Big Open Data – Challenges & Opportunities

Dr. Katja Mayer

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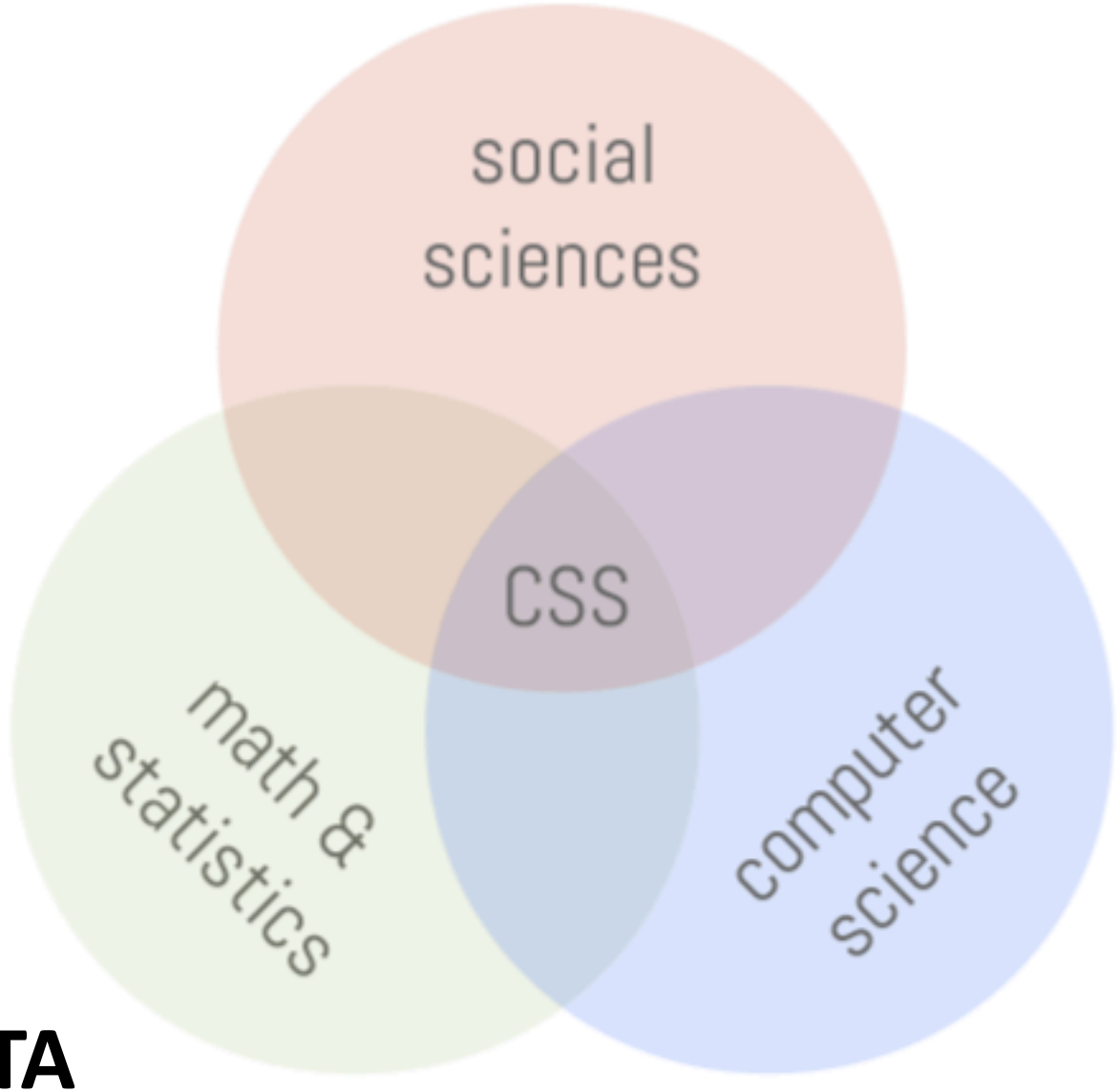
katja.mayer@univie.ac.at @katja_mat

Standpoints….

Big data' [is] the amassing of huge amounts of statistical information on social and economic trends and human behavior.
Michelle Chen 2014

Big Social Data: Gathering socio-demographic + personal information plus interactions / relational information



--> OPENING BIG SOCIAL DATA

Opening Big Social Data

Challenges

- Sensors and data literacy
- Sharing and data ownership
- Infrastructures and governance
- Incentives
- Re-usability and interoperability
- Interfaces and discovery
- Big methods

Opportunities

- Community empowerment
- Stakeholder configurations, responsibilities
- Evidence-based decision making and synergies
- Multiperspectivity instead of unified view
- Big methods (sampling / data reduction, accuracy, …) and method mobility

EMODnet

European Marine Observation and Data Network

OPEN

- ✓Data
- ✓Science
- ✓Infrastructure
- ✓Communities
- ✓Governance

What now?

SO LONG & THANKS FOR ALL THE FISH

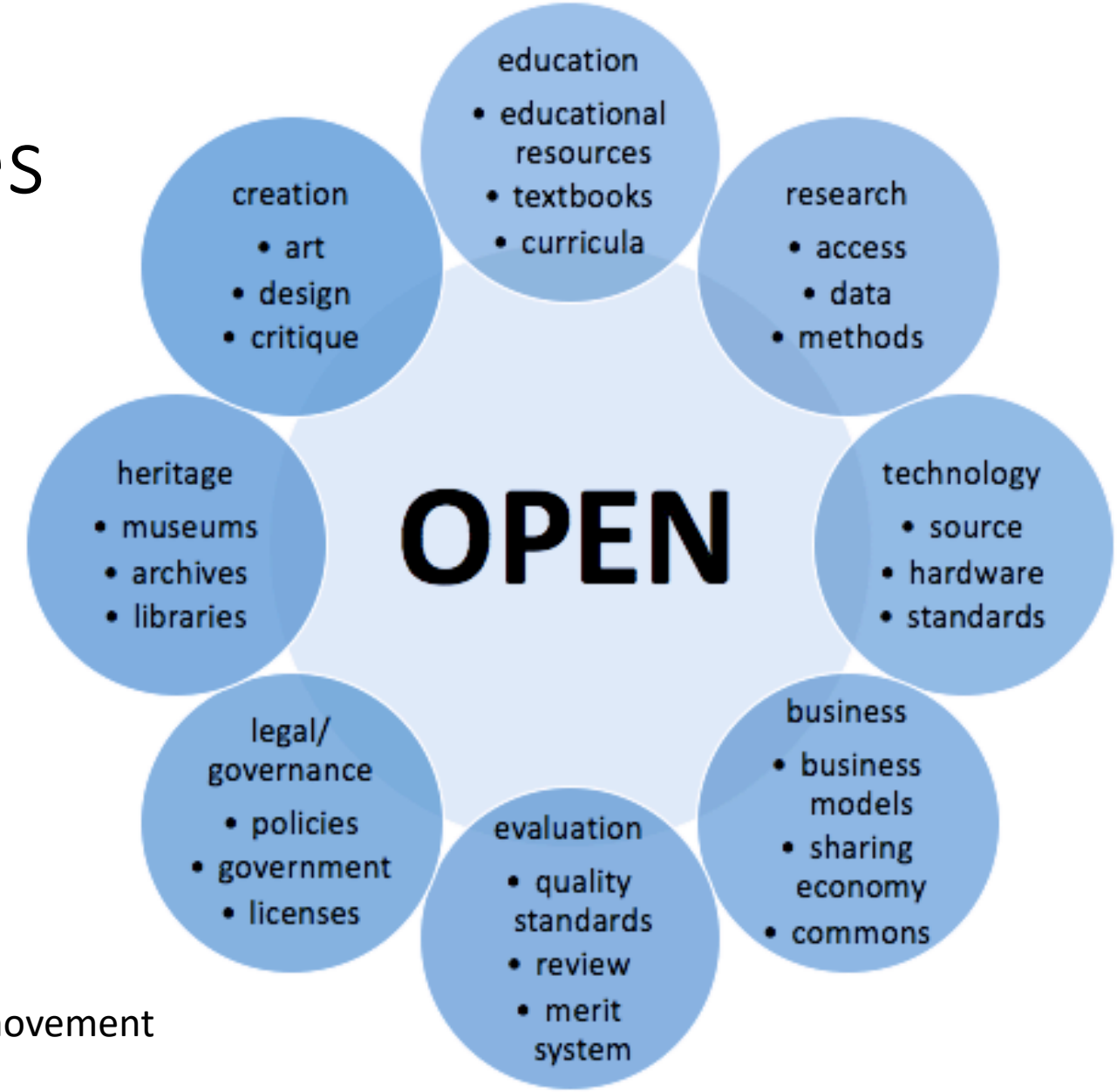
Douglas Adams

BIG OPEN DATA

Big Data = Big Business

Big Open Data = Big Solidarity,
Big Trust,
Big Responsibility

Open cultures



Open Science is part of a big global movement

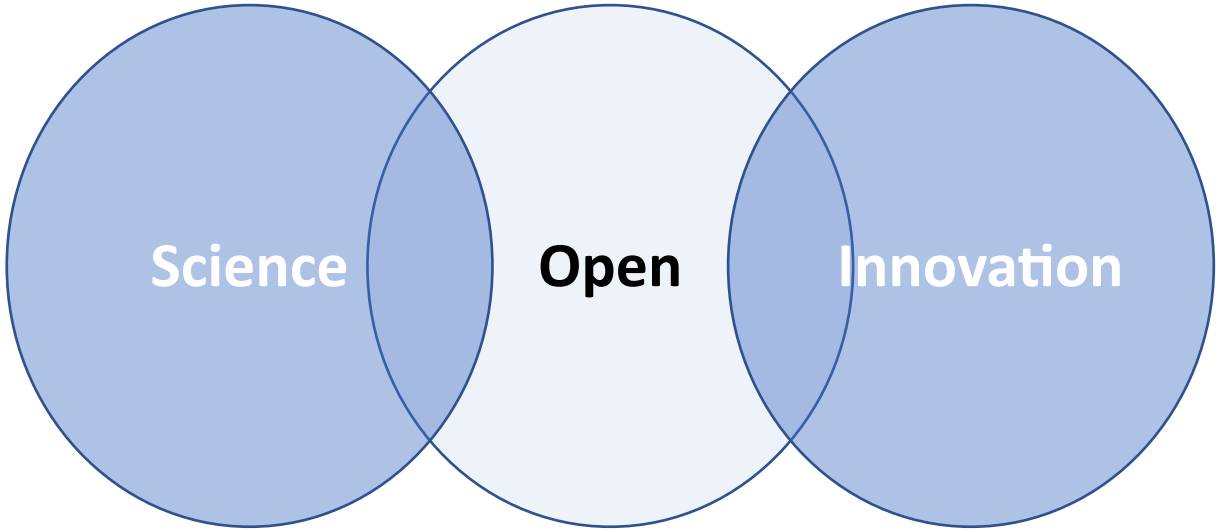
Next Horizons – challenges and missions

- SDGs and Agenda 2030
- International cooperation
- Horizon Europe –
  pillar 1 Open Science,
  Missions, European Innovation Council, …

Tackling global challenges and realizing mission oriented research and innovation policies can only be successful when based on Open Science principles.

Participant Mutual Learning Exercise Open Science

Openness as ASSET?



Concerns:
Unclear and imprecise **legal framework** relating to Open Science, particularly IPR regimes linked to research outputs (including data, techniques and software); **potential synergies of knowledge commons and commercial interests** not understood

Everybody talks about **participation**: engaging citizens, communities, and other socio-economic stakeholders in the selection, design of research questions and assessment (see i.a. mission oriented approach of Horizon Europe). HOW and WHERE? (→Horizon Europe, Institutionalization, EIC?)

Competition and Excellence: not enough evidence how Open Science enhances research outputs and quality, making research within each country more competitive by **improving the visibility of researchers and collaborations** with industry both nationally and internationally; frame Open Science as 'excellent science' and 'high research quality', in terms of integrity, accountability, participation, and impact-literacy

OPEN priorities

- Openness is **not an "all or nothing game"**, it is furthermore a good mix of bottom-up and top down
- We need more evidence on the manifold **synergies of openness in knowledge production and exploitation** (for socio-economic, socio-technical and environmental innovation)
- Think **added value-networks** instead of unidirectional chains of innovation, openness is not something you do in parallel, it is part of the core design of processes and relationships
- Thus, **general RTI policies** need to be aligned to openness
- Innovation and growth need open knowledge, open technologies and participation to contribute to the **global commons** and the **sustainable development goals SDGs**
- Europe could lead this systemic shift by **mainstreaming openness into innovation instruments** and cohesion related policies, as well as in **international cooperation**

Open Leadership

We want to learn this from you!

- **Turning BIG into BROAD DATA**
- **Creating the right incentives for public and private sectors (added value by open, open for innovation)**
- **Negotiating cooperation across diverging legal systems, innovation and knowledge cultures – data diplomacy and governance**
- **Optimizing transparency and self-correction**
- **Preserving multiperspectivity and encouraging participation**

EMODnet Meta: KNOWLEDGE TRANSFER OPEN

- Monitoring system status, documenting success and failure
- Experimenting with existing indicators (MORRI, SDGs, …) and creating new indicators for openness in theme/interfaces, infrastructure, service
- Assessing data re-usability and method mobility
- Documenting convergence processes across diverging legal frameworks
- Evaluating participatory dimensions and stakeholder engagement and benefits
- Tackling the “innovation scoring” and economic profitability by including social innovation impact measures

Thanks for your attention. Katja.mayer@univie.ac.at @katja_mat