Higher education is multi-scalar but this is not well understood.

Space in higher education is created by human agents.

Space as material, imagined, practised.

Multiple scales in higher education.

Concluding thoughts.
HIGHER EDUCATION IS A MULTI-SCALAR SECTOR


- Global flows becoming more important
- Higher education is not always or inevitably ‘national’ or ‘global’. It is always both of these, and more
- Individual and institutional agents have open possibilities and causation can flow from any of the intersecting scales of activity — global, regional, national and local
EXPANDING GLOBAL SCALE IN SCIENCE, 1996-2020 – US NATIONAL SCIENCE BOARD DATA FROM SCOPUS

NUMBER AND PROPORTION OF INTERNATIONALLY CO-AUTHORED PAPERS, WORLD: 1996-2020

Internationally co-authored papers
International as proportion (%)

Locally produced
National co-authors
International co-authors

Graph showing the number and proportion of internationally co-authored papers from 1996 to 2020, with a significant increase over time.
**LIMITATIONS OF METHODOLOGICAL NATIONALISM**

- Methodological nationalism: ‘the belief that the nation/state/society is the natural social and political form of the modern world’ (Wimmer & Schiller 2003). It rests on the ‘internalist’ fallacy that the trajectory of nations is entirely determined by their own efforts (Conrad 2016)
- ‘Methodological nationalism operates both about and for the nation-state, to the point where the only reality we are able to comprehensively describe statistically is a national, or at best an international one’ (Dale 2005)
- This ‘precludes a planetary consciousness, as we are stuck in global discourses underpinned by nation-state categories and identities’ (Shahjahan & Grimm 2022)
The authors identified three main themes in the literature on global and international aspects of higher education:

1. Higher education institutions tend to adapt to global norms;
2. The role of the nation-state in higher education remains very important;
3. The role of nation-states in higher education is declining amid the growing impact of global relations.

The constructed character of social-spatial relations still not well understood. Nation-state ‘universal’, regional an outgrowth of the nation, the global as ‘external’ to higher education.
SPACE = SOCIAL SPACES WITH MATERIAL COORDINATES
HUMAN GEOGRAPHY (LEFEVRE 1991, MASSEY 2005)
SPACES ARE CONSTELLATIONS OF RELATIONS THAT PEOPLE MAKE FOR THEMSELVES

THIS

NOT
SPACE IS AGENTIC AND MULTIPLE

SPACE IS THE SPHERE
HOW AGENTS MAKE SPACE IN HIGHER EDUCATION

A. space as material
(e.g. resources, policies, networks, pre-given hierarchies etc)

B. space as imagined
(e.g. perspectives, interpretations, ideas, ideologies etc)

C. space as social practices
(e.g. actions, programmes, connections, systems etc)
ACTS OF SPACE MAKING, ACTS OF POWER

Shaping science as an arms race in technology

Creating a high participation e-learning space
### Ranking as Space Making: Global Higher Education as One Worldwide Competition and Hierarchy

<table>
<thead>
<tr>
<th>University</th>
<th>Country</th>
<th>Top 5% Papers</th>
<th>All Papers</th>
<th>% of Papers in Top 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harvard U</td>
<td>USA</td>
<td>4276</td>
<td>35,050</td>
<td>12.2%</td>
</tr>
<tr>
<td>Stanford U</td>
<td>USA</td>
<td>2140</td>
<td>17,187</td>
<td>12.5%</td>
</tr>
<tr>
<td>U Toronto</td>
<td>CANADA</td>
<td>1773</td>
<td>24,260</td>
<td>7.3%</td>
</tr>
<tr>
<td>Tsinghua U</td>
<td>CHINA</td>
<td>1726</td>
<td>22,311</td>
<td>7.7%</td>
</tr>
<tr>
<td>U Oxford</td>
<td>UK</td>
<td>1722</td>
<td>16,499</td>
<td>10.4%</td>
</tr>
<tr>
<td>Zhejiang U</td>
<td>CHINA</td>
<td>1640</td>
<td>29,091</td>
<td>5.6%</td>
</tr>
<tr>
<td>U Michigan</td>
<td>USA</td>
<td>1508</td>
<td>19,609</td>
<td>7.7%</td>
</tr>
<tr>
<td>MIT</td>
<td>USA</td>
<td>1501</td>
<td>10,503</td>
<td>14.3%</td>
</tr>
<tr>
<td>U College London</td>
<td>UK</td>
<td>1446</td>
<td>10,507</td>
<td>9.3%</td>
</tr>
<tr>
<td>U Cambridge</td>
<td>UK</td>
<td>1425</td>
<td>14,268</td>
<td>10.0%</td>
</tr>
<tr>
<td>Shanghai Jiao Tong U</td>
<td>CHINA</td>
<td>1405</td>
<td>28,703</td>
<td>4.9%</td>
</tr>
<tr>
<td>Johns Hopkins U</td>
<td>USA</td>
<td>1404</td>
<td>17,708</td>
<td>7.9%</td>
</tr>
<tr>
<td>Huazhong U S&amp;T</td>
<td>CHINA</td>
<td>1311</td>
<td>21,654</td>
<td>6.1%</td>
</tr>
<tr>
<td>U Pennsylvania</td>
<td>USA</td>
<td>1290</td>
<td>14,100</td>
<td>9.1%</td>
</tr>
<tr>
<td>U Washington, Seattle</td>
<td>USA</td>
<td>1267</td>
<td>14,847</td>
<td>8.5%</td>
</tr>
<tr>
<td>Columbia U</td>
<td>USA</td>
<td>1249</td>
<td>12,891</td>
<td>9.7%</td>
</tr>
</tbody>
</table>
WHAT IS MAKING THE NORDIC SCALE IN HIGHER EDUCATION?
EVENTUALLY EVERY SPACE ‘ESCAPES IN PART FROM THOSE WHO MAKE USE OF IT’ - LEFEVRE

So it is with Euro-American led global science – it has become much more plural and that is irreversible
SLOWER GROWING SCIENCE SYSTEMS IN THE PERIOD 2000-2020

NATIONAL OUTPUT OF SCIENCE PAPERS GREW SLOWER THAN THE WORLD AVERAGE RATE OF 5.15% PER YEAR BETWEEN 2000 AND 2020 - COMPARED TO WORLD AVERAGE GDP PER CAPITA PPP (US $17,083 IN 2020)

Science systems with 5,000 papers or more in 2020. Scopus data, fractional counting (NSF 2021). Current price GDP, PPP = purchasing power parity (World Bank 2022).
FAST GROWING SCIENCE SYSTEMS IN THE PERIOD 2000-2020

NATIONAL OUTPUT OF SCIENCE PAPERS GREW FASTER THAN THE WORLD AVERAGE RATE OF 5.15% PER YEAR BETWEEN 2000 AND 2020 - COMPARED TO WORLD AVERAGE GDP PER CAPITA PPP (US $17,083 IN 2020)

Science systems with 5,000 papers or more in 2020. Scopus data, fractional counting (NSF 2021). Current price GDP, PPP = purchasing power parity (World Bank 2022).
MULTIPLE SCALES IN HIGHER EDUCATION

the world as a whole (contains activity in all the scales)

global
region: Europe
Nordic sub-region
national
sub-national region (state, city)
local (institution, discipline)

agency and activity in any one scale can intersect with any of the other scales
IN HIGHER EDUCATION AND KNOWLEDGE
ALL THE SCALES ARE HIGHLY ACTIVE
Higher Education and Nation-building in Eritrea

Admin 6 years ago  Education in Eritrea, Eritrea, Opinion, Simon Weldemichael

Photo: Computer Science Graduates from the Eritrean Institute of Technology.
GEOGRAPHICAL SCALES FUNDAMENTALLY DIFFER FROM EACH OTHER
IS THE NATIONAL SCALE BECOMING MORE IMPORTANT VIS A VIS THE GLOBAL THAN IT WAS?  PROBABLY, YES

IS THE PAN-NATIONAL REGION BECOMING MORE IMPORTANT VIS A VIS THE OTHER SCALES?  JURY IS OUT

• The Americanised universal globalisation of the 1990s/2000s has given way to a multi-polar world (suggesting regionalisation?) but also
• American retreat from global inclusion in economy and culture (and higher education and science), Sino-American divide, all-round reassertion of nation-states
• There’s no momentum for post-American globalisation
‘THERE ARE NO RULES OF SPACE AND PLACE’ - MASSEY
‘All things are in flux, like a river . . .
Everything flows’

‘Whoever cannot seek the unforeseen, sees nothing. The known way is an impasse.’

~ Heraclitus of Ephesus (544-484 BCE)