When Copyright Law and Science Collide: Empowering Digitally Integrated Research Methods on a Global Scale

Jerome H. Reichman and Ruth L. Okediji

Forthcoming
University of Minnesota Law Review
May 2012
## Table of Contents

### Introduction

- Potentially Boundless Scientific Opportunities in the Digital Environment

### A. Potentially Boundless Scientific Opportunities in the Digital Environment

### B. Copyright and Related Laws as Digital Gridlock

### C. Nature and Scope of This Article
Table of Contents (continued)

I. The Growing Divide Between Copyright Law and Scientific Research in Historical Perspective 1362

A. Two Conceptual Approaches in the Application of Copyright Law to Science 1364

1. Harmonizing the Designated Limitations and Exceptions that Defend Scientific Research in the European Union 1365

2. The Fair Use Approach in the United States 1369
Table of Contents *(continued)*

B. New Boundaries Imposed by International Law 1372

1. Normative Blindness at the World Trade Organization (WTO) 1373

2. Potential Flexibility Under the WIPO Copyright Treaty (WCT) 1375
C. The Shrinking Realm of Scientific Users’ Rights Under Either Approach 1377

1. Impeding Scientific Research Even in the Print Media 1378
   a. Strengths and Weaknesses of the Designated Exceptions Approach 1378
   b. Limits of the Fair Use Approach 1382
      i. Inherent Methodological Uncertainties 1382
      ii. Outer Limits of the Case-by-Case Approach 1386
2. The Coup de Grâce: Digital Locks and Database Protection Laws
   a. Virtual Elimination of Limitations and Exceptions Favoring Science in the Online Environment
   b. Exclusive Rights in Noncopyrightable Collections of Data
## Table of Contents (continued)

II. Empowering Digitally Integrated Scientific Research on a Global Scale 1394

A. Automated Knowledge Discovery Tools as Instruments of Massive Infringement 1395

B. The Limits of Incremental Legislative Reform to Alleviate Obstacles to Scientific Research 1396
Table of Contents (continued)

1. Possible Reforms of Domestic Copyright Laws 1397
   
   
b. Improving the Fair Use Approach 1400
2. What E-science Really Needs from Any Legislative Reform
   a. A Broad Exemption for Scientific Research as Such
   b. Breaking the Digital Locks
   c. Disciplining Contractual Overrides
   d. Aligning Database Protection Laws with Broad Exceptions for Science in Copyright Law
Table of Contents *(continued)*

C. Adjusting the International Legal Framework to Accommodate the Needs of Science 1411

1. Reinterpreting the Three-Step Test 1411

2. Leveraging the WIPO Development Agenda 1413
Table of Contents *(continued)*

III. Enabling E-Science to Manage Its Own Upstream Research Assets 1414

A. Reassessing the Role of Publishing Intermediaries 1416

1. Costs and Benefits of the Traditional Approach 1416

2. The Proper Role of Publishing Intermediaries under Current Institutional Constraints 1419
Table of Contents (continued)

B. Funders’ Ability to Contractually Regulate Access, Use, and Reuse of Scientific Literature and Data 1421

C. Integrating the Intermediaries’ Functions into Transnational Digital Knowledge Environments 1423
Table of Contents *(continued)*

Final Observations 1425

A. Bridging the Disconnect Between Private Rights and Public Science 1426

B. Reconciling the Goals of Innovation Policy with the Needs of Science Policy 1427
Information Society Directive

Article 5: Exceptions and limitations

3. Member States may provide for exceptions or limitations to the rights provided for in Articles 2 and 3 in the following cases:

(a) Use for the sole purpose of illustration for teaching or scientific research, as long as the source, including the author’s name, is indicated, unless this turns out to be impossible and to the extent justified by the non-commercial purpose to be achieved;
2. Member States may provide for exceptions or limitations to the reproduction right provided for in Article 2 in the following cases:

(b) In respect of reproductions on any medium made by a natural person for private use and for ends that are neither directly nor indirectly commercial, on condition that the rightholders receive fair compensation which takes account of the application or non-application of technological measures referred to in Article 6 to the work or subject-matter concerned;
Information Society Directive

Article 5: Exceptions and limitations

5. The exceptions and limitations provided for in paragraphs 1, 2, 3 and 4 shall only be applied in certain special cases which do not conflict with a normal exploitation of the work or other subject-matter and do not unreasonably prejudice the legitimate interests of the rightholder.
TRIPS Agreement, Part II

Article 13

Limitations and Exceptions

Members shall confine limitations or exceptions to exclusive rights to certain special cases which do not conflict with a normal exploitation of the work and do not unreasonably prejudice the legitimate interests of the right holder.
Matthew Sag:

“Non-expressive, nonsubstitutional uses, in conjunction with copy-reliant technologies, should normally qualify as fair uses across the board, especially if relevant technologies can recognize and implement ‘opt in’ conditions.”