# Science and Innovation as European Cultural Heritage: The Intellectual Properties of Marie Curie

## CONCEPT AND OBJECTIVES

Marie Curie is often used as a synonym for excellence in European research and as a symbol of the European Union. The purpose of this study is to draw on Marie Curie as a case study in order to address the intersection of three related nodes: intellectual property, science and innovation, and cultural heritage. The proposed study broadens the approach of the CULTIVATE consortium to include science and innovation as well as patents and trademark law. The overlap between the cultural sphere and that of science adds an important comparative component to the CULTIVATE project.

Furthermore, the individual/institutional approach elaborated in this project combines a micro-historical approach with the analysis of larger structural macro-developments. Part one of the envisioned book focus on Marie Curie's own relationship to intellectual property, taking as point of departure her decision not to patent radium and her work on "*la propriété scientifique*" in the International Committee on Intellectual Cooperation (ICIC, 1922-1946), later UNESCO (Renoliet 1999). The second part of the project concentrates on the multiple ways by which Marie Curie herself has become a brand name for the European Union and the European Research Area (ERA) and in extension part of a European cultural heritage.

Regions like the EU do not only rely on statistics, hard facts, and state-of-the art reports in order to claim its place globally – symbols, tropes and iconic figures like Curie are crucial devices in the construction of a European identity. Claimed by more than one nation-state (both Poland and France are stakeholders in "the making of Marie"), Curie has recently morphed into the penultimate European scholar. What does this rhetorical construction mean in terms of defining European excellence in science? How and by whom is the brand Marie Curie developed? What values does the representation of science as cultural heritage emphasize? How do institutions such as libraries, archives, and museums shape the Curie brand?

The Lisbon strategy strongly underlines the EU commitment to the importance of knowledge transfer, innovation, and intellectual property. Intellectual property rights (IPR) are expected to ensure future European competitiveness in the global knowledge-based economy and are increasingly present in basic research and in universities. However, IPR can also constrain creative knowledge-based processes and products and create patent "thickets" and dangerous research roadblocks. Considering this present situation, how can we understand and interpret Marie Curie's choice of *not* patenting the process of radium? What can it tell us about the historical circumstances in which patenting of inventions has developed and how creativity relates to intellectual property? I argue that a historically grounded study of this kind may help in understanding the current dilemmas and tensions taking place between IPR and "open" initiatives such as Open Access within the knowledge-based economy in Europe and beyond.

## WORK PLAN

This study builds on my previous two peer-reviewed books on intellectual property published by the University of Toronto Press: *No Trespassing: Authorship, Intellectual Property Rights and the Boundaries of Globalization* (2004) and *Terms of Use: Negotiating the Jungle of the Intellectual Commons (*2008). For more than a decade, my research has focused on copyright. This project represents an ambition to move into the domain of science, patents, trademarks, and knowledge-production. During Fall 2009, I gave two presentations of this project. First, a paper at the international Cultural Technologies/Cultures of Technology Symposium at the

Nobel Museum and Södertörn University College, 19-20 October 2009. Second, as part of an invitation to give a talk at the Mellon Workshop on Science and Print Culture at the University of Wisconsin-Madison 29-30 October 2009, I also presented the project at a brown-bag lunch at the Robert F & Jean E. Holtz Center for Science and Technology Studies at the University of Wisconsin-Madison.

The result of *Science and Innovation as European Cultural Heritage: the Intellectual Properties of Marie Curie* will be a peer-reviewed scholarly monograph. (Page 4 provides a tentative first outline of the book). I have a good working relationship with University of Toronto Press, but also with other quality academic presses in North America. The timeline for a single-authored monograph of this kind is relatively straightforward. The first year will mean an inventory of relevant historical primary source material, largely located to Paris. An essential source is The Musée Curie Historical Resources Center at Institut Curie, but also the Bibliothèque Nationale houses relevant material. As far as Marie Curie's involvement with ICIC is concerned, the UNESCO library and archives (also Paris) should be consulted. In addition to the common CULTIVATE-activities described in the main application, my ambition is to participate in one international conference each year, and I hope to spend the summer of 2011 as a visiting scholar in the U.S. In terms of the construction of Marie Curie within the EU, I will rely on the Historical Archives of the European Union (HAEU) administered by the European University Institute in Florence.

## RESEARCH DESIGN AND METHODOLOGY

Although there is no shortage of books on Marie Curie, these tend towards the hagiographical, and very few concentrate on her relationship to intellectual property. Considering that it is one of the few recent books situating Curie in the framework of Science and Technology Studies (STS), Boudia (2001) is especially important. STS, above all represented by the work of Bruno Latour and his concept of centres of calculation, provides the theoretical framework for this study. Such institutions initiate the search for, collect, and recombine objects, and by doing so actively engage in an ongoing process of knowledge accumulation (Latour 1987). The laboratory is the centre of calculation par excellence, but the same thing can be said about cultural heritage institutions. I share Latour's emphasis on the way in which facts and knowledge are created in networks between people and objects and form part of a process of social construction.

The most important context for this study, however, is interdisciplinary scholarship in intellectual property, a vibrant research field spanning a number of disciplines within the humanities and social sciences. Two tendencies are discernable in this hybrid body of scholarship. Whether historical or contemporary, many studies focus on the relationship between copyright and music, film, and literature. While the impact of file sharing, the cultural history of copyright and the current situation for the cultural industries has been the object of study for many years, few scholars in the humanities have engaged with patents. The role of IPR in European science and innovation have in fact received less attention from interdisciplinary perspectives and represents therefore something of a "new frontier" in this field.

I am particularly interested in the correspondences between intellectual property and authorship, especially as they pertain to science (Biagioli & Galison 2003). As Greg Myers (1995) shows in his discussion on how two different scientists go about patenting their inventions, the rhetorical work deployed when writing a patent application resonates with the second "authorial" position, where "patents must be torn free from the entanglement of other texts." In academic writing, however, "articles are the strongest when most entangled" (91). Consequently, the scientist operates within two contradictory author paradigms, one where it is essential to rule out any "prior art" in order to prove innovation (the patentee-author), and one where "prior art" must in fact be acknowledged and integrated in order to give the argument sufficient strength and validity (the scholar-author).

Different rhetorical strategies collide in scientific authorship and creativity and I will focus on

the tensions built into scientific authorship, where Marie Curie's own writings and documentation on the scientific practices in the laboratory, provides fertile ground for studying such an "authorship dilemma." Two contradictory ideas of authorship and creativity meet in the laboratory—one formed through scholarly practices and ethics that for a long period of time was considered beyond privatization by copyright or patents—and the other dependent on the affirmation of individuality and originality as it has developed from the Romantics onward. This project will not only benefit from its integration into the CULTIVATE-framework, but the research design will be influenced by and elaborated through the many other international networks that I am a part of. Especially relevant is the program "Communicating Knowledge: the Cultural Dynamics of Science, Technology, Engineering, Medicine," which I am developing at UU and which is described in the second presentation of future research plans.

## REFERENCES


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Boudia, Soraya. *Marie Curie et son laboratoire. Science et industrie de la radioactivité en France*. Paris: Scientifiques G, 2001.

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Myers, Greg. (1995) "From Discovery to Invention" *Social Studies of Science* 25(1): 57-105.

Renoliet, Jean-Jaques. *L'UNESCO oubliée. La Société des Nations et la cooperation intellectuelle* (1919-1946) Paris: Publications de la Sorbonne, 1999.

# *Making Marie: Value and Property in Science*

**Introduction: Value, Capital, Reward, Gifts, Ownership, and Property**
Value systems in Science

**Chapter 1: Pure Science: Collaboration and Disinterestedness**
Collaboration with Pierre C and others, differences between male and female collaborators, the idea of pure science, not patenting radium

**Chapter 2: Scandalous Science: Slander, Duels and the Academy**
The Langevin Affaire, the construction of Curie and science in the penny press, the campaigns for or against Curie's candidature to the Academy

**Chapter 3: Missy and Marie: the American Tour**
Raising money in the U.S., the purchase of a gram of radium, Missy Maloney's marketing of Curie,

**Chapter 4: Scientific Property: Internationalization and Utopia in ICIC**
The work on *propriètè scientifique* in ICIC, the proprietary stance for a radium standard

**Conclusion: The Afterlife of an Icon**
Marie as a brand in the EU, museums, centers, etc