

# Scientists' Social Responsibilities in Scientific Publishing

## 科学家在科学出版中的社会责任

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**Sino-American Symposium on Scientists' Social Responsibilities**

科学家的社会责任中美研讨会

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# Scientists' Social Responsibilities

- **Thanks to (致谢)**
- **For the guidance of (指导)**
  - **Li Jinghai, vice president of CAS**
  - **李静海, 中国科学院副院长**

## **Scientists' Social Responsibilities in SP**

**1. Social Responsibilities: Growing challenges from growing Chinese scientific publishing**  
社会责任：中国科技出版增长带来的发展的挑战

**2. Discussion Framework: Looking at responsibilities from sciences and the society**  
讨论框架：从科学与社会的角度看社会责任

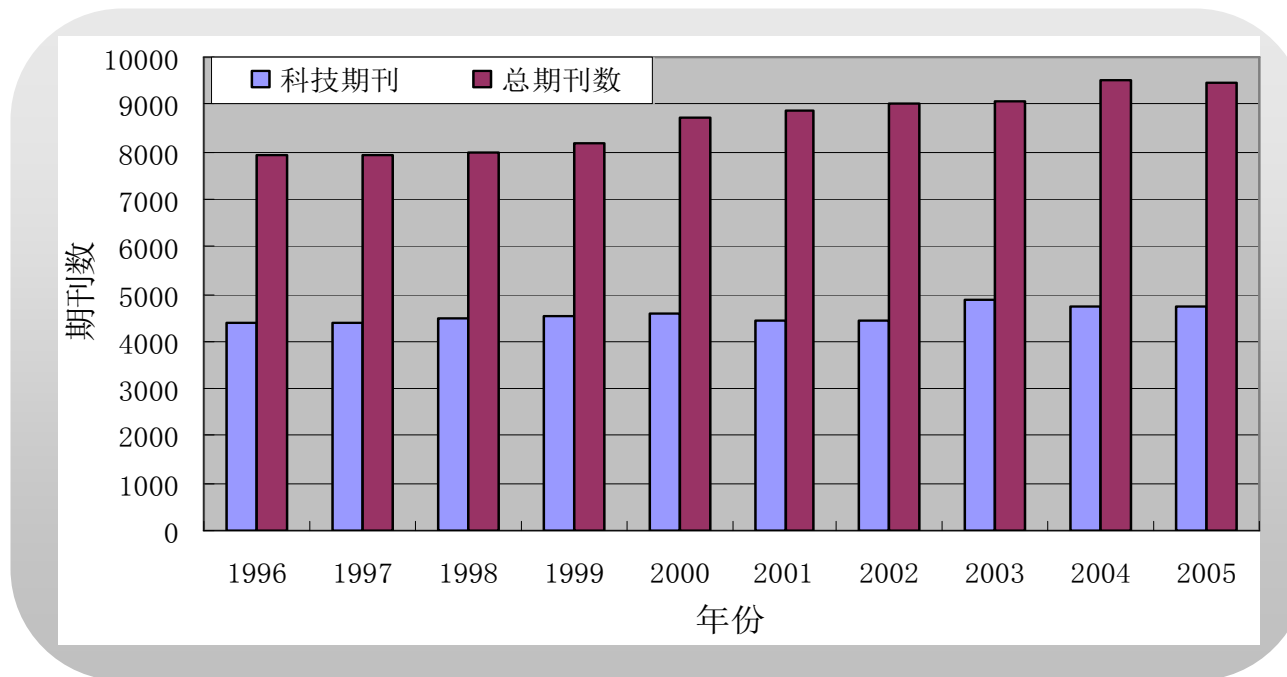
**3. Focus Analysis: How to promote and enhance scientists' social responsibilities**  
焦点分析：如何提升科学家的社会责任

## 1 Social Responsibilities: Growing challenges

- **(1) Science is a responsibility/科学就是责任**
  - **Science is a search for truth/科学是追求真理**
    - Science is rigor, honesty, and integrity
    - 科学意味着严谨、诚实、正直
  - **Science is a social endeavor/科学是一种社会努力**
    - Science is of the people, by the people, and for the people
    - 科学依靠社会、属于社会、为了社会
  - **Scientists bear the responsibilities/科学家意味责任**
    - Upholding principles of scientific conducts
    - 坚持科学行为原则
    - Promoting advances of science for social development
    - 通过科学进步促进社会发展
  - **Scientific publishing is where responsibilities show**

## 1 Social Responsibilities: Growing challenges

- (2) Chinese Scientific Publishing/中国科技出版
  - As indicated by Scientific Periodicals (中国期刊数量)



- By Chinese Publishing Yearbook, 2006/《中国出版年鉴·2006》

## 1 Social Responsibilities: Growing challenges

- (2) Chinese Scientific Publishing/中国科技出版
  - Makeup of Chinese Scientific Periodicals (中国科技期刊结构)
  - 4758 scientific titles by 2005, 173 titles in English
  - 78 cited in SCIE

Research	2058
Technology	1758
Popular	457
General	406
A/I	79
Total	4758

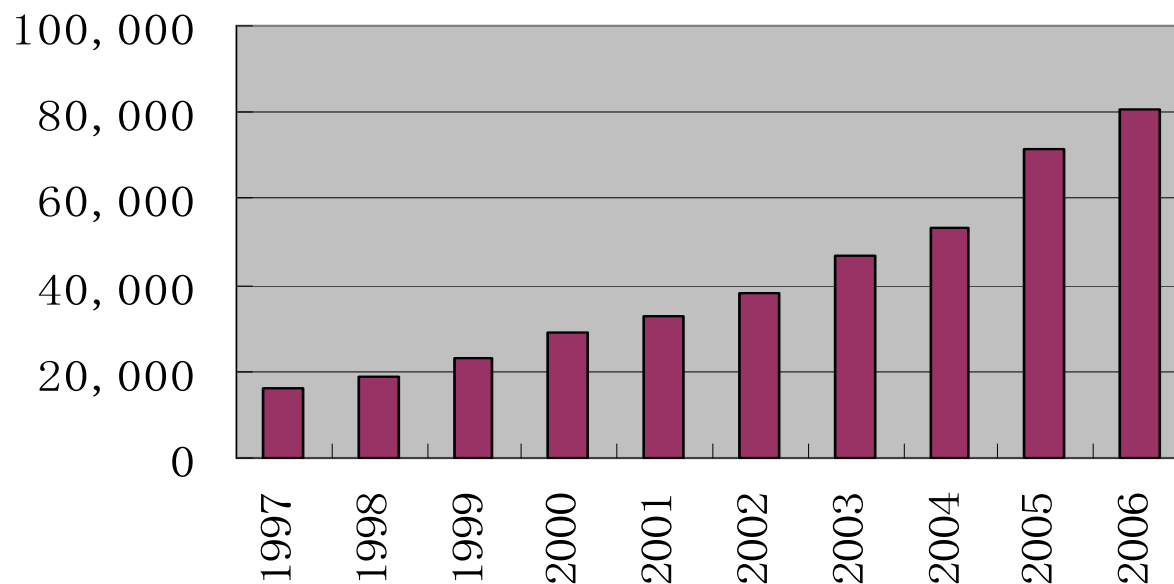
Engineering	1956	41.30%
Medicine	987	20.70%
Agricultural sciences	501	10.50%
General natural sciences	348	7.30%
Multi-disciplinary	287	6.00%
Astro/Geological	224	4.70%
Math/Pyh/Chem	197	4.10%
Biology	89	1.90%
Environment	81	1.70%
Others	79	1.70%

- Liu, Peiyi, et al. Strategies to develop excellent Chinese scientific journals. 2006
- 刘培一等, 精品科技期刊发展战略研究, 2006

Scientists' Social Responsibilities

## 1 Social Responsibilities: Growing challenges

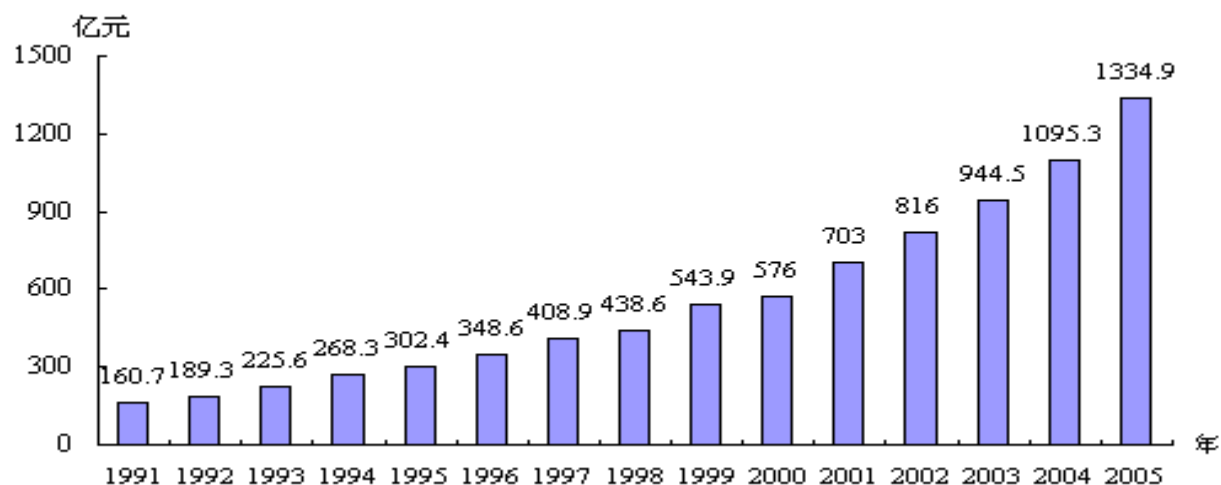
- (3) Increasing World Contribution/国际影响日益增长
  - As indicated by Chinese author SCI Journal Articles
  - 中国作者（含合作）在SCIE收录期刊发表文章数



- Data from SCI 数据来源: SCI

## 1 Social Responsibilities: Growing challenges

- (4) Increasing Support for Scientific Publishing/
- 对科技出版的支持日益增长
  - Public investment for scientific research (科技投入)



- By Chinese Scientific Statistics Yearbook 2006
- 中国科技统计年鉴2006



## 1 Social Responsibilities: Growing challenges

- (4) Increasing Support for Scientific Publishing/
- 对科技出版的支持日益增长
  - Increasing support to scientific publishing
    - Excellent Scientific Journal Project (CAST with MOST)
    - 精品科技期刊计划（中国科协、科技部）
    - Key Scientific Journal Fund (NSFC)
    - 重点科技期刊项目（国家自然科学基金委）
    - Journal Publishing Supporting Fund (CAS)
    - 期刊出版资助计划（中国科学院）
  - National Awards for Scientific Promotion 2005-
    - 中国科学技术进步奖科普项目奖 2005—
  - Scientists face higher bars for social responsibilities

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## 2 Discussion framework: Responsibilities

科学家在科学出版中的社会责任  
**Scientists' Social Responsibilities in Scientific Publishing**

个人责任

**personal responsibility**

群体责任

**group responsibility**

公共责任

**public responsibility**

## 2 Discussion framework: Responsibilities

- **(1) Personal Responsibility/ 个人责任**
  - **Scientists should observe a disciplined behavior and exercise rigor in avoiding misconducts**
    - 科学家应在科学出版中严格自律、严格防止不端行为
  - **Scientists should uphold a critical attitude and take vigilant actions toward any misconduct**
    - 科学家应对任何不端行为坚持批判态度和采取警惕的监察行为
      - **As a reader** (作为一个读者)
      - **As a reviewer or an EB member** (作为评审专家或编委)
  - **Scientists should actively promote and participate in criticism and verification**
    - 科学家应积极推动和参与科学批评和验证

## 2 Discussion framework: Responsibilities

- **(2) Group Responsibility/ 群体责任**
  - **Scientists as a group bear the responsibility to maintain a healthy scientific publishing environment**
  - 科学家作为一个群体有责任维护健康的科学出版环境
    - **Uphold strict professional principles against MSP**
    - 确立严格的反对科学出版中不端行为的专业原则
    - **Establish rigorous monitoring mechanisms against MSP**
    - 建立严密的针对科学出版不端行为的监察机制
    - **Institutionalize open and verifiable disciplinary procedures against MSP**
    - 把针对不端行为的公开和可核查的惩戒与纪律过程制度化

## 2 Discussion framework: Responsibilities

- **(2) Group Responsibility/ 群体责任**
  - **Actions from Chinese Scientists and Scientific Organizations**
  - **CAS: Manifesto on Ideas and Principles of Science**
    - 《中国科学院关于科学理念的宣言》，2007.2
  - **CAS: Guidelines for Strengthening Proper Research Conducts**
    - 《中国科学院关于加强科研行为规范建设的意见》，2007.2
  - **MOST: Disciplinary Procedures against Misconducts in National Scientific Programs**
    - 科技部《国家科技计划实施中科研不端行为处理办法（试行）》，2006.11
  - **CAST: Guidelines on Science Ethics for Scientific Workers**
    - 中国科协《科技工作者科学道德规范（试行）》，2007.1
  - **NSFC: Guidelines on Science Ethics in NSFC activities**
    - 国家自然科学基金委员会监督委员会：《关于加强国家自然科学基金工作中科学道德建设的若干意见》，2006.3

## 2 Discussion framework: Responsibilities

- **(3) Public Responsibility/ 公共责任**
  - **Facilitate promotion of sciences to the public**
    - 促进面向社会公众的科学普及
      - Publish for junior, not just for tenure
  - **Support science education and participation in science (especially for disadvantaged groups)**
    - 支持科学教育、支持公众及弱势群体参加科学研究
      - Teach science and partner with future scientists
  - **Promote open access to scientific knowledge**
    - 推动科研成果和科学知识的开放获取
      - Support OA publishing and deposit
  - **Guarantee perpetual preservation of and access to scientific knowledge**
    - 保障科学知识的长期保存和永续应用
      - Support institutional and domain repositories

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### 3. Focus analysis: How to promote and enhance

- **Some Focus Problems in MSP**
- 科学出版中涉及社会责任的一些热点问题



Scientists' Social Responsibilities

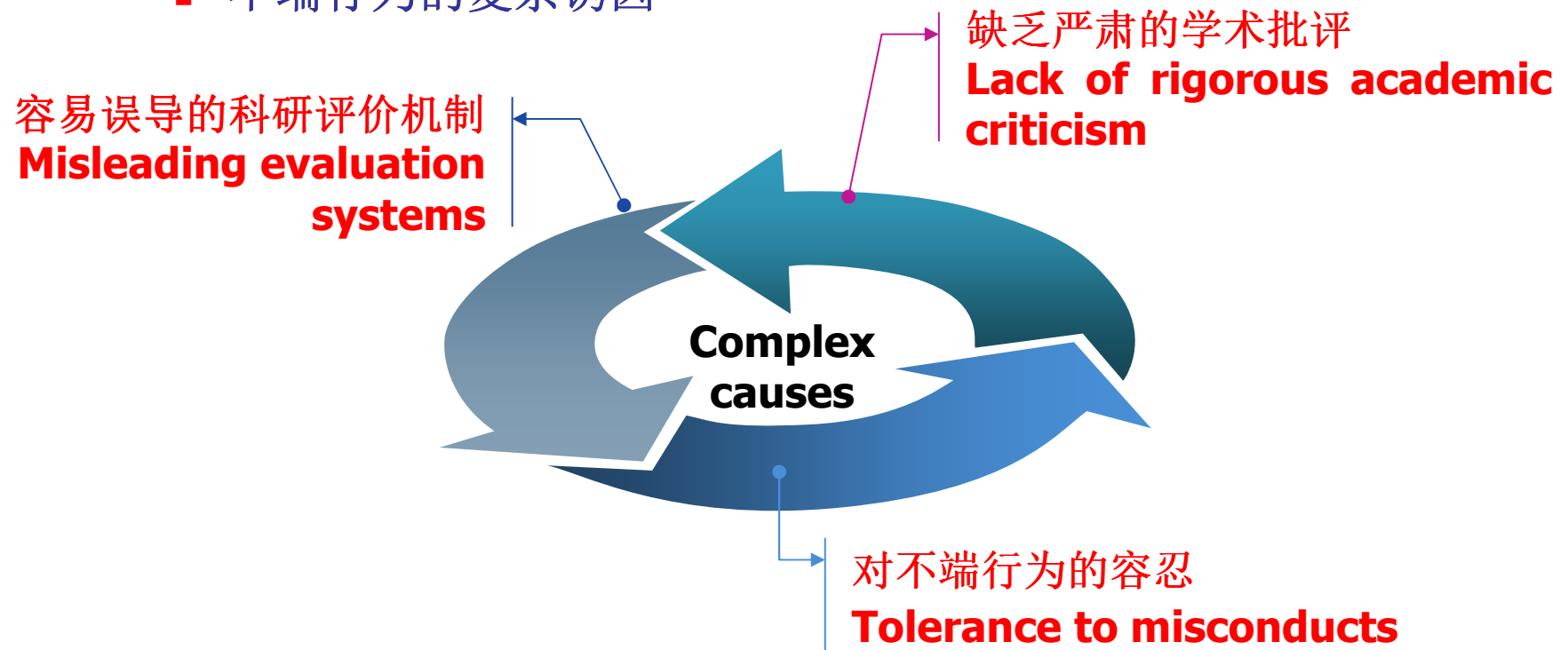


**Table 1 | Percentage of scientists who say that they engaged in the behaviour listed within the previous three years (n = 3,247)**

<b>Top ten behaviours</b>	<b>All</b>	<b>Mid-career</b>	<b>Early-career</b>
1. Falsifying or 'cooking' research data	0.3	0.2	0.5
2. Ignoring major aspects of human-subject requirements	0.3	0.3	0.4
3. Not properly disclosing involvement in firms whose products are based on one's own research	0.3	0.4	0.3
4. Relationships with students, research subjects or clients that may be interpreted as questionable	1.4	1.3	1.4
5. Using another's ideas without obtaining permission or giving due credit	1.4	1.7	1.0
6. Unauthorized use of confidential information in connection with one's own research	1.7	2.4	0.8 ***
7. Failing to present data that contradict one's own previous research	6.0	6.5	5.3
8. Circumventing certain minor aspects of human-subject requirements	7.6	9.0	6.0 **
9. Overlooking others' use of flawed data or questionable interpretation of data	12.5	12.2	12.8
10. Changing the design, methodology or results of a study in response to pressure from a funding source	15.5	20.6	9.5 ***
<b>Other behaviours</b>			
11. Publishing the same data or results in two or more publications	4.7	5.9	3.4 **
12. Inappropriately assigning authorship credit	10.0	12.3	7.4 ***
13. Withholding details of methodology or results in papers or proposals	10.8	12.4	8.9 **
14. Using inadequate or inappropriate research designs	13.5	14.6	12.2
15. Dropping observations or data points from analyses based on a gut feeling that they were inaccurate	15.3	14.3	16.5
16. Inadequate record keeping related to research projects	27.5	27.7	27.3
Note: significance of $\chi^2$ tests of differences between mid- and early-career scientists are noted by ** ( $P < 0.01$ ) and *** ( $P < 0.001$ ).			

### 3. Focus analysis: How to promote and enhance

- (1) Complexity in MSP
  - COMPLEX CAUSES
  - 不端行为的复杂诱因



### 3. Focus analysis: How to promote and enhance

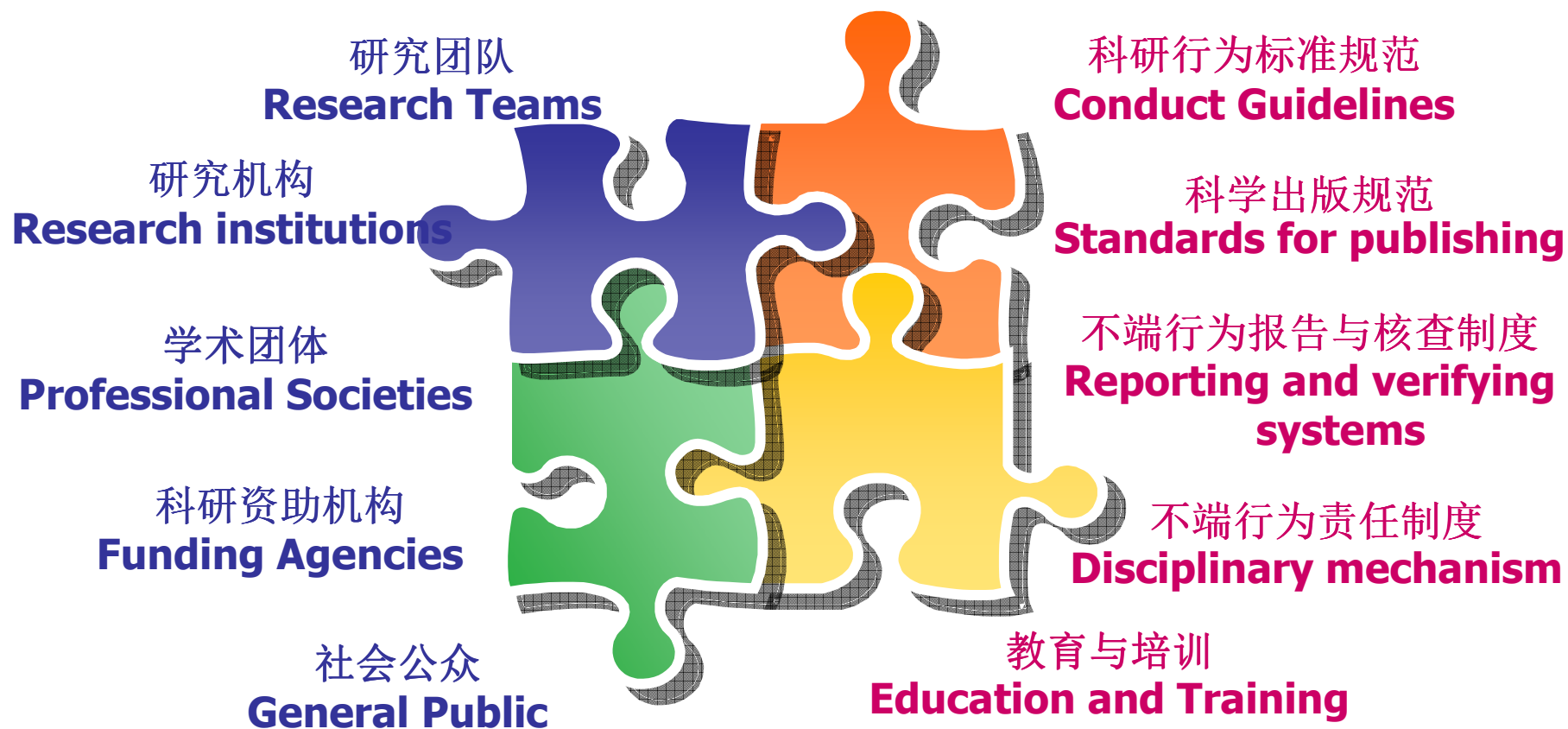
- **(1) Complexity in MSP**
  - **COMPLEX CAUSES**
  - **Misleading evaluation systems / 容易引起误导的评价**
    - **Reliance on number counting** (依靠论文数量评价)
      - **Publish or perish**
      - **Myth of SCI Impact Factor** (**SCI**影响因子神话)
        - **SCI as science's GDP**
      - **Short-term evaluation** (评审期缩短导致短期效应)
        - **Yearly evaluation leads to “must produce” pressure**
    - .....

### 3. Focus analysis: How to promote and enhance

- (1) Complexity in MSP
  - COMPLEX CAUSES
  - Lack of rigorous academic criticism/ 缺乏严肃学术批评
    - Lack of rigorous standards (缺乏严格标准)
      - How bad is really bad?
    - A “benevolence first” culture (与人为善的文化)
      - Criticism is a negative word?
    - Lack of open and institutionalized channels for academic criticism (缺乏公开和制度化的学术批评渠道)
      - How to guarantee criticism to be heard?
      - How to encourage academic criticism and reporting of misconducts?
  - .....

### 3. Focus analysis: How to promote and enhance

#### ■ (2) Guidance and Monitoring



### 3. Focus analysis: How to promote and enhance

- **(2) Guidance and Monitoring**
  - **Governance issue (科学治理)**
    - **healthy and sustainable environment**
  - **Community effort (科技界介入)**
    - **It is the reputation of the whole science**
  - **Need for Institutionalization (制度化)**
    - **Make it integral part of science knowledge and process**
  - **Need for Openness (公开性)**
    - **More people know sooner is better**
  - **Zero Tolerance and No Compliance (零容忍)**
    - **Tolerance and compliance is a misconduct (journals too!)**
  - **Encouraging a critical and corrective culture (鼓励批评与矫正)**
    - **For institutions, teams and researchers**

### 3. Focus analysis: How to promote and enhance

- **(2) Guidance and Monitoring**
  - **Improve scientific publication quality monitoring process**（完善科技出版物审读制度）
    - Academic Quality, Conducts, and Publishing quality
  - **Developing high standard and high quality scientific publications**（培育高标准高质量科技出版物）
    - National efforts (MOST, CAST, NSFC, CAS, .....)
    - International promotion by CAST
  - **Establishment of media dissemination processes of scientific results in scientific publications**（科学出版重大成果的媒体发布制度）
    - **Promote scientific advances**
    - **Ensure truthful reporting of scientific results**



## 3. Focus analysis: How to promote and enhance

### ■ (3) Promote Dissemination

**Scientists and STM organizations**  
**Social Responsibility**

**Support Open Access**  
推动科研成果开放获取

**Improve Public Understanding of Sciences**  
增进公众对科学的理解

Scientists' Social Responsibilities

### 3. Focus analysis: How to promote and enhance

#### ■ (3) Promote Dissemination: Open Access

开放获取不是善举而是责任  
Open Access is not a philanthropy  
but a responsibility

##### Professional Duty

专业责任

disseminate knowledge  
improve understanding  
develop new scientists

##### Ethical Responsibility

道德责任

ensure public access to  
knowledge created  
with public funding

##### Political Responsibility

政治责任

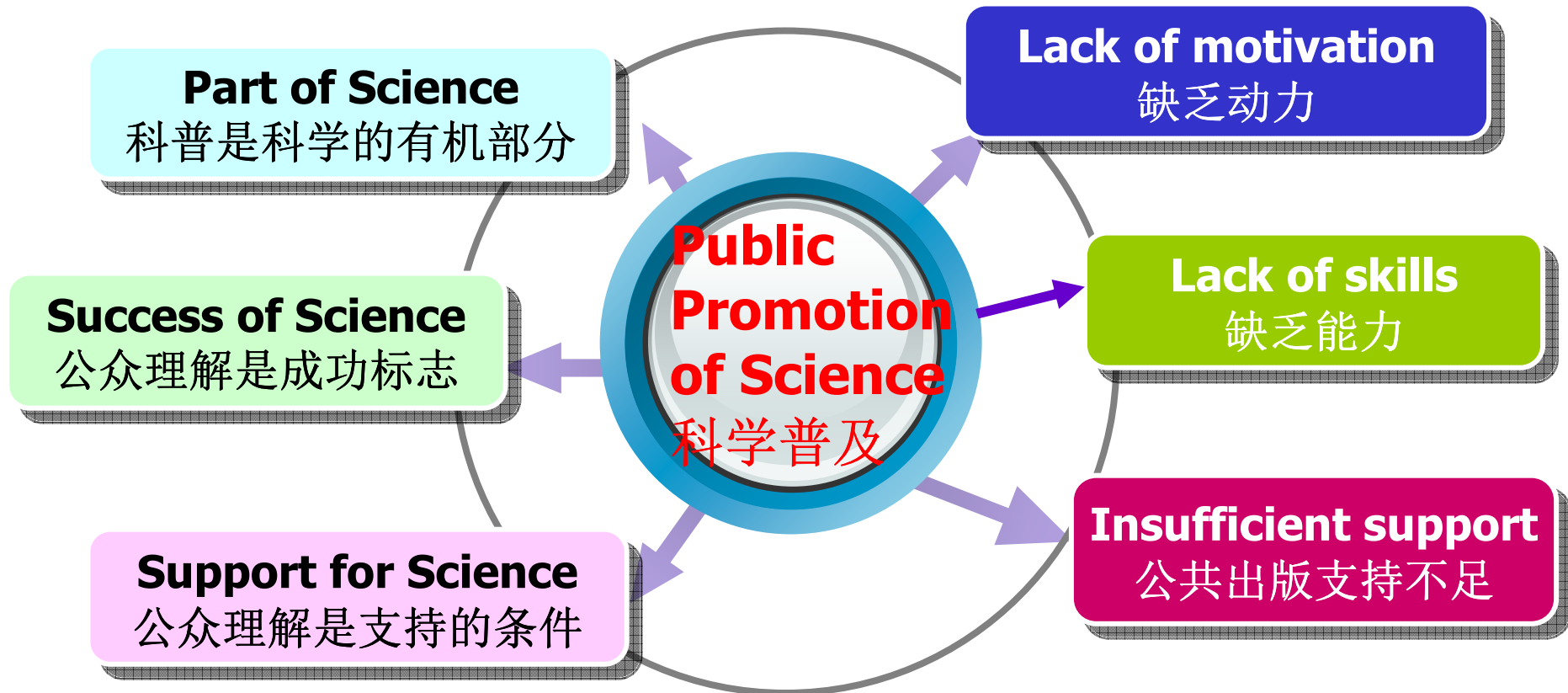
transparence  
accountability  
public support

### 3. Focus analysis: How to promote and enhance

- **(3) Promote Dissemination: Open Access**
- **Scientists and Scientific organizations should be duty-bound to support open access**（开放获取是科学家和科技机构的尽职尽责行为）
  - **Participating and supporting open deposit in institutional and domain repositories**
    - 积极参与和支持在机构和专业知识库的开放存缴
  - **Participating and supporting open publishing**
    - 积极参与和支持开放出版
  - **Sustaining the rights for open deposit when publishing**
    - 在发表时保留自己和机构进行开放存缴的权利
  - **Sustaining the rights for preservation when publishing**
    - 在发表时保留自己和社会进行长期保存的权利
  - .....

### 3. Focus analysis: How to promote and enhance

#### ■ (3) Promote Dissemination: Public Promotion



## 3. Focus analysis: How to promote and enhance

- **(3) Promote Dissemination: Public Promotion**
  - **Lack of motivation (缺乏动力)**
    - Does it count as a scientific work?
    - Is it included in evaluation and can it apply for award?
    - Is there funding for it?
  - **Lack of skills (缺乏能力)**
    - How to write for the public?
    - How to use multimedia, etc., to enhance understanding?
    - How to maximize all possible channels of dissemination?
    - How to make use of new media or Web 2.0 platforms?
  - **Insufficient support (公共出版支持不足)**
    - No sufficient publishing channels for science promotion
    - Limited utilization of public channels
    - Journals' support for public promotion

### 3. Focus analysis: How to promote and enhance

- **Actions!**
  - **Commitment by scientific communities**
    - 科学界的认识与投入
  - **Enforcement by rules, guidelines, and procedures**
    - 通过规则、指南和程序强化实施
  - **Support with resources and training**
    - 通过资源投入和培训予以支持
  - **Incorporate multiple sources of support**
    - 联合多方面的支持 (what learned societies, journal publishers, and even libraries can do?)
  - **Include in the evaluation of scientific research**
    - 纳入科研评价

## Scientists' Social Responsibilities

Do we realize our social responsibilities?  
我们意识到自己的社会责任了吗?

How do we fulfill our social responsibilities?  
我们如何履行自己的社会责任?

**THANK YOU**

谢谢!

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