **sequence** of static and/or dynamic visualisations connected to convey a certain **story**



PRESENTING YOUR DATA

Examples of published reports:

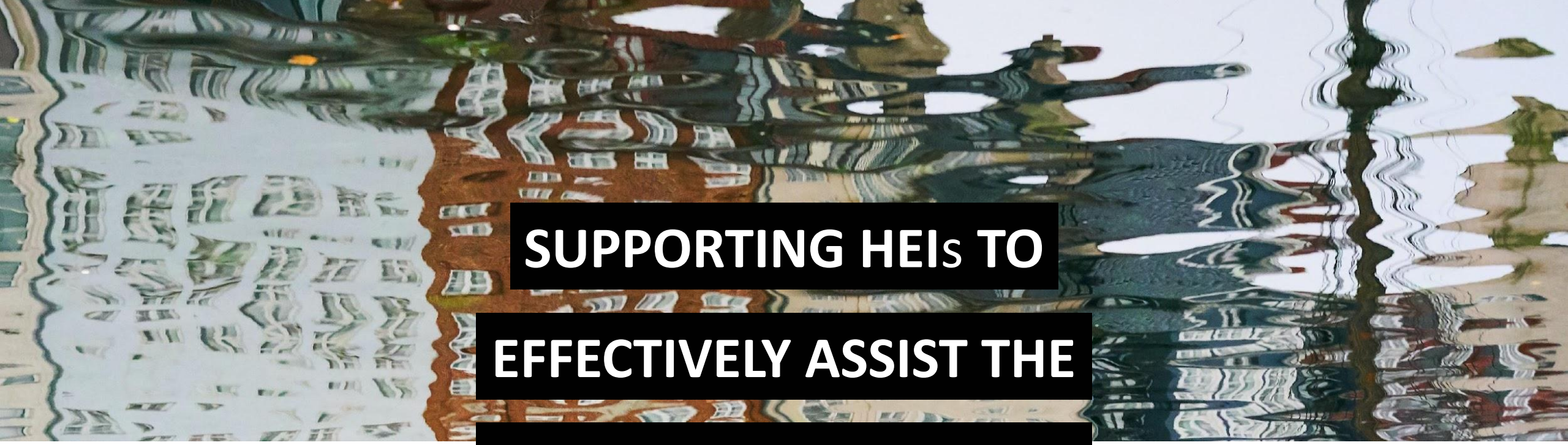
- https://ich.unesco.org/en/dive&display=constellation#tabs
- https://www.emiliaromagnaosservatorioculturaecreativita.it/?lang=en
- https://www.kitchentablestoriesproject.com/local-asapia-stories
- https://syrian-heritage.org/map/



ABOUT THE CULTURAL HERITAGE 2.0 PROJECT

The Cultural Heritage project is designed to support HEIs to effectively assist the regeneration of the European cultural heritage sector in a highly digitalized post-COVID19 world by equipping the academic staff and educators with knowledge, skills and resources

CULTURAL HERITAGE 2.0



SUPPORTING HEIs TO EFFECTIVELY ASSIST THE REGENERATION OF THE EUROPEAN CULTURAL HERITAGE SECTOR

CULTURAL HERITAGE

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momentum [educate + innovate]

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