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Academy and Youth[*]

Abstract

In the beginning of the 20th century – generally speaking – in the cost of products the ratio of material cost was 80% and the intellectual value-added part made-up 20%. By today this ratio has turned into its opposite. We call it knowledge-based economy and society.
As the embedded knowledge in products and services keeps growing, science and technology gets more and more important for economies and societies.
We have to realize that young talented people are the most valuable assets for the smooth functioning of society, and being nationally competitive in the globalizing world.
Academies can play an important role to influence young people interest towards science, engineering and other fields crucial for modern societies.
These young people should help to influence their co-hores (co-generation) to act as responsible citizens who accept performance, cooperation and ethics as basic principles of the society. National Academies also has the role to shape the research and educations system in their respective countries so that a sustainable distribution of well-educated people should be established in Europe and world wide.
Cooperation is a must, science is fun and education is a joy. Talents are both actors and proofs of this „theory" and experience.

[*] The paper is a Power point presentation delivered at the Conference.

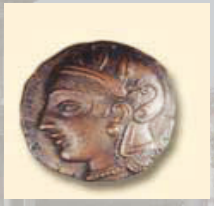
Traditional Roles of the National Academies

- Society of learned people of great intellectual achievement
- Institution of authenticity and intellectual authority

- to hold scientific discussions and debates
- to take care or "cultivate" the development of science (art, language, humanities etc.)
- to provide learned advice to decision makers

Critics:

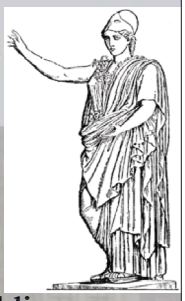
- Old fashioned, autonomy and discipline minded
- Can't manage effective decision making
- No national competence in sciences



Answers:

- Only free self-rigorous scientific research offers real solutions
- Scientists manage complex projects
- Basic research is funded by national resources
- National education builds cultural identity

Renaissance of National Academies



- Funding of the Leopoldina in Germany
- New activities of the National Academies in USA
- Common scientific actions
- Increase the awareness of the importance of science
- Fair assessment a scientific achievements
- Advise the government, the parliament, and the public
- Authentic science diplomacy through independent network of scientists
- Presents a number of awards to recognize outstanding achievements in science and increases its visibility

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THE HUNGARIAN ACADEMY OF SCIENCES

Foundation of the Academy
Vince Katzler's lithograph (1861)
Count István Széchenyi at the 1825 Diet in Pozsony (Bratislava)

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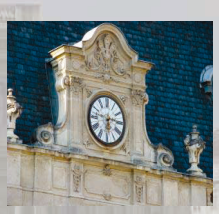
TRADITION AND DYNAMISM at the H.A.S.



1827 Act XI: *An independent society* aimed at cultivating the Hungarian language, promoting humanities, social and natural sciences, and thus, the growth of the nation

1994 Act about the *Legal Status of the Academy* :

Self governing public body — Operates as a legal entity

Performs public duties for science — New members are elected by members

- establishes and maintains research institutes
- supports research groups affiliated with universities
- ensures that only the best science is supported
- regularly reviews its activities, in order to harmonize it with the national goals taking into account the objectives of the European Research Area
- provides special support for talented young scientists
- maintains co-operation with universities and industry

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SPECIAL ROLE OF THE ACADEMY

- Non-governmental organization
- Its budget is appropriated by the Parliament.
- The president of the Academy reports directly to the Parliament in every second year on the state of scientific research in Hungary
- Possesses its own properties (buildings, research infrastructures)
- Runs a research institute network
- Advises the government on various matters
- Assumes cross-border responsibilities for Hungarian science abroad

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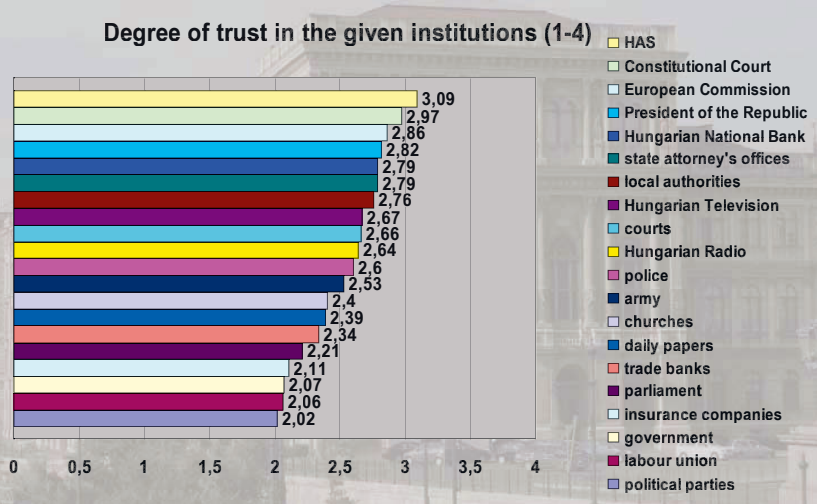
Prestige

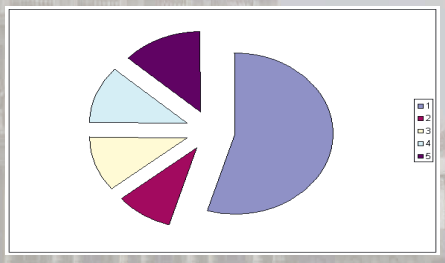


THE QUESTION OF COMPETENCE

- Different lobby groups, civil societies, interest groups are trying to influence the decision making
- NO *well* established mechanism exists to separate competent and *naive* advising or pressure group actions.
- In Hungary there is a non-governmental organization, the Hungarian Academy of Sciences, one of its objective to provide a learned advise for the Parliament and the government.

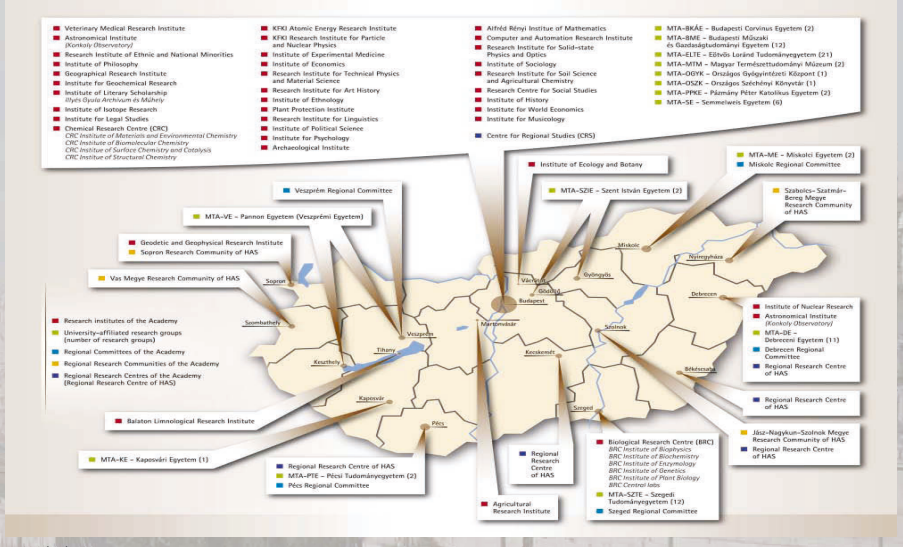
Facts and Figures

- 365 members (~13,000 researchers are attached to)
- The chain of 38 research institutes are active in the field of
  - natural sciences (research staff ~1200),
  - life sciences (research staff ~600),
  - and humanities (research staff ~700)
- The Academy supports ~70 research groups at universities (research staff ~500)
- 2007 budget of the research institutes (~120 M. € in total)

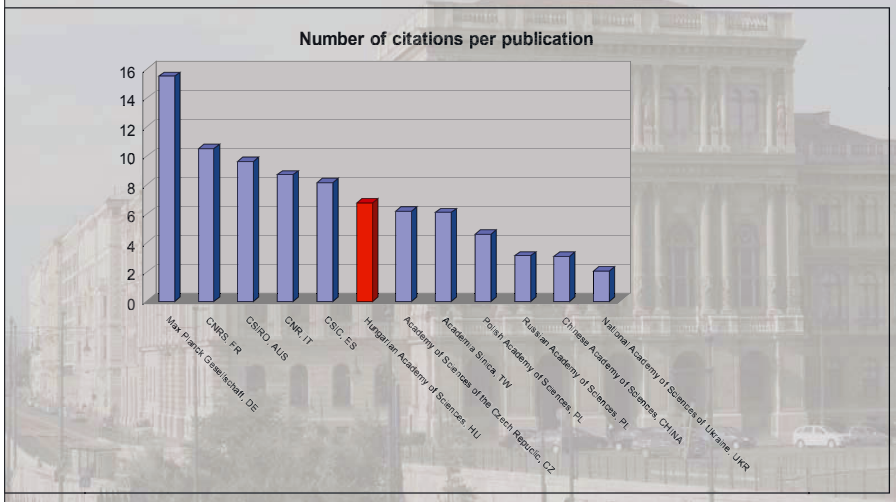


1: state budget 54.5%;
2: industrial contracts 9.5%;
3: national grants 11.2%;
4: international grants 11.5%,
5: other incomes 13.3%

Research Network of HAS



Number of citations per publication



New Roles of the National Academies

- authenticity, intellectual and moral authority
- scientific discussions and debates
- fair assessment of scientific achievements
- providing learned advice to decision makers
- providing authentic information to the public on the "big issues" of society.
- searching, orienting and supporting young talents to become scientist maintaining the highest appreciation of great intellectual achievements.
- upholding real intellectual and ethical values of deep, top-level research

Some Contradictions of the 21th Century

- Extreme specialization
- Science keeps us alive
- Get rich and famous easy and fast
- Information overload
- Lip service to science

- Complex knowledge
- Low science budget
- Genuine results need hard work
- Weak understanding
- Dramatic decrease of enrolment in science

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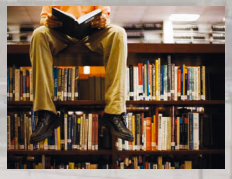
Mission for the new generation

Academies can play an important role

- to realize that young talented people are the most valuable assets of our society
- to influence young people interest towards science

Cooperation is a must, science is fun and education is a joy

- to encourage them to act as responsible citizens who accept performance, cooperation and ethics as basic principles of the society.
- to shape the research and educations system in their respective countries



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IMMEDIATE ACTIONS NEEDED

- recruitment of young scientists – especially women
- the most pressing need in natural and engineering sciences
- not only more but better scientists
- industry-oriented, innovation-prone, entrepreneur-type scientists
- team-work abilities, collaboration, the market sensitivity, risk- and conflict-management have to be all embedded in modern science education

What can Academies do?

Traditionally: science education at the PhD level

To meet the new requirements,scientisis should:

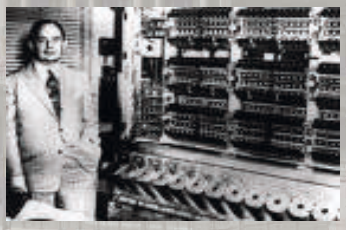
- visit schools and be actively involved in lectures and conversations with students starting in the very early age, and focusing to the high school years
- expose students in mentorship programs, and play as role models
- embrace the best school-teachers as equal peers, providing them continuous support
- partcipate in nationwide programs for talent support
- get involved in media-events using all means of communication and explain their work in enjoyable ways

„How to survive technology development?" by John von Neumann

Neumann János , the founding father of modern computing and game theory wrote at the down of nuclear and space age :

„The technology development can't be stopped. We are unable to provide ready-made solutions and remedies for the challenges of the future. We can only define the human characteristics for survival.

Namely: intelligence,
tolerance,
patience and
flexibility."



... And a good sense of humor, he adds later

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WORLD SCIENCE FORUM SERIES

- **World Conference on Science 1999, Budapest - a new commitment**
- **Common undertaking of UNESCO and ICSU, Hungarian Academy of Sciences and the Hungarian Government**
- **New partnership between science and society**
- **2002 United Nations Organization declares November 10 the World Day of Science**
- **2003 November: First World Science Forum in Budapest – „Knowledge and Society"**
- **2005 – „Knowledge, Ethics and Responsibility"**
- **2007 – „Investing in Knowledge: Investing in the Future"**
- **2009 – „Knowledge and Future" – Ten Years After the WCS**

Tudomány Világfóruma

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