

# Towards a 3<sup>rd</sup> Generation University

*Emile Aarts*

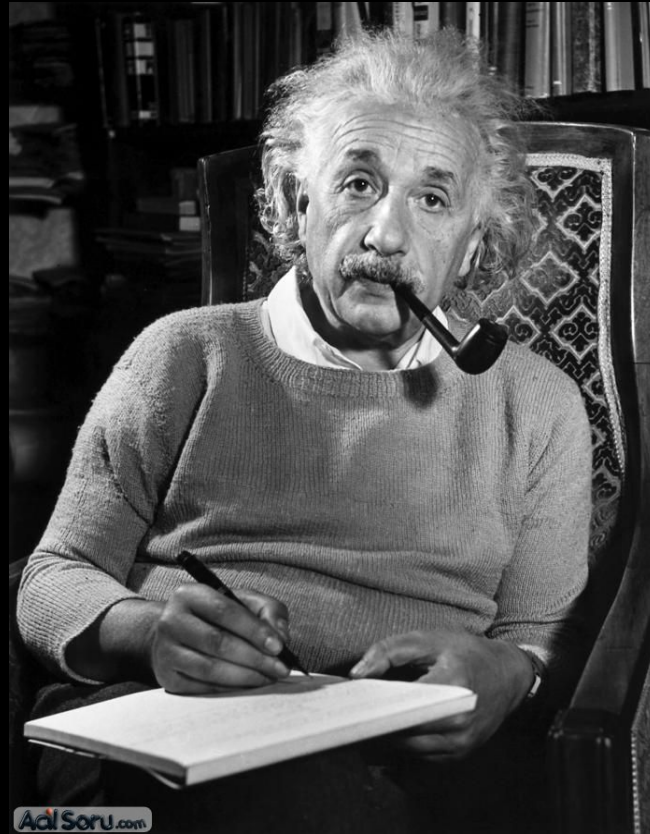
Where Science meets Business, September 29, 2014



**TU** / **e** Technische Universiteit  
**Eindhoven**  
University of Technology

**Where innovation starts**

# The prototypical professor is fully dedicated to science



**Albert Einstein** in his office at Princeton University 1955 “is for many persons the most influential scientist of the past century” *Wikipedia, 2014*

# Contemporary university professors are more divers



**Justine LeLchuk** of Harvard Business School , "is someone who is a dynamic facilitator, clear communicator, active listener, passionate expert, provocative motivator, bridge between theory and practice, and just plain human." *Fortune 40 under 40, 2014.*

# The role of a university professor is changing over time

	1955	1985	2015
Education	<ul style="list-style-type: none"> <li>• Distinctive attitude</li> <li>• Autonomous practice</li> <li>• No student voice</li> <li>• Master</li> </ul>	<ul style="list-style-type: none"> <li>• Academic democratization</li> <li>• Didactic awareness</li> <li>• Student involvement</li> <li>• Lecturer</li> </ul>	<ul style="list-style-type: none"> <li>• Concerted programs</li> <li>• Performance driven</li> <li>• Student centrality</li> <li>• Coach</li> </ul>
Research	<ul style="list-style-type: none"> <li>• Curiosity driven</li> <li>• Discipline based</li> <li>• Lump sum funded</li> <li>• Judged by reputation</li> </ul>	<ul style="list-style-type: none"> <li>• Application driven</li> <li>• Technology based</li> <li>• Department/group funded</li> <li>• Implicit reward system</li> </ul>	<ul style="list-style-type: none"> <li>• Societal challenge driven</li> <li>• Impact based</li> <li>• Individual grant funded</li> <li>• Explicit reward system</li> </ul>
Valorization	<ul style="list-style-type: none"> <li>• No interest</li> <li>• No involvement</li> <li>• Outsider</li> <li>• No income</li> </ul>	<ul style="list-style-type: none"> <li>• Industrial awareness</li> <li>• Involvement in PPPs</li> <li>• Cooperator</li> <li>• Small external funding</li> </ul>	<ul style="list-style-type: none"> <li>• Strategic involvement</li> <li>• Driver of PPPs</li> <li>• Entrepreneur</li> <li>• Substantial external income</li> </ul>
	<b>Individual</b>	<b>Participant</b>	<b>Stakeholder</b>

A marked shift has occurred over two generations

# Universities are in transition

*University of Paris*



- 1<sup>st</sup> generation**
- Education

*Humboldt University Berlin*



- 2<sup>nd</sup> generation**
- Education
  - Research

*Cambridge University*



- 3<sup>rd</sup> generation**
- Education
  - Research
  - Entrepreneurship

1000

1500

2000

The 3<sup>rd</sup> Generation University again serves society

# University generations have different characteristics

	1 <sup>st</sup> Generation	2 <sup>nd</sup> Generation	3 <sup>rd</sup> Generation
<b>Objective</b>	Education	Education & research	Education, research & know-how exploitation
<b>Role</b>	Defending the truth	Discovering nature	Creating value
<b>Method</b>	Scholastic	Mono-disciplinary science	Inter-disciplinary science
<b>Human capital development</b>	Professionals	Professionals & scientists	Professionals, scientists & entrepreneurs
<b>Orientation</b>	Universal	National	Global
<b>Language</b>	Latin	National languages	English
<b>Organization</b>	Colleges	Faculties	Institutes & centers
<b>Management</b>	Rector & Chancellor	Part-time academics	Professional management

The different characteristics build on each other



# Also the positioning is different

## Second generation university

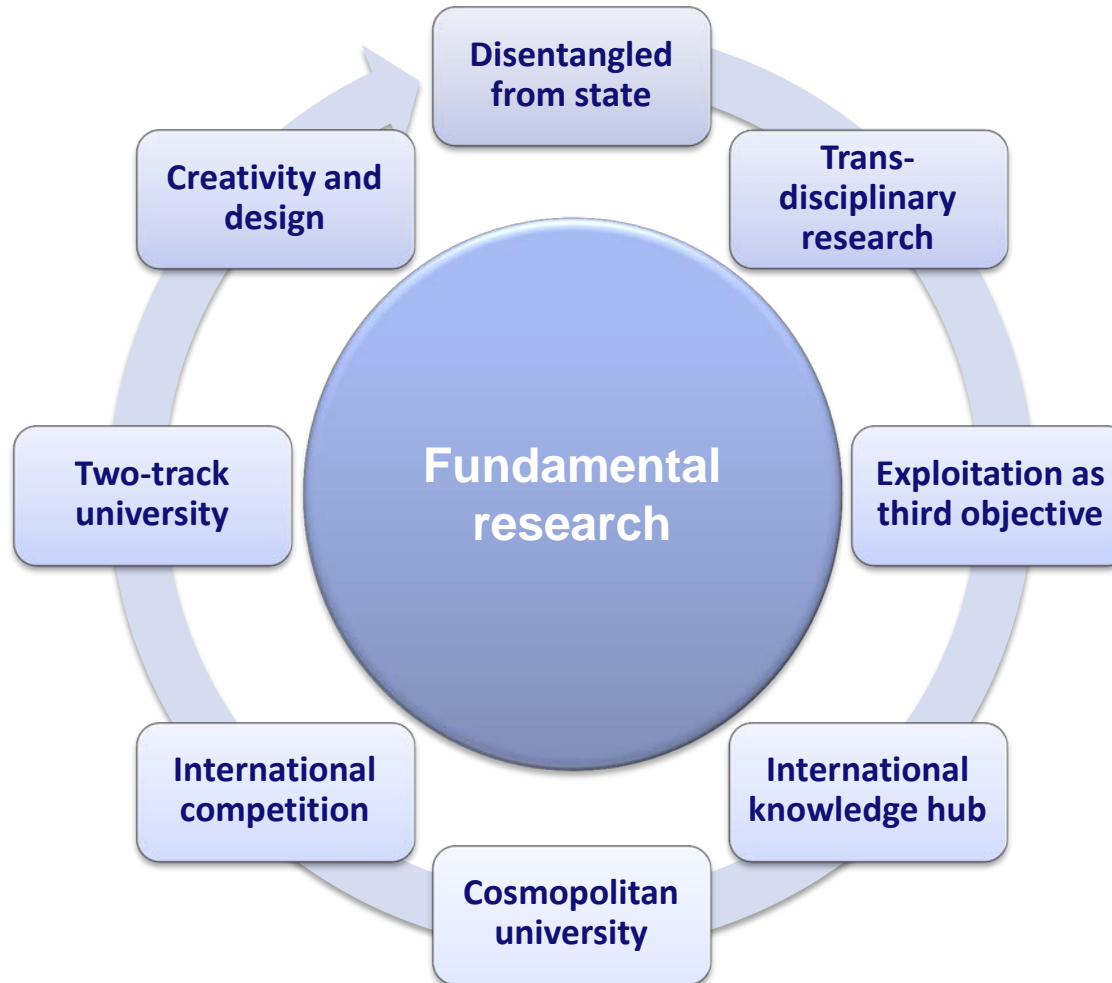
1. Two objectives: research and education. Not much interest in the use of the knowledge created
2. Operate on the local market. Other universities are seen as colleagues
3. Stand-alone institutions with few formal links with other organizations
4. Mono-disciplinary research and dominance of faculties
5. Mainly elite education for well to do students
6. National university
7. Important role of state financing and state interference

## Third generation university

1. Exploitation of knowledge is .core business and becomes the third objective
2. Operate on an international, competitive market
3. Open universities, collaborating with many partners and institutions at various levels
4. Trans-disciplinary research and rise of university institutes
5. Multicultural organizations; mass and elite education
6. Cosmopolitan university
7. No direct state financing. No state interference

3<sup>rd</sup> Generation Universities operate at a global scale

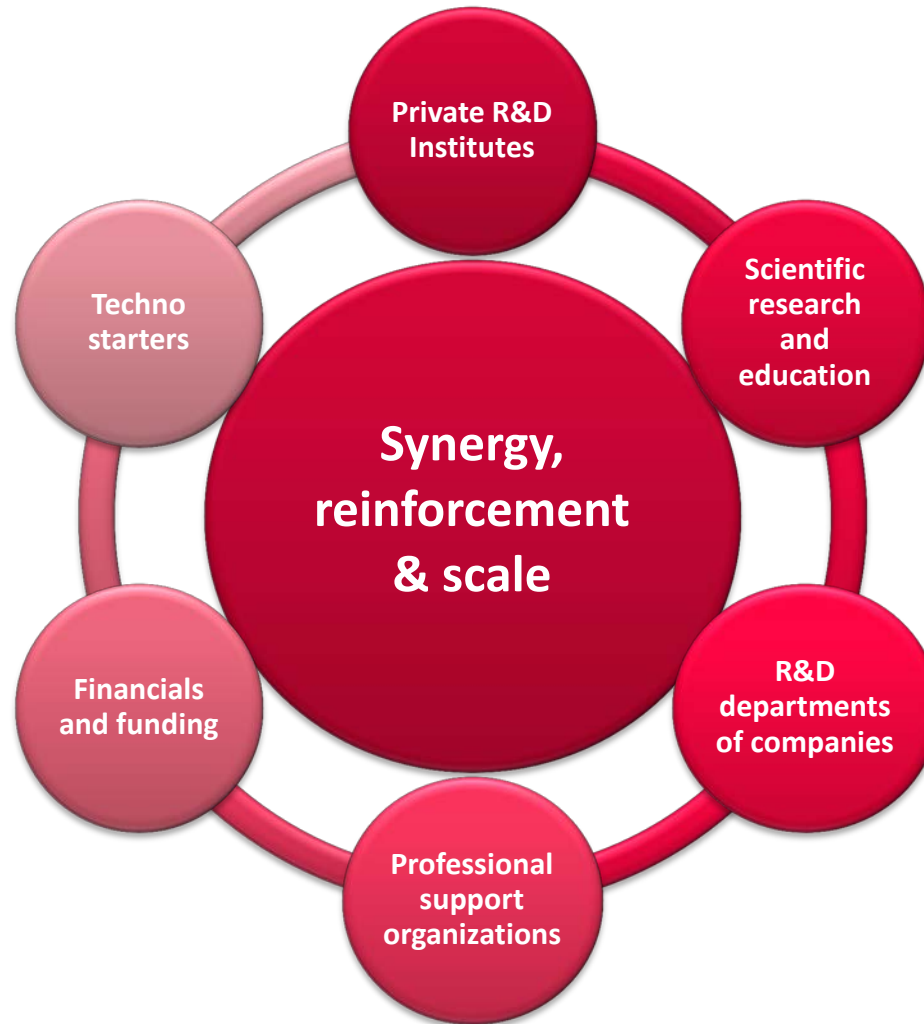
# The 3<sup>rd</sup> Generation University octagon is compelling



Fundamental research is the fundamental asset of all university activities



# The know-how carousel drives the 3<sup>rd</sup> generation



The Know-how carousel allows to create value for society

# Further reading

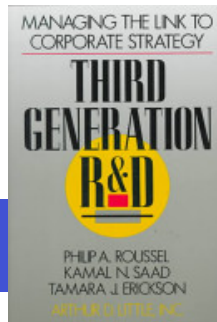
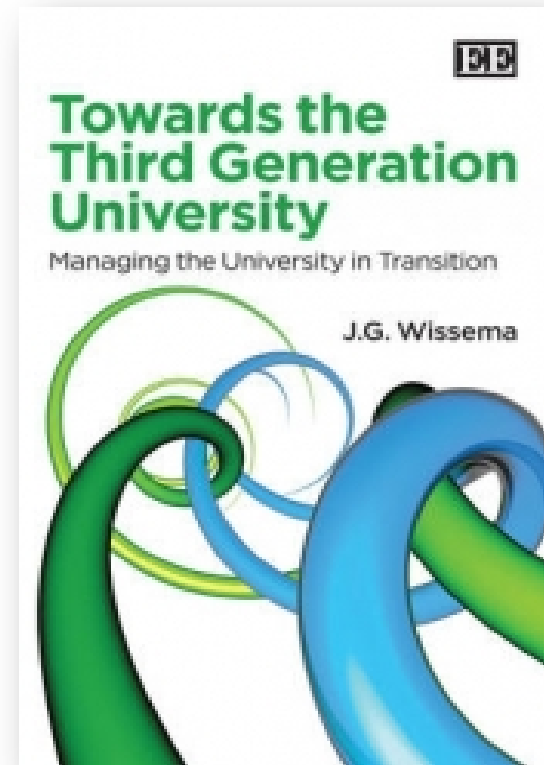
## TOWARDS THE 3RD GENERATION UNIVERSITY: MANAGING THE UNIVERSITY IN TRANSITION (H/C)

**EAN Number:** 9781848442160

**Author:** WISSEMA J

**Publisher:** EDWARD ELGAR

**Edition:** 1ST - 2009



There are connections with the concept of 3<sup>rd</sup> Generation R&D

# We would like to discuss the following questions

1. To what extent is the TU/e 3<sup>rd</sup> Generation University?
2. Do we want to be a 3<sup>rd</sup> Generation University?
3. What is needed to take the next steps to advance the TU/e?

We need to make clear what we want to be

Thank you