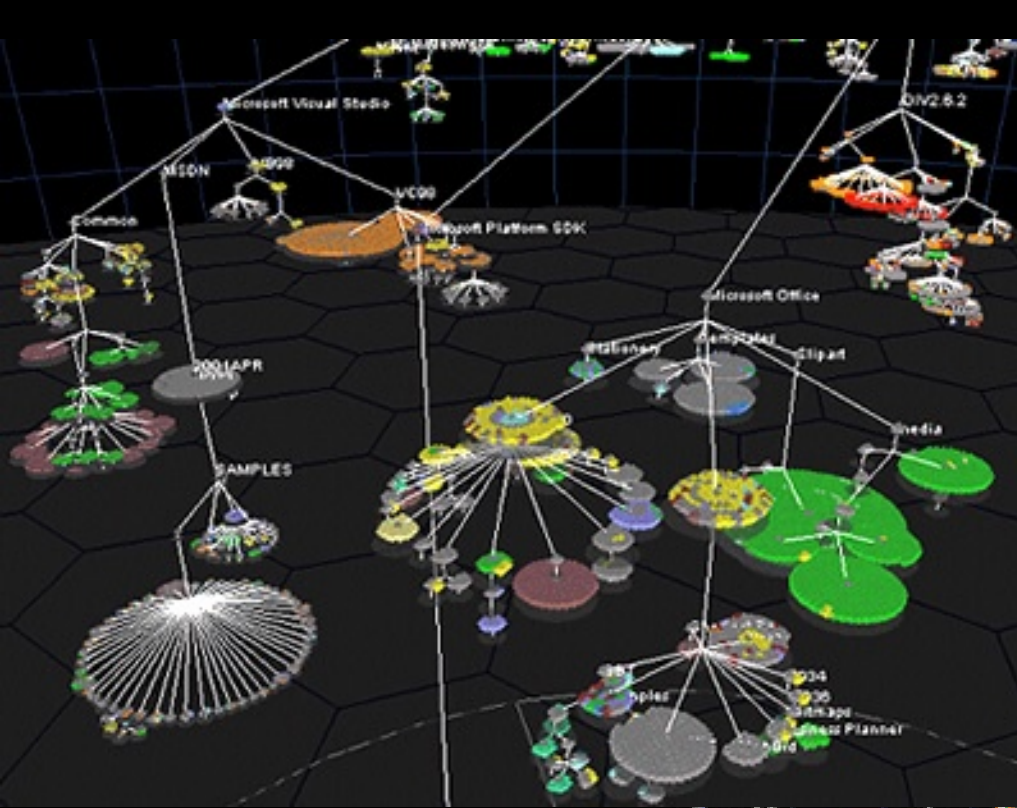
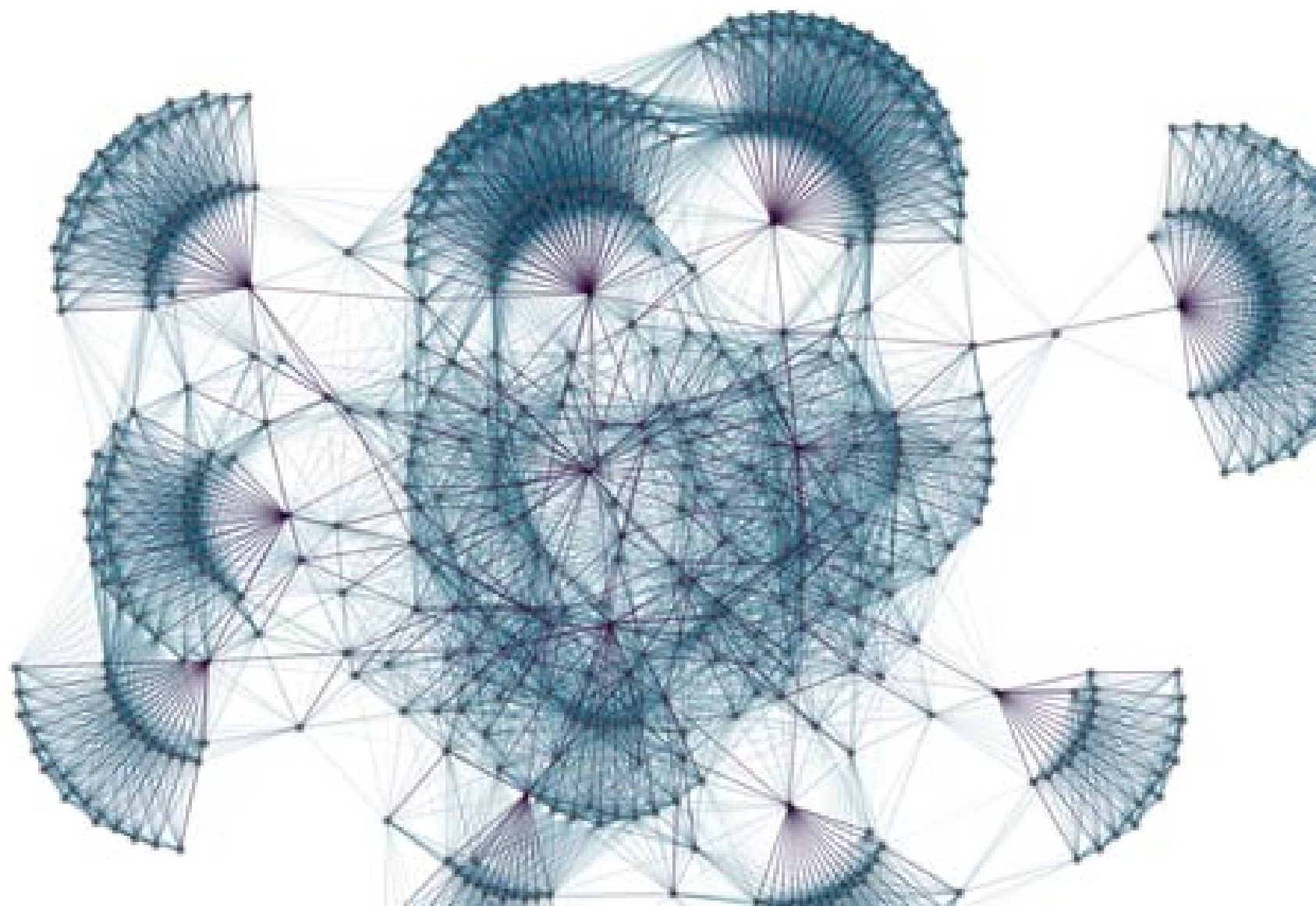


Data Visualisation in Overview

Data visualisation is generally described as “computer-supported, interactive, visual representations of abstract data used to amplify cognition.” (Card et al., 1999)





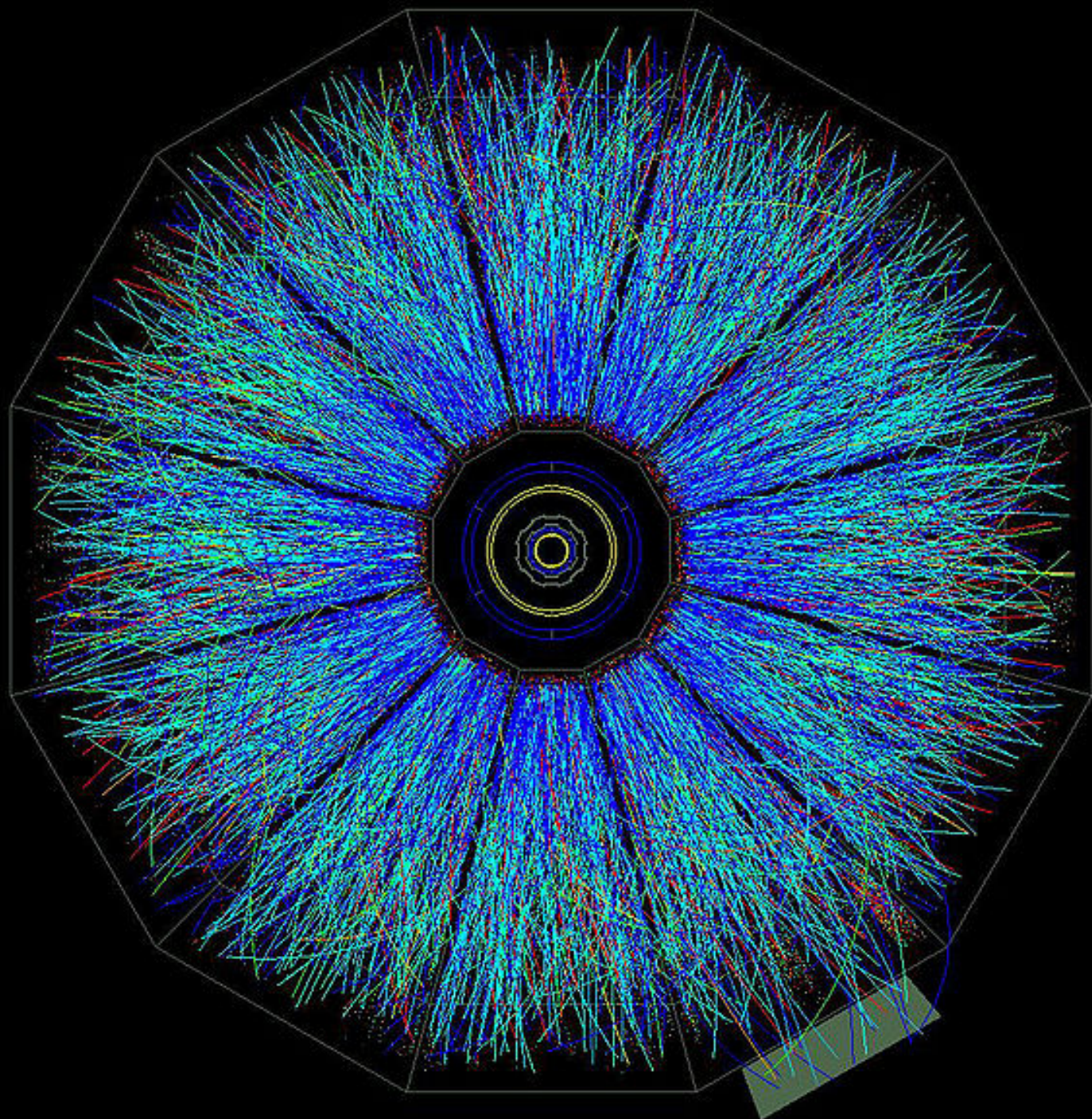
Visualisation research is situated at the intersection of art, science and technology. It examines strategies and methods of exploiting data visualisation coupled with interactive media, mobile, and network technologies to produce new creative tools and large-scale installations for public exhibition.

- The major challenge of data visualisation is the *accessibility* of large datasets and the *efficiency* in parsing and interacting with them in meaningful, tangible ways.
- **Data acquisition** in bio-informatics has brought about an explosion of information. Recent advances in **data-mining** allow feature extraction and meta-data navigation of data.
- The sheer **mass of data** typically prevents direct data manipulation..

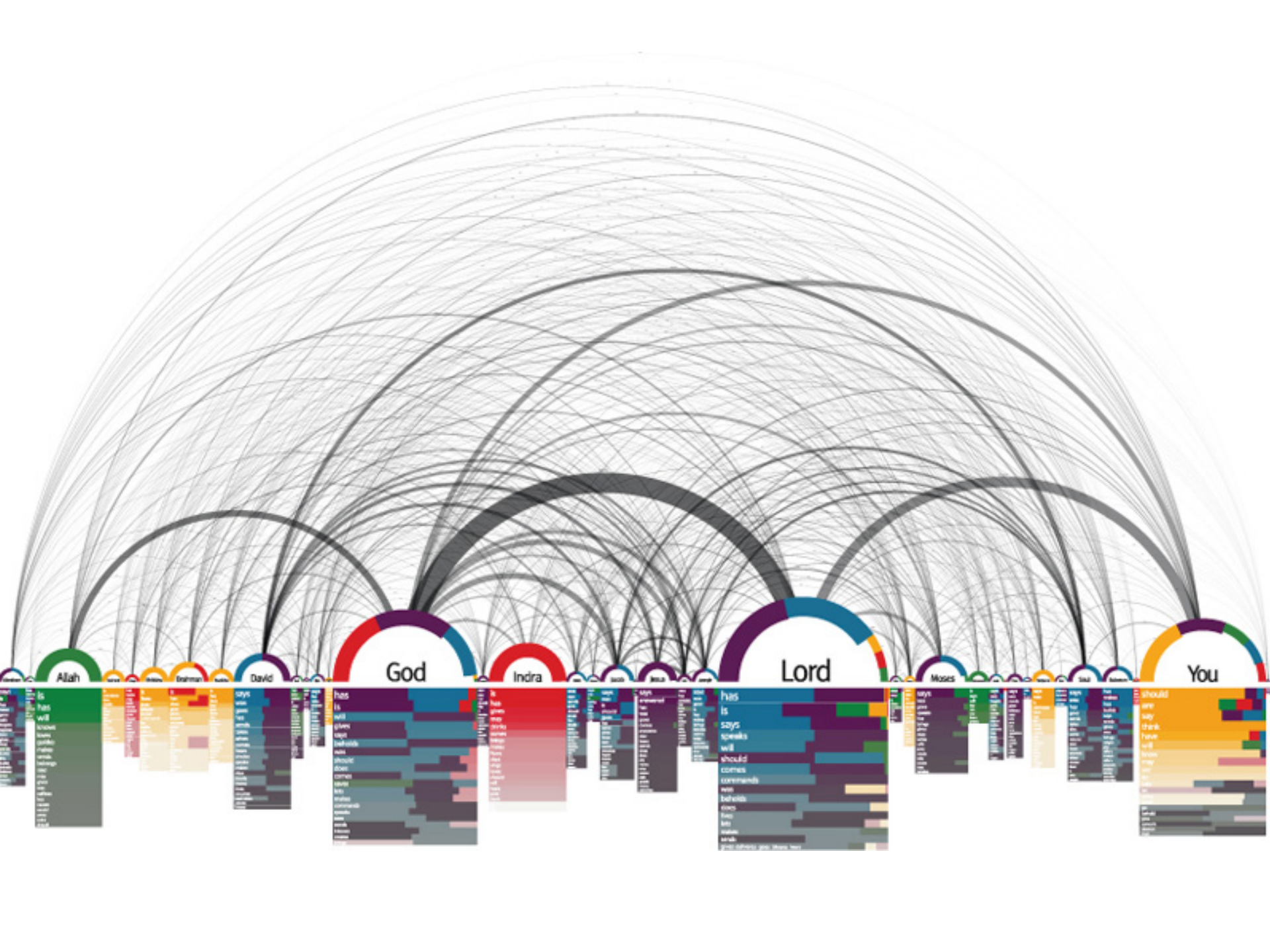
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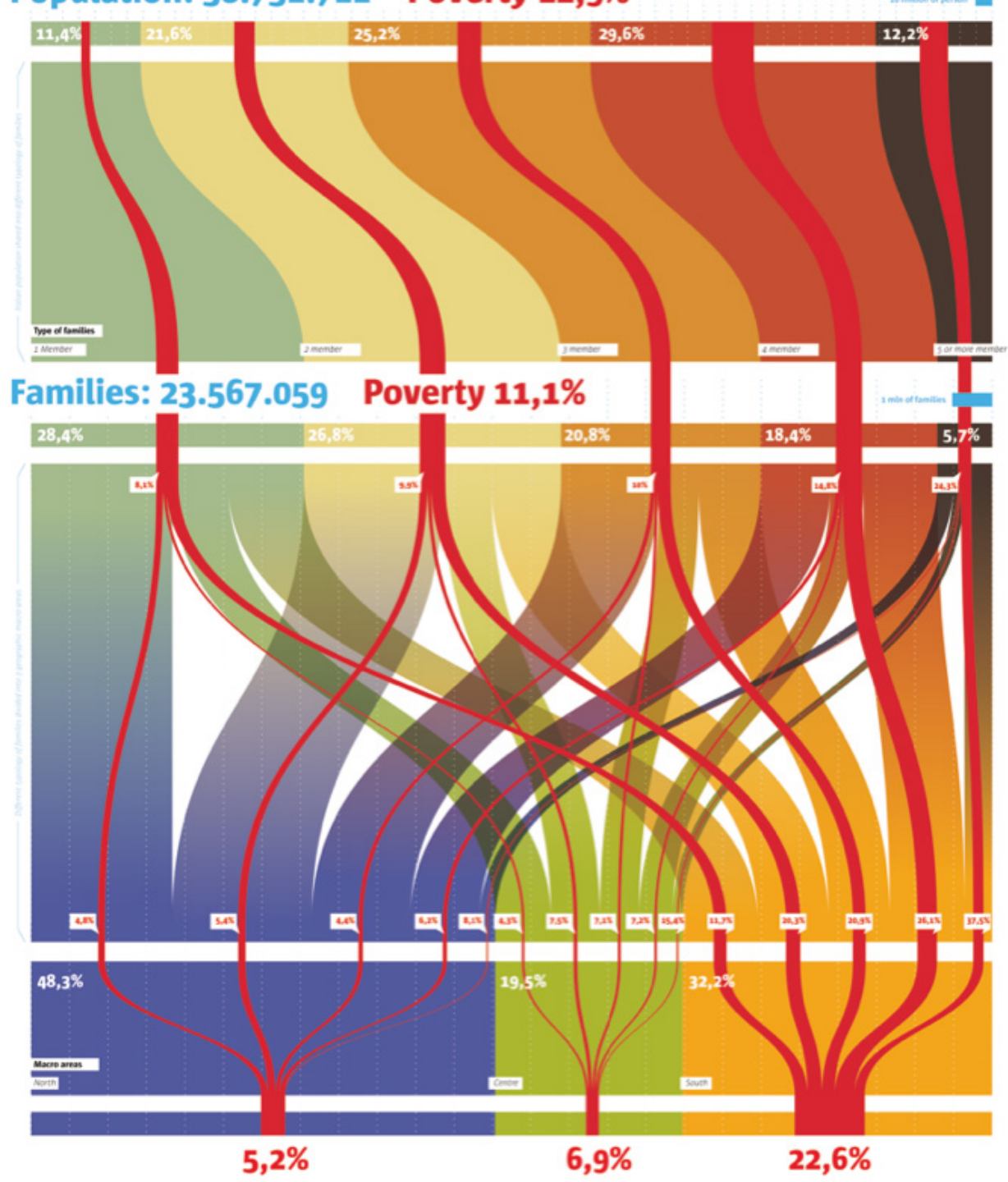
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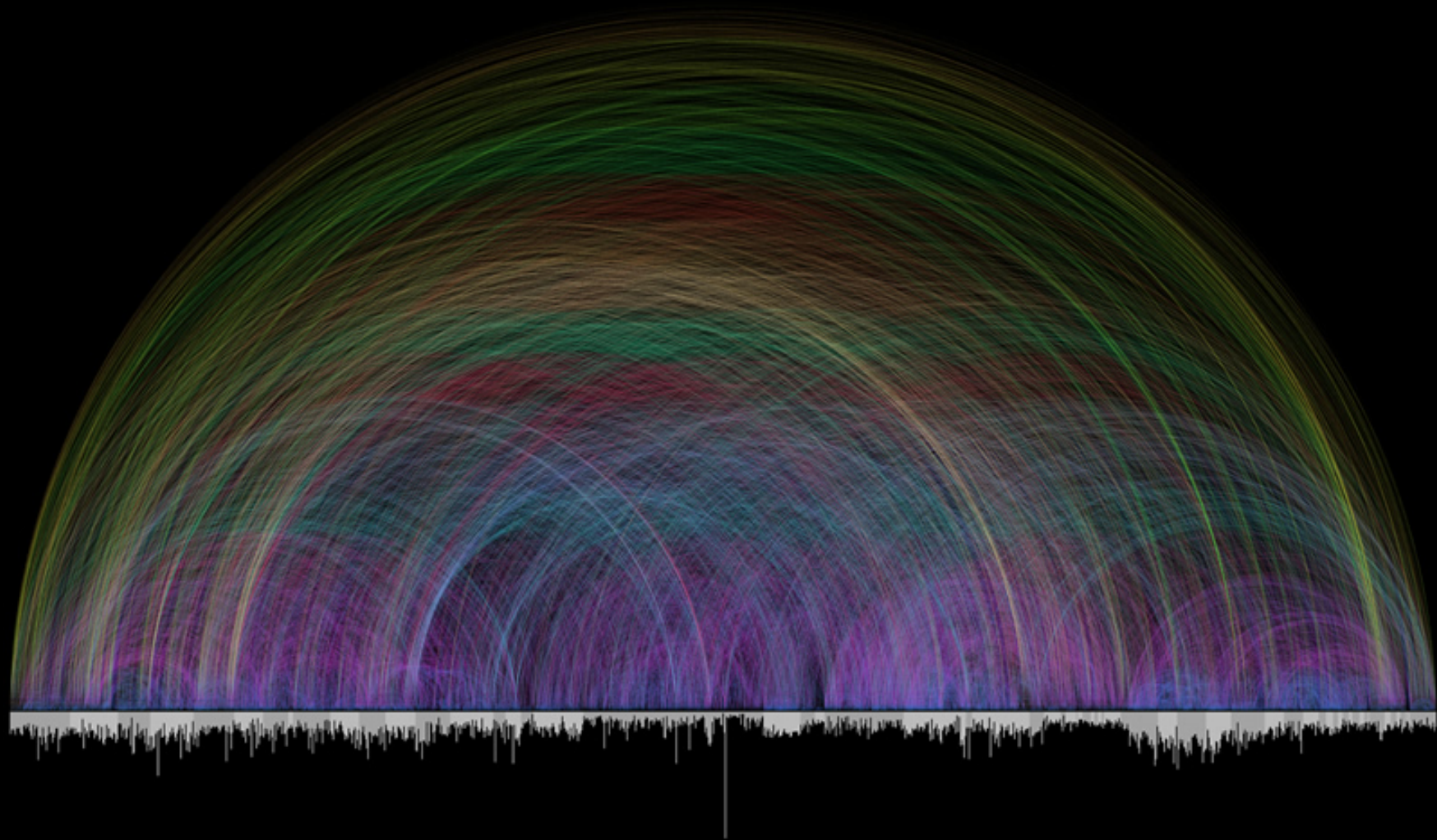


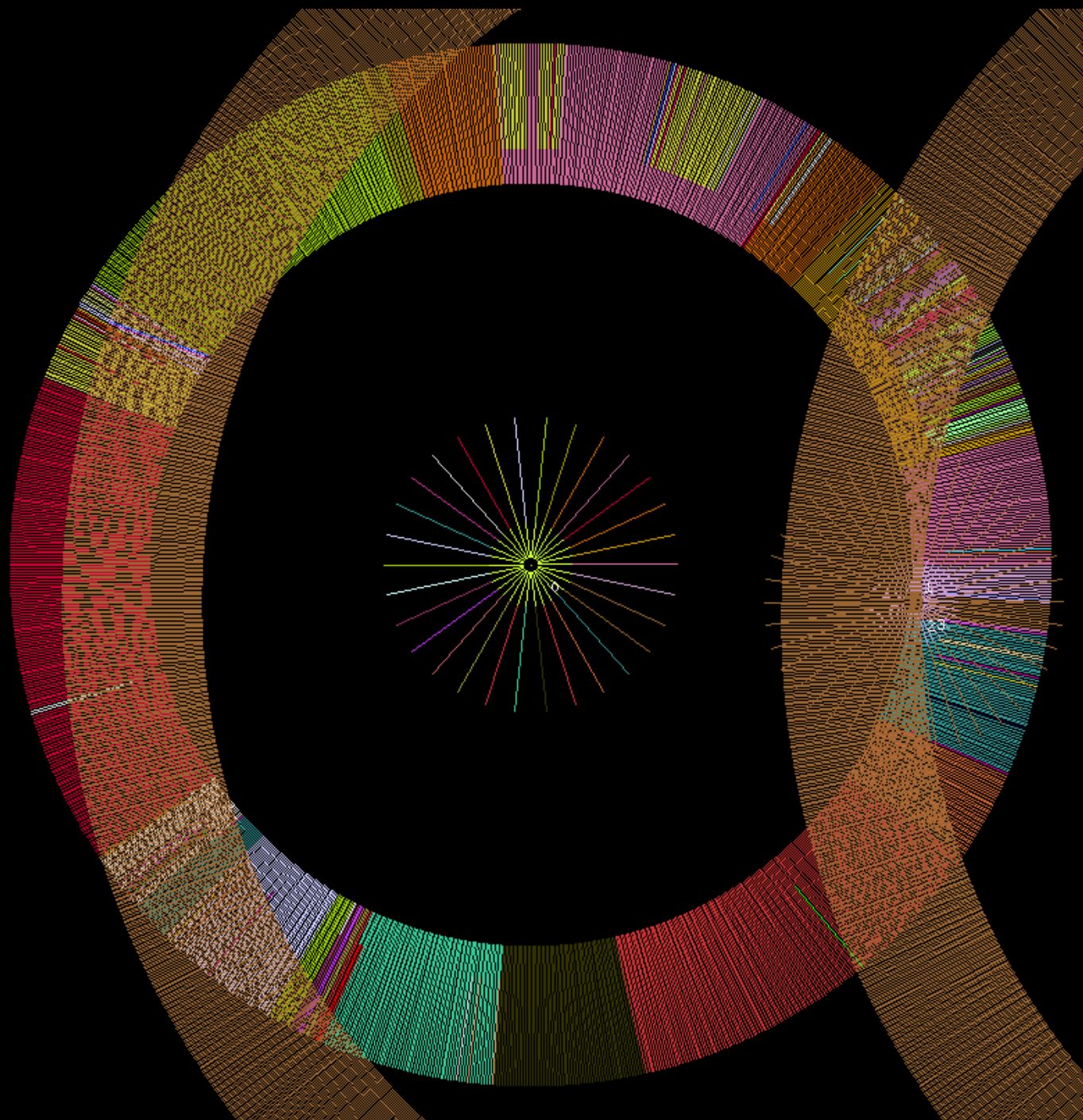
- How can visual aesthetics help to represent complex data sets and render them more accessible (info-aesthetics)?
- How can scientific visualisation techniques be applied in a creative production process and how might they be presented in public settings?
- How can data be visualised in the sonic realm (data sonification)?

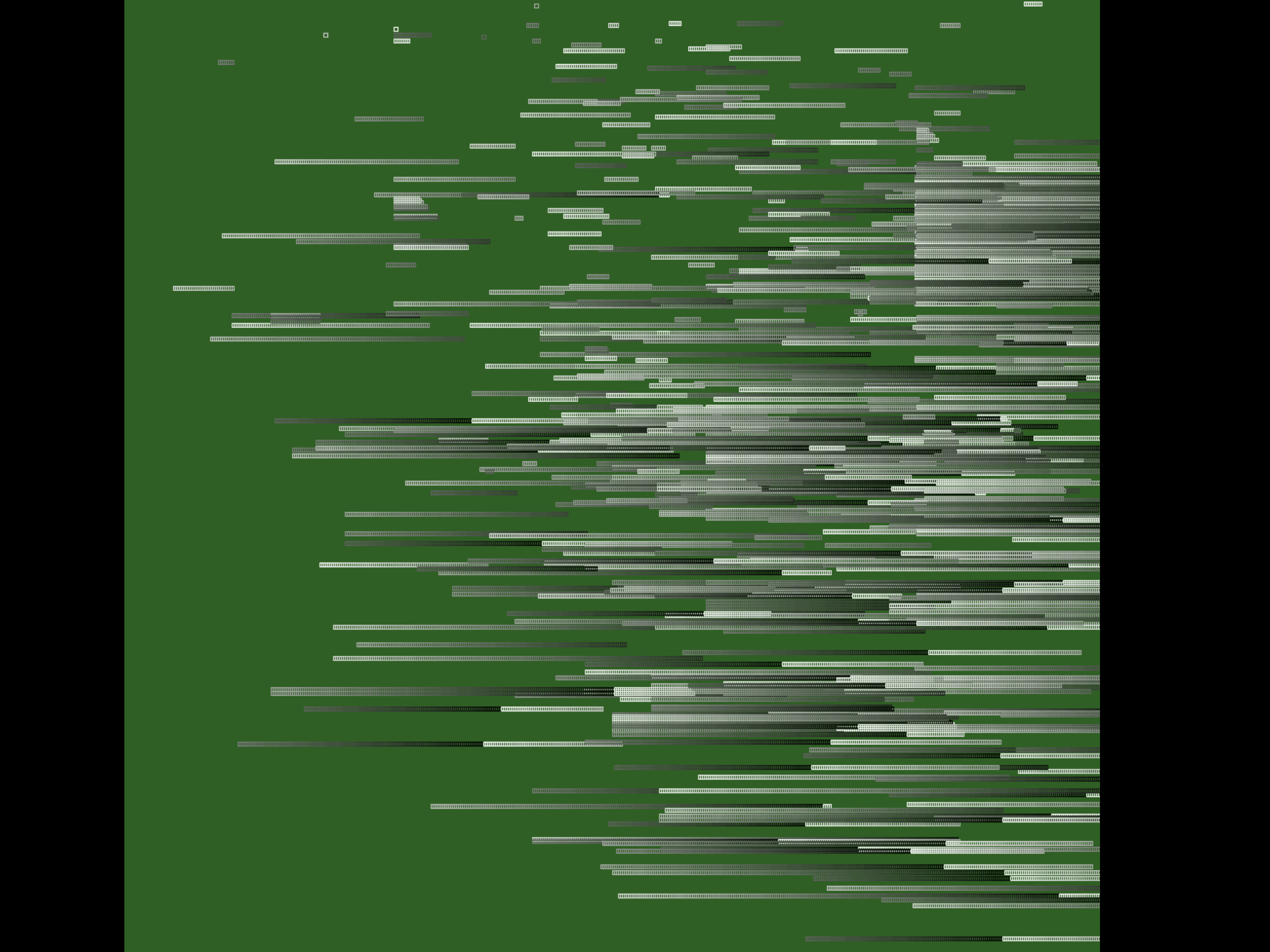




- By drawing on recent advances in human computer interaction such as large-scale **high resolution displays**, and techniques from **interactive media art** such as representation and community participation, new forms of **tangible interaction** with large data sets will become increasingly feasible

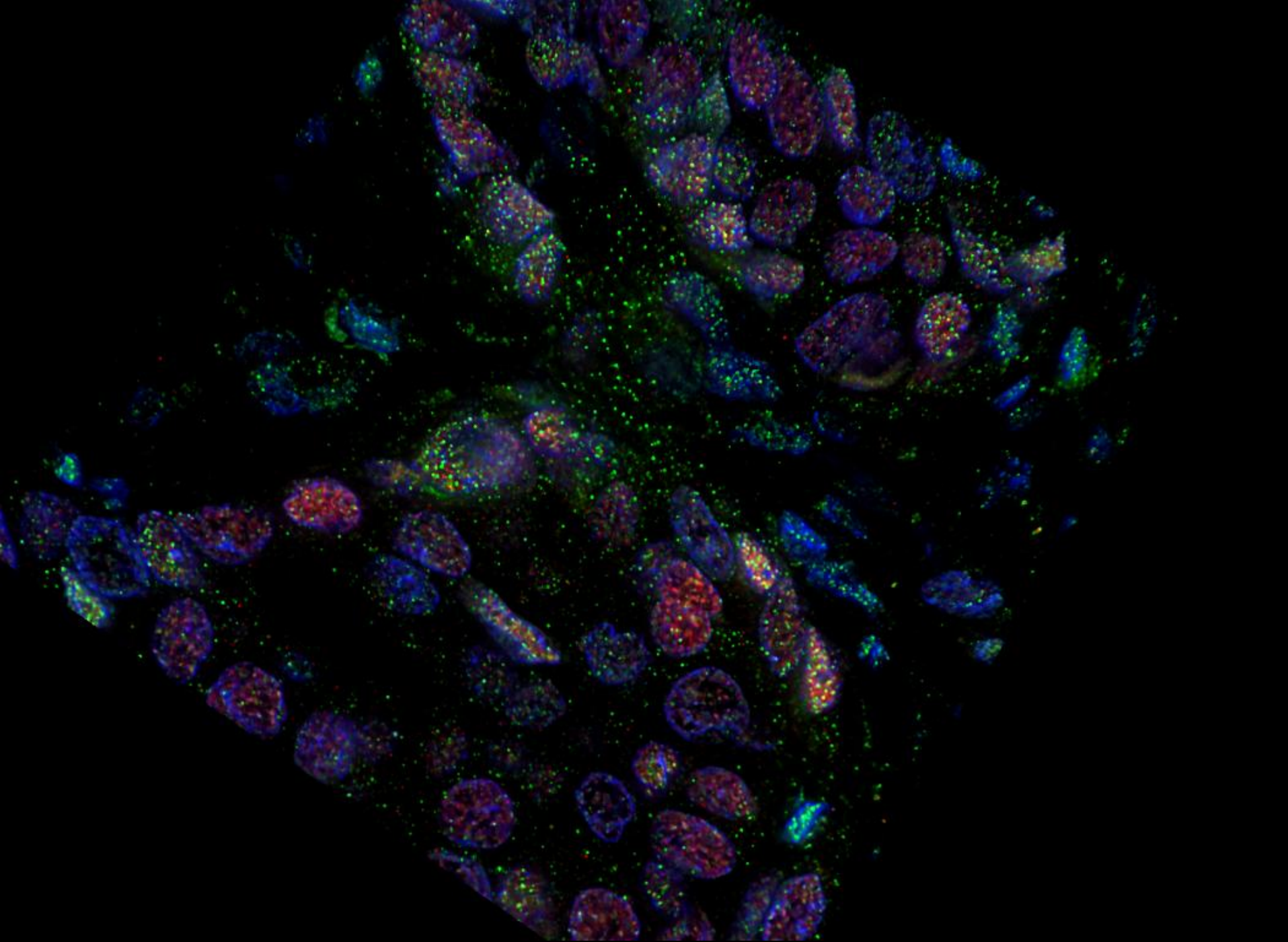


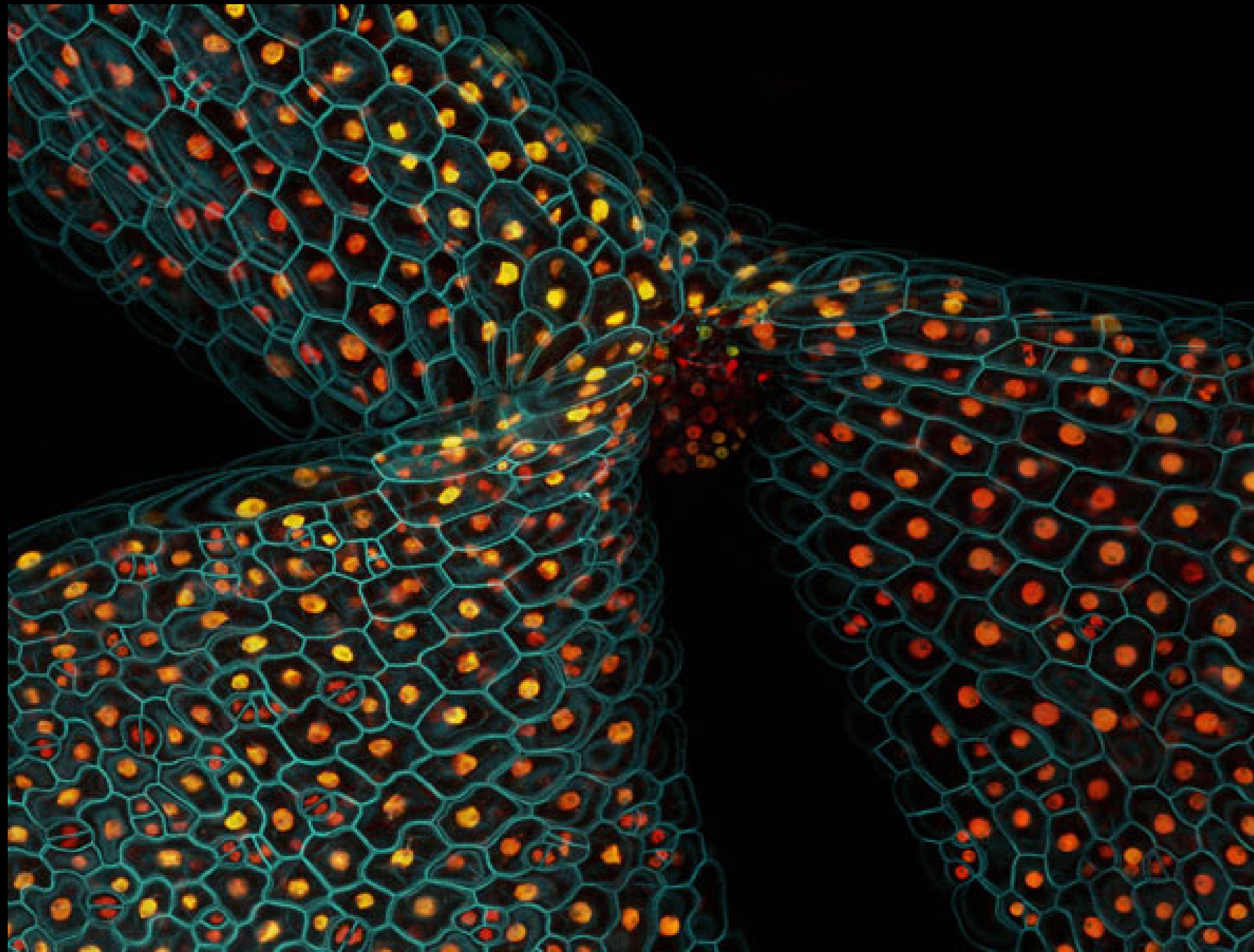


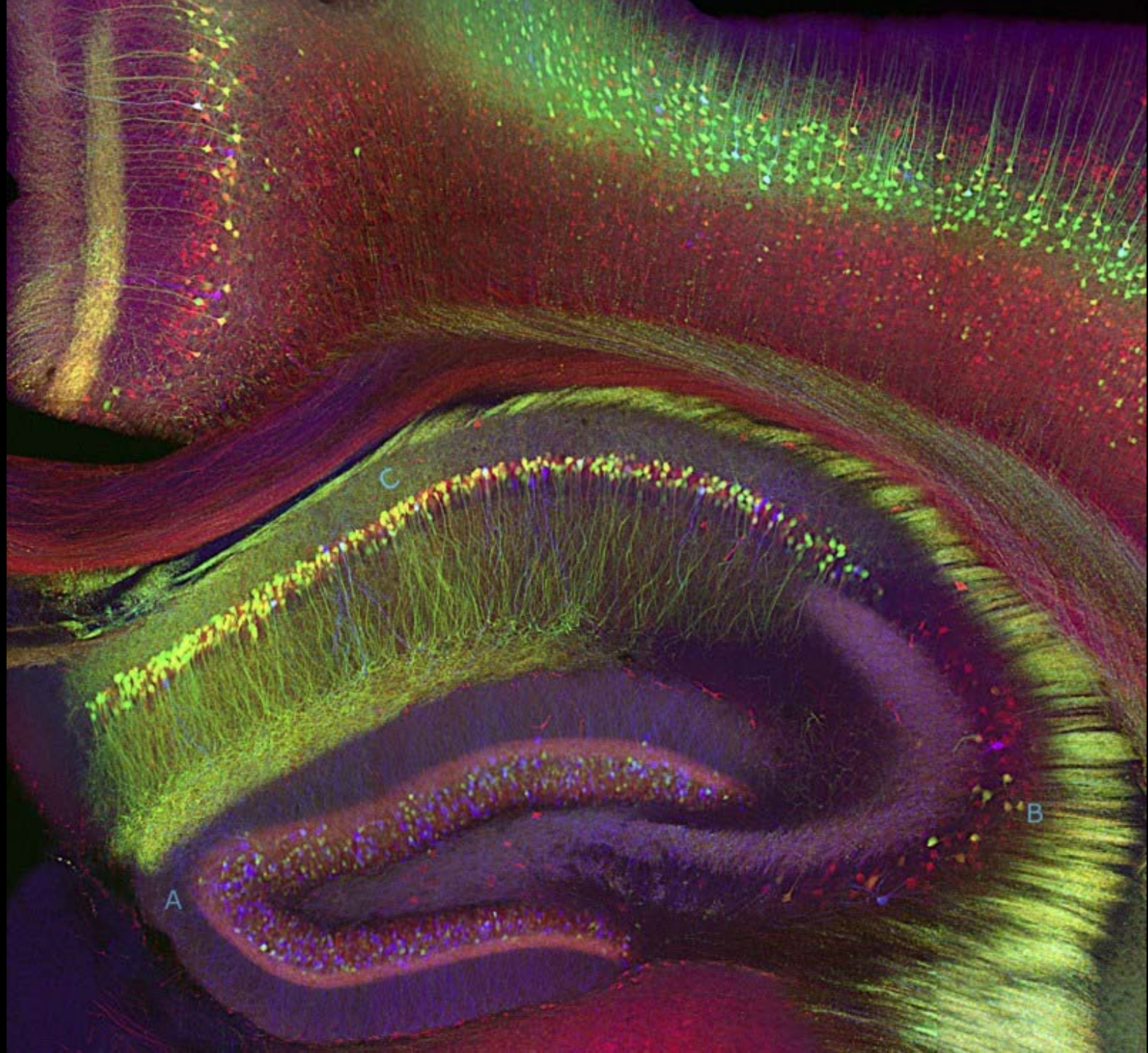


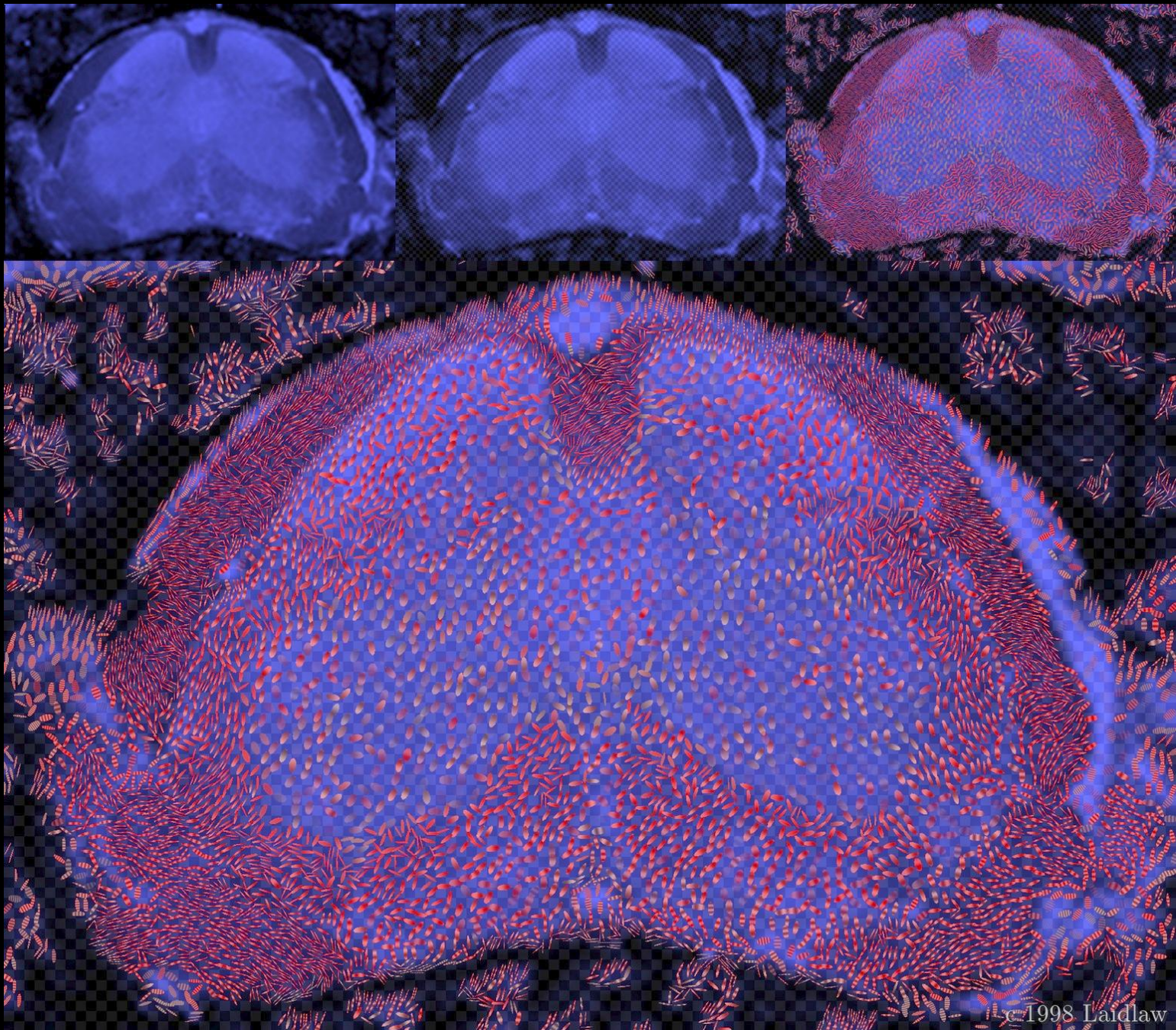
- how to deal with increasingly diverse and large scale data?
- how to represent dynamic data-sets efficiently?
- how to deal with macro- and micro-dimension of data?
- how to represent data to best allow users to identify patterns or features within it?

- How can we visualise high-level population dynamics and geographic information systems effectively?
- How can tangible interfaces and whole-body interaction provide novel solutions for interaction between the user and the data visualisation?
- How can affective qualities of the user be used in real-time visualisation to produce immersive experiences and new forms of “affective visualisation”?









- investigating efficient integration of **physical computing** and screen-based interfaces: creative navigation tools and new methods of representations
- enhancing the **information accessibility** through quality of immersive experience
- applying **art techniques** to data visualisations to produce novel user experiences
- communication, **transmission of knowledge** and information contained in data to non-specialist audiences

Affective Visualisation

- An affective visualisation is an interactive system where real-time data of the users is collected and feed back to them after an evaluation of their affective state. The feedback mechanism is crucial to the interaction as the real-time flow of data is visualised to provoke an aesthetic experience for the user. In this sense the visualisation is not specifically aimed to represent data but reflect on the dynamic qualities of the data flow.



Visual Constructed

Seeing things in your mind that you have never seen before, or seeing them differently.

VISUAL CONSTRUCT	VISUAL REMEMBER
AUDITORY CONSTRUCT	AUDITORY REMEMBER
KINESTHETIC	INTERNAL DIALOGUE



Auditory Constructed

Hear sounds internally that you have never heard before.

VISUAL CONSTRUCT	VISUAL REMEMBER
AUDITORY CONSTRUCT	AUDITORY REMEMBER
KINESTHETIC	INTERNAL DIALOGUE



Kinesthetic

Emotions feelings and touch related sensations.

VISUAL CONSTRUCT	VISUAL REMEMBER
AUDITORY CONSTRUCT	AUDITORY REMEMBER
KINESTHETIC	INTERNAL DIALOGUE



Visual Remembered

Seeing things that you have seen before, as you saw them.

VISUAL CONSTRUCT	VISUAL REMEMBER
AUDITORY CONSTRUCT	AUDITORY REMEMBER
KINESTHETIC	INTERNAL DIALOGUE



Auditory Remembered

Hearing sounds internally that you have heard before.

VISUAL CONSTRUCT	VISUAL REMEMBER
AUDITORY CONSTRUCT	AUDITORY REMEMBER
KINESTHETIC	INTERNAL DIALOGUE



Auditory Internal Dialogue

Talking to yourself!

VISUAL CONSTRUCT	VISUAL REMEMBER
AUDITORY CONSTRUCT	AUDITORY REMEMBER
KINESTHETIC	INTERNAL DIALOGUE



