



Det Natur- og Biovidenskabelige Fakultet



Fagene og verden

Fag og faglighed i et videnskabsteoretisk perspektiv

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Faglandskabet



KU BA

Biologi Fysik Geografi og
geoinformatik Idræt Kemi Matematik



STX

Biologi Fysik Geografi Idræt Kemi Matematik



Grund

Biologi Fysik/kemi Geografi Idræt Matematik N/T

Faglandskabet



KU BA

Molekylær Biomedicin
 Machine learning og datavidenskab
 Landskabsarkitektur
 Fødevarevidenskab
 Hysdyrvidenskab
 Biokemi
 Nanoscience
 Medicinalkemi
 Datalogi-økonomi
 Bioteknologi
 Biologi
 Fysik
 Geografi og geoinformatik
 Idræt
 Kemi
 Datalogi
 Matematik
 Naturressourcer
 Skov- og landskabsingeniør
 Geologi - geoscience
 Miljø- og fødevareøkonomi
 Forsikringsmatematik
 Matematik-økonomi



STX

Bioteknologi
 Biologi
 Fysik
 Geografi
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 Informatik
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 Naturgeografi



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 Skov- og landskabsingeniør Matematik-økonomi

KU SCIENCE optag '22

Klassiske: 633

Nye: 1147

I alt: 1780



Grund

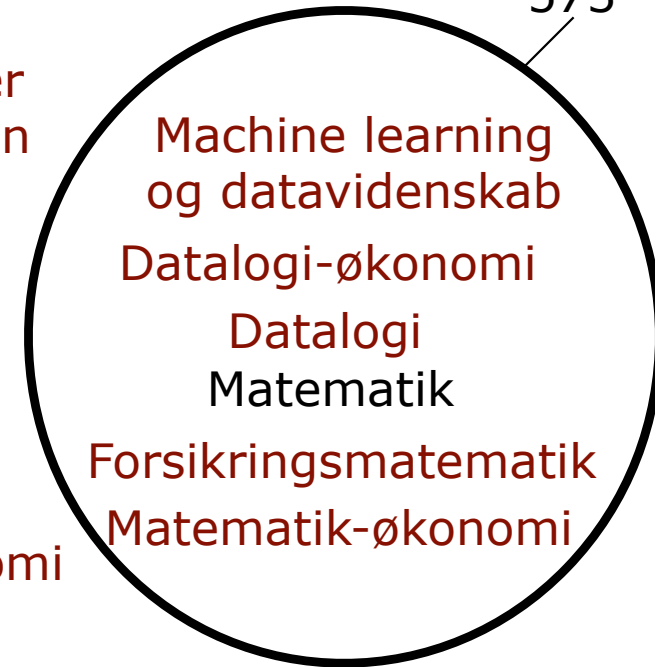
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Forskelle

The study of paradigms [...] is what mainly prepares the student for membership in the particular scientific community with which he will later practice. Because he there joins men who learned the bases of their field from the same concrete models, his subsequent practice will seldom evoke overt disagreement over fundamentals. Men whose research is based on shared paradigms are committed to the same rules and standards for scientific practice. That commitment and the apparent consensus it produces are prerequisites for normal science, i. e., for the genesis and continuation of a particular research tradition.

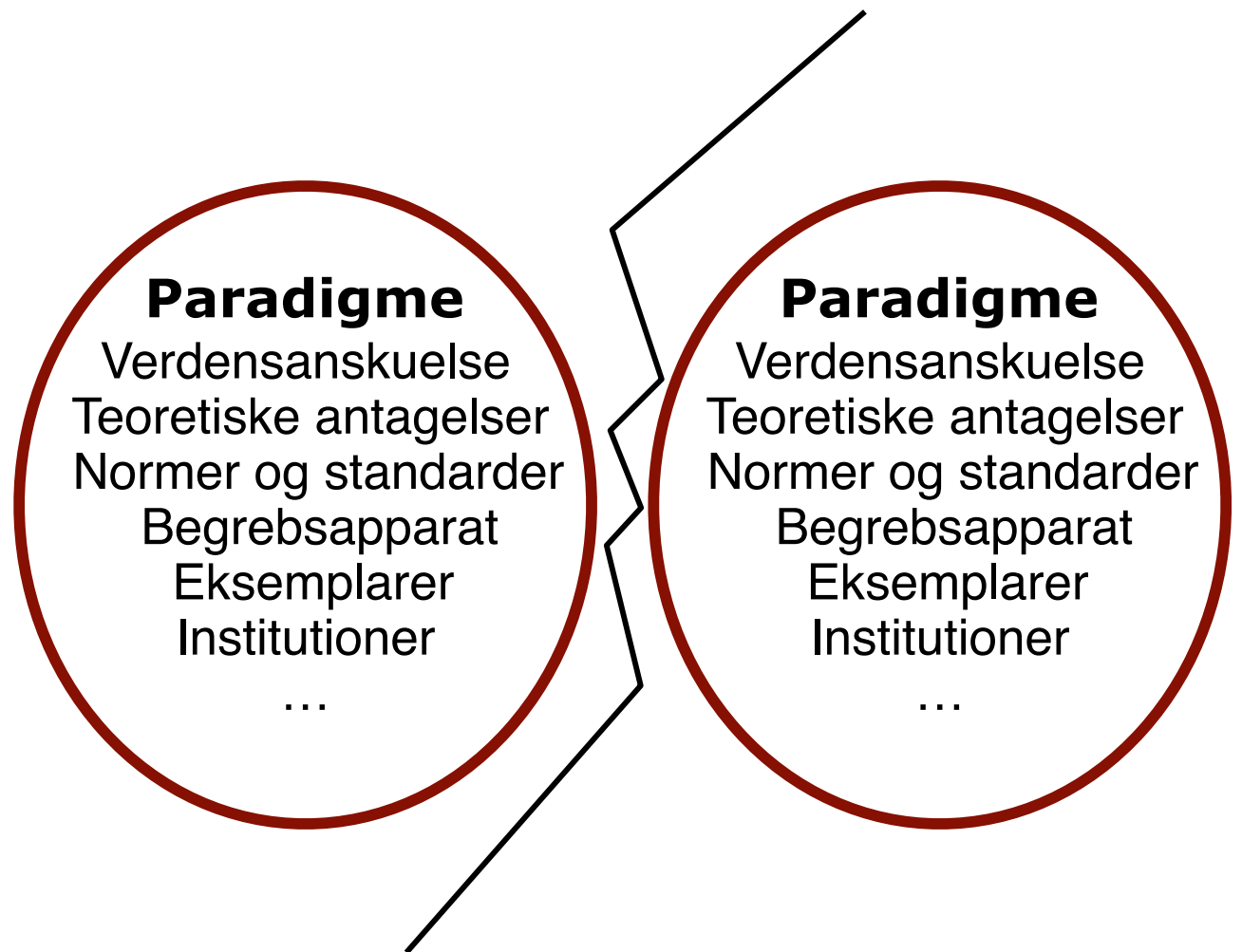
(Kuhn, T.S. (1962): *The Structure of Scientific Revolutions*, s.10-11)



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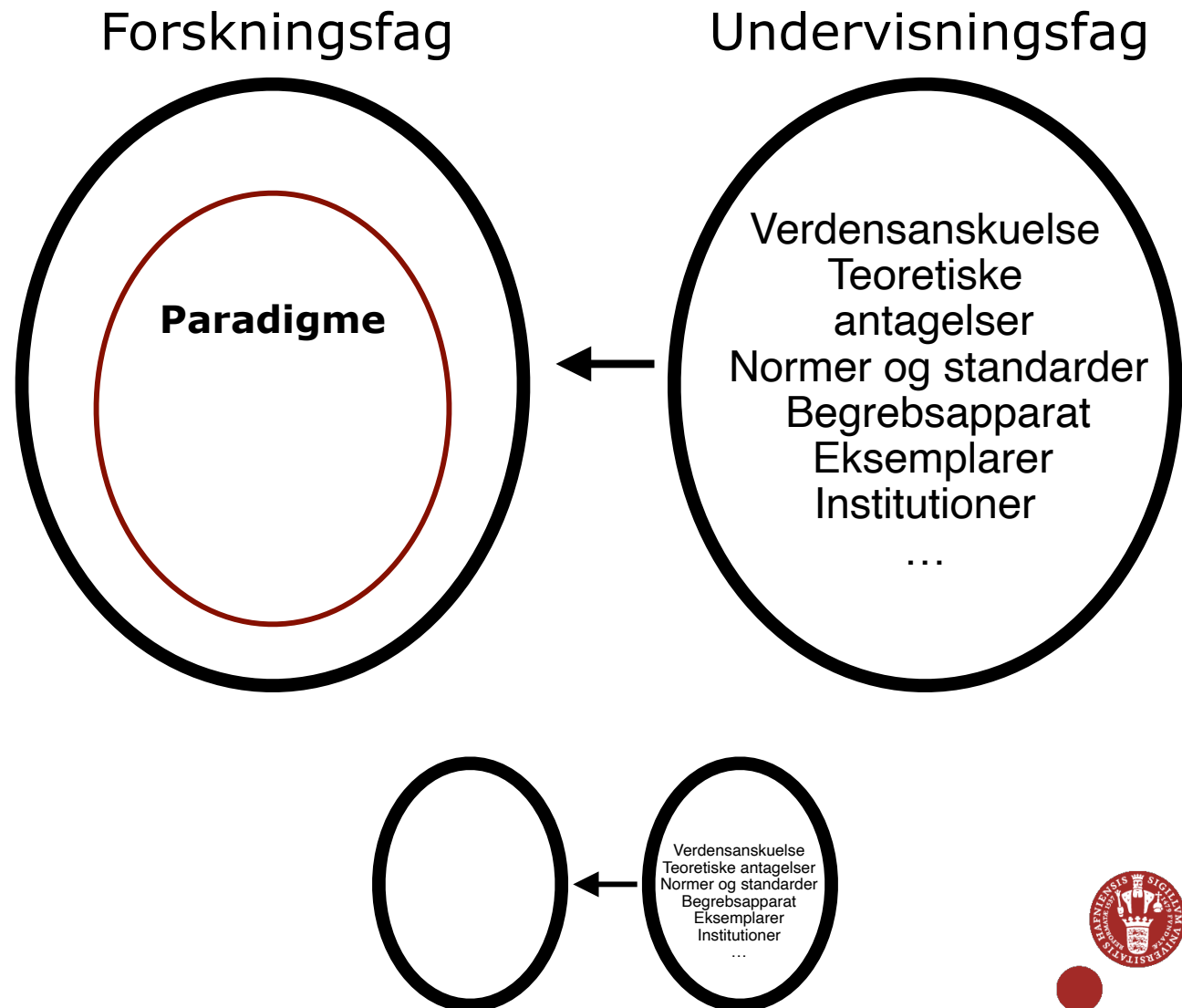
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Forskelle - paradigme og fag?

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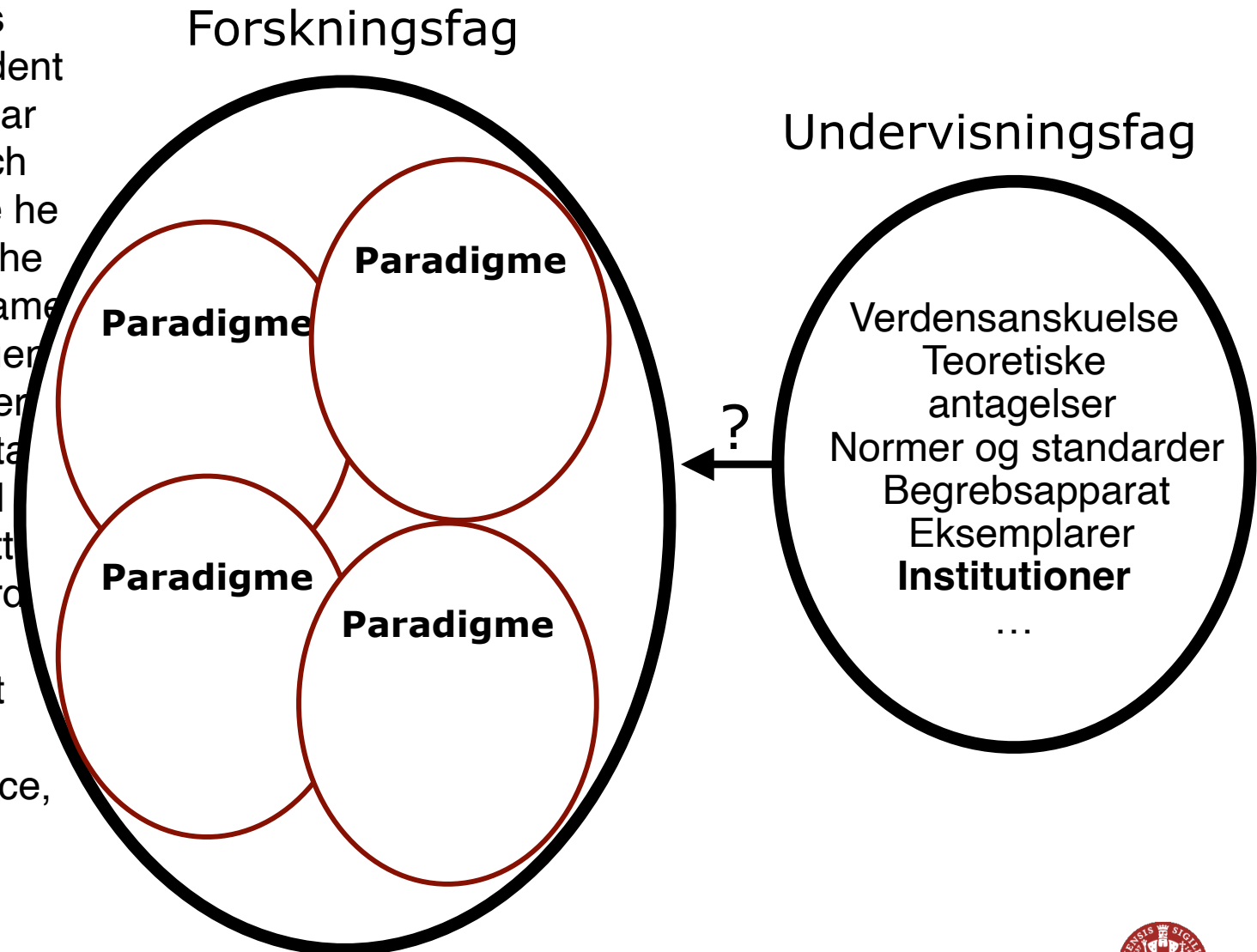
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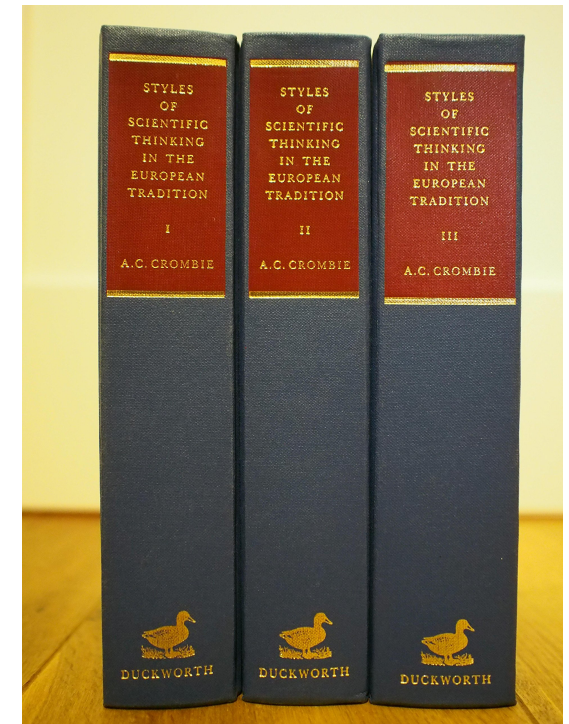
Det fælles - styles of reasoning

Baggrund

Crombie, A. C. (1994): *Styles of scientific thinking in the European tradition: The history of argument and explanation especially in the mathematical and biomedical sciences and arts*. London, England: Duckworth.

Hacking, I. (1992): *Language, Truth and Reasoning* i Hollis og Lukes (red.): *Rationality and Relativism*. MIT Press

Kind, P. og Osborne, J. (2017). *Styles of Scientific Reasoning: A Cultural Rationale for Science Education?* *Science Education* (Salem, Mass.), 101(1), 8–31.



Det fælles - styles of reasoning

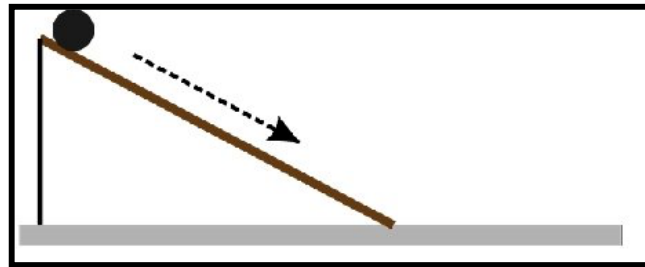
Matematisk deduktion

Proof that Primes are infinite : :
Proof by Euclid (300 B.C.)

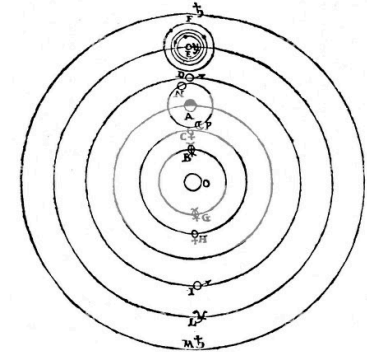
- Let us assume that the set of primes is finite.
 $Primes = \{2, 3, \dots, p\}$
- Consider the number $n = (2 * 3 * \dots * p) + 1$.
- *Claim* : n is a prime but is not in *Primes*.
- *Reason*: Each prime divides the first summand but not 1, so it will not divide n . Hence, n is a new prime not in *Primes*!
- *Conclusion*: Primes are not finite.

Prasad Primes 20

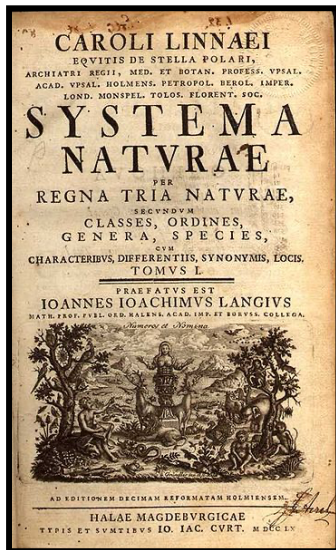
Eksperimentel undersøgelse og test



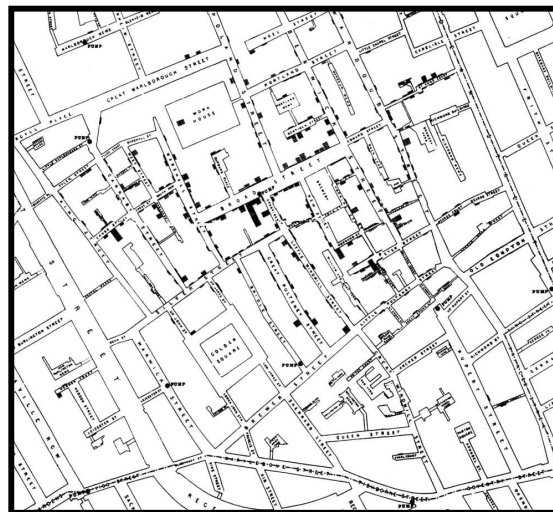
Hypotetisk modellering



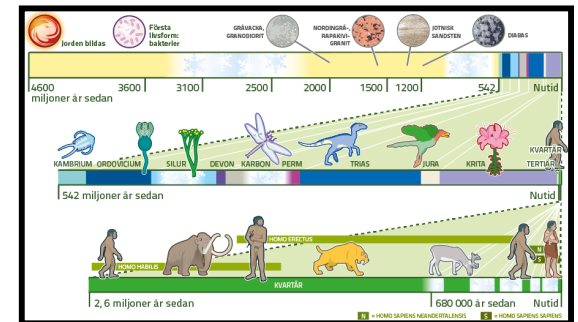
Kategorisering



Statistik



Historisk udvikling



Pointer og redskaber

Uddannelseslandskabet

Mange nye STEM-uddannelserne - en hel del rummer tværfaglighed

Kuhns paradigmeteori

Reflektér over dit paradigme

Hvilke grundantagelser har du med?

Hvilke grundantagelser har dine samarbejdspartnere?

Hvilke grundantagelser har din målgruppe - og hvilke ønsker du, de skal have?

Styles of reasoning

Hvilke styles of reasoning indgår i emnet fra dit og de andre fag?

Er der overlap?

Kan man italesætte og understøtte de valgte styles of reasoning?

Kende din målgruppe de nødvendige styles?

