

THE ROLES OF DISCIPLINES IN A HEALTHY EUROPEAN RESEARCH BASE

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HOW DO PEOPLE OUTSIDE ACADEMIA PERCEIVE DIFFERENT FIELDS OF SCIENCE?

What are the top research fields that people are interested in?

1. Astronomy
2. History

What fields are the biggest recipients of donations?

1. Medicine
2. Arts and Humanities



EARLY 'DISCIPLINES'

Unlike today's multitude of disciplines,
research – the systematic pursuit of knowledge – originated in just a few
fields of prime interest
in the 1st millennium BCE (outside Europe)
'Astronomy', 'medicine', 'linguistics'...

In Europe, a fundamental influence was Aristotle's three types of
knowledge: *episteme* (theoretical or scientific), *techne* (craft /art &
technical), *phronesis* (practical wisdom & ethical judgment).

Research as well as universities drew on these for centuries.



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THE FIRST ACADEMY OF SCIENCES

Royal Society 1660

A group of natural philosophers made a deal with the new king. He endorsed the organization and granted royal protection to it.

Importantly, the society itself was left to define 'experimental philosophy'

➤ Scientific autonomy

At the same time, also expected to maintain utilitarian values for the benefit of the king and the nation state



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THE RESEARCH UNIVERSITY

German universities at the forefront between the mid-18th and the mid-20th century science

Humboldt's great agenda:

The research-based university

Multidisciplinary, committed to the nation state, which in turn was committed to supporting a high-class university system

The idea of science for the good of humanity, comprising a strong human sciences component

19th century Europe generally saw the identification and rise of distinct disciplines, many new



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EXPLOSION OF DISCIPLINES

Today, we have a myriad of individual disciplines.

Broad divisions commonly made between natural and human sciences

e.g. C.P. Snow (1959) *The two Cultures*

G.H. von Wright (1971) *Explanation and Understanding*

Still relevant today?

Far less so.

The hybridisation tendency in the post-war period has meant both bifurcation and convergence of disciplinary domains:

biochemistry, cognitive science, environmental science, gerontology...



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CROSSING THE ATLANTIC

Humboldt's university idea was imported to US: Johns Hopkins University became the first American research university (1876)

Others soon followed suit.

From the 1930s, US universities begun to attract researchers from other countries. In the post-war era, this became a worldwide trend.

From the 1970s, the ideology of marketisation of research and universities has expanded in the western world, replacing the nation state ideology

Yet Aristotelian and Humboldtian ideas live on in the US Liberal Arts concept: mixture of the natural sciences, social sciences, arts, and humanities



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WHICH DISCIPLINES DO WE NEED?

Heisenberg: "what we observe is not nature in itself, but nature exposed to our method of questioning"

> We need as many angles to observing reality as we can muster

Therefore, it is not in the interest of the scientific community to constrain or rank disciplines,

but support the development of all disciplines as the dynamics of research responds to changing societal contexts.

A truly European way



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