

Finnish Universities in Transition: From Humboldtian Model to Entrepreneurial University?

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Contents

- Etzkowitz: two major transformations
 - 1) the 1st academic revolution: incorporation of research into universities during the early 19th century (the Humboldtian university model)
 - 2) the 2nd academic revolution: incorporation of commercial activities into universities during the late 20th century (the entrepreneurial university model)?
- Development of Finnish universities and university reform of 2010
- Commercialization of university research results
- Is the ethos (character, fundamental values) of science changing?
- Conclusion

Early History of the University Institution

- the oldest universities date back to the 11th century, universities as teaching institutions
- from the transmission of accepted knowledge to the discovery of new knowledge (the 16th-17th c.):
 - 1) the scientific revolution: importance of empirical evidence, development scientific instruments
 - 2) establishment of learned societies for the purpose of doing research, research outside of the university
- the 18th-19th c.: liberalism and the rise of a nation-state: new basis for political and cultural identity
- modernization of Prussia: establishment of the University of Berlin in 1810 to recreate the nation state and national culture in Prussia

Transformation 1: Humboldtian Model

- a model for university reforms in many countries

Three basic ideas

- 1) unity of research and teaching
- 2) edification, self-formation
- 3) autonomy and freedom

Unity of research and teaching

- research and education pursued by the one and the same organization (cf. earlier)
- new mission: from transmission of received knowledge to a knowledge-producing institution
- community of professors and students in the quest for knowledge – ”knowledge for its own sake”

Edification, self-formation (Bildung)

- continual development and recreation of human knowledge, capabilities and values through personal learning and research
- development of a character of a person which can not be defined in terms of a particular (inherited) social position
- cultivated individual also a nation-state citizen

Autonomy and freedom

- the process of self-formation requires time for reflection and freedom from distraction
- creation of an autonomous setting for intellectual activities: freedom of teaching and learning

Social Contract between the Humboldtian University and the Nation State

- the emergence of the university linked to the emergence of the modern nation state
- social contract: reciprocal relationship between the university and the state
 - the state → to secure academic autonomy and financial resources and to nominate professors
 - the university → to provide knowledge underpinning social cohesion, national culture, public administration and the rule of law

University Expansion and Diversification of National Models

- the number of universities in Europe increased from 83 (1815) to 202 (1939)
- development major national university models:
 - 1) *German* (Humboldtian)
 - 2) *French*: dual system – 1) universities = strong state control & 2) grandes écoles = autonomy, teaching and research separated, more autonomy recently granted to universities
 - 3) *British*: universities consisting of many independent colleges and a weak central administration, traditionally autonomous but recently stronger state control, universities conduct research and teaching

Humboldtian Ideas in Finland in the Beginning of 19th Century

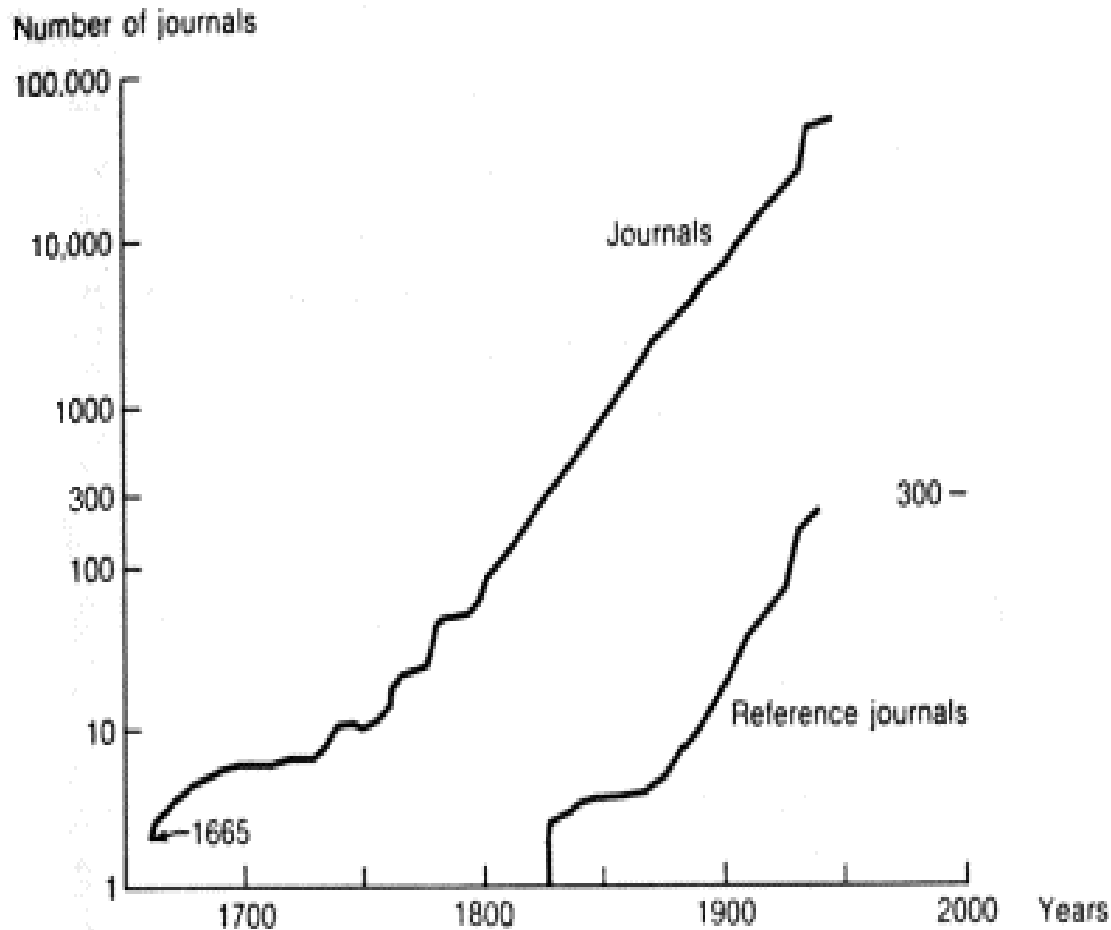
- The Academy of Turku: established in 1640 as a professional school of law, medicine and theology
- War of Finland (1808-09): Finland → grand duchy of Russia
- reform of the Academy of Turku according to the German model, transfer to Helsinki in 1828
 - 1) core activities are scientific research and education of the young to serve the nation
 - 2) freedom of teaching preserved
 - 3) scientific research emphasised

- independence of the university from the government, direct subordination to the emperor: Imperial Alexander University
- university's connection to the church discontinued: professors had no more positions in the church, education of the priests proceeded
- new knowledge and moral education important for the country's future: the development of the university went hand in hand with the building of the Finnish nation
- national missions: education of civil servants, legal incorporation of academics into the ranks of state service (civil servants), building of national culture, loyalty and consciousness (folklore)

Developments during the Late 19th and 20th Centuries

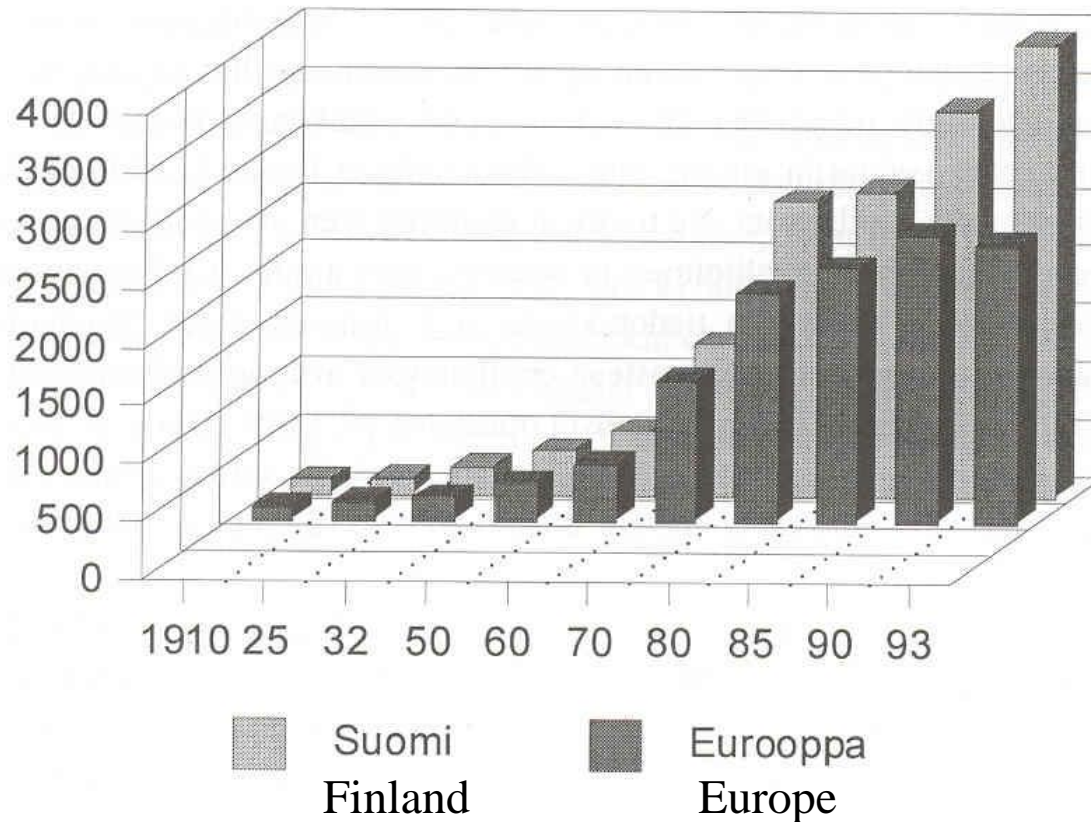
- ongoing technical development & industrialization, expansion of public administration
- the growth of scientific knowledge & birth of new specialties (vs. general knowledge)
- increasing number of universities (plus students and teachers): from 98 (1850) to 795 (2011)
- from elite to mass education → social equality & mobility, changing needs in labour markets
- OECD and the needs of the knowledge society: strengthened research function and R&D funding base → R&D indispensable for economic growth
- academic autonomy at stake: centralized political control of higher education systems

Explosion of Scientific Specialization: The Total Number of Scientific Journals



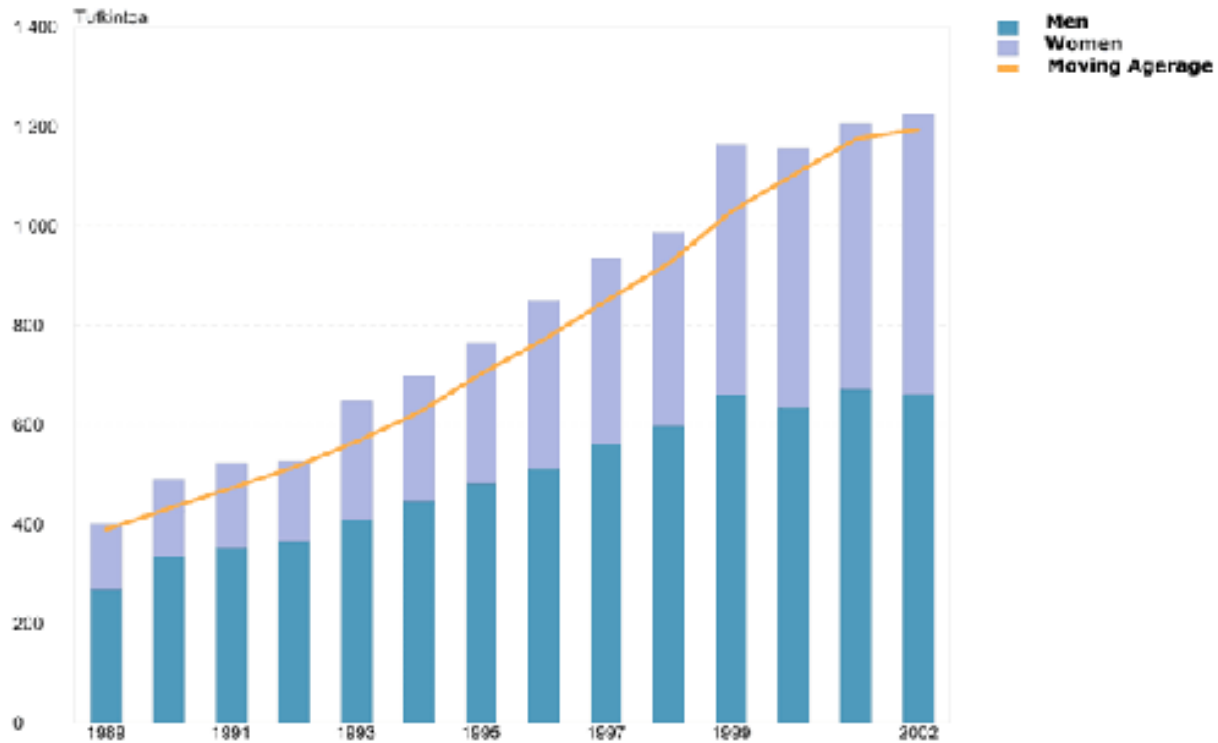
Source: Derek J. de Solla Price (1963) *Little Science, Big Science*.

The Number of Students per 100 000 Inhabitants in Finland and in Europe



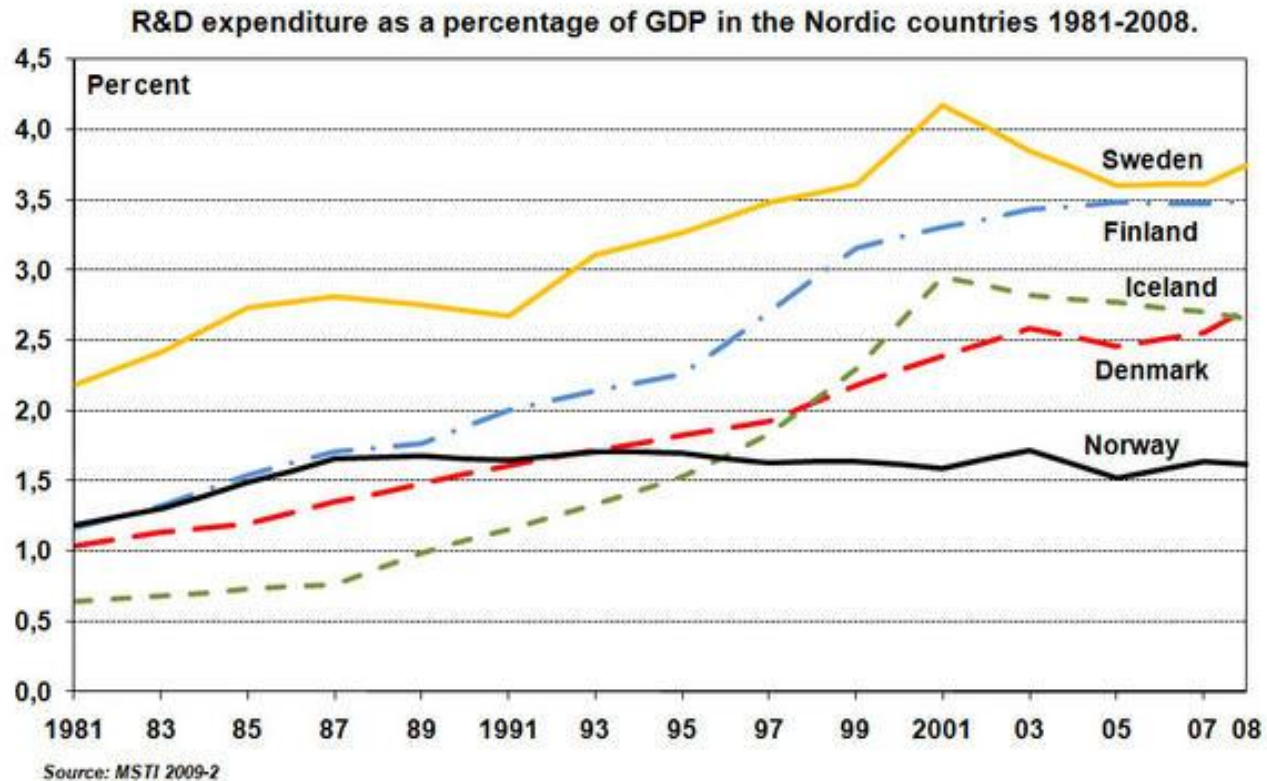
Source: Arto Nevala (1999) Korkeakoulutuksen kasvu, lohkoutuminen ja eriarvoisuus Suomessa. SHS, Helsinki, p. 102.

Ph.D.s Awarded in Finland, 1989-2002



Source: Kota Database, Academy of Finland

R&D Expenditure in Finland



Modern University as a Complex Organization

- many missions and stakeholders:
 - 1) basic and applied academic research
 - 2) expanded under- and postgraduate education
 - 3) vocational training, open univ. education, LLL
 - 4) technology transfer (licensing, spin-off firms...)
 - 5) social service (expert tasks, cultural influence...)
- internal differentiation within the university → tensions between missions
- bureaucracy: accountability pressures, management by results, reform programs of various kinds
- increased effectiveness: more students, publications etc. with higher level of quality

Contemporary Challenge to Humboldtian Ideas

- Is it possible to preserve the unity of research and teaching in the context of mass HE and research system?
- University as a national institution vs. globalization process? to whom is the university answerable?
- Is it possible to uphold academic autonomy and freedom under the pressure of political reform programs?

University – From Platform of Academic Activities to Organizational Actor?

- From a group of loosely linked disciplinary departments and consensus-oriented administration to an integrated, managed and goal-oriented entity
- Organizational isomorphism (Krücken):
 - 1) definition of organizational goals
 - 2) elaboration of formal org. structures and hierarchies
 - 3) emergence of university administrators as an independent profession
 - 4) establishment of accountability and evaluation procedures
- Change ongoing in Finland but end-results not self-evident or predetermined

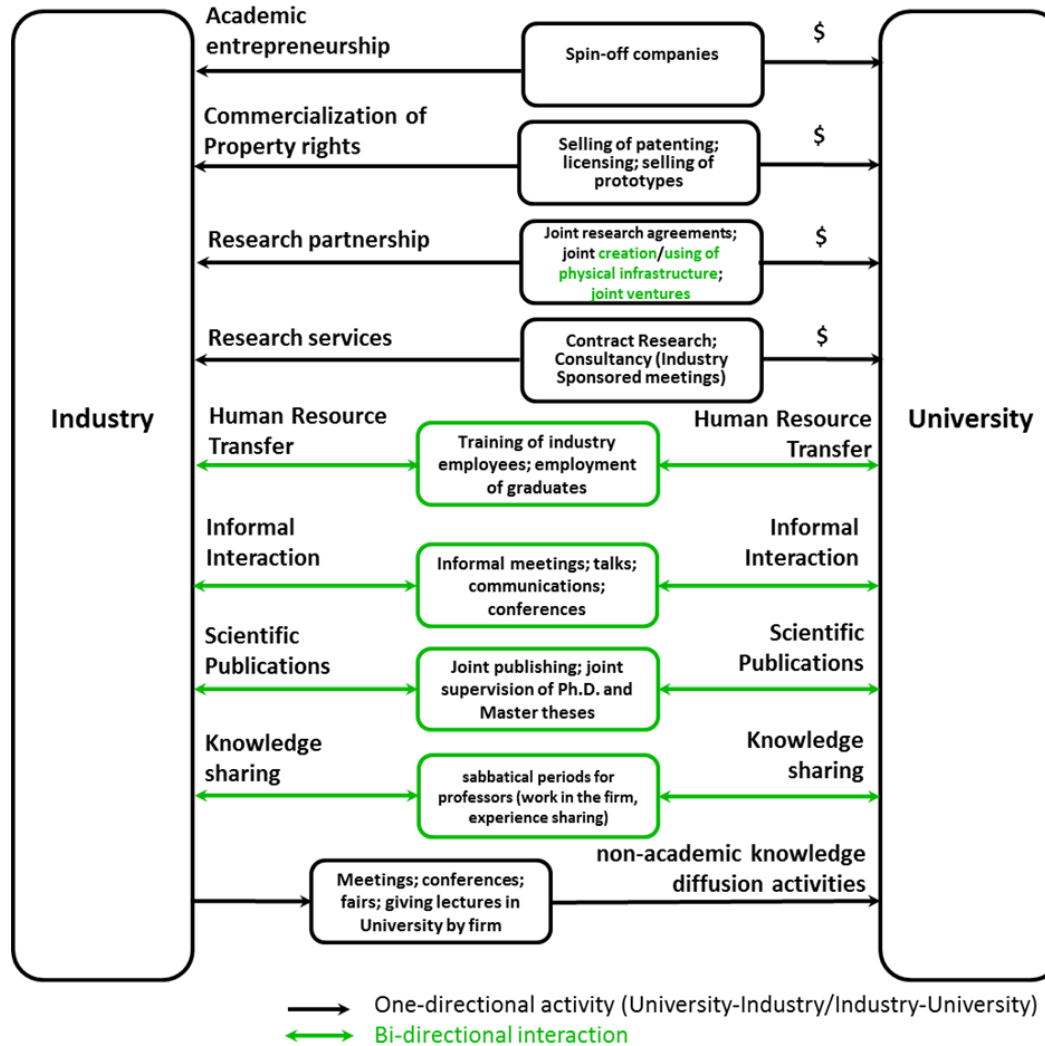
University Reform

- New law effective in 2010
- Goals
 - 1) make universities responsive to changes in their societal environment
 - 2) diversify their funding base (incl. international research funding)
 - 3) help universities to cooperate with foreign universities and research institutes
 - 4) allocate resources to top-level research and strategic focus areas (specialization)
 - 5) ensure the quality of research and teaching (other measures: funding reform, centers of excellence)
 - 6) strengthen the role of universities within the system of innovation

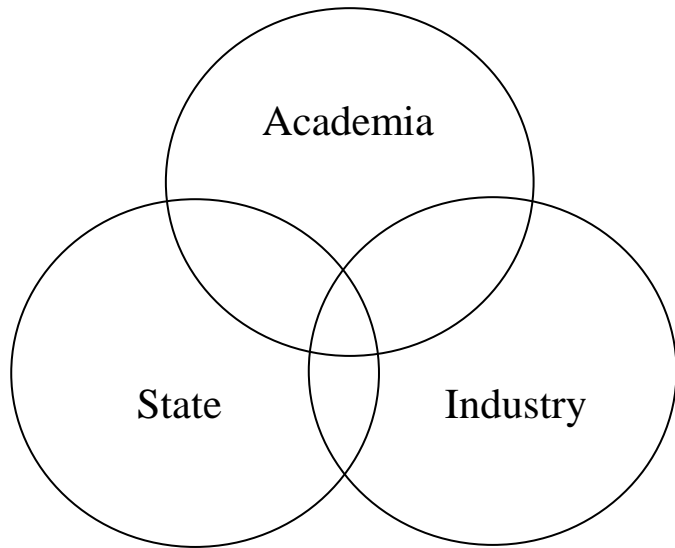
Transformation 2: Emergence of an Entrepreneurial University

- Different models exist
- Burton Clark
 - 1) strengthened steering
 - 2) expanded developmental periphery
 - 3) diversified funding base
 - 4) stimulated academic heartland
 - 5) entrepreneurial culture
- Simon Marginson & Mark Considine
 - 1) searching money from external sources
 - 2) decline of power of traditional academic departments
 - 3) adoption of practices common in business enterprises
(e.g., individual leadership, strategic management)
- Henry Etzkowitz

University-industry Links



Etzkowitz: Entrepreneurial University



- interaction and overlap between institutional spheres
- internal transformation of each institution: organizations adopt each other's roles
- global trend: commercial activities become basic functions of every department
- tensions between different functions of university exist but are reconciled
- market or market-like governance mechanisms: competitive external grants, performance-based steering, managerialism
- Stanford University and MIT as prime examples

The Ethos of Science in Transition?

- ethos: values, norms and principles internalized by the scientific community → growth of knowledge
- Robert K. Merton's norms of science:
 - 1) universalism: pre-established non-personal criteria is used in assessing scientific claims (peer review)
 - 2) communism: the results of science are jointly owned by the scientific community, recognition given to scientists
 - 3) disinterestedness: scientists do not use their positions in their own advantage
 - 4) organized skepticism: no claims are made until the necessary evidence is at hand (peer review)

Norms of Postacademic Science

- John Ziman's aim: to outline the gradual transition from academic to industrial research
- characteristics of postacademic science:
 - 1) proprietary: knowledge is secret, patented and chargeable
 - 2) local: solving of practical problems, no knowledge is created for its own sake
 - 3) authoritarian: researchers work under the managerial authority
 - 4) commissioned: concrete goals of sponsors guide research projects
 - 5) expert: scientist is an expert problem solver

Entrepreneurialism in a Traditional Public University: Two Case Studies

- The Applied Plant Biotechnology Group
- The Research Unit for the Multilingual Language Technology
- both engaged simultaneously in teaching, scientific research and commercialization of research results
- different ways of treating the boundary between university and business: deliberate hybridization of activities vs. an attempt to keep them separate
- despite the difference, similar problems arose in both of the cases → four areas where norms and rules of university activity were contested and (re)defined

Areas of Conflict in the Two Case Examples

- conflicts concerned
 - 1) missions of the university – teaching & research basic tasks
 - 2) economic and academic rewards – results should be owned collectively, IPRs to the university
 - 3) communication within scientific community – should remain open
 - 4) connection between public and private activities – should be kept separate
- no new norms of science were found but
 - ongoing cultural contest within the university as regards its basic functions
 - the entrepreneurial goals and practices have not had strong impact, the traditional public university has not vanished

Commercialization of University Research

Results: Current Situation

- European (2012)
 - The best 10 % of European universities and public research institutes earns 85 % of all income generated from patent licenses
 - Circa 89 % of this income comes from biomedicine
 - License income equals 1,5 % of research budget of universities and research institutes in Europe (US 4 %)
- Finland
 - Income from commercialization in 2005 was 1,6 million euros (Kankaala & al.), basic budget funding of universities in 2014 was 1,88 billion
 - No increase in incomes during 2010s

Discussion

- universities are facing a serious challenge as vested interests pull them in different directions: mission-oriented funding, entrepreneurialism and str. management vs. freedom of academic research and self-governance of the university
- the university is in transition but seems to keep up its distinctive character as a knowledge producing institution, does not resign to the imperatives of the other cultural spheres – cultural contest going on in traditional comprehensive universities
- a new social contract between the university and the society?