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


Jerome H. Reichman and Ruth L. Okediji

University of Trento
Conference on Open Science
October 2018
Table of Contents

Introduction
   A. Potentially Boundless Scientific Opportunities in the Digital Environment
   B. Copyright and Related Laws as Digital Gridlock
   C. Nature and Scope of This Article

I. The Growing Divide Between Copyright Law and Scientific Research in Historical Perspective
   A. Two Conceptual Approaches in the Application of Copyright Law to Science
      1. Harmonizing the Designated Limitations and Exceptions that Defend Scientific Research in the European Union
      2. The Fair Use Approach in the United States
   B. New Boundaries Imposed by International Law
      1. Normative Blindness at the World Trade Organization (WTO)
      2. Potential Flexibility Under the WIPO Copyright Treaty (WCT)
   C. The Shrinking Realm of Scientific Users’ Rights Under Either Approach
      1. Impeding Scientific Research Even in the Print Media
         a. Strengths and Weaknesses of the Designated Exceptions Approach
         b. Limits of the Fair Use Approach
            i. Inherent Methodological Uncertainties
            ii. Outer Limits of the Case-by-Case Approach
      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. EmpoweringDigitally IntegratedScientific Researchon a Global Scale
   A. Automated Knowledge Discovery Tools as Instruments of Massive Infringement

   B. The Limits of Incremental Legislative Reform to Alleviate Obstacles to Scientific Research
      1. Possible Reforms of Domestic Copyright Laws
         b. Improving the Fair Use Approach
      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

   C. Adjusting the International Legal Framework to Accommodate the Needs of Science
      1. Reinterpreting the Three-Step Test
      2. Leveraging the WIPO Development Agenda

Table of Contents (*continued*)

III. Enabling E-Science to Manage Its Own Upstream Research Assets
   A. Reassessing the Role of Publishing Intermediaries
      1. Costs and Benefits of the Traditional Approach
      2. The Proper Role of Publishing Intermediaries under Current Institutional Constraints
   B. Funders’ Ability to Contractually Regulate Access, Use, and Reuse of Scientific Literature and Data
   C. Integrating the Intermediaries’ Functions into Transnational Digital Knowledge Environments

Final Observations
   A. Bridging the Disconnect Between Private Rights and Public Science
   B. Reconciling the Goals of Innovation Policy with the Needs of Science Policy
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;
Information Society Directive

Article 5: Exceptions and limitations

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;
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.
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.
§ 107. Limitations on exclusive rights: Fair use

Notwithstanding the provisions of sections 106 and 106A, the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include —

(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;

(2) the nature of the copyrighted work;

(3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and

(4) the effect of the use upon the potential market for or value of the copyrighted work.

The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.
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.”