Scientific Misconducts and Frauds in Japan

Scientific Misconduct in Historical Perspective

From Public Science to Private Science

Academia and university in the marketplace

Emergence of Researchers as a profession

Importance of “Management of Knowledge”

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Two Sides of the Same Coin?:
Research Misconduct and Conflict of Interest

When and Why this phenomenon emerged in history?
- The late 1970s and 80s in the US Academia
- Change of Federal Government’s funding commitment
- From physic + engineering to life sciences
- Fundamental breakthroughs in biomedical fields

Pro-patent legislations in the 80s
  - Universities given right to retain the property rights to inventions made under federal funding
- 1982 Small Business Innovation Development Act
  - Federal agencies with annual expenditure of more than $100 million devote 1.25% to research performed by small business
- 1984 National Cooperative Research Act
  - Special antitrust status to R&D joint ventures and consortia

Commercialization of university research and its impact on academia
COI and Misconduct appeared in professional Journals

- The keywords of COI, Scientific Misconduct, Scientific Fraud in the professional journals from 1970s.
- The 1980s was a watershed year in considering this phenomenon.
- After 1980s the interests and discussions on these keywords drastically stirred up.

- Political discussions to highlight this phenomenon.
  - House of Representatives, Hearings on Committee on Science and Technology, 1981, June. “Commercialization on University Biomedical Research: Ethical and Institutional Impacts”
  - U.S. 1988 Scientific Fraud and Misconduct in the national Institutes of Biomedical Grant Programs. House of Representatives

Scientific Misconduct, Scientific Integrity and Scientific Fraud in Professional Journals
"scientific fraud"/"scientific integrity"を含む論文数 Web of Science

Total number of disclosures of conflict of interest and number of disclosures relating only to clinical trials, by year, 1980-99

Source: JAMA
From Public Science to Private Science

- **Concept of Technology Transfer**
  - Rapid transfer of academic achievement to “private” company demanded.
  - Commercialization of academic works greatly expected.
  - Commercialization: Basic nature of university research requires further development by industry.

- **Concept of Intellectual property**
  - Intellectual property became very important in the fields of biotechnology and ICT software.
  - Mutual feedback between academia and industry greatly expected.

- **Academia encountered the strong demand of moving from “public” to “private”**.
  - Academic related works transformed its nature from pure “public” to “private”.

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UC Office of President Memorandum

- UC wants to review *all* invention disclosures by faculty, staff, and graduate students (GSRs) to see if the university wants to assert ownership or co-ownership of the invention.

- What must be disclosed?
  
  *all inventions* made by a University employee must be disclosed to the University, including inventions made during vacation, on weekends, while on leave, in the evening, or at home (“in the garage”) when engaged in paid or unpaid consulting work. As noted above, disclosure is a legal obligation of employment at the University. It is not permissible to sign an agreement with an external party that precludes or limits disclosure of inventions to the University.*

* page 10 of March 3, 2003 memo
All potentially patentable inventions conceived or first reduced to practice in whole or in part by members of the faculty or staff (including student employees) of the University in the course of their University responsibilities or with more than incidental use of University resources, shall be disclosed on a timely basis to the University. Title to such inventions shall be assigned to the University, regardless of the source of funding, if any.

The University shall share royalties from inventions assigned to the University with the inventor.

The inventors, acting collectively where there is more than one, are free to place their inventions in the public domain if they believe that would be in the best interest of technology transfer and if doing so is not in violation of the terms of any agreements that supported or related to the work.

Difference between Scientific Misconduct and Fraud
- Fraud is an “intentional deception” to obtain personal gains or to destroy other person’s reputation.
- Misconduct may not be a deliberate action caused by the failure to follow the right protocol or poor management of behavior.

Misconduct is the most subtle and new issue
- The simple autonomy of academia disappeared.
- The Republic of Science is also gone.
- Scientific and academic idea encountered “clients” for the first time in history.
- Clients seek economic values in the marketplace.
- The various types of “interests” provoke ethical problems.
I believe, in summary, that basic research in universities need more, not less, relationship to industry. But I believe the conditions for that relationship need to be carefully structured, if a highly evolved and highly efficient mechanism for doing basic scientific work is not to be unwittingly damaged.

Here I would warn not only against hasty regulatory reactions by the universities, but by Government too. Imposed solutions are not likely to serve us well; the wisest course will entail the structuring of incentives and the exercise of thoughtful oversight. The enterprise we have built is a fragile one.

**Some Remarks on COI and Misconduct**

- Dual nature of guideline and regulation
  - The clearly articulated guideline is urgently needed in Japanese academia.
  - The monitoring protocol provides a rule of behavior that researchers should have in mind.
  - However, they are only for monitoring and controlling researchers?
  - We should not attribute researcher’s misconduct to their “unethical” behavior.

- The guideline is also a mechanism to protect researchers from unintentional malpractices.
  - The clear guideline will enhance the degree of freedom in pursuing their researches.
  - It will protect researchers and university from “misconduct”.

- The most important thing is “management of knowledge”
  - In such a highly complicated stage of knowledge-based society, we need to build a carefully configured management system of academia and university.