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Who Owns This Text?: Plagiarism, Authorship, and Disciplinary Cultures

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Who Owns This Text?

Plagiarism, Authorship, and Disciplinary Cultures

edited by
Carol Peterson Haviland
Joan Mullin

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CAROL PETERSON HAVILAND
JOAN A. MULLIN

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INTRODUCTION

Connecting Plagiarism, Intellectual Property, and Disciplinary Habits

Carol Peterson Haviland and Joan A. Mullin

The concept of ownership has become increasingly important in the teaching of writing, particularly as university faculty members encourage students to study and write collaboratively and to use the increasingly rich and available range of electronic resources. On many campuses, undergraduates and their instructors expect that first-year writing courses will teach students to discover, select, and cite resources appropriately. Thus, believing that students will have learned this "somewhere else," faculty often assume that plagiarism of any kind can and should be eliminated chiefly by using detection services such as Turnitin.com and that failure to acknowledge sources should be punished as an intentional violation of university policy. However, despite these assumptions and the efforts of composition programs, writing centers, writing across the curriculum initiatives, workshops on intellectual property and academic integrity, Web sites on avoiding plagiarism[1], software detection programs, and even threats of failure or expulsion of plagiarists, faculty still encounter unreferenced sources in student writing. A number of recent publications document the legal and pedagogical implications of these concerns (Howard and Robillard 2008, Roberts 2008). Nevertheless, undergraduates continue to download papers from any of the widely advertised "term paper providers," cut and paste freely from online sources, and turn in

1. See for example the Purdue OWL, http://owl.english.purdue.edu/owl/resource/589/01/ or the University of Leicester, http://www2.le.ac.uk/offices/ssds/slc/resources/writing/plagiarism/plagiarism-tutorial/.

patch-written research essays; graduate students struggle to distinguish between their own discourse and that of their sources; and faculty members continue to wonder why students "can't just follow an APA manual."

Downloading from term-paper mills and other kinds of recycling are clearly acts of intellectual dishonesty and are considered unethical across the disciplines; such attempts to avoid work are not the focus of this book.[2] Neither does this collection look at the relationship between the Web and students' sense that all information is free for the taking, for this already is common to conversations and incorporated on plagiarism Web sites, usually under "academic integrity." Nor are the authors concerned here with teaching APA and MLA as solutions for reducing plagiarism. We also chose not to repeat previous research on the commodification of culture because others have and continue to make that case and demonstrate its effects on creativity (e.g., Choate 2005, Lessig 2004, McLeod 2005, Vaidhyanathan 2001). Instead, this collection examines faculty's perceptions of what they own as academics; it asks what they have learned to consider as their intellectual property (IP) and then explores how their discipline-based definitions inform their understanding and subsequent teaching of collaboration, citation, and plagiarism.

Faculty are aware that IP is a concept anchored in copyright laws that carry legal ramifications and that in a capitalist culture ownership is continually parlayed into some form of currency (e.g., cash, recognition, tenure, and promotion); for academics, this has meant defining text as "property." It is not unusual, therefore, for academic language defining plagiarism to parallel the legal: "stealing" someone's words or ideas, "expulsion" from a community, or "sentencing" before student judicial boards. Thus the chapters here question the common practice of treating text as property that can be "stolen" and explore the actual disciplinary practices that define what is owned and what is not, what can be taken and what cannot, and what can

2. Insight on plagiarism as a sign of cultural laziness is provided in Megan O'Rouke's (2007) discussion.

be appropriated and what cannot. However, just as Thaiss and Zawacki's (2006) discussions with faculty uncovered unarticulated assumptions about how students should write in the disciplines, and, therefore, how faculty might change their practices to match their expectations, the authors of individual chapters here have compiled research on unexamined concepts of ownership. Their data allow us, as editors, to look at how these concepts may play a role in students' plagiarism, why generic definitions of plagiarism and consequent punishments haven't eliminated it, and what faculty members might do about it.

These inquiries began with questions about how to teach citation practices more thoughtfully and more successfully, articulated during an afternoon of discussion at the 2002 Conference on College Composition and Communication Intellectual Property Caucus. Members of the caucus recognized that although they had learned a great deal about ownership and plagiarism and had developed teaching practices in response, plagiarism persisted. Perhaps then, they concluded, they needed to reconsider their premises; perhaps they weren't asking the right questions.

As a result of that conversation, we (the editors and chapter authors) began the research for this book project, and we first turned to the definition of plagiarism on which we had relied: passing off someone else's words or ideas as one's own (see, for example, Rebecca Howard 1995 and Margaret Price 2002). However, as writing center and writing-across-the-curriculum faculty, we quickly recognized that this worked for us because we, like most of our colleagues, had internalized disciplinary "rules" for collaboration, attribution, derivation, and citation. Therefore, as veteran academics, we had little difficulty determining which words or ideas to claim as our own and which to mark as belonging to someone else; in fact, we used others' words and ideas strategically according to disciplinary traditions that we could easily trace in our own discipline's texts.[3] It seemed that if students were only more careful readers and researchers and if they took

3. For a linguistic and discourse analysis, see Ken Hyland's (1999) work on the establishment of authority in eight professional disciplinary texts.

the time to consult handbooks or Web sites on plagiarism, they, too, could avoid plagiarism by distinguishing what is common knowledge, what is unique to other scholars, and what is theirs.

Recognizing this faculty complaint about an age-old student dilemma, Price (2002) offers a solution: involve students in creating plagiarism documents, make explicit their questions and concerns, and teach them that "conventions governing text ownership and attribution are constructed and dynamic" (110). We agree with Price that engaging students in discussing and constructing such documents is a positive move. However, we also have observed that the outcome of such discussions is often yet another set of rules that capture typical school conversations about plagiarism, that do not uncover tacit disciplinary conventions, and that ignore the dynamic nature of knowledge construction—and therefore the activity system that produces conventions in a field, an area, or a classroom.

In addition, because we all were involved in writing-in-the-disciplines projects, we wondered what kind of instruction students were getting about the activity systems that determine "someone else's words or ideas" in chemistry, art, or anthropology, and how faculty in these very different areas know what is theirs to engage with and build upon. And even though we all worked across disciplines, we began to wonder whether *we* really knew what constituted plagiarism in other disciplines. We found ourselves talking variously of legal terms as they relate to taking ideas and words, of ethical practices, and of disciplinary conventions, often interweaving the terms "intellectual property," "ownership," and "plagiarism." We wondered whether the legal constructs of intellectual property, as defined by lawyers, corporations, and courts, captured the ways academics really work or wish to work, and we began to question the rule-based discourse of plagiarism that mimics legal-speak and the definitions it generates. We thought that a conceptual investigation of what faculty judge as "theirs" might offer a more generative space for understanding the ways those of us in particular disciplines think and talk about what we own, borrow, or use.

To explore our new set of questions, we chose to study the way faculty members and experienced scholars internalize disciplinary "rules" for acknowledgment, derivation, and citation. We needed to discover where their disciplinary expectations led them—other than just to recognizing different citation conventions. We needed to see how the continually changing agreements being hammered out in the courts are shaping faculty's definitions of textual "ownership" in their professional work—and how faculty definitions and practices that depend on ownership and acknowledgment of disciplinary texts (and, as we discovered, artifacts) shape what they expect in student work. We needed to learn how faculty's own collaborative, writing, and citation practices inform their explanations and expectations of collaboration and writing in student work.[4]

This volume, which reports the findings of our six-year project of interviewing faculty across the disciplines to determine their beliefs and practices about scholarly ownership, intellectual property, and plagiarism, is one outcome of these queries. Chapter authors selected a discipline or field to investigate, all using the same protocols with slight adaptations to context (see Appendix A), interviewing faculty on a total of nine campuses. The questions were designed to (1) uncover definitions of and the relationship between research practices, intellectual property, ownership, and plagiarism held by disciplinary experts in their fields; (2) investigate faculty expectations for students' use of sources; and (3) determine when, how, and what expectations were communicated to students. As we engaged in our

4. Expanding the work of Berkenkotter and Huckin (1995)and Bazerman (2002), Ken Hyland (1999) analyzes the texts faculty produce, finding that "textual conventions point to distinctions in the ways knowledge is typically negotiated and confirmed. . . . Clear disciplinary differences are identified in both the extent to which writers refer in the work of others and in how they depict the reported information" (341). He uses linguistic analysis and "insider informants" in "Stance and engagement a model of interaction in academic discourse." We find Hyland insightful but were interested in how faculty *understand* their practices and how they *articulate* this to themselves, colleagues, and students rather than how we identify and interpret these conventions.

research, we periodically collaborated on conference presentations, reporting our findings-in-progress. Our interactions with audiences at a series of MLA, CCCC, WAC, and writing center conferences enriched our understanding of our data, and our conversations with other faculty on our campuses enlivened our discussion. We are grateful for their encouragement and insights.

Following this introduction, we offer five chapters written by researchers who posed a common set of questions to faculty colleagues. In chapter 1, Diogenes, Lunsford, and Otuteye deal with the complexities of writing and owning computer code, a process that could seem quite straightforward and mathematical, but that involves complex issues of ownership. In chapter 2, Buranen and Stephenson take up the biological sciences, a field known to be based explicitly on knowledge-building and replication, yet one that is increasingly complicated by its collaborative practices and shifting citation conventions. Chapter 3 opens up academic ownership to objects beyond text as Boland and Haviland explore the ways fieldworkers' identifications with their study sites and populations shape the ways they understand intellectual property and ownership. Such professional identifications change not only what can be owned and what is cited but also how such ownership shifts over time. Further removed from what is often defined as common textual understandings of ownership and acknowledgment, the practices described by Mullin in chapter 4 challenge through the visual arts our notions of ownership. She describes the elusive lines that artists, designers, and architects negotiate both inside and outside the academy as they commonly engage in the age-old practice of appropriating visuals, processes, and materials. In chapter 5, Bergmann highlights the differences in the practices outlined by the very university administrators who "write" the rules for student plagiarists, but who, as is common in business, "borrow," cut, paste, and adopt policy and procedures from others without acknowledgment—including "plagiarizing" plagiarism rules. We conclude by

summarizing the implications of these professional practices, linking them to underlying causes of plagiarism in academe, outlining the implications for our students and our teaching, and suggesting areas for further investigation.

WRESTLING WITH OUR TERMS: INTELLECTUAL PROPERTY, PLAGIARISM, AND COMMON KNOWLEDGE

Our first research step was to find out how "ownership" is defined and credited in faculty's professional work, and we began by asking our colleagues to describe what elements of scholarship they own, how they come to own them, how they mark that ownership, and why and how ownership matters within their field. We then asked what bearing these concepts and practices have on whether and how they define disciplinary ownership for students, and we asked whether this ownership is overtly connected to citation practices. We hoped to determine how these practices are negotiated and recorded within each area, whether and how faculty members' own disciplinary practices are related to those they expect of students, whether definitions of ownership and use of citation cross professional practices in disciplines, and whether these are or should be taught—and by whom.

While we had looked at the research on academic ownership, the responses we gathered showed that disciplinary professional practices seemed to operate both in conjunction with and in conflict with common legal understandings of IP. Just as the general population continue to download, appropriate, and remix despite corporate legal battles, so too the academics we interviewed often spoke of long-held or newly emerging practices that exist apart from and in spite of courtroom decisions.

"Intellectual property," "copyright," "patent law," "works for hire," and "fair use" are carefully defined under the law—albeit with vigorous and continuing debate (See, for example, McSherry 2001, Dolin 2007). The US government defines "intellectual property" (http://www.uspto.gov/main/glossary/index.html#TM) at the same time as it describes how to claim

it through trademarks, patents, and copyrights. Trademarks "protect words, names, symbols, sounds, or colors that distinguish goods and services from those manufactured or sold by others and to indicate the source of the goods." A patent is a property right granted by the government to an inventor "to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States" for a limited time in exchange for public disclosure of the invention when the patent is granted. A copyright "protects works of authorship, such as writings, music, and works of art that have been tangibly expressed." Further explication states that, "Copyright is a form of protection provided to the authors of 'original works of authorship' including literary, dramatic, musical, artistic, and certain other intellectual works, both published and unpublished" (http://www.uspto.gov/web/offices/dcom/olia/copyright/basics.htm).

While this might seem to settle questions about ownership, use, and citation, current and pending legal cases indicate it does not. Most problematic is the term "original," for the government's definition ignores the concept of "knowledge-building."[5] As is seen in the chapters herein and elsewhere (e.g., Lessig 2004, Creative Commons, Lethem 2007, Suehle 2007), the result is a growing frustration with the corporate and litigious culture that has spawned an industry aimed at profit, one less concerned with practices of knowledge-building and creativity and more with unrealistic definitions that increase bottom lines. We want to bring the focus of these discussions back to the educational practices used by those responsible for teaching the vast majority of students who are not law students. Therefore, while not disregarding the importance and power of legal definitions, the authors of these chapters investigate what faculty *claim* as owned—what *they* see as their intellectual property. Having teased this out, we then looked at how actual IP

5. For further discussion of the problems of legal definitions, see Suehle (2007), Liptak (2006), Vorsino (2007), Gladwell (2004), or Lethem (2007).

constructions by faculty affect how they respond to student texts and whether and how they teach students about plagiarism.

What we all found was that faculty members' definitions and enactments of scholarly work and their ways of acknowledging contribution and collaboration within their professional activities are not clearly evident in the ways they talk about their systems of disciplinary activity to their students. Indeed, our interviews uncovered a disconnect between faculty members' professional, tacit expectations and the ways institutions generically define it for students. This leads us to suspect that relying on traditional, institutional definitions of plagiarism may be a factor in faculty's frustration with the ways students interpret citation practices. By defining the actual practices that lead to faculty's beliefs about ownership, we suggest a different way to think about teaching disciplinary contexts to students and seek to further disciplinary discussions of how creativity and intellectual property are threatened when scholarly traditions are legally called into question. We believe that articulating the importance of each discipline's freedom to borrow, build, and remix ideas that focus on knowledge creation and ownership is much more useful for students than are generic rules and regulations.

These definitions of knowledge creation and ownership of research, ideas, and objects, however, are complicated by the parallel disciplinary role of teaching. Faculty often move between spaces: as an archaeologist-instructor, an artist-teacher, or a biologist-mentor. Classroom activities and course materials are other sites where tacit attitudes toward definitions of knowledge and ownership become evident. This turns problematic when the traditional practices and common assumptions under which faculty expect to operate and which underlie the models they present to students may no longer be legally viable. For example, under fair use provisions, faculty commonly incorporate images, portions of text, and chapters from collections into class materials, sometimes specifying sources—but not always. Faculty may fail to cite because they are stretching fair

use provisions, because images are (or are thought to be) in the public domain, or because they want to protect original authors, as is often the case when they distribute, as examples, work produced by students. But if faculty themselves are wrongly assuming common ownership of their teaching materials, they also are modeling the validity of such uses to students. It follows then, that when students see uncited texts as part of their course materials or when their materials are used in classes without their own permission, they find the line between fair use, ownership, educational purposes, and legal constraints very fuzzy.[6]

This was brought home recently when one of our students submitted a video project as part of an assignment to portray a grammar issue from a handbook in a way that would speak to students. This student's work would have served as an excellent example for future classes, but before asking the student for a copy, it seemed important to check with the university's legal counsel about a brief shot of a Red Bull can in one frame out of the montage of the student's own images. The university's legal opinion was that because of the shot of the can, the student's work could not be reproduced, nor could a copy of the video even be shown to the publisher of the handbook. If, however, the picture of the Red Bull can were to be removed, the instructor could then, with the student's permission, use the video as an example for subsequent classes (for educational reasons). The instructor could not, however, reproduce or post it electronically (it could be accessed for non-educational use), or even show it to the publisher of the grammar text or anyone outside of her classroom.

This and other current legal decisions regarding ownership suggest that instructors may need to reconsider the ways they use student work as examples, particularly as such work increasingly

6. In light of recent lawsuits directed at Turnitin.com, faculty's use of student texts as examples can be questioned. In *The Chronicle of Higher Education* (http://chronicle.com/free/v48/i36/36a03701.htm), Dan Burk, a professor at the University of Minnesota Law School notes about Turnitin that, "To run a database, you've got to make a copy, and if the student hasn't authorized that, then that's potentially an infringing copy."

includes electronic elements. But this is not necessarily how faculty *want* to work, nor does such a decision consider the means and goals of education as faculty understand it.[7] The fact that those interviewed for this collection expressed concerns and even confusion about what it is they own as researchers and what they own or can use as instructors may be one reason faculty tend not to discuss disciplinary knowledge-building and citation practices in their classrooms. Yet after our interviews, faculty themselves agreed that "All of these [plagiarism, fair use, and copyright] are interconnected and need to be taught as situated, localized networks" (Johnson-Eilola 1998).

Our discussions with faculty brought into vivid relief that while punishment for abusing IP is stressed to students, tangible benefits for ownership within the academy are often not stressed beyond the achieving of a grade; why citation matters to faculty and to a discipline is tacitly held and, therefore, potentially invisible to students. If there seems to be no reason *for* citing what appears (to students) to be commonly held or for public use, then it also appears that no one and nothing is harmed by such an act[8] whose tangible rewards (for students) seem only to be a grade, more time, and less work.[9]

In addition to the gap between the way IP functions generatively within a discipline and the way it is discussed (or not) within a class, we found the term "plagiarism" equally problematic, and

7. For a discussion of the application of "intellectual property" to faculty classroom work, see McSherry (2001).
8. Dolin (2007) promotes finding a balance between the copyright concept that promotes "do no harm" to the author and the fact that the greater public is harmed by increased copyrighting of ideas.
9. For a discussion of this Lockean reasoning and the inadequacies of this and other theories that underpin current legal rulings and public attitudes toward intellectual property and its use, see Fisher (2001). His discussion also demonstrates "the constitutional provision upon which the copyright and patent statutes rest indicates that the purpose of those laws is to provide incentives for creative intellectual efforts that will benefit the society at large" (8–9). The unlikely benefits of most student papers to "society at large" raise questions about how much of the assigned research might be considered exercises in copying, summary, and synthesis instead of "original"—a term perhaps misused in classrooms.

our work here has made us consider how common academic definitions of it are limiting if not hopelessly confusing or even entirely flawed. On academic Web sites, plagiarism is often defined as "the deliberate or reckless representation of another's words, thoughts, or ideas as one's own without attribution" (http://www.unc.edu/depts/wcweb/handouts/plagiarism.html). Oft-used terms include "representation of another's," "stealing ideas" (http://www.lib.jmu.edu/gold/documents/glossary.doc), "appropriating ideas" (http://LINK"http://www.google.com/url?sa=X&start=2&oi=define&q=http://ucblibraries.colorado.edu/about/glossary.htm&usg=AFQjCNHwRY6uyhhZtrRR7xy-DmPPRJl4EA"ucblibraries.colorado.edu/about/glossary.htm), "using, and passing off as your own, the ideas" (http://www.lib.monash.edu.au/vl/glossind.htm), and "presenting . . . without proper acknowledgement" (http://www.sunysb.edu/library/tutorial/glossary/index.html). As in copyright law, all imply a prior ownership based on an originality claimed as one's own; they also imply that avoiding plagiarism is easy to figure out. While this is true in the wholesale import of an entire passage, page, or written paper, something on which interviewees across the disciplines agreed, "plagiarism" becomes complicated once faculty begin to define in detail what they own and what they can "appropriate," "transform," and "use."

Even Web sites that shift from warning students not to "steal" or "cheat," to exhorting them to maintain "academic integrity," remain stuck in generic, rule-based language. Much like handbook explanations of grammar and syntax, these generalized definitions are useful chiefly to students who already understand plagiarism as a concept rather than as a set of rules. An alternative approach, one similar to the way Martha Kolln (2007) promotes a rhetorical and contextual explanation of grammar, moves away from mechanical and general definitions of intellectual property and plagiarism, particularly definitions offered by "handbooks" (e.g., on government, academic, and legal Web sites). Our interviews with faculty have led us to believe that by probing beyond traditional rules (Don't cheat)

in order to define concepts (What does ownership mean?), we can help students situate themselves within often unspoken but very real knowledge-driven practices. Further, we suspect that this approach will enable students to transfer strategies to new contexts as they arise rather than try to slot learned rules about citation into situations that they don't fit.[10]

As we interviewed scholars, it became evident that new and challenging situations already arise for students and that neither group is prepared to meet them. When describing their "ownership" of elements besides the expected academic texts, faculty complicate issues of "owning," "possessing," and "originating" as they speak of "using," "appropriating," "deriving," and "transforming" texts, objects, materials, and ideas. Added to this are concepts of mashup and Lessig's (2005) characterization of academic practices as remixing texts, all pointing to further complications to ownership claims—even the legal ones. While we leave the resolution of those legal arguments to scholars who have already begun this work,[11] the idea of remix nicely complicates simplistic definitions of plagiarism that attempt to divide the term into an academic right and wrong.

"Common knowledge," too, is a problematic term. Although it is often described as information that "everyone knows so it doesn't need to be cited,"[12] a careful look at the resources on

---

10. We are not claiming that rules are not useful, but we are arguing for unpacking the reasons behind rules so that they can be seen as flexible and transferable. For example, years ago, when academics began citing online sources, they found that practices had to be adjusted to fit the medium: URLs had to be provided, along with the access date; dates of origin and revision had to be considered as well as the difference between Web site authors and text authors. Our practices changed how we cited, even as citation requirements remained. Work in disciplinary genres by Theresa Lillis and the New London Group (2001) effectively address this issue of the "situatedness" of texts and could be extended to citation and ownership practices.
11. Lessig (2004) among others, questions the assumptions behind the laws that attempt to define ownership, arguing that when remix and mashup technologies change, freedoms also change.
12. This is so common a phrase that, though in quotes, we don't think (!) it has to be cited.

which students rely for definitions of common knowledge reveal vague, contradictory, or ambiguous information about what makes knowledge "common." Today, for example, many writing centers have followed the Purdue University OWL's initial definition by creating Web site sections like their "Deciding if something is 'Common Knowledge'":

> Material is probably common knowledge if . . .
>
> You find the same information undocumented in at least five other sources
>
> You think it is information that your readers will already know
>
> You think a person could easily find the information with general reference sources. (http://owl.english.purdue.edu/handouts/research/r_plagiar.html#common)[13]

One can turn to hundreds of statements on academic integrity or plagiarism on university and college Web sites around the world, on high school Web sites, on Web sites of private educational businesses, or in dictionaries and find versions of this definition. However, the versions, examples, and explanations of basic "common knowledge" offered—that is, those items that are so well known they do not need citation—often assume students don't know anything about the subjects to begin with, and depend on students' clear understanding of the audience to whom they are writing at any one time. Worse, though, they offer contradictory information and do little to clarify the concept for students. (See appendix B for further examples of this phenomenon.)

As students read and write their papers in libraries, residence halls, or on laptops in subways, they make judgment calls about common knowledge. They make those calls based on their own knowledge, on their assumptions about what their instructors think about that knowledge, and on their student status. This poses problems when they are told that:

13. This was originally on the Purdue Web site and so remains as a standard definition on other Web sites; however, our work here has influenced a change in how plagiarism in currently discussed at Purdue, especially since the director of the writing center there, Linda Bergmann, was instrumental in shaping of this book project.

> What is considered common knowledge will vary from one field to another. Medical doctors who write research papers do not have to cite their sources for anatomical terminology or common pathological procedures, as such basic knowledge would be considered as common to any doctor reading the paper—whereas it would usually not be common knowledge for a non-doctor. (http://www.uta.fi/FAST/PK6/REF/commknow.html)

When, then, should biology students, senior pre-meds, or junior medical students cite, and when can they assume acceptance into the discipline and stop citing? Clearly, a line differentiates the two, but this line seems both different and clearer for faculty members than for students:

> At university there are some occasions where referencing is not used but this is not considered plagiarism. For example, lecturers often do not reference the ideas that they present in lectures; some text books do not give in-text references, just a list of references at the end of chapters. (http://www.unisanet.unisa.edu.au/learningconnection/student/learningAdvisors/plagiarism.asp)

If students hear instructors lecturing what may not be facts, but are interpretations and opinions, which are not cited, how are they to know that stating them in their own texts requires a citation?[14] If institutions have varying descriptions of common knowledge, and if those definitions further complicate notions of who is expert, in what field, on what day, and in what place, how can students begin to tease out for themselves what constitutes plagiarism in a discipline-specific course and determine who owns that upon which they wish to build?

OUR NOT-SO-COMMON FINDINGS

According to most of the faculty interviewed for this book, connecting their own beliefs about disciplinary ownership with their students' beliefs about plagiarism was an eye-opening

14. We have already explored the idea of faculty and professionals being differently entitled (Haviland and Mullin 1999).

approach. As interviewers, we found that although we had located our work in different disciplines and on different kinds of campuses, we all uncovered a similar need to open up academic discussions about intellectual property that expressly connect it to disciplinary practice and knowledge construction in classrooms. The disparity discovered among disciplinary definitions of ownership, not just within single institutions or within single disciplines within those institutions, has further educational import when faculty also consider intellectual property issues across the disciplines: faculty think differently about what is owned in their field. As a result, citation is not merely a matter of avoiding the inappropriate use of someone else's work; rather it becomes of matter of how to engage with and use someone else's work and when, as well as why, to cite it. Not only is there little linkage of these disciplinary questions to classroom practices and thus little acknowledgement of faculty's tacit expectations, we noted no recognition of how institutionalized descriptions of academic integrity and plagiarism insufficiently support disciplinary learning goals.

For example, unlike humanities faculty, who think chiefly of texts as "ownable," field workers in sociology and archaeology point to ownership of school populations, tribal cultures, or dig sites, noting that their ownership is provisional and that publication releases ownership and at the same time establishes the associated scholarly work as their own (Boland and Haviland, chapter 3). Computer scientists speak to the complexities of owning and sharing code (Lunsford et al., chapter 1). Biologists speak of owning laboratory data and patents (Stephenson and Buranen, chapter 2), although there is seldom a sole owner of data or author of text in the various fields of science. Photographers speak of owning images, and designers and architects distinguish between passing someone's work off as one's own and appropriating someone's work: the former is plagiarism, the latter consistent with a long tradition of how art emerges (Mullin, chapter 4). University administrators look at much of what they write—both what is written for them and

what they write for others—as belonging to the institution, not to themselves as individuals or as holders of a position. They do, however, often distinguish among intended audiences for distribution as something akin to "ownership" of particular documents. That is, while they "own" confidential documents, they can share those documents with selected audiences, who then also "own" the information they convey (Bergmann, chapter 5). As Bergmann points out in her chapter here, these same administrators are often enough accused of plagiarizing information, though such accusations are prevalent in all fields: artists debate rights to appropriated images (see Kellehar and Farr 2006), scientists argue over who owns research (McCook 2007), suits have been brought over archaeological sites (Wilford 1991), and historians are often enough accused of taking what is otherwise owned (Weiner 2007).

If determining what is original, owned, or acknowledged creates conflict within the professional arenas in which faculty practice their disciplines, it seems reasonable to expect that these controversies will appear in classrooms as well. It also is reasonable to expect that they should influence faculty teaching practices because knowing what is "owned" is part of the continuously evolving context of multiple voices, objects, and activities that comprise and extend any field: they are central to the sources of data, texts, visuals, and objects out of which knowledge is constructed and claims are made. They are, therefore, central to how students read, use, respond to, and cite disciplinary "texts," and then claim ownership of their own ideas, sites, and objects.

The notion of single-authored, original work also remains an idealized norm in western authorship, and thus establishing student ownership has become an important element in grading (see Woodmansee). This fiction is maintained in some humanities fields where single-authored texts or projects are the norm; even though feedback and editorial comments from colleagues clearly affect the creation of a text, these are not always acknowledged. Yet our classroom practices and grading

systems continue to support the single-author notion, for while students might work together or consult writing center tutors, often their work is expected to be single-authored, ignoring the actual social interactions and literate practices that comprise all texts.

In areas outside the humanities, work typically is produced by teams of researcher-writers for whom collaboration is so fundamental as to be unquestioned; these faculty expect the multiple authors' contributions to differ substantially in kind or degree. However, while these same faculty members encourage collaboration in laboratory or other teams, they often require that students submit "their own" work for purposes of grading. This not only leaves students confused about how to collaborate responsibly but also leaves instructors uncertain about how to evaluate the resulting texts—individual texts that don't reflect collaboration in their areas. As Steven Youra (2008) observes, the question "Who Wrote This Text?" is difficult for scientists because their work begins with the research design and continues during experimentation, data collection, and final reporting; each of these elements involves acts of creating knowledge with words by building on others' work. While some of the scientists interviewed for chapter 2 make it a point to explain to students where their own work begins and the group's work ends and how to claim it, this is not yet a common practice in the field, and certainly not across disciplines that engage in collaboration and differently define what is owned.

These and other field-specific practices reported in these chapters point to the need for discussions of plagiarism based on disciplinary concepts of ownership and for an acknowledgment to students (and faculty) that tacit differences among areas exist. They call upon faculty to investigate and then articulate those differences and to challenge the one-size-fits-all definitions of plagiarism and their origins. Scholars such as Andrea Lunsford (1996) already have pointed out that academics' understandings of ownership grow out of patent law, which was designed to cover rights to more tangible inventions, not to

scholarly ideas or the expression of those ideas. Lethem's (2007) and Woodmansee's observations take to task the Romantic notions of authorship upon which our ideas of copyright are built (16). They promote opening up our definitions and applications of access and ownership to recognize, as suggested by the Bellagio agreement, that "systems built around the author paradigm tend to obscure or undervalue the importance of the 'public domain' the intellectual and cultural commons from which future works will be constructed" (qtd. in Dolin 2007, 70). Zemer (2007) argues further that the public needs to be recognized in all acts of creation and allowed better access and use when there is no harm involved (65).

Our work with this project suggests that if these issues are taken up within each discipline, if the controversies over ownership in which faculty are (or should be) engaged are brought into the classroom, we might find ourselves less occupied with policing student texts and materials and more involved in discussing the *processes and concepts* critical to entering disciplinary discourses. Thus, we invite readers to continue this study of plagiarism by further investigating academic definitions of intellectual property and ownership—and the resulting practices—so that colleagues working within educational systems come to actively understand, resist, perpetuate, and revise them for themselves and for those currently making decisions about what we own, should own, or borrow. We suggest including discussions of citation practices in genre studies, in activity system theory, and in the work that challenges notions of linear progressions from novice to expert writer. In light of our research and that of others in these areas, we strongly urge a reconsideration of our terminology, our generalizations, and our teaching practices, for they are and will continue to be inadequate without this kind of careful and continual reexamination.

1

OPEN SOURCERY

Computer Science and the Logic of Ownership

Marvin Diogenes, Andrea Lunsford, and Mark Otuteye

This chapter participates in an increasingly important and sometimes acrimonious debate over how texts can be best circulated, shared, and, when appropriate, owned. Of course, these issues of textual and now digital ownership are not new. They have grown up, in fact, alongside print literacy, capitalism, and commodification, with copyright protection growing ever more powerful: the current protection extends to life plus seventy years for individuals or ninety-five years for corporate entities.

With the rise of the Internet and the Web, many hoped for a new era of democratization of texts that would challenge the power of traditional copyright: anyone could be an author; anyone could make work available for sharing. And to some degree, this hope has been realized, most notably in venues such as Wikipedia and in the explosion of blogging and social networking sites. Yet commercial interests are working incessantly to control the Web, and Hollywood, the music industry, and entities such as Microsoft now concentrate their efforts on getting Congress to protect digital works of all kinds. Democratic sharing of knowledge in this atmosphere is difficult, to say the least. Yet unofficially, people everywhere are sharing information and trading goods, often without any citation (or payment), from peer-to-peer music file sharing to journal article swapping to the open-source code movement in computer science.

For this project, we found computer science to be a particularly fascinating scene for questions about textual ownership.

Why? First, computer science (CS) is a new, rapidly evolving field, one in the process of defining itself in relation to traditional ideas about intellectual property, collaboration, shared knowledge, and textual production and textual value. We were drawn to this dynamic, and to the frontier mentality that seems to be an important element of the developing field's sense of itself. Moreover, at our institution, as at many others, CS is a large undergraduate major (among the largest at Stanford), and CS courses have very high enrollments from other majors, too. Thus, a significant number of our first-year composition students will eventually have at least some contact with the field. Another interesting element is that at our institution, as at many others, students in CS courses account for a disproportionately high share of the total number of plagiarism cases, and we wondered why that was the case. As these cases generally hinge on the improper appropriation of code, we found ourselves increasingly focused on the nature of code in CS, its complex relation to what qualifies as an idea, and its parallels to the kinds of texts that writing teachers and humanists work with every day.

We began our investigation by identifying eight lecturers and senior research faculty in CS who agreed to talk with us about a set of questions we sent them in advance. (See Appendix A to this book's introduction for the questions. The interview questions were adapted by Andrea, Marvin, and Claude Reichard, director of the writing-in-the-major program at Stanford. Claude was also a member of the interview team, and we thank him here for his essential contributions to that stage of this project.) These eight interviewees teach the full range of CS courses, from first-year through graduate level. Their work includes textbooks and articles as well as code, and one faculty member formerly served as co-chair of Stanford's Judicial Affairs Review Board. One of the informants works in the computer industry as a software developer. In each case, we met with our colleagues in their offices at Stanford for at least an hour, recording their remarks and later transcribing them.

Almost immediately, we could see the commitment these scholars had to the concept of open source (in general, the idea that source code is available for others to use or modify; see www.opensource.org) and to making their work available as widely as possible and as quickly as possible. These commitments lead to a tension, however, one that pits the desire to make a free space (free both in the sense of open to all who care to contribute and also free of charge) for publication of cutting-edge work against the corporate, institutional desire to control the expression of knowledge through traditional publication practices and copyright. We also began to gather information about CS ways of doing things, of their use of boilerplate, conventions, and commonplaces in code that no one owns and everyone uses. The more we talked to the respondents, the more we came to know the features and special quality of their common space—what we might call the Burkean parlor of computer science. What follows is our attempt to hear a whole range of voices and to use them to explore issues of textual ownership, particularly in CS, but also in other cultural contexts.

PARLOUS PARLORS

JZ, a CS interviewee: Here's an issue we think about: as the tools have become more and more sophisticated, we have the students do more and more things that build on the work of others. Now that work is often public domain, standard-issue, but it creates an interesting tension; we say they need to write everything themselves, but there is a lot of code that we use ready-made, and we need to make sure they know what they are allowed to use, what parts they need to build independently. Sometimes people reinvent the wheel. A lot of that code is repetitive, not interesting, you don't want students to write it anyway. So you teach them to indicate where we got this stuff from, and then build on top of that.

PY, a CS interviewee: And then of course, there's the whole issue that on the Web everybody steals everything. It's extremely easy to steal stuff. I play computer games, so I read computer game websites. And sometimes you'll see text just stolen, word-for-word, put on someone else's website. You're just like, "Okay." No attribution, no nothing. It's all hobbyist stuff, but even so, it's clear that . . . I don't know if it's a generation issue or what, but some people think nothing of just taking text from other people.

These computer science scholars are talking about two issues that came up over and over again in our conversations: the desire to keep students from having to do busywork by letting them use another's code as long as they give attribution, and the recognition that many people, including lots of students, view what's on the Web as available for use—without citation. (There's also an interesting parallel and perhaps a contrast in the attitudes toward code and word—PK notes that "on the Web everybody steals everything," but he seems to voice a special ire towards those who steal text. Apparently computer science students need to learn to acknowledge the sources of their ready-made code, but they should already know better than to appropriate text verbatim.) In these remarks, the interviewees thus point up the huge change that has taken place in terms of peer-to-peer sharing and the clash between what Lawrence Lessig calls a "permissions culture," which values absolute protection, and a "free culture," which values more open sharing of resources. The Record Industry Association of America (RIAA), for example, argues strenuously that downloading a song is tantamount to stealing a CD, while students and many others argue for a more nuanced understanding of what constitutes intellectual property (perhaps motivated by both the immediate desire to access songs easily and by long-term questions of control and ownership of music). In *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture*, Lessig (2004) outlines four distinct types of sharing and explores the

ethics of each. In response to the RIAA, he says "If 2.6 times the number of CDs sold were downloaded for free, yet sales revenue dropped by just 6.7 percent, then there is a huge difference between downloading a song and stealing a CD" (71). If teachers agree with Lessig's analysis, acknowledging the claims of businesses while seeking more complete contextual information about their profit and loss, then we have an obligation to be talking with our students about these issues and helping them to articulate an informed ethic of peer-to-peer sharing.

Listening to CS scholars talk about their community and its norms led Marvin and Andrea to spend some time thinking about the assumptions we hold as scholars of rhetoric and writing studies, and about the various Burkean parlors in which we find ourselves participating. How could we begin to try to fit what the computer scientists were saying about code into what we knew about text? Sometimes correspondences appeared; at other times, we encountered distinct differences, or what seemed to be brick walls blocking understanding—so much so that we began to think not of a parlor but of a veritable carnival of parlors, which sometimes overlap but many times do not. At this point, we were fortunate to engage a former student and recent Stanford graduate to work on this essay with us. Mark Otuteye came to Stanford a computer science major but eventually graduated in African and African American Studies and English, with an emphasis on poetry. He then had an intense internship at Google, and was in the second year of a Marshall Fellowship at the University of Edinburgh, where he was working on poetry and computer science, during the writing of this chapter. As one who participates in the conversations of both humanities and computer science parlors, Mark has a special perspective to bring to this project. He describes his introduction to Google's parlor, and its attitudes toward intellectual property, in this way:

Mark: My second day on the job at Google, I had my first personal run-in with intellectual property and computer science. I have

a Web page at www.markotuteye.com/google.htm that discusses ten products I thought Google should develop. I had written the page way back as a way to study for the many Google interviews I was to have. At the end of the page, I had a comment box where visitors could tell me their ideas about products Google should develop. I was proud of my comment box because it was my first attempt at building interaction into a public site. When he saw the site, Avichal, my mentor at Google, warned me that the comment box produced a conflict of interest now that I worked at Google. If someone were to submit an idea that was similar to a product Google was already developing in-house, that person could sue me after the product launch. "Oh," I said. Avichal suggested that I add some text to the site protecting me from such a lawsuit, but I thought that I would rather just take the box out because it would be safer. The price of interaction on the Internet is an acute awareness of the kind of intellectual property protected by patent laws. And, now that I work at a company which must be very open internally (for innovation) but very opaque externally (for security), I'm getting a rapid education in the *do's* and the *don'ts* of IP.

As Mark's experience demonstrates, in the corporate parlor, talk can be hazardous, ownership of ideas contested, legal remedies pursued. As the three of us immersed ourselves in the interview transcripts, we found ourselves hearing voices from other conversations about these fraught questions, voices that led us in a number of directions. Given our non-technical backgrounds and interests in popular culture, we began to make connections between the questions we asked the computer scientists and our own lived experiences, and we began to see how our interviews related to a larger conversation about ownership and control of ideas, texts, words, and codes. We also began to write together on writely.com (now Googledocs), where we could generate texts simultaneously and enter each other's texts. This technology led us to a free-wheeling meditation on concepts of ownership that we decided to weave together with the voices of

our colleagues in computer sciences and other voices we hear around us every day.

In considering the key features of the computer science parlor, we sought ways to articulate and perhaps reconcile the tension between having a toolbox (the way a poet or lyricist or writing teacher might, parallel to those that new CS students are expected to develop as part of their apprenticeship) and generating and owning an idea or code. We contemplated what it means to be a member of community that owns things together and what it means to create as an individual, whether the object owned be code, a poem, a spoken-word piece, a song lyric, a joke, or a recipe.

RM, a CS interviewee: The basic issues: can you patent an idea for software, can you patent an algorithm, which is just a mathematical expression of an idea on its way to becoming a piece of software, or do you patent the software itself? The dividing line is not well-defined. I've patented ideas; for instance: I and a couple of students had an idea of doing a similarity search. When you represent objects in a computer, you represent them as a kind of number. You take a description of a table and represent it by its greatest parameters so that it becomes a sequence of numbers; you view that as a point in higher-dimensional space. Then the question: I have a huge database of these objects represented, how do I find similar objects? That becomes hard because of recursive dimensionality; instead of comparing the parameters to every object in the database, which is slow, you need to come up with something more clever. We came up with a mathematical function that takes these object descriptions and collapses them into small sets of objects, so that you compare only to the small sets. I and the two students hold that patent—well, who holds it? Stanford basically owns the idea, even though my name is listed as the inventor; we have an office of technology licensing, which handles the whole process. Whatever money

> they make off it by licensing the patent to industry, they split that up [according] to a certain formula: I'm making this up, but, say, one third to me, one third to my home department, the rest divided between the school of engineering and the university. They also pay the cost of filing the patent, which is not a small amount—ten to thirty thousand dollars. So they decide whether to file the patent; I cannot license it myself.

We're very interested here in RM's meditation on what can and can't be patented and the large grey area that currently exists in this evolving field. Other interviewees made the same point, arguing that the law is simply not yet able to distinguish effectively what is of most value in CS. In any case, as RM notes, for those working at universities, it is the institution that usually holds the patent—though the profit gained will be shared with the "inventor." What's clear is that the monetary stakes can ultimately be quite high if an invention turns out to solve a problem that needs to be solved. That context of potential vast profit suggests that scholars in CS must find ways to teach their students about these complex issues and about the grey areas of the existing law.

Mark: My grandmother used to make her own intricately spiced stews. My grandfather used to make pots and at one point he made a special mold that yielded pots perfect for cooking up stews. With a pot made from this special mold, my grandmother created a stew so piping hot and tasty that no one else in her neighborhood could figure out how she'd done it. Everyone could see the stew and taste the stew, but no one could figure out the recipe. It was Grandma's signature recipe.

On top of that, no one could figure out how to get the stew to cook in quite the same way since they didn't have grandfather's special stewing-pot. Both the vessel (the pot's mold) and the content (the stew's recipe) were "protected" or secret from the neighbors. This is analogous to the state of a Word document on the Web; both the vessel (the .doc file format) and the

content (the words in the file) are protected and cannot legally be reproduced or edited without citation. This is what's currently the norm.

Well, my Grandma valued improvisation, so she gave her neighbors the recipe. Although Granddad didn't tell folks how to make their own pots by sharing his mold, he did make pots for any neighbor that wanted one. Armed with the recipe and the pot from Granddad, neighbors were free to make Grandma's stew, and innovate on top of it. The vessel (the pot's mold) is protected, but the content (the stew's recipe) is free or open. This is analogous to the state of a Word document with Creative Commons attached.[1] Given a .doc made from Microsoft Word's "mold," anyone can creatively "remix" the words that I include in the document.

Finally, my grandpa decided that it was in the best interest of the community if he taught folks how to make their own pots. So he shared the mold. Now both the vessel (the pot's mold) and the content (the stew's recipe) were "open source" in the community. This is analogous to an OpenOffice document with Creative Commons attached.

JU, a CS interviewee: Writing the code is not as important as having an idea of what code to write. The primary motivation is either how to do something, an algorithm, or "people would like it if you could do that." The famous case is the first spreadsheet: it was PC technology. . . . There were spreadsheets in the 1970s that would crunch numbers, but you needed a programmer to set them up. Then a business person said "here's what we need to do" and paid a programmer $25,000 [to create a spreadsheet program for the PC] and then made millions and millions. Some eyebrows were raised; maybe justice wasn't done; but a deal is a deal.

1. Creative Commons is an alternative to traditional copyright created by Stanford law professor Lawrence Lessig. A Creative Commons license "helps you keep your copyright while inviting certain uses of your work—a 'some rights reserved' copyright." See http://creativecommons.org.

Andrea: I was struck by the different system of values underlying JU's story about the first spreadsheet and Mark's story about his grandmother's stew, both of which show the crucial significance of cultural context to an understanding of intellectual property. But these stories don't just mark a difference between U.S. and African understandings of ownership. In fact, Mark's story immediately made me think of my maternal grandmother, Rosa May Iowa Brewer Cunningham, who made a quilt for every one of her children, grandchildren, and great-grandchildren, up to her death at the age of 96. But she did not make these quilts alone. Rather, she and her rural Tennessee quilting circle worked together—they were almost always working on a quilt or, more accurately, several at a time. Not that my grandmother didn't do a lot of the work of preparing alone: she was constantly on the lookout for scraps of fabric she could cadge or a piece of clothing or used flour sack she could cut up for the designs. Mostly, she and her friends used these pieces to make a quilt in a traditional design; the double wedding ring was one of my granny's favorites. But occasionally she or a friend—or a group of friends—would create a new design to quilt to. One I know looks a bit like a postmodern version of the log cabin quilt.

So to use Mark's language, the quilt design is the vessel, and the pieces put together are the content. Or is the design of the quilt—and all the talk that takes place around the making of each quilt—the code, and all the pieces and the slight variations stitched into each quilt are the content? In any case, no one "owns" the quilt designs because they have been developed through centuries of collaborative cultural practice. So those moments of invention fall outside the code of copyright and instead participate in the concept of open source.

Marvin: I'm the only one of the three of us who didn't have the opportunity to observe and learn from a grandmother, so I'll shift the conversation to another realm of shared cultural practices—in this case popular culture, or the sprawling family created by mass media. Here too we can see the circulation of vessels

that become property held in common by all of those who add content through participation in a particular culture.

The comedy troupe called The Village Idiots appeared on *Don Kirshner's Rock Concert* in the seventies. Here's an account of a Village Idiots skit I saw late on a Saturday night at some point during that decade, though my own predilections certainly color what I remember. I'm interested in what the skit tells us about the form, or vessel, for a joke—in this case considering a joke a specific way to make meaning and comment on one's experience of the world—and how such a vessel comes to be invented, shared, and ultimately owned.

The skit begins with several cave-people in a cave, dressed in animal skins. They find a cigarette lighter, a cheap one available at the counters of convenience stores. (The unapologetic anachronisms in the skit are part of its indelible charm, at least for me.) One of the cave-people flicks the lighter, getting a flame, which terrifies all of them. The inquisitive one drops the lighter, and all scurry away, leaving it on the cave floor. At this point Ug walks in to the scene. Ug seems to have reached a later stage of evolution. He calms everyone down, picks up the lighter, and beckons them to come nearer. He flicks the lighter on, saying "Fire good. Fire cook chicken." (A rubber chicken has wonderfully been included on the set.) This indeed calms the rest of the clan, and they hold the rubber chicken over the lighter for a moment.

Ug announces a new discovery, and asks the group to listen carefully; they form an audience in front of him, squatting in the dirt. He's clearly proud of himself, preening in his animal skin as he prepares to perform. The performance begins thus:

Ug: Knock knock.

Clan: Come in.

Ug corrects the code. "No, no, no," he says. "Knock knock," he articulates, gesturing to himself. "Oo ere," he continues, gesturing to the clan.

Ug: Knock knock.

Clan: Oo ere?

Ug: Ug.

Clan: Come in.

Exasperated but persistent, Ug corrects the code again. "No, no, no," he says. "Knock Knock," he repeats, with the same gestures. "Oo ere," pointing to the clan. "Ug," he says, pointing again to himself. "Ug oo," pointing to the clan.

Ug: Knock knock.

Clan: Oo ere?

Ug: Ug.

Clan: Ug oo?

Ug: Ug-ly.

He pauses, waiting for the laugh. The clan looks at him expectantly, awaiting more direction. He tries to explain. "Joke," he says. "Joke." "Ug-ly," he repeats, pounding on his chest, thrown off by the clan's failure to appreciate the cleverness of the joke's form and the self-mocking payoff. "Ug-ly. Ug-ly. Ug-ly!"

The clan still doesn't get it, but they want to please the seemingly advanced Ug. "Joke," they say, questioningly, struggling with the concept. They pick up the previously discarded rubber chicken. "Joke good?" they ask. "Joke cook chicken?"

For The Village Idiots—and aren't we all members of the troupe some of the time—code isn't easy. First people have to learn the boilerplate, the standard structure. Then they have to weave in a flash of brilliance and hope everyone is dazzled. How do writers of code learn to reconcile the tension between having the boilerplate, the toolbox, and generating a good idea or piece of code?

PY, a CS interviewee: It was a tic-tac-toe program, and the students said, "Well, there's only one way to write a tic-tac-toe program in computer science, so of course all of ours are exactly alike," which is also totally false. Like, clearly, you guys did not learn anything in this class. And then they claimed that if they had come up with a different tic-tac-toe program, I would have just gone on the Web and found another program that worked exactly the same way theirs did. They never did get it, and they

> accused me of all sorts of stuff. They wrote this nasty letter to the Honor Code Committee. The Honor Code Committee got really pissed off at them, and made them write an apology to me. And to this day, I think at least one of them still denies that they copied it. But it literally was 100 lines of code exactly the same. And I still don't get what they were thinking. It's just bizarre. I totally see them copying, but I don't understand how they thought that once we brought it up they could just claim that they didn't copy it. It's just bizarre.

PY's bemusement and consternation are overt and heartfelt, echoing his earlier response to the stolen language on the hobbyist website discussed above. While we likely share PK's reaction to stolen words, we wonder whether the students' act of sharing the tic-tac-toe code is quite the same as stealing a CD, to return to the example from the RIAA. In CS, our interviewees told us over and over, it is the norm to use code that is out there to save time and steps: why reinvent the wheel over and over and over again? Yet the students aren't supposed to do this kind of sharing, on the theory that they need the practice of creating code from scratch. We take the point, though.

Andrea: These stories throw into stark relief the traditional humanities view of textual ownership, the by-now-familiar scene of the lone writer in the garret, struggling to compose an utterly unique text, marked with the author's genius, owned outright, and deeply protected by the web of intellectual property laws that have grown like kudzu during the last three-hundred-plus years. This is the "author" declared dead some thirty-five years ago, though the death announcement by humanists such as Roland Barthes and Michel Foucault turned out to be premature: today copyright laws are more extensive and longer-lasting than at any time in the past, and, in fact, major content producers (think Disney here) have appropriated the mantle of authorship and used it to close off larger and larger areas of creative endeavor. As the power of such authorship has grown, the

public commons has shrunk; the Digital Millennium Copyright Act sanctioned the entertainment industry's appropriation of authorship and, along the way, reduced the fair use principle to a mere whisper. At the same time, scholars in the humanities, working in a relatively new field usually called "the history of the book," have resuscitated the author and theorized extensively on human agency and its relationship to textuality. Also at work in reclaiming agency have been feminist and post-colonial scholars.

If those in the humanities still cling to the possibility (or necessity) of authorial power and ownership of text, they have also moved toward a little more acceptance of collaboration. Universities as diverse as Stanford, Ohio State, and Chicago now all have "collaborative" humanities centers, which call for and fund collaborative research projects. And though the single-authored book is still the sine qua non in tenure and promotion decisions within most humanities departments, collaboratively produced articles and books are gaining some acceptability. Perhaps most important, scholars in the humanities have come to understand that very rigid and exclusionary copyright laws actually keep them from doing their work: if everything is protected, then how can one write criticism? Professor of English Carol Shloss is particularly eloquent on this issue, as a book she had worked for years to write on James Joyce's daughter Lucia was nearly blocked by the Joyce estate, which claimed ownership of so many of the sources that Shloss wanted to use that her work was put in serious jeopardy. Those sources were Shloss's "collaborators" and she needed them desperately. As her story shows, the same copyright that protects her "authorship" can be used to prevent her access to the materials she needs to establish herself as an "author." This is a potential contradiction at the heart of what we are exploring in this essay. With these contradictory tensions in mind, we were particularly interested in Mark's ideas about invention, ownership, and the poetry he writes.

Mark: Whenever I sit down to write a new poem, I first read over my previously written poems. I also read over the many African American poetry books on my bookshelf to seek inspiration from those who came before me. Because I'm both a poet and a computer scientist, I brought my two passions together and wrote a program called Heteroglossica to help automate my invention process. Heteroglossica searches over all my previous poems, blogs, essays, and email and presents me with start-material for new poems. For example, if I want to write a poem protesting the war in Iraq, I can type in "war in Iraq" and get back snippets, sentences, and lines from my previous work that have to do with the war in Iraq. Then I can craft that start material into a new poem. The best thing about Heteroglossica is that it allows me to search over multiple authors. For example, I currently have the program configured to search Shakespeare's plays and Tupac's lyrics, in addition to my own work. If I search for something like "death," Heteroglossica pulls lines from all three of these voices and populates a text box with 20 or so of the most interesting lines. Then I can edit that material into a new piece. Often, the hardest part of writing a paper is writing against the dominant thoughts and words of established authors. Heteroglossica encourages me to think of all text as open source.

The following code from Heteroglossica creates a textbox in Internet Explorer and puts lines from Tupac, Shakespeare, and me into that textbox. In writing the code, I'm aware of and sensitive to multiple audiences: the writer who will use the program, the browser (Internet Explorer or Firefox) that will show the Web page, and the server that will search across the three authors. For example, this next line is for the writer who will use the program. It lets her know that the text in the textbox can be edited.

```
echo "Edit these lines into a new poem:";
```

The audience for this next line is the browser. It's the line that creates the textbox and puts a black border around it.

```
echo ''<textarea name=\''main_text\'' rows=\''40\''style=\''border
:1px solid #000000; width:100%; padding:10px\''>'';
```

The audience for the next chunk of code is the server, the computer that actually does the work and sends the results to your browser. These lines of "for" loops and "if" statements are supportive, boilerplate language that are written hundreds of times in programs. Someone trained in computer science would scan over these lines quickly looking for Heteroglossica's active ingredient or engine.

```
for ($z=0; $z<count($corpuses); $z++){
if (count($results_array) > 0 && $results_array[0] != '''){
for ($i=0; $i<$total_results/count($corpuses);){
$k = rand(0, sizeof($results_array));
if (str_word_count($results_array[$k]) > 0){
$all_results[] = $results_array[$k].''n'';
$i++;
```

The line below is Heteroglossica's "engine."

```
$results = shell_exec(''grep -i -h -w $query corpus/$corpuses[$z] |
sort -b -f'');
```

The engine of Heteroglossica is "grep," a pre-written function well-known to computer science folk. Grep searches through lots of text and finds lines that include a given term. Because I relied on pre-written, boilerplate language for even the core functionality of my program, I announce to anyone reading my code that I am more interested in designing the experience of using the software (like interior design for a house) than in implementing a new way to search across texts (like designing the plumbing for a house). The logic of my code is expressive of my rhetorical situation and, to some extent, my individual personality.

> Finding one's voice isn't just an emptying and purifying oneself of the words of others but an adopting and embracing of filiations, communities, and discourses. Inspiration could be called inhaling the memory of an act never experienced. Invention, it must be humbly admitted, does not consist in creating out of void but out of chaos. (Jonathan Lethem "The Ecstasy of Influence," *Harper's Magazine*, February 2007—a pastiche of text from George Dillon, Ned Rorem, and Mary Shelley.)

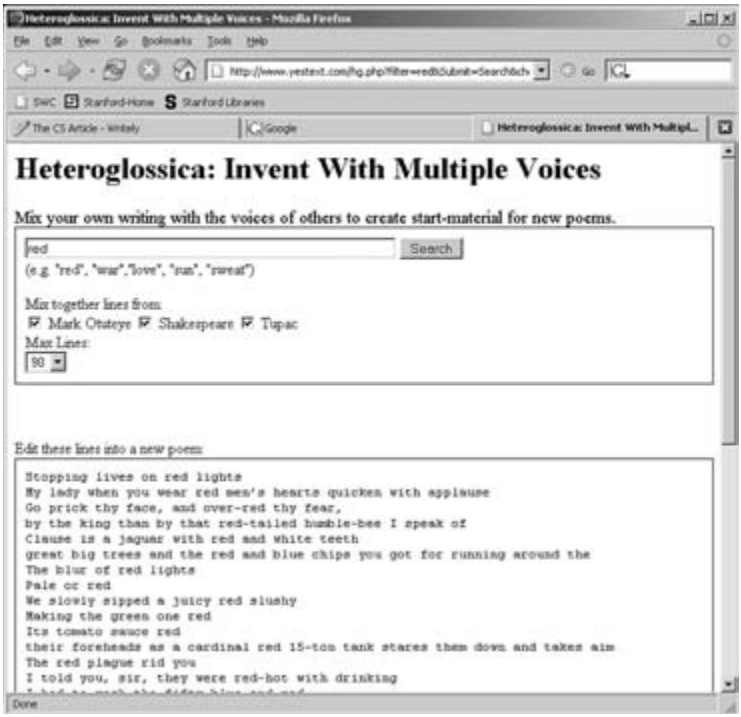

Figure 1.0. Heteroglossica in the Firefox browser.

Lethem's article, which doesn't announce its reliance on pastiche until its conclusion, dramatizes in another form what Mark's Heteroglossica program achieves systematically with the aid of an algorithm. The chaos Lethem describes is deeply collaborative, as is the work in CS. Students in undergraduate courses are encouraged to work together and to get help when they encounter problems writing code. In introductory classes, students are expected to write their own code, informed by discussion, and plagiarism cases generally involve students using code written by others without citation. Our informants consistently reported that plagiarism in CS is easily detected—in other words, there's no gray area when it comes to code. At Stanford, a program has been developed that finds copied code, even if the plagiarist has tried to disguise the theft by changing surface

elements of the code. (One interesting element of this issue is the idea that the way an individual writes code is very distinctive.) This openness to collaboration remains constant as students advance in the field. It is standard to ask for help; it is standard for people to work collaboratively; what's not acceptable is using someone else's code without proper citation.

Except in the case of team project assignments, all the guidelines for collaboration we saw drew a very sharp line between pre-code-writing activities and the actual code-writing, with collaboration on the latter categorically forbidden—as it was in the tic-tac-toe example above. Presumably, if students copied code but *did* cite the source, they would not be charged with Honor Code violation, but it didn't seem like they would get much/any credit either. The interesting disjunction, then, is that, in most of their coursework, collaboration is expected to suddenly stop when students start writing, whereas that is definitely not the expectation/practice in industry—which most of the students probably well know and where most of them are headed.

Some interesting parallels with practices in the humanities come to mind here. Stanford undergraduates enroll in a yearlong Introduction to the Humanities (IHUM) program during their first year. They learn to engage with texts (mostly canonical texts, though some IHUM courses are moving to visual texts and, in one case, the online environment of Second Life) through close reading, informed by two hours of lecture and two hours of small group discussion each week. How do beginning humanists acknowledge how they're collaborating when they compose and turn in for evaluation their single-authored work? Students are explicitly told to cite lecture and discussion when they reference them in essays and to avoid secondary sources, to avoid borrowing ideas. A premium is placed on originality, a distinctive engagement with the text that doesn't reproduce interpretations the students have already heard. Like the CS students, they are encouraged to work together on brainstorming and to visit the writing center for consultations about

their drafts-in-progress: but what they write is supposed to be theirs and theirs alone.

MJ, a CS interviewee: In the early courses, it is all individual work. You are expected to implement everything that you are told to implement and use tools the way you are told to use them. In the upper-level courses, I expect them to have a toolkit, and I tell them I don't care where they get it. By 143 or 148, they are expected to know how to do those things, so the rules of 106 no longer apply. For graphics, if I ask them to implement a particular graphics algorithm, that's where I draw the line; what we are learning about, you can't copy.

Say they take 148 or 248 where they are building a graphics toolkit; then they get to an upper level course and they use that toolkit. So it keeps building. Then they get to industry, and they have their tool kit. If I am looking for copyright infringement, I am not going to look at the toolkit, which counts as shared knowledge at that point. So the toolkit will have things they have developed and also things that they have gotten from other sources. They will also modify it as they go from job to job—which can get touchy. If someone takes their toolkit plus some more meaty parts from job A to job B, that is not right. We teach them this in 201, which talks about social responsibility, ethics, etc. Sometimes, though, a person thinks "I wrote this, I can take it with me," and that gets them into trouble.

Advanced humanities students have assembled a toolkit of interpretive and analytical moves, which may be recognizable as a kind of code but cannot be patented or owned. It's also worth noting that the industry of work in the humanities does not offer the kind of financial rewards that a life in computer technology can lead to. Humanists learn to do things with words, reaching an audience of readers; programmers learn to help the much larger audience of consumers do myriad things with code. While the invention practices have parallels, the contexts and real world effects diverge dramatically.

Eventually, we began to get a sense of the kind of Burkean parlor where computer programmers/coders spend their time. It's a parlor with whiteboards, a parlor in which visual images and math have status equal to words. A parlor in which newcomers learn by listening and watching. A parlor in which one leaves the toolkit at the door, because the work of coding is done in another room, where the hardware is kept. The parlor is for ideas, for play, for testing out ways of doing things and persuading the rest of the group that one way is the best way. The ability to discover the most effective means of getting things done in a given situation. One might call this a rhetoric of programming.

One feature of such a rhetoric is the strong desire in CS to make research available as widely as possible as quickly as possible. Since knowledge is generated at such a fast pace, the traditional waiting period for publication of new work is not acceptable in CS. Thus, as mentioned earlier, one of the tensions in the field pits the desire to make a free space to encourage the quick spread of new work against the traditional methods that slow down the sharing of knowledge and subsequent synergy of minds focusing together on a problem. Many of the informants assert that this chills creativity.

The conflict has led many in CS to turn to conference proceedings as their main venue of publication. While journals generally want to hold the copyright on articles and may take a long time to get the work into print, work in conference proceedings appears more quickly and the copyright remains with the authors. What seems to have sprung up, then—amazingly quickly, as scholarly practices go—is a system for quickly and freely disseminating work, *but* with agreed upon screening/review process for making sure that work published in proceedings is in fact *cutting edge*. This has in turn led to a shift in what sorts of publications (e.g. journal articles vs. conference proceedings and even textbooks) count for promotion and tenure, and differences in practice in these areas between what the informants refer to as top tier and lower tier CS programs.

Folks in CS also publish much or all of their work on their own Web sites, contributing to the open access feel of CS, and the premium put on free access and free exchange of ideas. While stuff on the Web is easily stolen, such thefts are easy to track; one informant told us about finding his work on forty Web sites, with twenty of them not attributing the work to him. Another informant shared this motto, "Impact, not publication; conferences, not journals," asserting that the perception in the field is that journals are more likely to be publishing what is already common knowledge, not cutting-edge. It's important to note that the shift to alternative means of publication does not mean complete openness or lack of standards; the acceptance rate for the most prestigious conferences is 10% or less. Bypassing the traditional journal peer review process has been accompanied by the development of alternative conventions of peer review—for example, the blue-ribbon committees that select papers for each interest group at conferences.

Another interesting question in CS is the determination of what constitutes unique or new insights. One informant cited the "real misunderstanding of what's unique in CS." In particular, courts familiar with traditional ideas of copyrighted textual material or patent law don't know how to evaluate work in CS. Again, there's a gap between old IP concepts and the dynamic developing context of CS.

What can be patented in CS? What constitutes an idea in CS? How does one determine the difference between an idea and an application of an idea? One informant asserted that applications of the same idea have been patented, and that the patent granting offices simply do not know enough about CS to keep this from happening. What's important in CS is the idea, not the execution or expression of it in code; as one informant put it, "Writing the code is less important than knowing what code to write."

Blues and jazz musicians have long been enabled by a kind of open source culture, in which pre-existing melodic fragments and larger musical frameworks are freely reworked. Technology has

> only multiplied the possibilities; musicians have gained the power to *duplicate* sounds literally rather than simply approximating them through allusion. (Jonathan Lethem, "The Ecstasy of Influence," *Harper's Magazine*, February 2007)

Marvin: There's a British documentary from around 1988 about Paul Simon. At one point the slow-talking, near-ponderous interviewer comments that some have claimed that there can be no great art made in rock 'n' roll, because the means are too limited. He asks if Simon has felt these limits. Simon looks at him coolly, at length. He answers "No, I don't agree with that," going on to say that art can be made in any genre, including rock. He says that "rock is about rhythm," and that he can express something lasting by finding his way to the right rhythm. Rock, like code, is a well-defined structure. Much of the verse/chorus/bridge form is the same in most rock songs. The guitar/bass/drums instrumentation dominates. Rhyme is a near-constant. Somewhere in that standard form is the opportunity for cool things to happen. It's difficult to say exactly what the cool thing is. You just know the cool thing is there by the way the song makes you feel, by the way the song makes you move, by what the song allows you to do.

> The thoughts are there inside your head, Teach said to me
> Invention is easy if you take it logically
> Try these heuristics, you can call them strategies
> There must be fifty ways you can discover
>
> Don't you sit lost in thought, just waiting for the muse
> If you trust to inspiration, then the chances are you'll lose
> I'll give you options, then it's up to you to choose
> There must be fifty ways you can discover
> Fifty ways you can discover
>
> Develop the knack, Jack
> Make a new plan, Stan
> Use the topoi, Roy
> Just set your mind free

Try the pentad, Brad
Freewrite till it's not bad
Idea tree, Lee
Just set your mind free

("Fifty Ways You Can Discover," The Composition Blues Band)

The Composition Blues Band was formed in the early 1990s, motivated by the following (borrowed) (stolen) (reimagined) narrative: Imagine you enter a jam session. You come late. When you arrive, others have long preceded you, and they are engaged in a heated jam, a jam too heated for them to pause and tell you exactly what it is about. In fact, the jam had already begun long before any of them got there, so that no one present is qualified to retrace for you all the songs that had gone before. You listen for a while, until you decide that you have caught the tenor of the set; then you put in your oar. Someone answers with a verse; you answer with a verse of your own; another riffs off of your chorus; another takes a solo off the bridge, to either the delight or dismay of the room, depending upon the quality of the player's chops. However, the jam is interminable. The hour grows late, you must depart. And you do depart, with the jam still vigorously in progress.

Lyricists and musicians learn to jam just as coders do. Bits of code show up in the arcane CS conversation, recognizable to cognoscenti but not to the rest of us who just want to see what happens when we click the application. We don't know if what's underneath the screen is a bass line, a rhythm, or a bit of melody.

PY, a CS Interviewee: Yeah, so text is certainly owned, code is certainly owned, ideas are definitely under dispute. So there's this idea that you can come up with ideas and patent them. There are a lot of people in the computer field that are very unhappy with this, but I do not believe it has, in general, been challenged in court. I could be totally wrong on that, I don't really keep up with this.

> But I do know that a lot of people do think that software patents are immoral. I'm not entirely sure what I think. I think there has been a tendency from the patent office to give patents for things which should not be given patents because they really are too generic. So I think at one point Groliers had a patent for people clicking on something. And it was almost like, "Clicking on something, and something happens." I don't think it was quite that loose, but it was generally considered to be extremely loose, and everybody's like, "No, this is really crummy. How could the patent office give a patent for this?" So that is generally under dispute. I think there is a substantial community that does think that software patents are immoral, as I said. I'm not quite sure how this is going to play out. So that's it for that.

KL, a CS interviewee: I think it was a grave mistake of the US patent office to allow these algorithm patents, these business process patents—they seem like a joke to me. Trying to work with these standards bodies, suddenly we are hemmed in by Cisco patenting something that is obvious, and HP has patented something very similar, ditto SUN; trying to produce open source software without infringing on these patents is tough, and these big companies just trade them back and forth in a way that freezes out the startups and the little guys.

Again, we are struck by how much is at stake in CS—and at the size of the grey area in the law. If scholars think of certain patents as "jokes" and others as so misinformed as to be immoral, then perhaps the near future will bring these issues to a head in ways that will resolve some of the uncertainty. Until then, however, those in CS might do well to follow Gerald Graff's well-known injunction to "teach the conflicts." At least then the students would be part of the conversation.

> Appropriation has always played a key role in Dylan's music. The songwriter has grabbed not only from a panoply of vintage Hollywood films but from Shakespeare and F. Scott Fitzgerald and

> Junichi Saga's *Confessions of a Yakuza*. He also nabbed the title of Eric Lott's study of minstrelsy for his 2001 album *Love and Theft*. One imagines Dylan liked the general resonance of the title, in which emotional misdemeanors stalk the sweetness of love, as they do so often in Dylan's songs… Dylan's art offers a paradox: while it famously urges us not to look back, it also encodes a knowledge of past sources that might otherwise have little home in contemporary culture… Dylan's originality and appropriations are as one. (Jonathan Lethem, "The Ecstasy of Influence," *Harper's Magazine*, February 2007)

> I don't want to express myself
> Coalesce or confess myself
> Address myself, outguess myself
> Undress, assess, or duress myself
> All I really want to do is get a good grade from you
>
> I ain't lookin' to write too well
> Cite, delight, or recite too well
> Extemporize well, categorize well
> Apprise, surprise, or analyze well
> All I really want to do is get a good grade from you
>
> I don't want to describe my kin
> Explore my sin or delve within
> Be selective or reflective
> Be directive or be effective
> All I really want to do is get a good grade from you
> I don't want to explore the world
> Abhor, deplore, or implore the world
> Valorize, problematize
> Theorize, contextualize
> All I really want to do is get a good grade from you
>
> ("All I Really Want to Do," The Composition Blues Band)

So Lethem uses the example of Dylan, appropriator extraordinaire, to arrive at the possibility that "originality and

appropriations" can be one. And what of less nonpareil appropriators, a category that includes most of the rest of us across the board, from rhetoric/composition to computer science, who basically seek a good grade in the eternal classroom of life? We're mixed up, so we remix, making do with what surrounds us.

KL, a CS interviewee: In CS, people build up libraries of routines for solving problems. You can get a sort function from a library without attributing it. When I take an example and build on it, all the original stuff often gets deleted, and then I might remove the copyright from it, but only if I was sure I hadn't left any code. More usually I would be happy to say at the top "portions of this code came from person X."

Marvin: In "Getting Close to the Machine," Ellen Ullman (1997) offers a version of a monkish existence for computer programmers in her account of her time in the field. She shows us an environment in which the key relationship is between the programmer and the machine, not the programmer and other programmers. There is no sense of community, no conversation, no white-boarding. She leaves the field out of a need for more consistent human interaction. She paints her colleagues as eccentric, lacking-in-social-skills, geeky Bartlebys who prefer not to deal with the mess of dealing with other people. There's just code, to them, and the uncomplicated judgment of the machine.

Andrea: In contradiction to Ullman's view, our conversations with computer scientists suggest that they do have a sense of community and that conversation and white-boarding are key elements in their creative process. What leaps out at me from a number of our interviews with them, however, is a web of contradictions in terms of ownership and collaboration. Students should work together, they say, but they must write their own code. Open source is best—but one interviewee was offended to

find his work on another's website, unattributed. Students can't cut and paste code—but doing so is a common practice in the field. The "previous work" section of an article is important—but almost impossible to do (remember the architecture analogy here?). I want my name on my code—but lots of people are playing fast and loose with code on the web and I believe strongly in the open source movement.

MJ, a CS interviewee: In the context of source code, there is a set of libraries you might use if you are doing Windows applications. They are Microsoft code, and you use parts of their code in your own code, so any Windows application you might want to write would probably have that. If I was looking at a piece of software and trying to decide whether there was copyright infringement, I wouldn't consider things in libraries. If something was common knowledge, a sorting algorithm that any comp-sci student knows—professional programmers have a toolkit, and that kit has all the most common things that they use every day [examples]. So I wouldn't consider that infringement, you can get it out of any textbook. . . . It is the nails and the screws of a building; but you still need to make something that does a particular task with unique features.

Andrea: At least some of this tension (it is "mine" versus "we should all have broad and free access") seems inevitable and, in fact, many people in all disciplines go about their work quite happily holding contradictory positions (usually unacknowledged). A case in point: when I was invited to contribute an essay on collaboration and intellectual property to PMLA, I didn't want to write a so-called single-authored essay, so I asked my longtime collaborator and friend Lisa Ede to join me, and we wrote the article together. Our collaborative practice over the years has been to alternate first authorship, with Lisa's name first on one article or book and mine on the next, and so forth. For the PMLA essay, it was my "turn" for first authorship, but

just before we sent it off, Lisa found herself really wanting to be first author on this piece for several reasons, including the fact that she had never published in PMLA before. I agreed at once, though later I felt a bit awkward about this: after all, it had been my turn. Lesson learned: old habits—and proprietary feelings of textual ownership—die very hard. Lisa and I both hold collaboration and shared authorship as deeply valued practices. But apparently we also hold on to proprietary instincts as well. I think we're seeing the same kind of echo of proprietary feelings in some of our CS colleagues.

Certainly this essay reflects the tensions and contradictory impulses we have tracked in our conversations with scholars in CS. As we've woven their voices together with ours and those of others such as our grandmothers, Jonathan Lethem, Paul Simon, and The Village Idiots, we have thought about the many ways our text—a pastiche, a pot of soup, a quilt, a tapestry—resists any traditional sense of ownership. We have obviously, then, been playing with these tensions ourselves, calling on others' words or "code," experimenting with a kind of patch-writing of our own, working to create a text that is not linear in the ways of traditional academic argument, even writing in what Winston Weathers called "crots." What would it look like, we have asked ourselves, to make a kind of reference or echo map of every voice that appears in or is alluded to in this text? We envision a veritable Charlotte's Web of sources, a large and somewhat unruly chorus rather than the neat trio referred to in the listing of authors for this essay. And while the three of us take responsibility for the contents of this essay, we do not claim ownership of it except in a shared and collective way. So in the spirit of CS commitment to the open source movement, we put this text out there, ready for others to use it, to make of it what they will.

That is not to say, however, that we believe a student (or anyone) should take this text, reproduce it, and claim it to be theirs. In other words, we welcome readers to join us in swimming in what we hope is a tasty soup of voices, to slalom down

the slopes of a quilted intellectual ski run, to bounce around the various parlors described and invoked in these pages, but we draw a line of ownership. As Lessig says, "This kind of piracy is just plain wrong. It doesn't transform the content it steals; it doesn't transform the market it competes in" (66). We come away from our engagement with the CS parlor, then, wanting our CS colleagues not only to recognize the tensions and contradictions that characterize their practices and their pedagogy but also to engage their students in sorting these contradictions out, in aiming to work together to make explicit what should be protected and why, what should be available for use and modification and why. And we take the same lesson for ourselves in rhetoric and writing studies: we need to tell some of the stories we've told here to our students, asking them to contribute stories and experiences of their own as a way of engaging what it means to be an author today, what it means to have—and to share—agency.

2

COLLABORATIVE AUTHORSHIP IN THE SCIENCES

Anti-ownership and Citation Practices in Chemistry and Biology

Lise Buranen and Denise Stephenson[1]

Some years ago at a national writing conference, researchers reported on a campus-wide study of faculty understandings of plagiarism: not only did they find that scientists rejected the use of quotation marks, but also they learned that verbatim copying from textbooks was fine with them because they believed textbooks contained only "common knowledge." Corroboration of this finding has proven elusive over the intervening years, but this indication of how diverse the understandings of plagiarism can be has led to many interesting conversations with science and non-science faculty. While no one we interviewed in biology or chemistry was accepting of students' verbatim copying of the "common knowledge" found in textbooks, we did find that plagiarism bothered them far less than did the concern they held for the integrity of data. Further, the fundamentally collaborative nature of science became a major player in our investigation into the problems that arise from collaboratively authored texts and into the foundational premise of science as a pursuit of truth, and public truth at that.

For this study, we interviewed ten faculty members in academic departments of biology and chemistry—men and women

1. We would like to thank our informants who gave generously of their time, willingly explaining scientific jargon and practices. We'd also like to thank Ximena Hernandez and Jocelyn Graf for their efforts to bridge the gaps between science and writing.

in both fields—from five institutions in two states, using the research questions common to the contributors of this text (appendix A) to investigate definitions and practices of intellectual property in these disciplines. We provided our research subjects with the questions in advance of our interviews. Eight interviews were conducted face-to-face, one was a series of e-mail exchanges, and one was conducted by phone. Our informants were from four-year, masters granting, public teaching institutions as opposed to research institutions, or commercial or other nonacademic lab settings. While all of our subjects were engaged in research and publication, they typically acknowledged, either tacitly or explicitly, that their roles as teachers were equally important as their roles as researchers.

The biologists we interviewed were from molecular genetics and physics, theoretical or quantitative ecology, ecological management, plant eco-physiology, and neuroscience physiology education. Not surprisingly, all those willing to take the time to be a part of this project already had tenure, and most were full professors. They averaged fifteen years of teaching in the university and all noted additional time in post-docs. One also had fifteen years of teaching high school before he returned for his doctorate. The chemists specialized in inorganic and organometallic chemistry, catalysis, mechanistic organic photochemistry, and bioorganic chemistry. They averaged eighteen years of teaching in the university; all were tenured, most were full professors, and three either were or had been chair of their departments.

While traditionally, biology or chemistry may be thought of as single disciplinary categories, in reality, each breaks down into subfields. This is particularly true in biology, wherein one type of biologist uses terminology and thinks of the world quite differently than do biologists in a different subfield. A botanist, for example, and a geneticist working on the genome project are both biologists and are both concerned with living organisms, but their subjects of study, their vocabulary, their scope, and their day-to-day research have little in common. Further,

the complications of intellectual property as it is legally configured, play a large role in scientific production and publication. As a result, the limits of this project would not allow us to examine the many disparate subfields of biology and chemistry, and we decided to limit our literature research predominantly to the exploding areas of biomedicine, its struggles with fraud, and the resultant hotly contested concerns about varied forms of collaborative authorship.

In this chapter, we focus on three primary areas: *anti-ownership*, *collaborative authorship* and its attendant complexities, and the *teaching of citation practices* to students. First, the underpinnings of scientific disinterest demand an attitude of anti-ownership in order to free scientists to pursue hypotheses without vested interests or prejudice toward potential outcomes; we found, however, that the language used by interviewees frequently evoked types of ownership. Second, in exploring the problems inherent in collaborative authorship, we examined in some depth the concept of rewards and responsibilities in the sciences, the growth of fraud, and some suggested reforms in authorship guidelines. We also discovered that scientists were much more concerned about the integrity of data than about plagiarism. And finally, we discovered that in their endeavors to teach the practices of proper citation to undergraduates aspiring to the profession, the scientists we interviewed tended to use various methods of trial and error. Marcel Lafollette (1992) says, "The trust that society places in science, traditionally assumes . . . assurances of authenticity and accuracy in all that science does or recommends" (1); clearly, our subjects understood that passing on this tradition is vital to maintaining society's trust in their discipline, which means imparting to students the conventional and ethical methods by which scientists use and acknowledge their sources.

ANTI-OWNERSHIP IN ACADEMIC SCIENCE

What does ownership mean? In a capitalist culture, we immediately consider the monetary dimension of ownership—of

buying, selling, and being paid for our work—but "property rights in science are whittled down to a bare minimum by the rationale of the scientific ethic. The scientist's claim of his intellectual 'property' is limited to that of recognition and esteem" (Merton 1973, 273). Because this seems ideal, we felt a need to examine closely how academic scientists try to distance themselves from the notion of ownership constituted as a private possession; we begin by focusing on anti-ownership.

Today, the public view of science is often that of a corporate enterprise as much as an intellectual pursuit. As we began this study, we imagined that scientists, at least potentially, were "owners" in many ways. We assumed that inventions, medications, formulas, and patents all were owned and returned monetary rewards. But in traditional science, in "pure" academic science, it is much more difficult to identify what scientists own. Our subjects reported that, for example, if money were the reward they sought, they wouldn't work at universities. As one chemist put it, "If I wanted those things, I'd go work for Dow." It isn't that money is uninvolved, but according to more than one informant, U.S. federal grants are managed by sponsoring universities, which garner nearly 50 percent for overhead, including facilities, health care, etc. Consequently, such grants do not lead to significant additional income for the scientists, even for principal investigators (PIs). When patents are secured (a rarity among our interviewees),[2] the university or the granting entity typically holds proprietary rights. A couple of interviewees pointed out that it was possible to work as a consultant outside their university laboratories and that they might then receive additional pay from a company. But grant work secured in their roles as professors keeps them busy and intellectually stimu-

2. No patents were held by our interviewees in their current positions, although one chemist held more than one patent from his years at research institutions. Patents are a legal area of intellectual property that we did not delve into deeply and that merit comparisons across institutions.

lated enough that, save for sabbaticals, they tend not to look for extra money.[3]

Remuneration is but one facet of ownership. "Academic capitalism,"[4] occurring at the juncture between the academy and the consumer economy, has been the topic of much interest in the sciences. In our research, biotechnology is one field straddling exactly that juncture (Swanson 2007, Carey 1982). Pure science is under attack from the encroachment of growing corporate funding of research, which is tied directly to the legal aspects of intellectual property. While not the focus of the study here, it is nonetheless useful to consider that

> intellectual property is defined in contradistinction to a conceptual space—namely, the public domain [. . . . I]ntellectual property law polices the knowledge that can be owned, the realm of artifact, while the university polices the knowledge that cannot be owned, the realm of fact and universal truth. (McSherry 2001, 6)

This explanation fits snugly with the anti-ownership that defines science. Scientists pursue the truths of nature through their hypotheses until their data demonstrate knowledge that they believe to be new and replicable, which they then publish. The furtherance of science—shared knowledge—is achieved through publication. In fact, according to Patricia Woolf, in her remarks in 1987 to the American Association for the Advancement of Science, "the notion of ownership has no meaning until ideas

3. In an e-mail with Jocelyn Graf, July 1, 2008, she pointed out that this was not necessarily true in Korea, where she is the assistant director of the Hanyang University Writing Center. She says a number of the science faculty work for their own private companies and that the administration does not discourage this.

4. See Slaughter and Leslie's (1997) *Academic Capitalism*, which situates academic scientists' and university administrations' increasing interest in corporate funding of research, especially when federal funds decrease. They report on a growing trend of research being market-driven rather than the result of following hypotheses generated through scientific curiosity. Examination of the legal disputes discussed by Nelkin (1984) and McSherry (2001) also demonstrate the paradigm shift based in both the changing economy driving science and issues of ownership that arise because of those changes.

are shared" (qtd. in Lafollette 1992, 104). One of the biologists we interviewed described it this way: "Ideas are owned, but they're disseminated. Ownership is gone once published. Sometimes you might keep a particular idea under your hat, but ultimately, science belongs in the public domain." A chemist said, "It's important to advance science more than for career gain." Intellectual property or an ownership of ideas may result from authorship, but since publication literally returns the scientific findings to the public domain,[5] any sense of personal ownership is fleeting at best. One biologist said that he wasn't sure "how much writing is owned in science." Perhaps this is, in part, because scientists typically sign away copyright to publishers "in exchange for the reputational and career benefits that will accrue from the broad circulation of their work" (Birnholtz 2006, 1760). In *Who Owns Academic Work?* Corynne McSherry (2001) uses the term "nonproperty" and describes how the necessary disinterest of scientists creates the non-ownership they espouse. McSherry points out that, in theory, academic scientists seek recognition rather than money, which makes them "immune to the influence of politicians and/or corporate executives" (17). As Mario Biagioli (2003) explains, "a scientific claim is not rewarded as the material inscription of the scientist's personal expression, but a nonsubjective statement about nature. Consequently, it cannot be the scientist's property" (84).

With ownership comes rewards, and even if the notion that the ideas or data are owned is anathema to scientists, they do seek the attached symbolic rewards that accrue to publishing. Publications of scientific endeavors are rewarded in many ways: grants, science-index citations,[6] tenure, promo-

5. While making research "public" was how our informants phrased it, their publications are often some of the least available to the actual public. Without scientific research library access, many scientific publications can be expensive or inaccessible, even to scientists—from community colleges and liberal arts schools to periphery countries' national universities (Graff 1992). Therefore, "public" in this context, may mean "other research scientists" as much as it means all people.

6. Cronin (2005) reports that although persistent concerns arise question-

tion, prizes, journal editorships, and honorary society memberships. Being the first to publish results about the development or improvement of a technique or process leads to citations by others, which leads to more name recognition and thereby prestige. However, being first means publication, and it brings more than symbolic rewards; publishing and getting grants typically provide the quantifiable achievements needed for promotion and tenure in the university system. "Those who are most successful in advancing their careers are not necessarily those who make the most interesting and original contributions" (Schmaus 18). Symbolic rewards also lead to more tangible ones as they provide the cachet among colleagues and thus garner more grants, top students, and speaking opportunities. One biologist spoke animatedly about being able to travel as a result of his research. He said that being able to meet people around the globe whom he had e-mailed for years—or even already shared publication with but never met face-to-face—was exciting. He also found it rewarding to take his students to other countries and expose them to the world in ways he didn't achieve until much later in life.

Some of the scientists with whom we spoke said data are—or can be—owned; others said the opposite. If data are owned and if multiple scientists have been involved in the creation of those data, yet they are not working as a collective entity, then the question arises: who has the right to publish—anyone in the project, only the PI, or the sponsoring institution? Patents are owned as are copyrighted materials such as textbooks. But what about source code, especially as open sourcing becomes more common? This gets to one nexus of change in today's scientific arena—computerization and the World Wide Web. Several of our informants mentioned uncertainty about intellectual ownership issues as they emerged on the Web. All of our informants agreed that for someone to take something directly from the

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ing the reward signified by citation, several studies of the sciences and hard social sciences report "citations as reliable predictors of pecuniary success within the academic reward system" (2005, 133).

Web without the permission of the author constitutes plagiarism. However, as one biologist put it: "In eco-informatics, for example, optical data is being gathered and made available on the Web. We're trying to establish rules for contribution and attribution, but it's difficult."

This is even true of teaching materials. A biologist who has moved into education scholarship spoke of the free exchange of syllabi and course activities that once occurred among her colleagues. Today, however, with such materials on the Web, and a need for them as part of tenure and advancement review in her department, teaching materials are more likely to be seen as property with individual ownership by faculty in ways they never were before. Of course, such sharing of course materials has been commonplace for years, but in the past, the mere mechanics of the process—asking for and receiving actual paper copies from a colleague—often meant that permission for the use of such materials had been granted, at least tacitly. One high-profile lawsuit over teaching materials is the late '80s case of Weissmann v. Freeman, which is all the more complex because the material was developed in collaboration. In this case, when one collaborator later used part of a previously co-authored paper with his name alone as part of the materials for a course, he was sued by the other co-author[7] (Mervis 1989).

One biologist who is collaborating with scientists all over the globe on a project that posts databases to the Web spoke of anti-ownership as a guiding principle of the project. He said that those involved wanted the data to be accessible to other scientists so that retesting for replicability as well as manipulation of the data could occur, continuing the scientific enterprise. However, the process stalled over concerns about how to

7. This case was further complicated by the earlier mentor relationship between the two collaborators and by the gender dynamics of a female suing a male who had erased her contribution by removing her name. It may also be a demonstration of the willingness of younger scientists to value ownership more personally than their older counterparts and to take legal action to ensure the rewards tied to that ownership. (See McSherry 2001.)

maintain the integrity of the data. He explained that it was vital that each data set stay tied to the parameters that created it so that misuse through miscalculation would not occur, but that wasn't easy to establish in a Web environment. The issue seemed to come down to trusting individuals who downloaded the data to be ethical in their usage.

TRUTH IN AUTHORSHIP

The scientists we spoke to were far more concerned with the integrity of data than with the possibility of plagiarism.[8] Our subjects revealed little in this area; they seemed to take for granted that scientists present their results honestly. "The opposition between truth and interest is one of the pillars (perhaps a rhetorical one) of the logic of scientific authorship" (Biagioli 2003, 85). Truth is the bedrock of science; the exchange of information operates in what has been theorized since the '60s as a "gift" economy (Hagstrom 1965). In this gift economy, moral obligations to truth and thereby trust in one another as scientists hold the structure together. "Knowing that one stands either (i) to gain credit for making an important contribution, or (ii) to lose credibility if one's findings later prove to be unreliable, scientists are motivated to produce results that are generally reliable" (Wray 2006, 509). In terms of authorship, the gift economy fits with our subjects' views that when they publish, they no longer own their ideas because those ideas become part of the public domain; thus, the scientists "gift" the world with their knowledge. However, the prolific discussion of the inherent rewards of publication contradicts the notion of a gift economy (Biagioli 2003, Birnholtz 2006, Merton 1973, Wray 2006). Bruno Latour and Steve Woolgar (1979) describe a "cycle of credit" in which scientists make results available in exchange for credit that leads to more funding and more research. Further, the growing interactions of IP and trade-secret law along with the growing litigation of copyright and trademark all signal that

8. This emerged primarily in their discussion of teaching students, which we will explore later.

even if science were once the land of the gift, it is now fully participatory in an economic exchange that challenges the notion of the selfless gifts of scientists (McSherry 2001). One specific place to witness the blurring of the boundary between gift and money economies would be in the concern over financial ties between pharmaceutical companies and authors. In light of growing public concerns, the *Journal of the American Medical Association* (JAMA), along with other medical publications, has begun requiring statements of "competing financial interests" in submission disclosures ("A Matter of Trust").

Whether through the fabrication of data or the plagiarizing of another's work, fraud is not a new phenomenon. Yet authorship lists that sometimes number in the hundreds because of the international and interdisciplinary natures of big science, the shifts in economic relations, computerization, and even the sheer growth in numbers of scientists, all contribute to increases in fraud. In the 1960s and '70s, cases of "faked data or plagiarism were dismissed as aberrations, as unrepresentative of the integrity of scientists overall" (Lafollette 1992, 1). Then came the '80s with a well-publicized rash of scientific fraud, including plagiarism by Elias K Alsabti; fabricated data and contaminated cell lines by John Long at Massachusetts General Hospital; data-faking by several scientists, including oncologist Marc Straus, who falsified patient records for a clinical trial; and Phillip Felig, who resigned as chief physician at Columbia Presbyterian Medical Center after failing to act decisively when a junior co-author admitted falsifying data and plagiarizing (Woolf 1981, 9). In 2005, another rash began with the Korean stem cell researcher, Woo Suk Hwang, whose work with embryonic stem cells was discredited, and continued with the announcement of false data in Norwegian researcher Jon Sudbø's cancer publications (Couzin 2006). But perhaps the most incredible event of 2005 occurred when the first scientist was incarcerated in the United States, Eric Poehlman, for "scientific misconduct unrelated to patient deaths" (Couzin 2006, 1853). "Poehlman acknowledged falsifying seventeen grant applications to the National Institutes

of Health (NIH) for nearly $3 million, and fabricating data in ten published articles" (Dalton 2005). Data fraud creates varied problems as can be seen in the stem cell example. Hwang fabricated "data" about his ability to cure Alzheimer's disease, which led to other researchers falling behind in their efforts to build on his work, as well as losing time and the potential for grants, thus putting those who were following a different line of inquiry far ahead of the game. The domino effect created by scientific fraud wastes time and money, but perhaps more importantly, it erodes the public's trust and, in cases of medical research, delays treatments of the sick.

COLLABORATION AND AUTHORSHIP

In our interviews, one of the most striking findings is how fundamental collaboration[9] is in the creation of scientific knowledge. Collaboration in the sciences is so basic and elemental an assumption as to be all but invisible; for example, when asked about collaborative work, one of the chemists said she "didn't do much," yet when pressed to include students in that equation, she stated, "Oh, of course I collaborate with students." Other than one chemist,[10] virtually everyone we spoke with shared her same mild bemusement at our questions about collaboration, which is so much at the heart of what scientists do

9. In our research, everyone talked about collaboration within a lab, but that may not be the only or the most common type emerging. "When I hear the word 'collaboration' in science, I think, 'collaboration between labs' not individuals. The basic unit of identity is the lab, not the individual. There are vertical and horizontal collaborations. Vertical collaboration deals with research staff at various levels of expertise within the lab; horizontal collaboration is across two or more labs where each lab contributes different things or do exactly the same thing, such as each studying a portion of a sample" (Graff 1992).

10. One chemist had worked for ten years at a research university before his move to start a new program at a brand new institution that would offer only undergraduate degrees for eight to ten years and then begin masters programs. He said that he owned more items individually and collaboratively. His list of owned items included patents, molecules, and research publications in journals, books, and abstracts. The difference in this response supports our concluding call for more research in this area.

that it disappears. However, it should also be noted that her lack of inclusion of students in her initial equation also comes into play because determining the boundaries of whose work is considered a contribution at the level of collaboration, and thereby authorship, is one of several central issues.

Since World War II and the advent of "big science," collaboration has been a fast-growing feature of scientific work. This is due to the size of the problems being tackled—putting people into space or mapping the human genome—as well as the resources and equipment needed for such exploration (Cronin "Hyperauthorship"). Much of this research has also created the need for interdisciplinary teams and the opportunity for international ones. Several researchers provide literature reviews of the documented growth in collaboration of specific, yet when collected, random assortments of fields, journals, and date ranges (Wray 2006, 507; Cronin 2001, 560–63; Zuckerman 1968, 277). For example, Harriet Zuckerman and Robert K. Merton found that from 1900–1909, 25 percent of published papers in natural science were collaborative, but by the 1960s, over 80 percent were co-authored (cited in Wray 2006, 507). Similarly, the numbers of co-authors has been rising. King found that from 1945–1995 the average number of authors per scientific article rose from 1.8 to 4.6 in the *Journal of Neurosurgery* and *Neurosurgery* combined (cited in Cronin 2001, 561). This growth in the number of authors is nowhere more evident than in high energy particle physics, as examined in studies by Mario Biagioli (2003), Jeremy Birnholtz (2006), and Peter Galison (2003). They describe physicists working at the Collider Detector at Fermilab (CDF), the European Council for Nuclear Research (CERN), and the Stanford Linear Accelerator Center (SLAC), respectively. Papers by scientists from these facilities often have author lists in the hundreds. While each has its own unique policies for how the author lists are created and ordered, as well as how responsibility is ensured in the process, collectively they demonstrate how one subfield of science has delineated authorship guidelines.

Although we interviewed no physicists, the research in this area provides a touchstone for the collaborative authorship occurring in biology and chemistry, especially in terms of how the challenges of rewards and responsibility are addressed. The significance of including research on collaborative authorship in physics is threefold for our purposes here: (1) specific guidelines have been spelled out and followed for decades; (2) while independence is maintained on some levels, for the most part, physics provides a model of truly corporate authorship where individual contributions of varying sorts intentionally cannot be identified; and (3) no contribution can be hierarchically weighed against another.

Clearly, the sheer number of participants in and "authors" of these large scientific enterprises has necessitated that these physics labs develop policies and guidelines for determining authorship; however, these policies are in stark contrast to our traditional notions of sole authorship. In "Beyond Authorship: Refiguring Rights in Traditional Culture and Bioknowledge," Peter Jaszi and Martha Woodmansee (2003) point out that

> even in the face of contrary experience, [which] tells us that our creative practices are largely derivative, generally collective, and increasingly corporate and collaborative, . . . we nevertheless tend to think of *genuine* authorship as solitary and originary. (195)

They further explain that until the eighteenth century, "in the sphere of science, invention and discovery were viewed as essentially incremental—the inevitable outcome of a (collective) effort on the part of many individuals applying inherited methods and principles to the solution of shared problems" (196). Despite this evidence of the collaborative nature of creativity—whether scientific or poetic—as Jaszi and Woodmansee argue, most modern copyright, intellectual property, and patent laws reinforce this Romantic conception of the "individual genius" at work, thus "obscuring the reliance of these writers on the work of others" (196).

Recently an essay by Mott Greene in *Nature* proclaimed, "The lone author has all but disappeared" (2007, 1165). The *day* had been coming, a decade ago, Drummond Rennie et al. wrote: "With modern research by multiple investigators, the authorship model is outmoded, stretched: it no longer fits" (1997, 582). The traditional definition of authorship as the one who pens or even computer processes words onto the page is no longer sufficient. In a world of not just collective but collaborative authorship, the problem of defining it grows (Lafollette 1992, 91; Wray 2002, 152). In the sciences, several of the problems of collaborative authorship can be seen in the prolific terminology used to describe it. We've broken the terminology we found (but which we do not believe to be exhaustive) into three categories: (1) the commonplace—*lead, first, last, senior, single, plural, collaborative, contributing, corresponding*; (2) the hyphenated—*co-, multi-, sub-, hyper-*; and (3) the emerging[11]/problematic—*corporate, collective but non-collaborative, ambiguous, honorary, gift, guest, promiscuous, surprise, ghost.* For the most part, the terms in our first category are common and do not need explanation, although a few of them have specific definitions in science. A *corresponding* author is the person who submits an article to a journal for review and thereby is the conduit of information between a journal and multiple authors (Ilakovac et al. 2007). The label *senior author*, as it sounds, refers to one's seniority or prominence, but this label is attached to various problematic behaviors to which we will return. In our second category, the hypenated *sub-authorship* is typically used by someone citing a *multi-authored* text in which names at the top or bottom

11. While some of these labels are not new, they are emerging in the sense of growth which challenges accepted ethical standards. For example, ghostwriting is certainly not a new concept. However, there is a world of difference between a biography which is ghostwritten, rendering the prefix "auto-" inappropriate, and a scientific article on a clinical trial for a new drug which appears with the name of a seemingly disinterested scientist, often someone in the forefront of the field, who did neither the research, nor the writing, but merely lent his or her name in exchange for cash from the pharmaceutical company producing said drug.

of the list are well known, but others are not; thus they become sub-, something less. *Hyperauthorship* is a term coined by Blaise Cronin (2001), which refers to articles listing more than a hundred names in the byline.

In the third category of emerging/problematic terminology, several labels deserve clarification. *Corporate* and *collective but non-collaborative* are terms used to signify particular kinds of group authorship. A *corporate* author refers to a list of authors who have created for themselves a group identity such as often occurs in physics; this type of authorship is designed to diminish the sense of individual ownership and, in some cases, to increase the sense of individual responsibility (Biagioli 2003). The label *collective but non-collaborative* sends the opposite message; it allows for the contributions of individuals to be listed in some form, perhaps by directly identifying contributions or by an author order based on contribution. *Ambiguous* authorship simply arises from the context of multiple authors with neither of the above conditions.

All of the other labels in this third category are problematic in one way or another. The types of authorship included below have come under increasing scrutiny in recent years, chiefly because of the ways that authoring is obscured in a list on a publication. According to a review of literature examined by Cronin, the increase of undeserved authorship in one field rose 21 percent when the number of co-authors exceeded six, while in another field, 19 percent of reports carried the name of at least one honorific author (Cronin, 2001, 563). Honorary, gift, and guest authors are all names appended to a document for reasons that do not include actual intellectual contributions or labor in the research and resulting publication. These types of authorship are most often granted to senior scientists, lab "owners," and grant recipients or PIs who do no more than sign their names to projects. These are then sometimes considered promiscuous authorships as well because they are handed out liberally. At times, such authorships surprise the named individual who had not been consulted and who did

not expect to be named. This may seem odd, but we found in both our interviews and our literature review that senior scientists were likely either to (1) expect the inclusion of their names without necessarily being involved, or (2) give authorship to students even when the senior was the primary conceiver of the project.

And finally, a term common in biography is the "ghost author." While two of our subjects spoke of a variety of services for which a technician, statistician, or scientist might get paid rather than receive authorship credit on a project, none of them mentioned the ghost writer, perhaps because the recent growth of this phenomena has been predominantly in the biomedical arena—especially the pharmaceutical—and none of our subjects works in that subfield. In *Ghost Marketing*, Barton Moffatt and Carl Elliott (2007) examine the practice of pharmaceutical companies hiring communications companies to write favorable reports of their products and then enlisting well-known academics to publish them without disclosure of the research origins (18). This ghostwriting process hides a commercial enterprise in the cloak of academic scientific purity, producing something that appears honest but that violates the public scientific trust. Such ghostwriting provides useful "marketing tools precisely because they appear to come from a disinterested source" (27), which creates a "patina of undeserved academic credibility" (29). This practice clearly blurs the property line between commercial product and intellectual property.

Regardless of the label attached, collaboratively researched and written scientific texts raise many intertwined issues that are problematic to both the reward and the responsibility inherent in the professional sphere. Collaboration undertaken by a large group—sometimes numbering into the hundreds, as with physics, rather than just two or three people—makes determining "author credit" in the listing of names extremely complicated and potentially controversial. These include author order, contribution donor names, and the additional cultural forces that lead to honorary, gift, and guest authorship. According to Zuckerman

(1968), there are three predominant ordering principles: equality (alpha forward or backward), first or last author out-of-sequence, and alphabetically random (278–79). The first principle is self-explanatory and is in use in the hyper-textuality of physics. But when no author stands out as primary, who gets credit, and who gets blame? While physics has dealt with the responsibility problems that can be created by this ordering,[12] it has not solved the rewards problem, which can be seen in Birnholtz's (2006) research at CERN. Since individual publication does not occur, Merton's Matthew Effect holds true, wherein a scientist prevents her/his credibility from being subsumed by a more senior scientist. Birnholtz's interviews with physicists revealed that "getting noticed" became an alternative and was crucial to a credit system internal to CERN. Rather than department faculty who might be unfamiliar with one's research and publications, CERN scientists create a small enclave of physicists who believe they know everything about each other. Birnholtz's interviews revealed that young physicists were required to do something that made them stand out from the masses of scientists, technicians, and engineers who worked on any given project.[13]

The second pattern, first or last author out-of-sequence, allows for one author to stand out among equals, so one name stands out as primary. The third pattern, alphabetically random, is indiscernible to the common reader, though insiders to the project have criteria for the ordering based on amounts and types of work. These are most problematic with regard to reward but not necessarily to responsibility.

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12. As an example, at CDF, Biagioli (2003) describes the "Standard Author List" as containing all members associated with the institution including technicians and students (100). In this particular system, drafts circulate for three rounds of revision to members who may "opt out," if, after revisions have been completed, they do not accept any or all of a document. What this creates is a system where a shorter author list represents a more suspect piece of work than one that contains the full list (102).
13. Getting noticed could take place because of a variety of behaviors: being dependable and diligent, coming up with novel solutions, giving talks and presentations that offer visibility, and providing leadership through additional responsibilities to those originally assigned.

Most of the scientists we talked with said the most important author position in a listing "usually" comes last and goes to the PI who received the funding for the research. That they reported this occurrence as "usual" indicates the instability of this expectation within both fields. On the surface, the significant position of being last appears to be Zuckerman's (1968) second category of one standing out among equals. One chemist we spoke to reported that, generally speaking, untenured faculty are listed first, tenured faculty next, and the "key" faculty member last. However, they never mentioned alpha ordering as an option. Their descriptors suggested that criteria of contribution factors drive the sequencing of names. Thus, they seemed to be using Zuckerman's third indiscernible pattern with a nod to a senior scientist as last author. Their assertion that the last place was primary generated a surprising benefit for one of the biologists we interviewed, who had moved into biology education as a primary field; she expressed her pleasure with the fact that education emphasized the first listing as most important, which meant that when she co-authored papers, there was often room for two authors to receive primary credit from their respective peers—she for her listing as first author and a co-author in biology who received equal credit from peers for being listed as the final author.

When criteria are used (i.e., amount of work, intellectual contributions, actual writing), as our interviewees took for granted, which criteria are most valued? That was less easy to assess. While all reported that the author positions were based on the roles of the various participants, they were far from consistent in their determinations of which activities garnered the best positioning on the list. Some said that the amount of work someone contributed figured into the ordering of names. One chemist argued, for instance, that students who do very little but end up with authorship credit in a publication are in fact committing a form of "plagiarism," taking credit for work that is not really their own. A biologist, however, said that he didn't need the credit and felt strongly that students who put in the

many "man hours" it takes should be rewarded. He said that to give a student the "gift" of being primary was entirely up to him. "It's none of my campus colleagues' business if I choose to list my students' names on articles. My intellectual property, my academic freedom." Clearly, amount or type of contribution are not as important as professional status and power in listing order.

It seemed obvious to all we interviewed that those who contributed significant intellectual insight deserved authorship, as did the actual writer(s), but other roles—and there can be many—were less clear. The scientists told us that contributors of data or ideas (such as suggestions for ways to improve a study) or lab assistants who contribute their labor to a project may be listed as authors or credited in the methods or acknowledgment section. These citations of contribution are not simply different in location, but in value; one of the chemists was a bit dismissive of acknowledgments, stating that "no one cares much, since you can't use it." According to Cronin, the acknowledgment section "serves as a parking lot for miscellaneous contributions, cognitive, technical, and social" (2001, 564). He also points out that the line between authorship and acknowledgment is neither universal nor consistent, which was exemplified in our findings.

Technicians, lab workers, and statisticians have traditionally been part of the "work" force rather than the "intellectual" contributors and have not received author credit (McSherry 2001, Rennie et al 1997). Complicating the matter further, Cronin points out that on the Web there are "ever increasing numbers of nontextual objects" contributed which don't deserve authorship credit but which are nonetheless part of the product demonstrating the research (2001, 564). If a suggestion by someone on a project turns out to be crucial, that person may end up being listed as a co-author even without being one of the central figures. One biologist reported that it was possible for students to get authorship listing if they contributed significantly even though they didn't understand the entire project. On the

other hand, the same biologist pointed out that graduate students might not get authorship credit on their own theses. A chemist said that he had not received top billing on his thesis because his mentor expected that his senior status entitled him to place his own name in the position of power. Such are the vagaries of the scientific authorship mentor system.

This brings us to a final important consideration in scientific authorship, that of the "senior author." This term is easily recognizable as the scientist in the listing with the most prestige or power, but it isn't a term commonly used in other academic disciplines for authorship. In science, the term "senior" is so common that we heard it from every interviewee multiple times and found it in most of the literature we read. It is not the same as PI, though in everyday conversation they may seem synonymous; rather, it is a term used to identify the known name in a list of co-authors and is most predictably last, or in some subfields, first. While this is the expectation in science, it wasn't fully borne out by Zuckerman (1968). She studied the name orders of works with and without Nobel laureates and interviewed several of the Nobel winners. While a hypothesis that Nobel laureates would have their names in the power positions more often was proffered, the findings were that "*noblesse oblige* is exercised more frequently as the eminence of individual scientists increases" (288). This, too, fit with our research, since several of our interviewees pointed out that either they themselves or other senior scientists occasionally give credit or authorship to students or those on a team who might traditionally be deemed "unworthy," such as those doing the often tedious labor of an experiment. We also found a type of ownership embedded in this concept of "senior" scientist. When asked about intellectual property and ownership, none of our interviewees said that labs were owned, yet in the process of discussing author order, several referred either to the "owner of the lab" or used the possessive, such as Dr. Johnson's lab. Obviously the imagined Dr. Johnson does not literally own the lab, its space, or its contents, but by managing it, acquiring grants, and hiring students and

lab techs, Dr. Johnson enacts a type of ownership within the lab environment and its results—publication.

Our subjects reported that in some cases it was easy to determine authorship. The first author does most of the writing and others offer feedback, demonstrating that the first author understands the project most fully and others merely contribute. It should be noted, however, that in our interviews the scientists said "first," meaning most important, while also saying clearly that the actual location in the list would be last. Several scientists we spoke with also tend to decide authorship order early in projects so that no surprises occur.[14] Given the amount of dissonance surrounding collaborative authorship, we were pleased to know that it was possible for the criteria to be clear to insiders, at least some of the time.

Definitions of collaborative authorship may be expanding and uncertain, yet the social structure of science demands authorship, not only to confer symbolic and remunerative rewards, but also, and equally important, to secure the responsibility of researchers. With rewards, the primary concern is whether scientists get proper credit. As it stands, they may be awarded too much or too little, depending on the ways that author listings are both arrived at internally by the authors and understood externally by those who hire, promote, and tenure them. When a listing is alphabetical, how can those who offer rewards do so equitably regarding the type and amount of contribution? On the other side of the coin, when lists are arranged by some internal criteria order, external readings of that order must assert values

14. Not unlike the problems we uncovered in scientific co-authorship, in working on this chapter we did not decide author order or particular roles in our collaboration prior to embarking on the work. After extensive reading about the ways that scientists now try to distinguish who "authored" what (see Lafollette 1992; Cronin 2005; Rennie, Yank, and Emanuel 1997; Zuckerman 1968) and considering such descriptions for ourselves, we decided that our collaboration was such that we could not parse the particularities. Instead, we opted for an alpha-order listing. Denise, recognizing her destiny near the end of every such listing, hopes that the prized place of "last" author in some scientific spheres might accrue to her, even though her field is not among them.

for the ordering that cannot be fully known. Both our informants and our literature made abundantly clear that even when scientists assert that the last author gets primary citation credit, the last author may have been relatively uninvolved in the actual project. It's no wonder that our informants did not feel ownership of their publications. While theoretically this is due in part to the anti-ownership underpinnings of science, the lack of clarity of author orders must also play a significant role.

Ownership means not only getting credit but also taking responsibility for one's work (Birnholtz 2006). Or to put it another way, with rewards come responsibilities. In collaborative authorship, determining who contributed what is problematic at best. When falsified data, plagiarism, or some other type of fraud is discovered, it's unclear which scientist(s) should be held accountable. In the '80s, after a rash of fraud cases came to public light, Woolf (1981) suggested two primary reforms: She asserted that granting agencies needed procedures that would prevent dishonest scientists from obtaining further research support and that journals needed to have retraction policies (10). A decade later, when the next round of substantial scientific fraud hit the media, Rennie et al. (1997) called for initiatives from four sectors: universities, professional societies, outstanding researchers, and journals. They also proposed very specific policies for authorship: (1) that contributions be specific and visible for each author so that they are thereby held accountable for their portions of the project, and (2) that guarantors be established as overseers of a project, who are able to "vouch for the whole work" (582). They further describe ways in which indexing services, universities, granting agencies, and professional societies "can influence the culture substantially" (583).

Rennie et al. recognized that it takes multiple forces to change a profession. Now another decade has passed, and though several publications have established submission forms with detailed contribution, retraction, and duplicate publication policies, the problems persist. In "Even Retracted Papers Endure," Katherine Unger and Jennifer Couzin (2006) note

that retraction does not stop citation of the original publication. This means that even retracted work might lead to problematic research down the line, even though electronic databases now have the capacity to flag retracted articles when they are downloaded, which can reduce the likelihood of the problem going forward. Detailed contribution forms may be less reliable than they at first appear, at least if that information is conveyed through a corresponding author. In "Reliability of Disclosure Forms of Author's Contributions," Ilakovac et al. (2007) report on a study including over 900 authors of over 200 articles in medicine in which they found that there was inconsistent reporting of contributions in multiple ways. While a single study is not generalizable, it does give pause as to whether or not contribution listings solve the multiple problems raised by collaborative authorship. As Cronin writes, "While listing contributions may clarify the nature of coworkers' participation and, thus, both reduce the incidence of honorific authorship and ensure more equitable allocation of credit, it does not necessarily address the thorny issue of ultimate responsibility for the overall integrity of the study" (2001, 566).

Clearly, there is work to be done to stabilize authorship so that ethical practices are transparent and so that individuals and collaborators can be held accountable when necessary. It appears that this is an issue of scientific culture that will not be easily fixed by mandates from any single source, but as Woolf notes in her conclusion, without substantive response to these growing concerns, the professionalism of science is at risk.

LEARNING/TEACHING CITATION PRACTICES

The scientists we interviewed all spoke of citation as largely (though not exclusively) done to put one's contribution into context, in the form of a literature review, for example, to show where this new work fits and how it complicates or adds to the existing body of knowledge in a particular area. These expectations for citations are true both for themselves as scientists and for their students as emerging scholars and writers.

Our interviewees share the fairly conventional belief that students (or anyone) must be meticulous in citing their sources of information accurately. One informant said that the use of secondary sources was absolutely forbidden because it was crucial to "fully understand primary sources." However, citation is less a demarcation of "ownership of ideas" than of providing a context that demonstrates their credibility as scientists who are contributing to their field. They do so by adding research data that either reproduces the work of others or examines an altered or new hypothesis that will then also need replication. These pragmatic contextual needs drive the process, but citation is also a means of showing respect for the work of other scientists. One of the biologists called it a "professional courtesy." Another said it was done "out of respect and appreciation."

In terms of learning about citation practices, there appears to have been a paradigm shift between the time our informants were students and today. Scientists reported that they mostly learned to give proper attribution for sources implicitly. As graduate students, some of the scientists were given pointers by mentors on how to give credit, but for one respondent—a chemist near retirement age—it was never explicitly discussed or taught, so he learned to cite sources only by modeling and implication. As he put it, when he began teaching, "It was 'don't ask, don't tell'—it's OK to talk about what you teach, but never *how* you teach," a prohibition that applied to teaching practices including how to teach citation.

In their own teaching practices, however, these scientists tend to be much more explicit than their teachers were about how they expect students to cite sources. One biologist said, "[Teaching citation] is evolving. It's not something I ever learned explicitly. . . . We put emphasis on this in the classroom here more than I got." A paradigm shift was evident; we were surprised by how matter-of-factly our interviewees explained the teaching of citation conventions as part of their own responsibility and role as faculty members. Not all approached it as a rote part of their curriculum, but if and when they discovered

that their students were having trouble understanding citation practice, they ensured that the individual or the class learned the expectation of the field. This was true despite the fact that they hadn't anticipated having to do so when they began teaching and despite the fact that none of them had ever explicitly been taught the conventions themselves. As one chemist said, when she found that her students didn't understand how to quote, cite, or paraphrase sources accurately, "I felt I had to intervene." A biologist put it even more simply: "I expect mistakes." Not surprisingly, they saw this practice through a scientific lens, stating that, "trial and error is to be expected." A student writer can't be expected to get it right the first time, much as an experimenter can't expect to get the result that demonstrates the hypothesis the first time out. It takes practice; mistakes are part of the process of learning in science. They didn't see such errors as evidence of moral failure and jump to accusations of plagiarism; rather, they believed they had a responsibility to teach their students how to demarcate the sources used in their research. This coincides with Woolf's system of scientific social controls to prevent fraud; she says that "fledgling scientists" learn to develop an "internal monitor" from mentors that teaches them that, "the aim of the enterprise is reliable new knowledge" (1981, 11).

Several of the scientists spoke of receiving papers with "too many direct quotes" copied verbatim from Web sources, especially from non-majors, and either too little or too much citation as the primary attributing errors. One of the chemists encourages his students to paraphrase rather than quote, in part to keep them from "plagiarizing," but also to help the students extract and comprehend the meaning of what they are citing better than they do when they are simply copying quotes verbatim. As he said, "Students will often use a quote but not put it into quotation marks. They think that if they put it [the citation] in a footnote, that's OK, that it's not plagiarism because they've attributed the concepts or ideas. But they've still stolen the actual words." While many of their

students felt that the shared, common knowledge comprising the "facts in textbooks" do not need quotation or even citation, much as our opening anecdote suggests, the faculty we interviewed did not totally agree on this point. Citation mattered greatly to them, though for most, quotation was disdained as inappropriate to their field. This disagreement about use of textbook material resides, in part, in whether scientific facts are seen as stable. In not quoting or citing, the assumption is stability. One of the biologists pointed out that students need to be dissuaded from the idea that facts are stable entities because the enterprise of science constantly challenges the already known. Similarly, one chemist spoke of how students learn about these evolving concepts in the field when they do research, so that students who actively engage in conducting their own research understand more about their field than students who don't.

As we've stated, in their teaching of citation practices, all of these scientists expect a certain amount of error from their students. Perhaps because their own learning of these conventions didn't occur until graduate school, because the acceptance of failure is seen as part of the scientific process, or because citation practices have typically been taught in an English context where direct quotation occurs more than citation of findings—whatever the reason(s)—these faculty were calmly accepting of their students' difficulties and willing to work with them as they struggled to figure out how to cite properly in these disciplines. Notably, the biologists pointed out that in their field no single citation style has been identified as the standard, so they understand students' struggle more clearly than others might who take a particular practice for granted.

Clearly, the faculty we interviewed reflected good Writing in the Disciplines (WID) pedagogy. They understood the need to teach citation and science-writing conventions explicitly and to create opportunities for revision in a variety of ways. One biologist said, "I talk about [citation] theoretically initially—purpose and why it's important in the academy. [Then] I model it using

student examples."[15] When their students fail to meet assignment expectations for citation, they are most often given a chance to revise. This might happen in the paper they are working on or it might happen in a future paper of a similar type.

However, in addition to concerns about falsified or inaccurate data, the scientists we interviewed, all of whom are teachers, did voice some concern about classroom plagiarism. For a junior-level writing class in chemistry, one of the chemists described his practice in assigning a 10–page paper which counted for 30–40 percent of the students' grade in the course: the students choose a topic from a list provided, and after they have done a literature search of databases in which they find twenty-five papers on their chosen topic, they must choose six papers from their own lists and write a review of only those six. Because they can include references only to the six papers they have chosen, the instructor feels that it is impossible for the students to plagiarize from other published sources. For example, if a citation to a work outside of the six a student has chosen appears in his or her paper, the instructor is alerted to the possibility of the review being taken from another source. Using this method, he has encountered very little plagiarism; in the year prior to our interview, he said that he had had two instances of plagiarism in one quarter, but that was the first time ever. In good WID fashion, he also had his

15. An interesting aside: At a national WAC (Writing Across the Curriculum) conference, after a presentation about a writing-intensive course for nurses, Lise asked the presenter, a community-college nursing professor, whether she taught citation practices as part of the course. With a bit of apparent confusion, the woman replied, "They've taken their English." To her credit, the professor demonstrated that her focus in the class was on researching and critical-thinking skills and that she relied a great deal on small-group collaboration and active learning, but her assumption about students' citation practices being both someone else's responsibility and something that once taught was "done" seemed to be in opposition to the one held by our respondents: that they have to teach it, whether students have "taken their English" or not, and that they may have to attend to it more than once. However, no doubt there is more diversity among science faculty in higher education in their teaching of citation practices than our sample from teaching-centered universities suggests.

students doing at least some in-class or outside writing every day, not only making the students aware of his expectations for frequent written work but keeping himself familiar with the students' abilities.

Another of the chemists said that despite the difficulties she had witnessed in her students' ability to handle citation practices, she had not yet encountered any problems with actual plagiarism. Her method is to "call attention" to any potential problems "in big red letters" on the students' work, and then, as she stated, "the problem ceases." She also pointed out that many of the students are pre-med, so while they may not care much about the class itself or about the citation conventions, they *do* care about passing and getting a good grade. Another member of her department concurred, stating that introductory classes are "mined" for good students, who may stay in a given lab group with a particular faculty member for several quarters or even years, perhaps the whole time they're in school. The chemistry department has a small, unchanging population, so students are motivated to succeed, for reasons of self-preservation if not scientific integrity or ethics.

Biology and chemistry students, like all students, are in the process of learning the conventions of writing and citation practices in their fields. As such, they struggle with what to cite (are textbook facts cited?), when to cite (what constitutes common knowledge?), and how often to cite (do I reference everything I find everywhere?). We discovered that these science faculty dealt with all of these enactments as teachable moments—approaching them directly, matter-of-factly, and without moral outrage—because they expected trial and its co-requisite error. The biologists and chemists we interviewed recognize the dissonances their students experience, students who have likely had their only writing instruction come from English/writing departments, which emphasize the importance of direct quotation. This led to the problematically high number of quotations they experienced in their general education courses, but even there, they were likely to teach to their disciplinary expectation

rather than penalize students who did not know their conventional practices.

DISCIPLINARY HABITS

The scientists we interviewed demonstrated the tradition of the sciences in many respects: trust is vital, the gift exchange is primary in conferring rewards, and noblesse oblige is intact. Intellectual property is thought of very little; rather, anti-ownership is the normative expectation in "pure," academic science. Findings must be released to peers and the larger public to continue the pursuit of knowledge. Collaboration is expected. The ordering of authors is based on criteria, albeit with varied hierarchies: the amount and types of work performed, and most importantly, the level of status of those involved, especially the senior scientist. Plagiarism was less a concern than was the integrity of data. Citation practices are crucial to provide historical context.

Our research also revealed the edges of change. The ordering of names in author lists is unstable and can present problems because no one can be certain how to "read" the meaning of ordering beyond a key position of senior author at the end. The disciplinary habit of scientific ethics may need to be taught more explicitly to budding scientists, as was the explicit practice of teaching citations among our subjects.

What our interviews did not reveal was the growth of fraud and the attendant problems of responsibility found in large collaborations. This should not be too surprising; as Woolf says, "Scientists as a group are generally reluctant to acknowledge falsification of data as a pervasive problem and seem unwilling to take formal notice of this serious deviation from prescribed scientific norms" (1981, 9). While our interviewees never mentioned fraud in any grave way, or at all in terms of professional production, we were alerted to look at the issue of fraud because of the deeply expressed concern that students not falsify data.

It appears that the growing trend of larger and larger collaborations, spanning the disciplines and the globe, is

challenging the professional dimension of the sciences. In the last thirty years, calls for reform have been unevenly enacted. Simultaneously, commercial science has grown and begun to overlap with academic science. This challenges notions of intellectual property, whether thought of as individual ownership or the public anti-ownership of ideas traditionally espoused by science. To us, it looks like a paradigm shift in the meaning of authorship and its attendant rewards and responsibilities has begun but is far from complete. McSherry sees technology as a major player in the paradigm shift that is in process and sees the management of complexity as vital (2001, 20). This fits with our interviewees reports of future concerns, most of which congregated around technology. The integrity of data on the Web and all that is entailed in electronic sharing of information and the potential loss of originary citation came up in several biology interviews. The possible diminishment of the peer-review system with the growth of rapid online publication and acceptance of "personal communication" as authorial is also an electronically based concern that was voiced. As the human genome project matures, questions about who will own genetic information arise. Issues of ownership at the junctures of industry and academe concerned one chemist, as did a growing concept among colleagues that "if you don't sell something, it's OK to use it freely." Here, too, appear telltale signs of commercial science (selling a discovery) challenging and changing the expectations of pure, academic science (using discoveries freely and publicly).

Academic habits of thought, influenced as they are by our disciplinary training, too often do not include a conscious awareness of what we consider to be intellectual property. Going into this project, we had imagined that scientists would be much clearer about what they owned as scholars, since their research is based in more tangible media than is the ephemera of "personal expression," as Biagioli refers to it (2003, 84). We discovered, however, that the public nature of science combined with many unexamined assumptions about ownership meant

that most of those we interviewed did not have ready-at-hand responses to questions regarding intellectual property and plagiarism. In our view, this lack of focus on ownership comes at least in part from the fact that our research was conducted with faculty at teaching universities. Whether or not these findings would differ at research institutions, we cannot be sure, but more investigation into this area is warranted.

This research, both our own and that of our colleagues in this volume, has made us ever more aware of the importance of recognizing the differences across the disciplines of what constitutes plagiarism and its basis in the shifting sands of authorship and intellectual property. In lieu of the media witch hunt for electronic plagiarists and the burgeoning market for ways of catching students who plagiarize, it is more important than ever that we tread more cautiously and approach the matter from a critical, educated perspective—especially in the sciences, where a concern about plagiarism is not as strong as a concern about data falsification and where the shifting sands of change make it imperative that intellectual property be publicly constituted so that academic scientists maintain their professional disinterest in results.

3

STUDYING WITH FIELDWORKERS

Archaeology and Sociology

Mary R. Boland and Carol Peterson Haviland

Our study of fieldworkers emerges from the project outlined by this volume and a mutual interest in the role of discourse and writing in the creation of knowledge. We were curious about how scholars identify what is theirs and how these understandings inform their own citation practices and their teaching about plagiarism, questions we believe are intimately tied to issues of discipline-based epistemology. In other words, we were interested in how the language that other scholars use to talk about their subjects might embed the habits of mind and practices that animate scholarly work in those fields, including the ways that they understand processes of writing and traditions of citation. Like other chapter authors, then, we worked from a colloquial understanding of intellectual ownership, as opposed to a legalistic definition of intellectual property (IP). Our data suggest, however, that epistemology and IP may be complexly entailed; they also suggest that the roles that these relationships play in defining plagiarism may be fairly invisible, even for active scholar-teachers.

We initially intended to investigate two disciplines of interest: sociology and anthropology. Almost immediately, however, the subset of "fieldworker" emerged, crossing both fields and raising interesting questions. Thus, although both anthropology and sociology include a wide range of scholarly fields and approaches, we chose to focus on scholarship that is conducted in or with physical sites and populations: our interviews

centered on archaeologists and ethnographers who work literally "in the field."

In one sense, outsiders might imagine that fieldworkers almost have a bye with intellectual property and ownership questions because they are the first persons to study their specific scenes. Although they certainly draw on other scholars as they report, situate, and interpret their findings, they are the first to plant their shovels in a particular section of dirt or to pose a particular question to a community, and thus they may seem to be part of a small group of scholars who do truly "original" investigation. But defining ownership as "seeing something first" is not quite so simple. Our research shows that negotiating ownership in fieldwork is complicated by the inherently collaborative nature of work, by ethical considerations specific to disciplinary practices, by the legal negotiations of property rights demanded of "first observer" work, and by the larger politics of academic work. Most notably, while each of these factors may be named independently, their operations are intertwined and interdependent. That what may be owned and how it may be owned varies broadly across fields and studies points to the inadequacy of writing pedagogies that offer simple "plagiarism rules."

OUR STUDY

We interviewed twelve subjects, six in archaeology and six in sociology, analyzed our data, and then followed up with additional questions in order to clarify and flesh out observations. We also consulted the emerging literature on IP in these fields in order to more thoroughly situate our informants' responses. Our composing processes included asking our informants to comment on drafts of this chapter. Although our subject sample size is small, the questions our informants posed and the specific practices they illuminate offer important insights into the ways faculty scholars typically understand and teach students about intellectual property, ownership, and plagiarism.

Broadly speaking, we found three common factors that characterize our informants' responses: (1) the items they mention

first when asked to name what they own, (2) the interactions and sometimes strained relations they noted between ownership, writing, and publication, and (3) the collaborative nature of their scholarly activities, which call into question their definitions of plagiarism. In the following sections, we consider each of these responses in detail, concluding with some reflections on this study's implications for teaching about plagiarism.

WHAT FIELDWORKERS OWN

Perhaps the most intriguing of our findings is what this group of fieldworkers describes as owning. When asked, all of them, regardless of field, responded first in terms of zones of study, rather than texts produced. For instance, archaeologists describe owning dig sites, and sociologists describe owning groups of people—populations or cultures. This close identification with their study sites echoes in fieldworkers' pronoun patterns, as we noted archaeologists referring to "our dig sites" and sociologists referring to "our populations."

Despite this deep sense of ownership, both groups also recognize their ownership as provisional, as negotiated for particular purposes and time frames and with specific restrictions on their activities within the sites. Archaeologists describe negotiations that stipulate in advance precisely where and how they may conduct studies such as excavations. Requesting access and finding funding to study a particular site is a typical first ownership step. They must, for example, receive permits from the government, tribe, or culture that holds jurisdiction over the dig site. These permits detail time frames, digging protocols, disposition of artifacts, and the reporting of findings. In many cases, they also require archaeologists to employ "watchers" to ensure that the terms of these agreements are followed. This provisional ownership, then, is sometimes described as stewardship: a limited and particularized right to explore a site, accompanied by very clear responsibilities to care for that site, its occupants, and the data or artifacts that emerge.

While such negotiations may sound like straightforward contractual issues, they are not. As Kohl et al. (1996) note, changing political conditions, such as the collapse of nation-states and ethnic boundary disputes, make negotiating stable proprietary rights difficult. In addition, collaborations among scholars also may involve fierce competition, which can take on additional complexity when they involve transnational efforts. Atwood (2005), for instance, describes the collision between the Peruvian archaeologist Ruth Shandy and Americans Jonathan Haas and Winifred Creamer over credit for their collaborative "shicra-bag" carbon dating technique; this dispute pitted native researchers' rights against those of non-native researchers and involved allegations of shoddy work, ethical lapses, "repackaging" data, and plagiarism. Likewise, Shanks (1999) details the very complicated litigation over copyrights for various "arrangements" or orderings of the Dead Sea Scroll fragments that had been discovered.

Sociologists, in contrast, report somewhat less complicated formal negotiations with heads of organizations or communities or with smaller groups of individuals, stating that Institutional Review Board requirements exert the most powerful controls. Although IRB requirements are institution-specific, protecting subjects or informants from both physical and psychological harm is a consistent concern. These researchers, particularly those who study small groups of participants, emphasize the importance of observing not only the legal requirements but also the less widely discussed ethics of fieldwork: "behaving well," using appropriate "manners," being respectful, being courteous, and "treading lightly." As will be discussed shortly, however, definitions of appropriate behavior and stance may vary, depending on a researcher's orientation to his or her work.

Our informants further note a growing recognition that legal considerations about what may be owned have become increasingly complicated as the products of research include not only artifacts or data but also knowledge. Nicholas and Bannister (2004) illuminate this as they consider ownership of traditional

"knowledge systems," "know-how," or "lifeways" that are uncovered through archaeological research. Standing alone, this knowledge may be of largely local value, but when it is commodified to predict climate patterns, improve farming techniques, or manufacture pharmaceuticals, it acquires significant intellectual and economic capital. As Nicholas and Bannister note, when the outcomes of archaeologists' knowledge discoveries are seen as merely charming curiosities, who owns them matters little. But when they are seen to have market value, ownership becomes contested for both economic and control reasons. The question this poses, they assert, is "which creativity is most deserving of protection, the laboratory manipulation or the original knowledge?" (2004, 340).

These observations point to the inseparability of epistemology, methodology, and legal ownership in fieldwork. Returning to the ethical obligation to "tread softly," we can see how being respectful may still pit the interests of outsider researchers against the rights and interests of study populations. As Battiste and Henderson (2000) note, for instance, determining the respectful and appropriate treatment of field sites and populations is complicated when Eurocentric legal frames that "treat all thought as a commodity in the artificial market" collide with indigenous views of property as "sacred ecological order" (145). Smith (2004) further illustrates this difficulty in her pursuit of an equitable solution. Acknowledging that work with subject populations is reciprocally informed and that the resulting research could not have been created by either party alone, she suggests that we understand archaeological work as "a kind of soup to which different people provide essential ingredients" (527). However, while all participants may have contributed to and have rights to the resulting soup, Smith also acknowledges that "there may be a 'chef'" (327), likely the PI or senior anthropologist. Thus, collaborators, even with the best intentions, may become stuck when their conflicting goals lead them to designate chef, sous-chef, and restaurateur statuses. Nicholas and Bannister make this point more candidly:

> Although assessing intellectual contributions is a part of determining intellectual property ownership, the first one to fix the knowledge in tangible form or the last one to add an inventive step is best positioned to claim ownership rights; rarely is this an Indigenous knowledge holder. (2004, 528)

These kinds of concerns may be motivating a split among sociological fieldwork practices, one that reflects changing academic values and leads to different ways of framing the ownership of study subjects. According to our informants, some scholars are more likely to do more purely observational research while others gravitate toward participant-observer work. The differences between a more purely observational model and a more involved model of ethnography reflect, among other things, quite different ways of viewing what counts as trustworthy knowledge. For observational scholars, the academic value of "objectivity" retains primary power. Participant-observers, in contrast, believe that faith in the notion of objectivity is misplaced and that both scholarship and subject populations are better served when researchers self-consciously grapple with their own presences and biases in their work.

This latter approach reflects postmodern intellectual influences, including deconstruction and poststructuralism, as well as more overtly political strains of feminism and multiculturalism. One self-described feminist fieldworker, in fact, depicts traditional observational scholars as proceeding as though "observing subjects through a microscope," which she believes creates a "frankly patronizing" and "pseudo-objective" lens that casts the observers' cultures as normative and posits difference as deficit. In contrast, participant-observers self-consciously try to understand the culture under investigation within its own terms, a distinction our informant likened to the difference between "peering at the ants under the microscope" and "joining the ants to understand their sense of the scene." She observes that many feminist sociologists and sociologists of color, who have emerged in American sociology in significant

numbers only since the '60s, have now established their presences as field and policy workers and are successfully challenging traditional patronizing attitudes in order to ensure research that is fairer and more respectful to study subjects. She notes, for instance, that it was a female graduate student's challenge to the Zimbardo prison experiment that led to the establishment of IRB reviews to protect study subjects (http://www.stanford.edu/dept/news/pr/97/970108prisonexp.html).

Consistent with this concern for respect and the desire not to rewrite a study population from a one-up position, this informant also backs away from terms like "ownership" and "stewardship," remarking that they imply a paternal or colonial relationship with study participants. Instead, she describes herself as a "student of" or "one who is learning from" her subjects, adding that she and her subjects work to create a shared and constantly negotiated relationship both with the procedures that guide the research and with the data as they are gathered and interpreted. Elaborating, she says that encouraging participants to remain "in control" of their participation is essential if researchers are to observe appropriately "humble, respectful, and polite" research roles, a kind of engagement that Nicholas and Bannister describe as "negotiated practice" (2004, 346). Notably, however, this negotiated relationship does not result in co-ownership of resulting knowledge products.

Finally, all our informants comment on the obligation to report their findings, and not solely to contribute to disciplinary scholarship or to establish a publication record. Again, this obligation relates to an ethics of work that is intimately connected to questions of ownership and the responsibilities that accompany it. Thus, the imperative to publish is a direct result of the fact that when fieldworkers study a space, they alter it—by digging holes that can never be returned to their original states or by asking informants questions that potentially change how they see and think about their communities and relationships. As a result, such study sites can never again be studied as primary or untouched sites.

Moreover, archaeologists observe that the act of publication is important because it typically releases the physical site for others to study. According to our informants, neglecting this responsibility both would breach an ethical obligation to the culture and would likely restrict their abilities to study other sites. Indeed, in the United States, Kohl et al. (1996) report that the standards set by the Society of Professional Archaeologists dictate that any "right of primacy" an archaeologist might hold becomes "waived" if within ten years of completing a field project he or she does not submit a full scholarly report (S113). Thus, when archaeologists relinquish site ownership, they take on text ownership. These elements quickly make clear how complicated and even unsatisfactory the term "ownership" may be for this kind of research (and, perhaps, for other research as well), yet at the same time point to the ways that academics, at least, need to continue to think in terms of intellectual property and, indeed, challenge some of its seeming certainty.

Whether figured as stewardship or studentship, both conceptions of ownership differ significantly from that of textual scholars, who first think of the scholarship they publish when asked about what they own. Although they may do their work in "sites," that is, they may study texts, they rarely have exclusive access to those texts, and their work is expected to leave the physical sites unmarked. For example, when Shakespearean scholars study a text, their work may alter the state of Shakespearean scholarship as their reading practices affect the ways subsequent readers read—and thus may indeed "change" the text. But their readings do not alter the available physical text in that other scholars are able to study the same physical text in a way that subsequent archaeologists, for example, cannot return to the same physical site once shovels have been inserted into the soil. Indeed, when scholars study manuscripts or other rare texts, one of the responsibilities of librarians is to monitor writing implements and other threats to textual integrity in order to ensure that texts are appropriately preserved. Likewise, when scholars work with texts that are still

under copyright, the copyright holder owns them and researchers often must apply not only to use the texts but also to quote from them. However, these two ownership scenes also can overlap. For example, copyright negotiations in some ways resemble site licenses in that they are both specific and provisional, creating a kind of co-ownership of study scenes or materials, and Shakespearean scholars don't think of themselves as owning *Hamlet* but rather owning a reading of *Hamlet*. In addition, both kinds of ownership are subject to questions about whether cultural objects exist apart from lived experience as well as about whether texts irretrievably change as ways of examining them or of assembling or re-assembling them, in the case of editions or edited volumes, change. Nevertheless, the differences between these kinds of texts is worth noting as it challenges some of the expectations that "text workers" and interpreters have about their terms of their ownership.

HOW COLLABORATIVE OWNERSHIP IS ENACTED

While a first stage of ownership may involve negotiating access and terms of work with governing parties, site occupants, and study populations, the concept is further complicated for fieldworkers by the typically collaborative nature of data gathering and text authorship. This is especially true for archaeologists, who describe their work as "unavoidably collaborative." "The kind of work we do could never be done by a single person—because of both its volume and its complexity," reports one archaeologist. He chronicles a process that begins with writing grants and obtaining site permits, and continues through the practical aspects of transporting equipment and digging, recording, and caring for artifacts, to the conclusory activities of interpreting and "writing up" findings. Elaborating on the division of labor within the collaboration, this informant reports that because senior team members have established successful track records, they most often write the grant proposals and obtain site permits. Thereafter, depending on the size of the project, principal investigators or project directors oversee a

clear order of "collaborators," from associate directors to field experts to technical assistants to assorted students to "muscles" who transport equipment and dirt. Notably, while this hierarchy is largely determined by expertise, it also has been marked by gender. For instance, our informants note that historically, on-site fieldwork has been seen as a properly male occupation. Until the 1920s, U.S. women were typically conceived of as "white coat" scholars and were left to work "at home" or from a home base. This meant that men made discoveries, "saw things first," and exercised the initial interpretive lenses. Women were thus secondary data interpreters and largely relegated to support roles. According to our informants, this began to change in the 1920s as women first began joining the "beards, boots, and jeans" archaeology excavations. Even then, however, they most often participated in particular subfields such as plant analysis.

Sociology fieldworkers also often work collaboratively. In fact, our sociology informants corroborate the assertion of researchers such as Gudeman and Rivera (1993), who state that ethnography is "a way of learning and conversing" (245) that involves both researchers and study populations in reciprocal discovery and interpretation. Like archaeologists, the sociologists we interviewed mention that other contributors, including students, may assist in gathering data and writing up field notes and that the contributions of statisticians and transcribers are essential to their data analyses as well. However, they describe less complex hierarchies in their collaborative projects than do archaeologists, partly because they tend to work with smaller teams. Moreover, most express a desire to reduce hierarchy within collaboration, although they also note that the role of primary investigator, and thus coordinator, of a project invites top down decision making and interpretation.

These enactments of collaboration raise interesting questions about where, how, and by whom "knowledge making" occurs. That primary investigators are knowledge makers is unlikely to be questioned, but when and how the various other contributors (diggers, catalogers, statisticians, transcribers, writers

of field notes) might be considered such seems less clear and, along with Smith's (2004) metaphor of the soup and its chef, suggests that the relationship between data and "discovery" is a viable site of study itself.

Moreover, the relationship between data, discovery, and ownership further points to some of the complexities of co-authorship. Perhaps most significant is the language that our informants use to describe text production: almost all those we interviewed describe this as "writing up" the research. In other words, these written texts, which appear as books, chapters, journal articles, or other publications, are generally thought of as "reporting" what was "discovered" in the field. Thus writing seems separated from research and thus potentially from knowledge making.

This separation may help explain the pragmatic ways that co-authoring is often approached. When asked more specifically how this "writing up" takes place, each participant offers some version of, "Well, we procrastinate and stew for a while, and then one of us says, 'OK, I'll get it started.' Then the manuscript circulates [among the major authors] until it's finished." Uniformly, however, informants have to stop to think about how to describe this "writing up process," suggesting that their practices are fairly unexamined habits of mind. Nevertheless, all agree that, generally, authorship is determined by whoever does "the bulk of the writing," the contribution to the writing determining authorial order, with multiple credits noted for other contributors, such as statisticians or technical consultants. According to our informants, the PI who proposed and arranged for the study tends to do the most substantive writing and thus is "naturally" listed as first author. However, in some cases, another researcher may take the writing lead and may be listed first, even though the study did not "belong" to that particular researcher.

There are, of course, occasions where investigators see their roles as mutual. For instance, informants who collaborate regularly with the same colleagues note that sometimes they simply

alternate first authorship, reflecting their ongoing collaborative work. Finally, two informants note that sometimes graduate assistants, lab assistants, or other specialists write sections that the "writers" then incorporate. If these sections are substantive, these assistants become co-authors; if not, they receive credit in footnotes or in project reports.

Obviously, then, authorship is a highly negotiated and collaborative space. However, these negotiations are not necessarily "routine" or peaceful. One senior archaeologist describes his "coming of age" at a time when anthropologists followed the German university tradition of granting first author status to senior researchers, regardless of their contributions to fieldwork, study, or writing. This practice left junior scholars late in the author list, in footnotes, or even unnamed. However, he notes a dramatic shift during his scholarly lifetime, a shift to giving younger scholars more credit—for their field contributions as well as their writing—to the point that they can become first authors much earlier than he and his cohort. Interestingly, he reports that this move is quite acceptable to many of his colleagues but continues to be criticized by journal editors who favor the more traditional author orders. Indeed, he notes that this has become a point of rancor at recent society meetings, suggesting some of the same questions about academic traditions and evolving disciplines that our sociology data raise.

Our interviews with feminist sociologists affirm this generational shift as authorship practices evolve, and they note the role gender often plays. One feminist sociologist is quite blunt in asserting that males, particularly those long-established in their fields, are less likely to work collaboratively, and when they do collaborate, it is hierarchical or "top down" so that senior faculty members receive first authorships, regardless of how the work has been distributed. In contrast, she says that when she coauthors with colleagues, they collaborate dialogically, and they either list themselves alphabetically or assign authorship according to participation in the writing. She concurs with Gottlieb (1995) that a macho ethos remains a powerful

influence, contributing to a kind of "polite ignoring" of the issues collaboration raises.

However, even our most outspoken critic of hierarchical practices comments that collaborating with students presents the thorniest challenge. In student-faculty negotiations, when novice-expert roles are most apparent, she finds it difficult to get students to see writing multiple drafts of their reports—to see being asked to revise—not as having "gotten it wrong" but as an expected part of the research and writing process. The effect of this is to establish her more as boss than collaborator or even mentor. Moreover, we note that it also enacts the idea that the "writing it up" activity is separate from the research activity, of the separation of epistemology and text production. Nonetheless, this feminist sociologist concurs with Kennedy (1995) when she observes that, "It is unquestionably easier to do cooperative research and writing in the 1990s than it was in the 1960s" (26), attributing the shift to the late twentieth-century challenges feminist and anticolonialist scholarship and interpretive anthropology posed to "the traditional 'objective' report authored by the heroic anthropologist, the scientist of culture who works alone" (26).

Significantly, the feminist ethnographers we spoke with also describe themselves as collaborating with their study subjects. Thus, researchers report that they typically invite their subjects to be active participants in shaping their research projects. For instance, study participants may be consulted regarding the researchers' interpretations of their observations or asked to advise researchers as to how they may most fairly be represented in the resulting text. However, this collaboration does not typically lead to sharing authorial credit, although younger researchers, particularly, comment on the complexity of this issue as they weigh the competing goods of informant anonymity, researcher objectivity, and activism. And, while this collaboration suggests our informants' significant concerns about issues of textual representation, it has not resulted in a different articulation of the writing and research process. The language of "writing it up"

still holds sway, although researchers may be highly conscious of the interpretive nature of both research and writing and of the role that positionality plays in that interpretation.

Finally, although none of our informants reports projects in which principal investigators or lead researchers had handed off the writing almost entirely to colleagues or students, they observe that this practice is not unknown in their fields, particularly in earlier years and in large projects directed by researchers pressed to sponsor heavy research loads.

These data on collaboration suggest that field-based values regarding the concept of ownership have significant implications for how professionals construct the relationships between research and authorship, data, and text. Scholars who work primarily with texts, for example, might be surprised to hear fieldworkers expressing a more urgent sense of ownership of their data or research sites than of the texts they produce. Indeed, this appears to be the case with most of the fieldworkers we interviewed, and thus it is worth noting that even in collaborative field research scenes, the lead investigators retain hierarchical control of protocols and practices. In contrast, the writing and publication processes are described almost as an afterthought, a pragmatic issue of "writing up" the data for dissemination, in which it is understood that one's authorial ranking is not necessarily indicative of one's contribution to the actual research or to the ensuing knowledge that the study produced.

FROM IP CONCEPTS TO TEACHING PRACTICES

Our investigation into faculty practices around the teaching of writing and plagiarism is revealing for what it both does and does not show. Perhaps most important is how thoughtful these fieldworkers are as they design writing projects for their students. Their comments point to serious investment in making connections with students and in helping them engage with their fields as well as to awareness of the critical role that assignment design can play in limiting the likelihood of plagiarism. However, the data we gathered also show that faculty do not

directly teach the writing or citation practices of their fields, nor do they discuss the connections between data, interpretation, ownership, and authoring.

Generally speaking, the writing that our informants ask their students to do falls roughly into two categories: writing to learn about the subject matter of the field, and writing to participate in the work of the field. In the former category, both archaeology and sociology fieldworkers describe asking students to write essays that connect their class readings to their own life experiences. By having students put their own perspectives in conversation with disciplinary ones, our informants hope to promote learning about their fields in felt (rather than abstract) ways that encourage deeper engagement with the materials. Also, in the writing to learn category, we found that both archaeologists and sociologists asked students to report on and respond to class readings and sometimes to museum or other exhibits they have visited. While these reports and responses are seen as a useful means of assuring compliance with reading and viewing assignments, our informants emphasize their interest in encouraging active engagement with the matters of each field. Although personal-connection assignments may not ask students to produce the professional written genres of these fields, they do ask students to find themselves "in the field," as, for instance, they examine their own experiences of race—or gender or class or age or other categories—in relation to the ways that sociologists study these elements.

The other group of assignments more closely parallels the writing that faculty members do within their disciplines, placing students, at least in constructed ways, "in the field." For archaeology students, this takes the form of writing up field observations and converting data sets into site reports. In some cases, these assignments draw on "dummy" data sets, and in others students work from actual fieldwork notes. For sociology students, this involves reading theory, observing, interviewing, and then explaining how their findings support, contradict, or expand the literature.

While our informants show a great deal of attention to creating meaningful writing assignments, they typically do not spend class time talking with students about writing or teaching them how to meet the genre expectations embedded in those assignments. In many ways, this mirrors their own experiences in learning to write as students and within their professions. All of our participants describe their writing lives similarly. They write (or supervise the writing of) field notes, interim site reports, and full-length studies for journal or book publication. They write grant and IRB applications; they review other scholars' books, journal articles, and exhibitions; and they write a miscellany of campus documents, such as faculty activity reports and letters of reference for students. Although these writing tasks are central to their professional lives, none experienced explicit instruction in writing for their fields as part of their own undergraduate or graduate curricula. In keeping with this tradition, then, our informants generally expressed a belief that students should have or would have learned to write elsewhere in their academic careers, most often pointing to general-education writing requirements and first-year composition courses.

Given this, it is not surprising that while our informants express concerns about student plagiarism, they typically do not include discussions of plagiarism in their own curricula. They do, however, report making deliberate attempts to reduce its likelihood. They also express mixed reactions to the increasing availability of Internet materials, noting that they can both enrich students' knowledge and invite them to plagiarize—in "innocent" ways. Students err in making uninformed moves between or connections among texts, in citing incorrectly, or in making baldly unethical moves as they download or even purchase writing that they turn in as their own. Although they decry these seamier practices, they generally resist the urge to police student writing, preferring instead to use assignment design to engage students personally and to limit possibilities to plagiarize—a move that offers a parallel between the ways students are "limited" by their "grounds" just as fieldworkers are limited

by their "grounds." Indeed, our informants note that because they are proactive in creating "plagiarism-limiting" assignments, they have relatively low incidences of plagiarism in their courses. They describe these assignments as having specific guidelines that control topics and source materials, thereby making it more difficult for students to find "ready-made" papers than to write their own. They also express the belief that students who are genuinely engaged in a topic are less likely to cheat. Thus, they explain, assignments that ask students to look at the ways their experiences intersect with the concerns of a discipline are less likely to be plagiarized both because students may be interested in doing the work for themselves and because it is more difficult to download a "personal response" assignment.

However, even though our participants emphasize preventing rather than policing measures, they do not take a next step of pointing to connections between the design of their assignments and the intellectual property, ownership, and citation traditions that have informed their professional practices; likewise, they do not describe specific discussions of these relationships in their classrooms. When we probed for such connections, our subjects first suggested that their own professional writing practices had "just become natural" to them; when pressed, they noted unanimously, with some surprise, that they had not thought about the connections between conceptions of intellectual property and the teaching of citation and other disciplinary and generic conventions. Again, we attribute this in large part to the ways in which our informants describe their own writing educations. Almost uniformly, faculty members report that they have come to understand the concept of intellectual property, the specifics of ownership of sites as well as of texts, and "the rules" about citation and plagiarism in three ways: (1) through immersion in its enactments in the field; (2) through trial and, occasionally, costly error; and (3) through the generosity of mentors who occasionally took the time to address writing practices more explicitly. Thus, while our informants express the desire to reduce the experience of learning by rejection that

they faced, they do not have many alternate pedagogical experiences on which to draw.

Therefore, what seems largely invisible is how our informants help their students see the connection between the fieldwork faculty members engage in, the professional writing they do themselves, and the work—including writing—that they ask their students to do. Even though some of their assignments come very close to duplicating the inter-activity of their own work, the connection between writing as fieldworkers and writing as students remains implied—and for students to discover on their own, if ever.

Remembering that fieldworkers uniformly identify their study sites as what they own before they mention the texts that report their findings in these study sites seems important. If always being the "first observers" and thus originators of the discoveries they report makes "writing it up" seem distant from "finding it," fieldworkers may be less likely to link their fieldwork practices to their writing and then to their students' writing and issues with plagiarism.

If, on the other hand, scholars see writing as inseparable from that which the text writes, they may focus more on the ways language constructs (as opposed to describes or reports) knowledge. Presenting a more recent view of the role of language in the making of knowledge, some scholars are now pointing in this direction. Hamalikis (2004), for instance, argues that an archaeological record is not simply an artifact of which scholars become stewards; rather, he says, "archaeologists are instrumental in *producing* that record out of the fragmented material traces of past social practices" (344). In contrast, faculty members who describe data collection and "writing it up" as two separate processes offer a more modernist understanding of rhetoric and language that suggests that knowledge is located in the data rather than constructed by interpretive acts that are embedded in language. This view then may offer less explicit language for discussing processes of writing and interpretation within this paradigm and

the role that the work of others plays in those epistemological activities; the assignment of meaning happens, obviously, but without conscious attention to how, when, and by what means it happens. This seems consistent with what most field researchers told us about their own experiences in learning how to write for their field: most learned by doing, rather than through explicit discussions of the relationship between doing and writing research and the thinking that undergirds the practices or conventions of their fields.

This (missing) link between discovering data and creating knowledge strikes us as a fruitful area for further consideration. Certainly, the second could not occur in the absence of the first, but how they are or are not linked is an important question both for discipline formation and for teaching. If, for example, writing is imagined as placing data into preset forms, it would seem to be a mechanical skill that is easily learned. This is the assumption our faculty informants seem to make when they express the expectation that their students will have learned to write elsewhere. But if one of the named scenes of ownership is authoring, and if authoring is understood as an integral part of knowledge making, then that activity must be more than mechanical data placement, which would complicate its teaching. Students would need to do more than internalize forms or simply "write it up." They would need to think about how data become knowledge and what writing has to do with these processes: they would need to think about the relationship between a study proposal and the ensuing looking that is done—as well as between the looking and the field notes that result—and ask how field notes then shape "writing it up." In other words, they would need to consider the role of narrative or expository choices in the interpretation of data and the production of knowledge. To be thoughtful about these intersections would involve attention to a kind of disciplinary literacy that includes concepts as well as rules about writing and citation.

FAR FROM TIDY CONNECTIONS AND CONCLUSIONS

Although this chapter focuses on fieldworkers' conceptions of intellectual property and ownership, the information we gathered offers us as researchers a unique opportunity to interrogate the assumptions we brought to this study. One of the concerns that these data raised for us almost immediately is the adequacy and appropriateness of our starting term "ownership." In many ways, the term has been useful, particularly as it elicited fieldworkers' consistent move to name sites and populations before texts when asked what they own. However, the term also proved problematic as our informants struggled against it, offering alternatives like "stewardship" and "studentship" to better express their professional ethics. These responses remind us of one of the very principles from which we started: that the language of a community is an enactment of its values and relationships. Given this, our own easy embrace of the term "ownership" is problematic because it runs contrary to certain other professional values that we hold, including our mutual belief that discourses are social phenomena that circulate in a shared culture.

These complications and contradictions, we think, serve as a useful reminder of the need to resist simplified notions of epistemology and disciplinary discourse that sometimes appear in Composition Studies generally and in WAC/WID work particularly. As Marilyn Cooper observed as early as 1989, disciplinary discourses are neither pure nor insulated from contact with other academic discourses, or from larger political, economic, and cultural zones. In our case, our inclination to think in terms of textual ownership reflects the enlightenment values that have long framed our humanistic understandings of authorship (as well as publishing practices), while our attraction to postmodern philosophies regarding language and meaning influence other aspects of our analyses and our teaching.

Indeed, in retrospect, our "buy in" to a primary language of ownership lies in a largely unspoken tendency to see citation in egocentric terms, that is, to see it in terms of identifying what we

ourselves own (property) rather than as an enactment of how we are thinking (participation). Not surprisingly, then, we see a similarly truncated view of textual ownership underwriting our students' understandings of and struggles with citation practices. For example, when students talk about plagiarism, they talk chiefly about how not to be caught calling something their own that actually belongs to someone else—an effort complicated by a simultaneous demand for originality or independent thought. Citing thus serves mostly as a way of staying out of trouble. However, when each of us has asked our students why they want the writers they read to cite, they respond quite differently: students say that they want to know who their sources are, why they should be believed, how their ideas developed—students want to know about authorial credibility and sequencing. When asked why they want to be cited when others use their work, they say that they want credit for that work but, equally important, that they want to be visible and active in the ongoing conversation. Advanced students, particularly, recognize that the way to be "seen" as participants/contributors and thus included in the continuing discussion is to be cited. These readerly-writerly reasons for citation are in marked contrast with the punishment-avoidance reasons, but they surface only when we situate students as participants in the creation of knowledge.

This process, however, is complex, as the data we collected from our informants also point to the mixed and evolving nature of disciplinary discourses. The influences of contemporary theory, for instance, have been changing the terms of ethnographic work, so much so that there are significant variations in how that work is conducted and announced, reflecting not only different methodologies but different ethics, obligations, and, to some degree, goals. Here, as with ownership, arise questions about the relationships between intellectual practices and pragmatic or political practices or habits. Whether, for example, the gendered division of labor sometimes seen in archaeology reflects the generally hierarchical, androcentric characteristics of the academy or more generally the "natural" assigning of

heavy outside labor to men and inside cleaner work to women—and whether this is "innocent" or "determined"—are questions archaeologists themselves debate. In the United States, this is of particular interest in that much archaeology is carried on outside of the academy, for example, by cultural resource managers who oversee the excavations for road widening or for anchoring tall buildings in areas that are discovered to contain artifacts.

The ways these archaeologists' practices have been constructed by and continue to construct their and others' disciplinary notions of ownership and collaboration are important elements in understanding how faculty members conceive of IP and ownership and how they teach students about plagiarism. For example, if in classes archaeologists want students to collaborate more as peers than as very differently situated contributors, they may find it useful to draw on their fields' collaborative practices to discuss multiple ways that students might collaborate. Indeed, looking at those practices may raise some interesting questions about the way in which the field tends to maintain hierarchical practices. While determining the significance of a pottery shard requires a different kind of preparation than carrying excavated dirt to a dump site does, both activities are essential. It is worth considering how describing this way of parceling out fieldwork could positively affect students' inclinations when asked to engage in collaborative class work. Perhaps drawing on contemporary disputes, such as those that Atwood (2005) and Shanks (1999) discuss, could help students become participants in the discussions that give rise to citation practices.

These data also demonstrate that forces external to the disciplines are shaping the direction of knowledge within various fields by choosing which studies will be funded and thus conducted. Such influences have been so forceful in recent years that they have raised concerns that the academic freedom of researchers is being abridged. Looking at our data, we can see that the pursuit of funding sources may be helping to retain certain hierarchical practices in fieldwork, even as emerging

ethical paradigms and other political concerns are challenging them. Here, Atwood's description of the ways "caustic professional spats" (6) can substantively alter and even curtail excavations and thus the knowledge that sites may offer as well as shape archaeology itself is instructive.

One of the questions that our data raise for us is how to tease out and understand the differences between pragmatic and political practices; for instance, are the funding preferences given to researchers who have proven track records rather than to novices or those working in riskier areas a matter of resource guarding or disciplinary censorship? A related question is whether such a distinction is useful or even possible. Certainly, all of the fieldworkers we interviewed acknowledge that the interactions of hierarchy, disciplinary practices, and gender have shaped their fields by favoring and supporting particular researchers, sites, methods, topics, and publications. Perhaps, then, we are better off to think of disciplines as conglomerations of multiple discourses, all pushing against and offering contexts for the others. It does seem, however, that we need to carefully think about these questions if we are to teach students to notice how the language circulating in a given field constructs, reflects, and continues to shape its terms of work and to use this knowledge to more confidently participate in its written conversations.

One such possibility could arise, for example, with archaeology students working in the field, where they often are responsible for writing the field notes that become incorporated in published research reports. Although writing notes in the field connects students and their faculty mentors and thus might allow faculty members to discuss the questions about ownership that IP issues raise, it also presents the hazard of students seeing "writing up" research as quite separate from doing research when they see their notes appear but do not appear as cited authors. That is, seeing faculty members include excerpts from student-written field notes in research reports that bear the faculty members' names only might lead students to conclude that "holding title to

writing" is separate from producing knowledge. Such arguments have even led students to extend this logic to the now-familiar arguments that papers students purchase over the Internet are indeed theirs because they "hold title" to them—and they have the VISA credit-card receipts to document that title.

On the other hand, particularly if faculty members can involve their students in the ongoing "writing up" of this fieldwork, the resulting connecting of language and epistemology by reconnecting writing and knowledge production might help archaeologists and sociologists engage students as participants in the work of their fields rather than as simply reporters of learning or producers of "correct" writing. This connection may also be made in classroom writing in which students turn field notes or data sets into research reports or draw on competing interpretive theories to explain new data. Here, too, even richer discussions of how writing and knowledge making intersect can occur as faculty members can become more reflective about how they "own," collaborate, and write and then translate those concepts to their students' sites of owning, collaborating, and writing. For example, discussions might include considerations of how site or lab data become research reports, of what "writing it up" means, or of how each kind of writing—from field notes to final reports—involves writing that creates knowledge. As they draw on their fields' scholarly work to explore questions of who owns what and why and with what implications—questions about how data become knowledge—both they and their students will shape their fields' discussions of intellectual property concepts and their implications for specific questions about plagiarism.

In 1995, Gottleib called for more thoughtful consideration of how these texts emerge, noting that there is little clarity about who has done what in terms of research or writing. Even more important, she asserts, it usually remains mysterious whether they disagreed about procedures or findings or writing, how the authors' relationships to each other and to their scenes might have shaped what they saw and how they reported it, and how gender, ethnicity, language, or status might have foregrounded

or elided perspectives. Gottleib's challenge remains pertinent, and both our informants and our reading of their fields' discussions leave us with considerable enthusiasm about how the scholarship of fieldwork will continue to push questions of intellectual property.

The issues that these fieldworker/scholars raise are leading to what Nicholas and Hollowell described in 2004 as a paradigm shift in archaeologists' practices and policies, a shift that Benthall has argued can "alter the way law is conceived" (1999, 2). For example, Hirsch (2002), observes that given the "mismatch between market or capitalist economies . . . and societies where 'custodianship' or even 'reciprocity' are more prominent . . . ." our understandings of "copyright and patent are now in crisis and no longer hold the legitimacy they once did" (1). Thus, it seems reasonable to believe that just as Nicholas and Bannister (2004) assert, that "intellectual property rights will be a major factor in shifting current power structures and mind sets toward more equitable models between archaeologists and other stakeholders" (2004, 528), so, too, will fieldworkers work push our understandings of IP and ownership in other academic as well as professional arenas.

Looking then at the kinds of writing fieldworkers do and the writing they ask their students to produce raises important considerations for any faculty members whose courses involve writing and thus questions of intellectual property, ownership, and plagiarism. First, these connections open spaces for all of us to contemplate where disciplinary concepts of IP and ownership might inform faculty members' practices and, in turn, inform the writing students are asked to produce in those disciplines. And, second, it invites us to be more explicit in showing students how, even in "school writing," their writing parallels the writing of professionals and thus begins to situate them as professional scholars who can reflect, challenge, and shape emerging disciplinary practices. Thus reciprocal understanding of disciplinary histories, practices, and habits of mind may help all of us shift from policing plagiarism to educating emerging scholars.

4

APPROPRIATION, HOMAGE, AND PASTICHE

Using Artistic Tradition to Reconsider and Redefine Plagiarism

Joan A. Mullin

Artists who work in visual media have always built on a tradition of appropriation: painters can speak of impressionists because of common techniques or materials; interior designers can produce French country because they use particular furniture, objects, and patterned fabrics in the room; designers return from a fashion week in Milan ready to mass produce the latest trend; and architects after Frank Lloyd Wright have used cantilevered roofs. Taking such license with visual techniques is understood as artistic tradition and considered by designers and artists as legal appropriation. Besides, "if a design or object too closely resembles another's work, an artist can claim it as 'pastiche,' 'in the style of,' or 'as an homage to' a particular artist or mentor" (U.K. cinematographer[1]). While appropriative practices may seem descriptive of the wider, Internet culture as well, they purposefully comprise the environment and experience of art students, who are told on the one hand not to steal ideas and designs, and on the other hand, to take images and build on them.

Students immersed in this culture of appropriation, homage, and pastiche might also assume that once a piece of written text

1. For a variety of reasons, some faculty preferred not to be identified by name, so for consistency, interviewees are referred to by their countries and fields to establish a context for the comments.

is removed from its original source and placed in another context—put to another use in a student's paper—it is not "copied," but instead, is part of a tradition of appropriation and transformation: the student's work is merely "derivative." Derivation, appropriation, or expansion of a known idea without citing might leave students open to charges of plagiarism in subject areas where words instead of images are used to communicate; however, while derivation and its variations are not the goals of budding artists, they are recognized by faculty in art and design as steps on the way toward becoming an artist. This attitude on the part of faculty differs significantly from that of writing-based faculty who teach students not to appropriate from others (see Orr, Blythman, and Mullin 2005). Art offers multiple examples of this line that is negotiated between plagiarism and creative expression, examples that can be useful for those who work with writing in any discipline. This chapter looks at how faculty-artists' understandings and use of visual media not only conflict with articulations about plagiarism in writing classrooms, but also point to new strategies for teaching and talking about plagiarism in text-based classrooms.

In order to examine a potential conflict and useful differences between practices in visual- and word-based disciplines, I interviewed more than thirty faculty in two U.S. universities and two colleges in the United Kingdom. Faculty crossed the generations and were involved in professional art or museums in varying degrees; all taught students, and they represented a variety of disciplines: architecture, art history, fashion design, film documentary, cinematography, landscape design, painting, interior design, photography, graphic art, digital media, ceramics, and drawing. While conclusions from this study should be tested in other art and design schools, they are premised on two points of consensus that did emerge. First, plagiarism in written or visual texts means passing off someone else's words/images as one's own, without citation; second, art is, by definition, referential. Art faculty teach students to build on and appropriate technique and material, to get ideas from other objects and artists,

and to expand part of an object or image in order to help find their creative voices.

In these practices we can find parallels to writing: students read texts for ideas, look at models of effective writing, and expand concepts stated by others in order to promote their own perspectives. Yet the more comparisons I constructed between visual arts and textual productions, the more I began to reconsider how academics, who all speak out of their various traditions, employ what must seem like similar but conflicting language when they talk to students about written plagiarism: use resources, but be original. As I listened to art faculty speak first of appropriation, then of creativity, and next of teaching students to start with others' designs, I found my own definition of "written plagiarism" challenged by the language and traditions of the visual.

ARTIST/FACULTY OWNERSHIP

In addition to writing professional articles or books, art faculty interviewed spoke of owning the coursework they create as well as, though not always, the professional work they might create and display. For those in art and design, that includes class syllabi, descriptions of assignments, and exhibition directions, as well as artistic scenes instructors might set for drawing or painting classes. These enumerations may seem obvious, but such items have already been "stolen" from faculty interviewed. One of the art historians says she does not and will not have a Web site where she posts syllabi or class assignments because she already has had her research projects and rubrics presented by someone else in her field at a conference—without citing her as the originator.

While art historians may be assumed to write more than do working artists and teachers, all of the professionals interviewed speak of writing as a part of their work. They write critiques, give feedback for colleagues' work, write poetry as part of their visual art, create signage for exhibitions, write textbooks, and create CDs or DVDs that promote and describe their work. They

apply for awards, grants, or exhibitions, and they describe historical processes, eras, or movements. They engage in "interpretive work, synthesizing complex information for people who are not experts—sort of tech-writing about objects—translating, introducing works of art" in their own, individually produced and published texts (U.S. ceramicist).

Artists like to claim ownership of these physical productions, as well as any maps, graphics, photos, charts, or interior or fashion design ideas. However, many of those interviewed posed similar questions about their visual work: If someone takes a picture of a painting, landscape design, or object, who, then, owns the photo? Who owns ideas that incorporate another artist's process? Who owns the setting created for art students in a classroom? One U.S. painter had spent a great deal of time using found objects, fabric, and natural plants to create a large and complex still life for her students to draw. Unbeknown to her, a student who was also taking a photography class liked the setting so much that she photographed parts of it. The student's photography instructor praised the setting and resulting photos and urged the student to enter them in a contest. In a chance conversation with the photography instructor, the painter found that the student had entered her photo of the class setting—without attribution. The painting instructor feels that her work, work that might have later been part of her own artistic production, had been taken: "I create studies of light and intervals of space by finding a language through mark-making." For this faculty/artist, the student had stolen her light and shadow creation and had plagiarized her "words," but others would not agree, claiming that the photograph translated the setting through another medium.

To avoid similar situations, many museums and historical and architectural sites forbid photography, but several of the art historians interviewed admitted going to considerable trouble to photograph cathedrals or other sites that are posted as off-limits to cameras. They hide equipment in their clothes, and they use partners to distract guards while they take shots

"for educational purposes." These same photos, while they now belong to the photographer, can be used in other projects by anyone who may access them through online class Web pages. Who, then, can charge whom with plagiarizing, copying, or stealing? As a U.S. digital media artist pointed out, "The reality is that once you put it out there, anyone can take it and change it for their own purposes." And that is precisely the problem with ownership in art. With a long artistic tradition of using what is in the public domain—paints, color, design ideas, formats, glazes, or film shots—it can be difficult to define "ownership," even if an individual does equate her visual work to written ("mark-making") text. As one of the film artists from the United Kingdom put it, "All you have to say to avoid a charge of plagiarism is that it is an homage to someone—that takes care of the ownership problem."

Illustrators and graphic designers describe a negotiated ownership when they act as individual consultants: "Clients assume they own the design you do for them . . . [but] it really becomes a personal point of view—what is owned." Clients might buy

> one-time use . . . [they] buy use for a few years and then ownership reverts back to the person. If they want it forever, you ask for a ridiculous amount of money. But if you work for a company, especially for Disney with their characters, the ownership is theirs; working for any company, the ownership is theirs. (U.K. illustrator)

Illustrators and graphic artists were the most jaded about "ownership" (some purposefully indicated the quotation marks around the word), and several interviewed had left companies because of their sense of being used. They spoke often of the lack of creativity afforded them because they were told to make public, pastiched, borrowed, and derivative art that would sell. While they don't physically own these works (companies do), their production of them implies a use of or ownership of their talent.

Objects and technique form another blurry line to negotiate in a world where what is owned by someone can be bought,

used, and then changed and owned by someone else. For example, fonts, paints, and materials are owned by their "makers," but, once purchased, artists can manipulate them to make anything—new color washes, brushes, glazes for ceramics (see current copyright law, U.S. Copyright Office). A U.S. digital media artist asserts he owns the images he produces,

> but the technical knowledge and process knowledge is shared; the physical process, scripting and programming is part of a conversation—just like the conversation called 'art' that has been going on for a millennia.

While copyright law would support this contention, and recent suits have begun to chip away at these premises (Fox, 2006; Kaindl, 2007; Kelleher and Farr, 2006), this "conversation called 'art' that has been going on for a millennia" forms the context within which art students learn that taking an idea or medium and using or developing it does not merit acknowledgment since ownership is not an issue.

This thin line between ownership and appropriate, professional use is one that students in art and design schools must learn to negotiate, especially when architects and interior and fashion designers in both countries acknowledge that teaching students "to borrow" develops their professional creative skill. Interior and fashion design faculty were "basically taught: here are the skills—go get images from magazines, exhibitions and film and do cross-visualization" (U.K. interior designers), and that is part of their pedagogy.[2] Students are told to take an image and use their own imagination to tease out, capitalize on, manipulate, or expand certain lines, qualities, figures, or colors in order to create their own product: they're "cross-visualizing." Students' ability to push someone else's vision gains them praise and recognition. In art classrooms, as in the profession,

2. When I heard "cross-visualization" explained, it seemed a wonderful word for a student to use when caught plagiarizing a research paper, for students *are* directed to start with someone else's idea. Conversely, it's a visual way to explain to students how to use other sources in any text.

"recognition in one's field and by the public" was named most often as a reward, and while it is evidenced in publication, exhibition, citation, and critical praise, it is also recognized through derivation or copying by others: "Let's face it; if you aren't being copied, you're not very good" (U.S. architect).

As with interior designers, students of architecture are expected to build within and on a tradition, choosing from the already established (and continually growing) architectural body of language: "Richard Meier works in the vocabulary of Le Corbusier, but his work is recognized as his own" (U.S. architect). Meier has taken Le Corbusier and pushed form in a new direction with other materials: "if you are inventive and define something new, there is a lot of status and respect given . . . status and renown" (U.S. architect). So, as part of their initiation into art, whatever the media, students learn that "ownership" in art has flexible boundaries, determined as much by the producer of a product as by the "user." Student-artists, like their faculty counterparts, are both users and producers: One U.S. ceramicist recalls her own professor, who closely guarded all of his own glazes, refusing to let her use them or to even try to make something else out of them. Whereas his sense of ownership made him guard his secrets, she believes that art itself demands she share her processes: "If students find a way to use or improve on a glaze I create—then they deserve to do so." Students are taught, anyway, that art builds and merges into other art; it is shared.

COLLABORATION—MIXING IT UP

After hearing about the presumed, negotiated, and broken contracts experienced by the artist-collaborators interviewed, copyright laws that clearly articulate ownership and citation practices seem on the one hand necessary, and, on the other, a threat to creativity and the tradition that underpins artistic production. "In museum work, everything is shared; it has to be" (U.S. curator-art historian). Curators produce written works that accompany images and objects that are technically owned by

the museum and displayed in its physical space. The arrangement of objects and the surrounding setting created by the curators are not anyone's and yet everyone's because an exhibition is a collaborative project, done in teams. While the signage accompanying a traveling exhibition may be the property of the curator or consultant who helped mount the project, it also may be altered, with permission, to accommodate a museum's audience. Even, however, when a curator "writes individually, I put it before the team for input and review. I may also voluntarily consult an expert I respect, whose opinion I want" (curator-art historian). At a museum, there's no choice about whether to collaborate or not:

> You don't really have to give credit to everyone in a museum because everyone knows it's collaborative; there is recognition, though, on the exhibition, acknowledgments—which may be part of a wall or of the displayed art—or in footnotes. Grant agencies or donors will be credited, as may consultants, and, when the academic organization demands it, the university itself may be mentioned. (U.S. art historian-painter)

This tacit understanding is acknowledged by most faculty interviewed: while they want credit for having a part in a work where they were major contributors or designers, they all recognize that setting up an exhibition, designing a building, creating a text, (visual or written, 2–D or 3–D) filmmaking, or designing logos involves those who remain unacknowledged.

Many of the artist-faculty interviewed emphasized that the project parameters determine the kind of collaboration, and that collaboration may be subject to corporate practice or professional traditions that have become common practice over time. Some art productions (ceramics, computer art, painting, drawing) may be solo ventures, yet these same artists collaborate at conferences or on exhibitions. Some photographers work alone, while other sessions take a crew. In the film industry, collaboration is spelled out in a contract. Graphic design artists may work alone or agree, like illustrators, to work with

clients, getting feedback on concepts and executions. One U.K. designer collaborates with rock groups when designing their album covers because "the design has to parallel how they think about their music; our discussion indicates the image." In this and similar cases, design is a partnership comprised of artist, client, imagined audience, and material on which the image will appear.

Yet it is this collaborative and derivative nature of art that produces unresolved ethical and copyright problems. Contracts can take away all artistic rights; ideas can be manipulated just enough so that legal claims can't be made; a young artist may think he owns material, only to find others making profits from it and claiming ownership. What in the past may have been produced collaboratively may now be subject to negotiation because one in a group seeks ownership through copyright.

CITATION AND ETHICS

Because art is both derivative and collaborative in the best possible sense of those words and because artists produce alone or collaboratively at any one time, the rules for citation and recognition are not always as clear as they purport to be for those involved in the production of words. Even when an image or object is clearly located in a museum's art display or in an individual's house, claiming, citing, and recognizing ownership may be problematic. In a well-known story related by several artist-faculty interviewed in the United Kingdom, a collector was asked by a popular magazine for an interview. Accompanying the interview was, of course, a picture of the collector in front of the works he owns; the agent for the artist of that picture sued the magazine—and won—for publicizing the artist's work without his permission. Could pictures of shelved books in an article about a collector of early twentieth-century literary works or of the flyleaf of a signed, first edition be similarly contested?

Even though some faculty-artists are bound by copyright or professional contracts, nearly all spoke of rules of thumb guiding their practices. For a U.S. architect, giving credit and

not being accused of plagiarism or copying was a simple matter. He would ask himself, "If you get a design award, who will walk up at the ceremony with you?" A U.K. photographer, who takes images and uses translators or guides to help him photograph an area, determines project by project who will get credit. Photographers interviewed generally agreed that "collaboration credit is given in the form of acknowledging an association that has made a work possible" (U.K. photographer). It is acknowledged that "while an individual may own his images, the whole work is everyone's even though everyone can't benefit equally from the whole work" (U.K. documentary filmmaker). Realistically, if a photographer acknowledged everyone who made some projects possible, the citations would sometimes take up more space than the images in a publication—the work would be unmanageable as a book (U.K. photographer).

The endless list of names after a commercial film, those recognizing everyone from a caterer to the star's dogsitter, seem to acknowledge the collaborators that make films possible. However, in U.S. promotional materials or reviews, films are referred to as the work of the few: the primary actors, screenwriter, director, and, perhaps, producer. In Europe, those participating in filmmaking have carefully articulated laws that give much more credit to contributors. Cinematographers may "even be recognized in places like Poland and Germany on the box-office receipts [tickets] because it is part of copyright laws" (U.K. cinematographer).

On the other hand, according to U.K. faculty interviewed, contracts tend to work against graphic artists:

> Magazines and newspapers might put your name on [your work], but it depends on their practice and the context. Graphic artists leave their egos at the door—like a bricklayer. (U.K. illustrator)

Graphic artists, as well as interior and fashion designers who work for companies, learn that "style, techniques can be pastiched": raiding other designs is a given. Many of the artist-faculty interviewed who had worked outside of academe said their

supervisors told them to "take small ideas from anywhere and run with them" and to "throw together others' images" in order to create a finished product for a client. It was well known that

> since people might not know who the original designer is, it doesn't matter. You can avoid accusations by saying "influenced by" or "in the style of" . . . or give credit in terms of "after so-and-so" but people seldom do even that much. (U.K. graphic designer)

These practices are evident in many of the stories and experiences of those interviewed. One faculty-illustrator's professional organization recently received complaints

> that an award-winning illustrator was copying another's style. The board couldn't resolve the issue or agree among themselves because, while there were clear similarities, there were differences. Most on the board believed the work had been copied. (U.K. illustrator)

Even so, it was difficult for even these professionals to find the line between appropriation and originality, or perhaps, to dare claim individual work as plagiarized when copying is often standard corporate practice. In this case, nothing was publicly said or done.

Unlike interior designers, illustrators, and graphic designers, photographers rely on organizations that provide clear terms under which their photos can be used and cited. Companies that represent artists as well as individual photographers may embed a digital watermark in online images so that anyone downloading or printing them will get distorted images with lines and breaks through them. Companies that own large numbers of images have Web crawlers that troll through the Internet looking for unauthorized use of their images. If such an instance is found, the perpetrator will be sent a cease-or-be-prosecuted note. "Appropriation" is not tolerated. A recent case pointed to by more than one person interviewed in the United Kingdom involved the Hush Puppies corporation. Its advertising group ordered a portfolio of images from a large company that owns and sells them for public use. Hush Puppies returned

the photos, saying they'd found nothing that interested them, yet their next ad campaign duplicated the setting and objects from one of the portfolio's pictures. The image provider successfully sued Hush Puppies, which had to pay penalties and withdraw the ad. So goes the corporate world that settles such issues in courts, quite different from the illustrators' organization, which chose not to press what seemed to be a similar a case of appropriation.

While contractual or traditional citation and acknowledgment practices can ensure recognition of ownership, other artist-academics who were interviewed believe that there is another ethical dimension attached to the use and citation of their artistic productions. One photographer is willing to have her work published or used by others as long as she knows their purpose. Because she often photographs women and children who are victims of war and abuse, she does not want her images used frivolously by aid organizations with unproven track records or by politicians. She likewise always gets permission to photograph her subjects because "it is a question of moral ethics as to how you portray someone by photographing them," and she believes that anyone using her images should be equally as thoughtful about their intentions.

The ethics of citation for these artist-faculty consist of being recognized not just for a product, but also for the worldview represented through their creative talent. An illustrator who now works primarily alone

> worried as a [corporate] designer: how honest can you be? You are not hired to be honest. . . .They want you to be—particularly in illustration where your style is partitioned—they want you to be what they want. . . . if they want you to copy a style, you do it. (U.K. illustrator)

Another noted that illustration is often a "farm of pens" with companies determining styles; "in the market, illustration is built on plagiarism. It's wallpaper." Realistic about the corporate objective tied to production of mass images for the public,

these artist-faculty still expressed anger at the lack of ethics and recognition that is part and parcel of the world in which many of their students will start.

Unfortunately, students get introduced to unethical practices fairly early in their schooling. It is common knowledge in the United Kingdom that corporate representatives and individual artists attend student exhibitions, grazing on the ideas presented. In an oft-told story, a national team of professionals formed a panel of judges for a student exhibition and

> within three months of the exhibition, an ad appeared using the student's idea. While many speculated on a connection between the ad agency and one of the judges, nothing could be done. (Graphic artist)

Student shows are important venues for all art schools as they provide experience and, sometimes, opportunities for budding artists, but as one illustrator said, "I wish we could ensure that company spies could be banned from them." The reality, though, is that

> Once you put it 'out there', anyone can take it and change it for their own. If you feel precious about something, take credit; get it out there. If someone says, 'Didn't so-and-so do that first?' shrug your shoulders and say, 'I don't know.' (U.S. ceramicist)

This response is not surprising since less than one percent of those interviewed had any formal training in issues of citation. When asked how they learned about attribution, replies were similar:

Can't remember.

By the skin of my teeth.

In ninth-grade English.

The hard way—when someone stole my work.

I didn't learn—I'm still learning.

Most became educated as they apprenticed in studios, watched a mentor, read about others' misfortunes, or had their own work used without reference. A U.K. graphic artist who received no

formal training in copyright, ethics, or plagiarism says he relies on friends who are copyright lawyers to help him negotiate issues of ownership, publication, and credit. He wonders, not facetiously, "Is my own image mine? Does a cartoon characterizing it, steal it?" These artist/faculty articulated clearly the ever-shifting negotiations of their professional lives and traced their own confusions about ownership, collaboration, and ethics to a lack of training and to the increasing complexity of court cases that infringe on creativity and artistic tradition. They realized that the ability of their own students to navigate through these same professional questions was not going to get any easier.

ART STUDENTS: NEGOTIATING PLAGIARISM, APPROPRIATION, AND COLLABORATION

One of the illustrators interviewed had just come across "another instance" of a somewhat obscure person's work being copied by a known artist:

> I haven't done anything . . . I'm surprised the magazine didn't notice . . . I couldn't work out whether it mattered, but it actually does. . . . if it happened here [at university] it would matter. I would definitely do something.

But the "something" in art schools is often different from the disciplinary hearings and grade penalties given students who plagiarize with words. For art professionals, it may amount to quiet ostracizing, but while everyone interviewed states that plagiarism in its most obvious form is discouraged at art schools, "Copying is a really, really, really useful way of learning" (U.K. graphic artist).

> When they [students] get lost, they might copy. . . . As they become skilled, they might stall. It's important for them to learn that they don't operate in a vacuum, that there is a tradition to build on; they may say, 'I don't want to look at a book [about an artist] because it'll corrupt me,' but that's naïve. They've been influenced all their lives. (U.K. painter-printmaker)

On the one hand, the acknowledgment of tradition and the use of models in art are not unlike practices in other disciplines.

> You teach students to borrow imagery: If I have a subject, I might study others who use similar subjects . . . the university is like a cultural swimming pool; they [students] need to learn how to imagine by swimming in it. (U.K. painter)

However, art students are encouraged to also "copy ideas—it's the field. . . . Fritz Lang describes himself as a visual magpie" (U.K. filmmaker). For filmmakers and others in art, "It's OK to copy in the beginning. To emulate is not to copy; it's part of the learning process" (U.K. illustrator).

While faculty claim that no student wants to be seen as "merely" or "only" derivative, U.K. interior designers acknowledge that, on a recent field trip to Dubai, students saw designers making excessive amounts of money in a culture where there was "clearly no concept of plagiarism . . . pretty much everything they saw was ripped off."[3] Nonetheless, while their pedagogy and some commercial interests encourage copying, artist-faculty were quite confident that, like them, their students eventually figure out how one can negotiate the line between derivation and appropriation. "Students do not want to be conventional or derivative. [They] have a strong sense of wanting to be known as creative; it makes them self-censor copying" (U.K. interior designer). This attitude serves students in the professional world because, for artists, "the crux of the issue is not plagiarism so much as the quality of thinking: derivation vs. taking something and moving it forward" (U.K. photojournalist).

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3. There is a difference between students who come in wanting to be unique and those who may, for a number of career decisions, choose to be copyists. There is more to be said here about the differences between practices within the academy and those outside of it; these differences, if not explained, can often contribute to perceived irrelevancy of what is taught as opposed to what is actually practiced in the world. Bergmann's chapter in this collection demonstrates one such disjuncture—in this case, between faculty-student practices and academic administrators.

To move students forward, art faculty rely on sketchbooks or storyboards, providing lots of feedback wherein they seek to challenge students. For a U.K. painter-printmaker, "response to students' sketchbooks is vital for showing them how to use an idea, how to use a medium to make it theirs." A U.S. architect who finds a student's sketches "exceptionally derivative" will point out that they are imitations of (for example) Mies van der Rohe, but then "send that student to study the architect even more in order to see how that copied design might be changed, how the student might incorporate facets of van der Rohe in different ways." Likewise, when an interior designer in the United Kingdom finds that student work is "glaringly, obviously copied," she looks for its first iteration in the student's sketchbook and uses feedback and "humor in classes—and they laugh, and it makes [being told it's a copy] not so scary." U.K. interior designers acknowledged that the highly derivative nature of their field may lead students to create designs that are very similar to others. However, because they see the processes through which the designs emerged, along with the inspiration, iteration, drafts, and revisions, they believe they can accurately measure students' creative talent. They point out how difficult it would be for a student to start with someone else's product, reproduce backwards the steps leading to it, and then spend the entire semester trying to pass that off as original work. They also would

> like to think students have the moral and intellectual guidance to make them want to make something better or different. Students know they need to innovate as does the world, as it and they continue to change. (U.K. interior designer)

It is not unusual, faculty acknowledge, for students to copy a particular person or style as part of their creative growth, manipulating and extending others' work. This is how art students learn to build on a tradition, find "their own voice" (U.S. painter) and "avoid plagiarism like the Black Death!" (U.S. curator-art historian). Digital media students are taught in one U.S. class that

> while appropriation is a big part of twenty-first-century art making . . . the art of appropriation has to be relevant to the work. If I do a piece on classical artwork and include Michelangelo's *David* to make a point—fine. But if I take a picture of a cow off the Internet because I can't make one—that's inappropriate. (U.K. interior designer)

Those interviewed indicate that the consequences of not learning the difference show up in students' grades now, and will later show up in loss of commissions and work; they teach that, while there will always be a Dubai, worldwide recognition depends on creative innovation.

While art, design, and architecture students are learning to negotiate the use of others' work, they are also being taught the collaborative side of their future professions. All those interviewed have students collaborate at various points throughout their classes. Mostly, students

> hate collaborating. They believe art hinges on individual expression and that their creative genius is being compromised. Usually they collaborate in the form of process rather than in conceptual development, but when they do the latter, their work is much stronger. . . . They're not required to acknowledge their collaboration; I think if I required it, [collaboration] would end (U.S. digital artist).

Part of their resistance to collaboration is that they "have a strong sense of ownership. . . . They're terrified of having their creativity 'stolen' . . . even if their own work is clearly derivative" (U.S. painter). It was common to hear that students prefer to work alone "because of what they perceive as unequal work quality in others. They don't know how to play yet" (U.S. ceramicist). U.K. interior design instructors add that students resist collaboration "because they know that one student can pull everyone down or that one student will cover for a mate." Art faculty see these resistances as naïve student positions and provide collaborative opportunities so that students learn the boundaries and crossings one takes on when making art.

In order to measure their individual thinking and processes, one U.S. art historian has students keep journals when they work collaboratively; however, this kind of accounting for individual work within a collaboration may be more usual in a discipline like art history—which deals with words—than in the material, visual arts. A U.S. architect noted that students "are not *allowed* to delineate who did what part; they are told to use 'we,' not 'I.'" That's because "while students might believe it's Gehry who did it [designed a building], they find out it's a team." Like graphic designers-in-training who are taught to leave egos at the door and work together, architects learn to "self-identify what they have done on a project," (U.K. graphic artist) and that has to be enough for most of them.

This complex dance between being recognized for collaboration or being satisfied with one's own silent part in production is becoming more difficult. As more images are turned into profit, and as more artists find themselves either losing a way of life or working as a corporate tool, more are learning to legally protect what might have once been shared. Even so, faculty clearly indicated that their teaching encourages the artistic tradition of collaboration. At the same time, they recognize that images which make up the tradition—its ideas, its processes, and materials—are becoming so copyrighted that "the ability to create requires a call to your lawyer" (Lessig 2004, 192). How to teach students about this future is one of the many concerns of all artist-faculty.

FUTURE CHALLENGES FOR FACULTY AND STUDENTS

The Internet and all the possibilities for appropriating and copying came up as the most challenging issue of the future. There are thousands of images on the Web, "virtual galleries . . . and it's nearly impossible to control what happens to them" (U.S. art historian). Some of the uses seem harmless: in a landscape architect's course, students downloaded images of people walking so that they could place them in their design, but technically, they had illegally copied those images. Teaching what is

fair use or allowable in education changes the way faculty think about their pedagogy:

> I'd like to do a lot more on the Web, but there are implications for educational use, for use of student produced products, for using images in their work. I don't let students use the Internet initially when they do their research—it has to be after they look at original objects and books/papers. It actually has been a good thing to wrestle with these questions, because it helps in understanding the dilemma students are in. I don't have all the answers; I can sympathize with my students' wrestling with the same issues. (U.S. art historian)

Some architects are not allowing their buildings to be photographed because of ownership issues; they don't want Web images of them sold for profits in which they don't share, or they don't want their work imaged for any profit. Unfortunately, this approach also gets in the way of legitimate photography used for educational reasons or for inspiration. Finally, one can try to protect images and objects, but the reality is that "students steal images all day—so sue them! What will you get? But the worst thing is that [when] students appropriate so much, what skills do they develop? The overall artistic level is declining" (U.S. digital artist).

The reliance on the Internet as a substitution for creativity rather than a tool was expressed by several of those interviewed:

> Students are so good at the computer and current with technical aspects, but their aesthetics lag behind their technical abilities. They get seduced by speed and can't filter information. I have to get them to slow down and really look. I have to get them to see that they can't take an image as theirs and just use it as it is. They need to learn to discriminate. (U.S. painter)

Besides adjusting pedagogy to both accommodate and critique technology, faculty find themselves addressing ethical issues raised by discussions of intellectual property, ownership, and

art. For example, an architect interviewed had one of his buildings photographed without permission. The photos were printed in a magazine, and while he agreed that the photos were quite good, the magazine in which they appeared was third-rate. He believes the photos' appearance in the publication demeaned the quality of his architecture. Even worse, the photographer offered to sell the photos back to him for quite a large sum of money.

Deciding what determines ethical practice among artists and those who make money off of art is not the only area students need to consider: they need to develop a philosophy of public use that justifies fair use of their work as well as public access. In the summer of 2006, a light sculpture was installed in front of the oft-photographed Eiffel Tower. Because the installation belonged to the artist, he demanded that no one photograph the tower at night when his sculpture was lit, but the tower itself is in the public domain. Students will need to consider whether the placement of their art should be used to block the right to reproduce other items that are within public domain.

Ethical questions are of particular concern to photographers and documentary artists. Faculty members interviewed in the United Kingdom were very careful about tracing the uses of images, clips, or whole pieces of their work. They were concerned that others may unthinkingly use selected material that misrepresent the artist's intentions, fail to dignify their subjects, or produce—out of pieces—end products that carry overtones of racism. For example, one documentary artist questions the use of her or others' war photos, believing it is not ethical to embody the weight of war on one image of a child. She is careful to delineate for her students a controversy between who in her field are called the "hunters"—those who go out and observe and record—and the "gatherers,"those who reconstruct reality and then photograph it. She believes the former is about respecting people who are the subject of her work while the latter offers the ability to manipulate a reality (e.g., freelance photographer Adnan Hajj, whose doctored pictures of the 2006

Lebanon War led to Reuters expunging over 900 of his photographs from their files).

Such manipulation occurs often in advertising, a threat to photographers and any image-maker. A U.K. graphic artist spoke of a Russian photographer who shot an image of an American firing a missile as proof that the United States was illegally involved in a Chechnyan conflict. The photographer had offers to buy the picture, but he found that one of them came from the company that made the missile; they wanted to use it in the promotional materials they sent to other prospective buyers. A U.K. illustrator related another story of an artist who was so taken with a photographer's print that he painted it. Originally, the painter was going to buy the print, but he ended up making such huge amounts of money off the painting—legally, it was determined—that he never purchased the print he used. With the continually evolving laws about copyright and ownership and continually evolving technology, how—several faculty wondered—can they begin to help their students make creative, ethical decisions.

As they articulated their concerns about ethics, plagiarism and ownership, faculty often acknowledged that the interview in which we engaged for this chapter was the first time they thought about the relationship among these issues. More than eighty-five percent said that as a result, they realized they needed to spend more time being explicit about what they see as implied in daily instruction. Their sketchbook responses, directing students to further research and the public critique in class, were important but given the future, most concluded, they would have to incorporate direct instruction about plagiarism, ownership, and copyright. Others already found ways to teach these issues together, but in some form or another, nearly all of those interviewed expressed the concern of a U.S. art historian:

> Will there even *be* such a thing as intellectual property in the future? Prior to the Renaissance, people in art didn't take ownership: building a cathedral and all the art associated with it was God's work and

> collaborative; people relied on notebooks of ideas and copied what was endorsed. . . . For those building a cathedral, what was most valued was God and that's why they engaged in their work. There really isn't anything new under the sun; it is all referential with iterations and derivations.

In sum, faculty seemed to agree for the need to increase instruction and open class discussions of fair use and copyright; some pointed to including in their classes an examination of innovative public responses to over-regulation of tradition (e.g., Creative Commons, http://creativecommons.org), but all were concerned about the effect of technology on their students' aesthetic education, skill, technique, or ethical understanding of appropriation, as well as its effect on their own work as educators and artists.

ART TO WORDS AND BACK AGAIN

An art historian in the United States noted that, when using words, "students don't know how to separate what they have borrowed from what they want to say. They can't figure out how to say something they think when someone else has said it so well; they don't know how to borrow language." Another faculty member from the United States who teaches art history and design courses, where students produce products with words and images, finds that they

> are completely unclear [about plagiarism]. I highlight what they've lifted in an article. They seem to understand that lifting a concept wholeheartedly is plagiarism, but not lifting a part. . . . They're clear about citing visuals, but not writing. (U.S. art historian)

These interviews have caused me to carefully examine how our traditional ideas about language use, ownership, and plagiarism in text-based classes have not been accommodating a culture where everything seems to have already been said, nor recognizing its own tradition of appropriation and evolution: what else is living language if not appropriation? How can we

acknowledge metaphor, allusion, satire, and other genres (or even the concept of genre), and yet tell students they must be original? How can we teach the plasticity of language on the one hand and deny students, as learners, the ability to play with appropriation and word building on the other? A careful look at how visual media is taught might help us define and teach voice effectively. How tradition informs and takes a role in art education can show us how to align our expectations of originality with the reality of information overload and the Internet.

For those in art, the challenge and pleasure of their work clearly come from engaging the tradition out of which they seek to grow, and that attitude is not as successfully transferred to students when they write papers. Unlike perceptions about authorship, the practice of being an artist is so closely tied to individuation within an acknowledged tradition of appropriation that art students do tend to self-regulate. Further, unlike what students seem to believe about the importance of writing, art students are taught that they will reap consequences of copying that will reflect on their personal, artistic goal of self-expression. This will mean lost recognition and money in some fields of art, but in other fields, they learn that rewards will accrue from turning their talent to someone else's ends (graphic art, illustration, some interior design and architecture). While artist-faculty are trying to find an ethical balance between these two, they also are realistic about how their students will be asked to use their abilities: some will be able to make a living through individual voices while others will be echoes. Similarly, in a culture where writing and the visual are increasingly enmeshed, some students will excel as writers or Web designers. While Web designers will easily draw on traditions of design language and models, how will our writing pedagogies help the others find voice in a tradition of language? If written texts are so available in finished form, ready to be copied and manipulated, why can't our students appropriate them just as a corporate graphic artist might incorporate images? How do we help them negotiate these and enter a field if

we respond to plagiarism by using a large brush to paint over students' efforts to find voice?

Art students' ability to make choices often is tied to their talent as well as their business savvy, but their willingness to use and explore their talent is tied to the high stakes associated with their artistic production. The stakes are not the same for art students' (or most students') papers. An interior designer in the United Kingdom, commenting on the lack of plagiarized material in art school, wisely points out that

> students value their designs over their papers; they are more inclined, therefore, to value the creativity in their design work than in their papers. They have a desire that everyone is going to see their designs—but who will ever read their papers?

Perhaps that question drives the most egregious copying of whole papers, but for most of our students, uncited quotations, borrowed ideas, and patchwriting are their appropriations, their attempts to find what they sound like so they can take their places in a tradition of expression through words as their peers do through visuals.

5

HIGHER EDUCATION ADMINISTRATION OWNERSHIP, COLLABORATION, AND PUBLICATION

Connecting or Separating the Writing of Administrators, Faculty, and Students?

Linda S. Bergmann

At regular intervals, scandals involving commencement addresses, speeches, and presentations by college presidents and other administrators are revealed to contain material "lifted" from other sources without attribution. Recently, there were the cases of Scott D. Miller, the president of Wesley College, (http://chronicle.com/weekly/v52/i41/41a02902.htm); Walter Wendler, the chancellor of Southern Illinois University, Carbondale; and Vaughn Vandegrift, the chancellor of Southern Illinois University, Edwardsville. Academics have little sympathy for administrators who "plagiarize" speeches or presentations, and the latter case aroused not only the ire of faculty at that university but also considerable outrage on the Writing Program Administrators discussion list in July of 2006 (http://lists.asu.edu/archives/wpa-l.html). Moreover, for the past few years rhetoric and composition faculty have posted comments about student and administrative "plagiarism" on the WPA-L that reflect a very low tolerance for anything that might be called "plagiarism" when committed by administrators, even though posts to the same list exhibit considerable tolerance for citation mistakes by students. Composition faculty seem to have a higher tolerance for students' citation mistakes than

for accusations against administrators,[1] probably because they think that deans and presidents and chancellors really should know better and should serve as models for students. However, as this book argues throughout, "plagiarism" is a problematic, catchall term that fails to take into consideration the different practices of research, writing, and attribution in different fields. This is why I have so far put the term in quotation marks; moreover, "plagiarism" is a term that indicates malfeasance, even though it is often used to label cases of mistakes and ignorance. This is not to say that there is no overlap among conceptions of plagiarism, nor is it intended to justify administrators' unethical appropriation of material written by others; but it is intended to extend the examination of different meanings for the term to the documents produced by administrators.

Based on the interviews described in this chapter, I will argue that administrators—particularly those committed to administration for long parts of their careers—operate in a different discourse community within the university than do students and faculty, and that this community has substantially different conceptions of how its documents are produced and owned. My interviews with administrators about their intellectual property beliefs and practices suggest that administrators, no matter what discipline they come from, operate under different conceptions of intellectual property than they held when they were primarily teachers and researchers in their disciplines, and thus they work with different expectations about the creation and communication of knowledge than faculty in academic fields. However, because working administrators embrace, at least to some extent, the same ideas about intellectual property as do faculty, administrators tend to experience considerable ambivalence about how citation and attribution work and should work in institutional discourse. Moreover, since administrators often work closely with faculty who use a more typically academic set of assumptions, they are liable to

1. See the discussions (indexed under "plagiarism") on the WPA-L archives at http://lists.asu.edu/archives/wpa-l.html to compare the difference.

be accused of plagiarism when they engage in commonplace administrative practices.[2]

In discussing issues of intellectual property in administrative discourse, it is important to reiterate the difference between plagiarism and copyright violation. Copyright is a *legal* issue, in contrast to the primarily *ethical* issue of plagiarism. Copyright laws ensure that writers and other creators of various kinds of texts (including music, pictures, films, software, etc.) maintain ownership of their work for a limited period of time. Copyright laws give the person or organization that owns the copyright *legal ownership* of the work—including the right to reproduce it, to modify it, and to grant permission for its use or modification by others. Copyright is justified on the grounds that it creates an incentive for writers and artists to produce new material; they can sell their work or the right to reproduce it to others and thus receive compensation for the time and effort they put into creating the text.

Copyright violations may seem similar to plagiarism violations because both involve violations of appropriate attribution and compensation for intellectual work. However, plagiarism is a question of attribution (who claims to have written what), and copyright is a question of who has permission to use what text (or other copyrightable material) for what purposes. Thus, it is possible to plagiarize a piece without violating copyright. For example, even if a person has the writer's permission to pass along a piece of writing as his or her own, this can constitute plagiarism, even though it does not violate copyright. Moreover, a writer can violate copyright, even though leaving the author or artist's name on a piece and acknowledging its source, if the owner of the copyright does not give permission for its use. Since most university intellectual property codes consider communications written by administrators for the institution to belong to the institution, the copyright for institutional documents clearly rests with the institution. The issue of plagiarism,

2. Randall 1999 suggests that the accusation of plagiarism can be a particularly powerful political tool.

however, involves a different conception of ownership, and so it can become a site for conflict between ethical communities, particularly between university administrators and faculty, because faculty members (in spite of the disciplinary differences noted throughout this book) expect that texts be attributed to the person or persons who actually produced them, within each disciplinary community's understanding of those terms.

As the other chapters in this book demonstrate, there are considerable differences among faculty about what intellectual property is, in what cases it can or cannot be owned, and who owns it. For example, Joan Mullin's interviews with visual artists and designers demonstrate the problem of distinguishing between being influenced by and copying visual tropes and describe cases in which copying is accepted practice. A crucial difference between faculty and administrators, however, is that administrators seldom speak to their own intellectual work but instead speak "for the institution," conveying and often taking responsibility for the decisions, practices, and plans shaped by a larger group of administrators (and sometimes faculty and students), even when they may *seem* to be making personal statements or academic arguments. Moreover, administrators often attribute the work of other individuals involved in producing documents only to the position where it will carry the most institutional weight, and thus the designated "author" is not necessarily (and often not usually) the person who actually wrote down the ideas or words in a particular piece of writing.

It is easy for faculty to perceive institutional communications as plagiarism—especially for faculty in the humanities—because they tend to work alone and demand strict documentation of their sources. Brian Martin (1994) and Thomas Mallon (1989) both take this point of view, using "plagiarism" as a pejorative catchall term to describe all cases of appropriation, misattribution, and non-attribution of initial authors. Moreover, many faculty in the humanities tend to mistake much of their own "work for hire" (for university committees or for publishers) as their own intellectual property, even though they do not

hold the copyright to it. Administrators, in contrast, are *expected* to appropriate the ideas of others in order to give more authority to those ideas and the propositions and decisions that result from them. In the production of administrative text (even more than in writing produced in large science laboratories), the designated author, usually the highest administrator involved in a project, both provides the authority for and takes credit for the document—and also assumes the blame, when necessary. Higher administrators seldom write alone: they have speechwriters or other aides who research issues, draft documents, and create presentation materials. This kind of help is seen as a necessary aspect of higher administrative positions, even though the extent to which it is expected and used would be unusual in the research and writing of many faculty members, again, particularly in the humanities.

My interviews with academic administrators suggest that the intellectual property conventions and practices of administrators differ considerably from those they practiced when they were members of the faculty because the "ownership" of administrative ideas and documents tends to be located in the institution or the position, not in the individual. The higher the level of the administrator, the less likely she is to write her own speeches, presentations, and even most publications. Furthermore, strategic silence plays a larger role in administrative discourse than in faculty research and publication. Thus, administrators, who were trained as graduate students and faculty members to publish as widely as possible and to acknowledge sources and collaborators carefully, soon learn the skill of silence and its role in maintaining ownership (in a different sense) of information. The administrators I interviewed were aware of these differences between their own citation practices and those they expected of faculty and students; most of them perceived and sometimes puzzled over the dissonance between their performance as administrators, their practices as faculty, and their expectations for students. Although they acknowledged that they expected to rely on others to write for them, all

the administrators interviewed also expected at the very least to review and, if necessary, revise documents that go out under their names, and most of them expressed regret that they could not do all of "their writing" for themselves. The idea embedded in faculty values and practices, that the individual author or principal investigator owns the text, never seems to be quite eradicated, even after years in administration. Having come from the faculty and learned as graduate students the expectations for documentation and attribution in their fields, most of the administrators I interviewed still expected to be held responsible for their own writing, even though the demands of administration did not allow them to produce it all themselves. Clearly, academic administrators work in an intellectual space in which property values are only sometimes the same as those that dominate the work of the faculty, and it is seldom a particularly comfortable space for those whose careers started in the faculty. Hence, their ambivalence about their practices.

METHODOLOGY

Over a period of a year and a half, I interviewed twelve administrators from eight different American universities, all with undergraduate populations of over 10,000 students. The participants included department heads, deans and associate deans, and university provosts and associate provosts. Many of them had held more than one administrative position, at the same or different universities. Because I guaranteed participants as complete anonymity as possible, my discussion of their practices, their experiences, and their understanding of them is limited by my not being able to clearly describe individuals as administrators at particular ranks, at particular universities, and coming from particular disciplines. Revealing that information would make it too easy for readers to figure out who I interviewed, and thus would jeopardize that anonymity. However, the promise of anonymity encouraged what I perceived to be considerable candor among the participants, and all the participants remarked that they enjoyed the opportunity to actively think about how

intellectual property issues are related to administrative writing. I promised to provide copies of this chapter to all the participants, although I did not promise them the opportunity to revise my notes or contest my conclusions.

I started the project by interviewing people I had met or heard of, and then I asked them to refer me to other administrators to interview. I conducted the interviews both face to face and on the phone. Three invited administrators did not respond to my email inquiries. Copies of the e-mailed invitation with an explanation of the project and the list of questions participants answered are printed in the appendix to this chapter. My project plan and documents were approved by the Purdue Institutional Review Board.

My questions are based on the questions used in the other studies reported in this book, but after the first two interviews (with an associate dean and a department chair), in which the focus on teaching and research were leading the participants to discuss the intellectual property issues of the disciplines from which they came rather than issues in their work as administrators, I adapted the questions to address more directly their thinking about the relationships among ideas about *administrative writing* in the university to ideas about intellectual property prevalent among faculty. The emphasis of our discussions varied from administrator to administrator, depending on their degree of interest in particular questions. I took detailed handwritten notes on the participants' responses, which were later transcribed into an electronic version for easier analysis.

The study also includes consideration of posts to the WPA-L concerning administrative plagiarism and two examples from my personal experience. The public and archived discussions on the WPA list over the time of the study repeatedly raised issues and passed judgments on many of the claims and concepts raised here, so I have used it as a source of general information about how rhetoric and composition faculty view intellectual property. The Statement on Plagiarism by the Council of Writing Program Administrators (http://www.wpacouncil.org/

positions/plagiarism.html) has served as my source for best practices for understanding and dealing with plagiarism in the classroom, although that issue is not central to this particular study.

CONCEPTS OF COLLABORATION

Administrators follow a process that I call "teamwork," in which different people do jobs that draw on specific expertise, (Bergmann 2000), and they consider collaboration to be what Ede and Lunsford (1990) defined as "hierarchical collaboration" rather than the "dialogical collaboration" often preferred by composition faculty. I am retaining the simple term "collaboration" in this chapter because it is a term the people I interviewed used to describe their working relationships, most of which they considered highly collaborative. Although they expressed considerable awareness of power differences in these collaborations, they described ways these interchanges are not completely top-down or directive, and they agreed that collaboration provides necessary information, without which good decisions cannot be made or workable policies enacted. The work of committees and task forces is important to administrators as a means of learning from faculty, university staff, and students about, for example, the potential impacts and side effects of a decision. While it is tempting to conceive of these administrators' sense of collaboration as a self-serving means of hiding and maintaining their authoritative role in the university hierarchy—or as evidence of their failure to comprehend it—almost every administrator I interviewed observed that the connected issues of hierarchy, collaboration, and attribution are not straightforward processes but are complicated and ambiguous aspects of administrative decision making.

These administrators acknowledged that expectations about writing and citation practices that are typical for administrators differ from those under which faculty and students usually work, particularly the questions of who writes what for whom and who takes credit for a particular document. Administrators described becoming aware of these new expectations as they learned

administrative practices and expectations; this learning is part of the mentoring of new administrators, an important duty of associate deans and their administrative assistants. However, the administrators I interviewed expressed considerable uncertainty about the implications of the way discourse functioned in their roles. They all thought seriously about, as one participant put it, "sharing credit, sharing responsibility, and sharing blame," particularly in regards to decisions about when giving collaborators credit may or not be in the best interest of members of a committee responsible for making a difficult decision or for the actual writer of a document. Most of the administrators mentioned the need to shield lower-level collaborators from blame or retribution. At the level of dean and above, university lawyers also shaped the final decisions about many collaborative projects, adding yet another layer of authorship or authority to the process of writing. A humorous but no less cogent example of how this practice can work was described by Ed White on the WPA List (reprinted here with his permission):

> From: Writing Program Administration on behalf of Edward White
> Sent: Mon 5/1/2006 2:17 PM To: WPA-L@asu.edu
> Subject: Re: Revision as Best Teaching Practice
> . . . Your post reminded me of my own reverse revision experience when I was working as an administrator in the Chancellor's Office of the Cal State system. Occasionally, the chancellor would ask me (as the only professional writer around) to produce a memo for him, as, for instance, a welcome note to incoming first-year students. I'd produce a draft for him, which he would send to the attorneys for review. The attorneys would change my active verbs to passives, concrete language to abstract, and so on. So I'd revise, sometimes several times, until the writing was sufficiently bad for the Chancellor to send it out. Whenever I hear someone talk about the writing process, I smile, thinking about that process for worsening writing for a particular bureaucratic purpose.—Ed White

This writing process is very different from what is normal in the teaching and research processes of academic scholarship.

For faculty and students engaged in research, intellectual property is a matter of reporting work done, research completed, discoveries made, theories considered, and further projects that arise from previous research. Their writing describes and perhaps theorizes the work they have done, for which credit must be fairly given to previous studies and to the current researchers collaborating on a project; a particular study is added to a body of knowledge, which will in turn be used and acknowledged by the future researchers who will use it to pursue further research. This chain of professional acknowledgment provides a crucial "research trail" for future researchers to follow—or reject. Plagiarism, as faculty commonly think of it, is a failure (intended or inadvertent) to ascribe credit (as is appropriate in a particular discipline). For administrators, however, once work becomes part of a body of institutional or managerial knowledge, most of its creators are anonymous, and often the initiating administrator's name, too, will eventually fade from such documents. This gives rise to questions about who "owns" a strategic plan or a policy statement and when that ownership begins and ends.

ADMINISTRATIVE WRITING AS INTELLECTUAL PROPERTY

My study suggests that because of the very significant differences between the writing of faculty and students and the writing of administrators, administrative writing may not count as intellectual property at all; if anything, the "property" seems communal (within universities and across the field of higher education administration). This is not, in my opinion, the shameful tradition of appropriation suggested by Martin (1994) and Mallon (1989) but is part of the normal process of making and instituting policies within university administrations, as described by Robert Birnbaum (1988) in *How Colleges Work*. Moreover, the very concept of intellectual property applies only tangentially to administrative discourse, if at all, both because this writing consists primarily of work for hire, and also, I would suggest, because it is more closely connected to actions taken than

to real property (land) held—the conventional source of the concept of intellectual property (Delong 2002). Administrators describe working with initiatives more than ideas, initiatives that often start with a perceived institutional problem. The research done by and made available to administrators involves investigating action and applications, as well as proposing and defending changes. Much of the research consists of looking at what their university and its peer institutions are doing (notice my focus on action rather than library or experimental research), and somebody whose time is less expensive than a dean's or provost's usually manages a research project. Administrators generally apply research rather than pursue it; they use it to solve immediate problems or to create initiatives similar to ones that peer institutions have considered or implemented. Their audience (often other administrators) tends to be less interested in how the research trail is documented than in deciding what actions can or should be taken and how results can be measured. This is, as many administrators admit privately, "not what we learned in graduate school." It is work of a different kind and purpose than the research most common to faculty and students, and it seldom receives the full documentation that faculty research demands.

Moreover, much administrative discourse is deliberative and epideictic; it is used for setting policy, imagining a future, and celebrating achievements. Administrators' concept of "deliberative discourse" often includes a focus on confidentiality (the element of silence will be discussed later). Faculty, staff, and student input may be solicited for advice, and decisions may be communicated back to them, but only seldom do these background discussions have a direct role in the deliberations that result in decisions or a clear voice in the documents that relay them. For example, deans may take into account the evaluations of the faculty and the report of a search committee about a prospective department chair, but usually the decision belongs to the dean. Written reports and evaluations come to the decision-maker, who usually produces (or signs) a neutral report about

even the most controversial decision. All of the administrators I interviewed mentioned these "decision-reporting" memos, letters, and e-mails as part of the writing they were responsible for. While there might have been considerable collaborative and contentious discussion surrounding the decision making, the decision is communicated in a deadpan announcement. For example, most faculty have received memos that say something like the following: "X has requested to resign from this administrative position in order to return to research, and everyone in the College wants to congratulate him/her for his/her lasting achievements while holding this position." Of course, no one believes this account of the decision-making process, but it may take some time for the actual reasons behind the decision to become (unofficially) public, and only seldom do they become the subject of serious or effective re-deliberation after they are announced.

When administrators are raising money, stating policy, and celebrating achievements, much of their discourse is epideictic—highly formal and formulaic announcements, expressions of gratitude, and congratulations. Administrators often are asked to make remarks at a large number of functions, such as ground breaking for new buildings, announcing and presenting honors and awards, publicly thanking donors for gifts, speaking at graduation exercises, and welcoming participants to conferences. Only occasionally do such remarks enter any new or unexpected territory, and when they do, they are open to criticism because they may violate the expectation of these audiences. Such occasions demand ceremony and conventional sentiments, not originality, and so administrators (and at the higher levels of administration their speech writers) adapt standard remarks to specific situations—remarks that the speakers may not have written for themselves and which their writers may or may not have written for their own uses. For example, the president of a university I once worked in presided at a celebration of the opening of a second-floor women's restroom in an engineering building. Should anyone have expected that

his remarks would be new or original? They were intended to underscore the school's determination to attract more female students and faculty to science and engineering—a good intention, but one that does not signify much original thought these days. This occasion could have been celebrated by humorous remarks (as it was in private by those who attended), but such an approach in public by an administrator would have diminished the intended—and actual—significance of the event. What I am suggesting here is that, given that administrators tend to use and reuse speeches, PowerPoints, and other documents produced for them, it may be easy for administrators to cross the line that leads them to purvey *unauthorized* discourse as their own. "Authorized" and "unauthorized" reuse of discourse can become slippery concepts in situations where highly conventional discourse is expected and rewarded, and where authorship and authority can play substantially different roles than they do in academic writing by students and faculty.

OWNERSHIP AND ATTRIBUTION

For administrators, ownership of most ideas is located in the institution, not in the individual researcher or research group. The administrators I interviewed distinguished clearly between their "own work" as scholars and researchers and the institutional communications they sent out as administrators. For many, the concept of owning intellectual property depended on where it was published. Their "own work" was primarily published in peer-reviewed professional journals, often in their original discipline, under their own names; their most important work as administrators might be disseminated through memos, letters, or reports, which may or may not be widely distributed, and which may or may not bear their names if and when they reach public distribution. However, the distinction between academic discourse and administrative communication can be ambiguous. For example, when an administrator describes and theorizes policies and decisions in meetings with other administrators, at administrators' conferences, and in printed publications, at

what point do those ideas become the administrator/author's "own," and thus comparable to the theorizing of academic scholars and researchers?

Most of the administrators I interviewed were aware of the extent to which they appropriate the ideas and language of others. They described letting other people's work go out under their own names in at least two kinds of situations: to enhance the value of the document and to protect their subordinates.

First, administrators take credit for documents they have not written themselves when they think that the documents would receive more attention or credibility (I would call this "authority") going out under the highest-ranking name. For example, a provost described producing multi-institutional grants, for which the provosts at various participating universities were—and were expected to be—the principal investigators, and thus the persons in whose names proposals would be made and reports given, no matter who actually wrote these materials. At least two provosts noted that it was important to be involved in the grant-planning process sufficiently to understand the ideas in a proposal well enough to defend them, but this involvement is balanced with the other demands on their time. They considered their involvement to be necessary, even if they did not write the documents themselves, for both ethical and practical reasons. Most of the administrators I interviewed said that they acknowledged sources "whenever possible," but that solution leaves the decision to the administrator and his or her interpretation of the often unwritten expectations for institutional (as compared to academic) research.

In response to my direct query, one that I have been making for some time in various other venues, higher administrators agreed that having other people write—or at least draft—for them became necessary at the rank of dean and above, and sometimes earlier. Several administrators at all ranks said that as often as they "could" (another problematic and potentially ambiguous decision), they acknowledged the contributors to their institutional documents in public oral or written acknowledgments

of thanks or in private expressions of gratitude to the people composing for them. However, clearly the administrators are in charge of deciding when and how to acknowledge those who have provided information and written documents for them (limited sometimes by precedents and conventions at their particular institution). Many of the administrators I interviewed (particularly those who came from English departments) said they tried to accommodate the conventions of their administrative position with their own preference for more typical scholarly attribution practices; however, they too were aware of a different set of expectations for administrative documents, even if they were not particularly comfortable with them.

Administrators drawn from English departments tended to be more possessive about writing that went out under their names than administrators from departments in which hierarchical collaboration is more common, and they worried more about when and how to acknowledge staff members and colleagues who write for them. This deeper attachment to "authorship" may stem from differences among disciplines noted elsewhere in this book, for publications authored by multiple researchers and writers are more common in the sciences and social sciences than in the humanities. Moreover, most of the administrators or former administrators that I interviewed who had come from English departments talked about remaining in or returning to their academic discipline. This sense of being temporary administrators may have inclined them to reflect more on the disparity between academic discourse and administrative communication or to maintain a greater commitment to the discourse practices of faculty. Several administrators drawn from English departments described not only reviewing documents produced for them but also recasting them to reflect their own voice; some described openly introducing documents as being produced not by themselves but by a committee. All of them admitted some uneasiness about the looseness of the concept of "authorship" in administrative discourse practices. However, although administrators coming from every discipline I interviewed

reported that they at least skimmed documents that went out under their names, none above the rank of department chair claimed to do all their own writing as administrators.

All the administrators I interviewed were also aware of the large quantities of "boilerplate" signed and used by the person currently holding a rank, and passed down from person to person filling that position. Examples include general statements about a program or department on Web sites and in catalogs, memos that go out to faculty annually to remind them of various standing policies, letters of acceptance and rejection for various proposals and requests, and material produced by public relations and promotional staffs. When new administrators change these documents, they become not "their own," but the newest version of boilerplate. Boilerplate was considered available for general use, particularly in repetitive and/or low-stakes situations. For example, a statement defining policies for long-distance phone calls by faculty and staff does not need to be rewritten whenever the person in the administrative position changes, unless there is a change in policy or emphasis. Although this is an instance of a document distributed in the name of the highest current administrator in charge of the policy, it clearly seems to be the property of the department, division, or institution, not of the individual holding that position. The case of administrators' greetings on Web pages and similar documents is more ambiguous: readers generally expect them to reflect the views of the individual administrator and to be expressed in his or her own words. However, these documents are generally very formulaic, intended to indicate directions not raise controversies. Thus, they may be perceived as boilerplate by administrators but understood as direct, personal messages by the public who reads them. I would suggest that some of the highly publicized instances of administrative "plagiarism," such as the cases mentioned at the beginning of this chapter and the case of the plagiarized statement on plagiarism (Mallon 1989, 100), result from writers at one institution adopting the boilerplate of another institution as if it were its own boilerplate.

Because administrators work in an environment in which boilerplate is common and in which the message (and perhaps the messenger) is more important than who has actually done the writing, it may become too easy to conflate institutional discourse with individual intellectual property or the institutional discourse of one university with that of another, thereby crossing an important ethical line.

Moreover, although many administrators come from the faculty, many of their assistants, aides, and secretaries do not, and they may not be particularly knowledgeable about or committed to the standards of "academic honesty" that apply to faculty and students. For example (this was not part of the interviewing process), at a meeting in the fall of 2006, I complimented a non-faculty administrator on a piece she had recently contributed to the town newspaper—published under her name with her picture. She showed no hesitation in telling me that she had not written it and had no idea what it said. It seemed to her a mark of prestige that she had people writing high-quality publications for her. Administrators who come out of the faculty tend to worry about who owns—and takes credit for—this kind of publication. But apparently other administrators in pivotal positions in the university may not know that what they consider to be purely institutional communications may be seen by others in the university and by members of the public as intellectual property that belongs to (and should have been produced by) the specific individual in whose name it is disseminated.

The second kind of situation in which administrators designedly take credit for documents they have not written occurs when they believe that using their own names could protect or help its actual writers. Several administrators talked about the need to protect faculty and staff from retribution, particularly when decisions could have a negative impact on some people or programs in the university. When sharing credit could result in sharing blame, the administrators I interviewed said that they were particularly careful about attribution, weighing the impact of attributing a recommendation or decision to a committee or to themselves, not only

in terms of power, but also in terms of protection. Again, there is a hierarchical and paternalistic aspect to this kind of protecting, in which decisions rest primarily in the hands of the administrator, and in which the producers of the communication need to rely on the administrator's goodwill and accurate perceptions of the situation. Because everyone I interviewed called attention to this kind of decision making, it seems as though making good decisions about the effects of attribution is considered as at least as important an element of the professional ethics of university administration as the accuracy of attribution.

One quite unexpected turn in an interview suggested that if an administrator changes the conventional practices of attribution in a particular office, he or she may be seen as criticizing the quality of the work that has traditionally fallen to a subordinate. In this case, a dean described a secretary's reaction to his trying to take over writing a part of a college e-newsletter (the "note from the dean"). The staff member responsible for producing this piece for previous deans took this dean's attempt to write his note for himself as an accusation that her work was unacceptable and as an indication that the dean was dissatisfied with its quality, not as an instance of the dean's preferring to author his own messages to his faculty. She was proud of her work writing for the dean, which may have been one of the more responsible and interesting of her duties. In bureaucracies, there is an inertia that resists changes in duties that are seen to hold prestige and power, duties that may also confer power to the person writing for an administrator's byline. For example, everyone at my university (and I would expect most universities) wants the chance to talk to the president's main speechwriter, in the hope of getting projects and programs mentioned in her presentations. My point here is that the institutional work for which an administrator may take credit involves a range of human interactions and feelings, and for staffwriters, who writes what for whom can be more important than accurate attribution—pretty much the opposite of how most faculty consider their own and their students' writing.

The discrepancy between attribution practices of administrators and faculty, then, may come not from a "lack of ethics" on the part of administrators but from the fact that as administrators they are operating in different professional communities than faculty and students. In the implications section below, I discuss the work of ethicist Michael Davis (1991), who argues that professionals in different discourse communities operate in different ethical (although not necessarily different moral) communities. Faculty and students operate under different assumptions about the ownership of intellectual property than administrators do. But because these professional communities continually overlap in an academic institution, there is potential for faculty to disapprove of the discourse practices of administrators and for administrations to be ambivalent or defensive about how they produce and use documents. This anticipated disapproval may, in turn, contribute to the ethic of silence discussed below.

SILENCE AND CONFIDENTIALITY

From my very first interview with an administrator, the one that provoked my interest in investigating the ownership of ideas in university administration, it was clear that issues of confidentiality and silence are as crucial to administrators' conceptions of the ownership of knowledge and information as issues of dissemination, and much more important than clear attribution. This was no surprise to me, having served in administrative positions myself, but this point was raised by almost every administrator I interviewed. Typically, administrators who came from the faculty were more uncomfortable with this silence than those who did not, but all saw it as an essential part of their jobs.

The associate dean in my first interview said that the really important intellectual property in her position was knowing how to make things happen, and that meant knowing what needed to be kept confidential as well as what could and needed to be revealed—not just in print or publication, but in person-to-person discourse. A large part of her work consisted not

only of putting decisions and actions into appropriate written form, but also of dispensing additional institutional knowledge to people in new positions, that is, in selectively communicating what was not written. Part of this knowledge is procedural, communicating established practices and insight into how things are actually done. For example, that associate dean described how she taught new faculty committee chairs and department heads to make themselves heard by the administrators to whom they are responsible and to whom they should go for what. As an associate dean, a significant part of her work was guiding faculty through the unwritten processes of functioning in their non-academic roles and in their interactions with other administrators. These processes may not be written down or widely known, although they are not strictly confidential.

An equally important aspect of administrative silence is maintaining the confidentiality of documents such as exit interviews and evaluations, which are full of unacknowledged information, such as the real reasons for resignations and promotions. Earlier I mentioned the deadpan and generic memos and letters used to distribute such information to the widest audience. Eventually, as we all know, most of this information leaks out if it is important to the faculty; no institution can maintain complete confidentiality forever. However, adherence to this ethic of confidentiality does give participants some privacy in what can be tense negotiations—for better or worse. However, this confidentiality, like decisions about attribution and protection, relies on the authority and discretion of administrators involved. Most of the administrators I subsequently interviewed also expressed the need for confidentiality and for understanding the importance of knowing what could not be openly communicated. This valuation of silence offers a sharp contrast to faculty perceptions of intellectual property as consisting of revealed information and arguments, reports of investigation, sites, populations, or designs. While administrators often hold onto information to keep institutional knowledge "their own," faculty tend to actively seek that institutional knowledge and

pass around what they know of it; this might be called "gossip," but in my opinion, that is too trivializing a term. It might better be called "lore."

HOW ADMINISTRATORS PERCEIVE ATTRIBUTION, PLAGIARISM, AND COLLABORATION BY STUDENTS

Even though all the administrators I interviewed recognized the ambiguity of their own attribution practices in institutional writing, they expected students to learn and follow the conventional academic rules of attribution, and even more important, to learn what needs to be cited. Moreover, administrators did not think that for students those rules and conventions are particularly ambiguous. Only those administrators drawn from English departments (and only a few of them) thought that conventions about what needs to be cited vary from discipline to discipline. That is, the idea behind this book—the concept that intellectual property might vary from discipline to discipline—was not common to the administrators I interviewed, except for the very few who knew of the Council of Writing Programs' statement on plagiarism. The people I interviewed did, however, tend to find the concept plausible and interesting. Although all administrators could see the difference between "cheating" and "insufficient knowledge" that Rebecca Moore Howard outlined in 2001, when I raised the possibility of thinking about plagiarism in this way, most of the administrators above the level of department chair focused on the difficulty of making decisions fairly and consistently when cases were brought to them. Because many of the more obvious cases of plagiarism are resolved in the classroom or at the level of the department chair, the cases that are brought to a higher administrator are often contested, and sticking with the written rules for "academic integrity" may have seemed clearer and fairer than distinguishing between students who did not know or understand the rules and those who were consciously trying to get away with violating them.

Every administrator above the rank of department chair mentioned how little students seemed to understand using

sources appropriately, not only the rules for citation, but also and, more importantly, understanding the reasoning behind their institutions' statements on academic integrity. Although many noted that they did not personally follow these academic rules in their administrative work, they believed it crucial for students to know and use academic conventions for attribution and citation correctly and consistently. The further the administrators were from actually teaching, the less they acknowledged how much teaching it takes to make those conventions seem sensible and comprehensible—particularly to students writing in a discipline they have no intention of entering.

Most of the administrators I interviewed considered students to be individual agents responsible for their own learning and behavior, not collaborators in a learning or work environment. Like many faculty members, they considered the "real work" of students to be individual rather than collaborative (See Mullin and Haviland 1999). Most said that when they had been faculty members, they seldom assigned collaborative work to their students (particularly to undergraduates), and they were suspicious of its efficacy. Their underlying beliefs were that all students should learn all aspects of a field and that collaboration discouraged students from learning new skills. Although they did not actively discourage collaborative learning projects set up by the faculty, neither did they particularly encourage them at the undergraduate level, even though they themselves worked in what they considered to be a highly collaborative environment. Again, this may be the "faculty" ethic at play here, as compared to the ethic of an administrative working community.

Almost all the administrators I interviewed saw the gap between their own practices and their expectations for students, but most of them emphasized the difference between student, faculty, and administrative work. All were aware not only of the academic hierarchy, with administrators at the top and students at the bottom, but also of the complicated relationships of higher administrators with professional and clerical staff. One of them made fun of the academic hierarchy,

and two others described attempts to bring students closer to the places where decisions were made. None of them, however, questioned the idea that students learning the conventions of the academy—and particularly its conventions for using research and disseminating knowledge—was an important aspect of the education of undergraduates (and graduate students, for that matter), even though academic conventions might differ across the university and even though some were irrelevant to administrators' own practices.

IMPLICATIONS OF THIS RESEARCH

A definition of professional ethics given by Michael Davis (1991) more than fifteen years ago helps me to explain why ideas of intellectual property can differ so greatly from place to place (and rank to rank) in the same institution. A philosopher specializing in professional ethics, Davis considers ethics to be socially constructed—a matter of group consensus: "Ethics consists of those standards of conduct that, all things considered, every member of a particular group wants every other member to follow even if their following them would mean he has to follow them" [italics by Davis] (1991, 25). According to this definition, it would seem that faculty follow the ethical practices of source use defined by the catchall term "plagiarism." However, as I said at the beginning of this study, the term "plagiarism" is dangerously misleading because as it is used in different disciplines and domains, it includes many different kinds of attribution practices about which there may be considerable disagreement (Howard 2001, Haviland and Mullin1999, and, more recently, Valentine 2006). This study suggests that administrators work in a discourse community whose practices are even more different than the differences among fields and disciplines.

Administrative work is highly collaborative, and administrators' conception of the ownership of knowledge (when they are working as administrators) tends to be much looser than their ideas and expectations about student and faculty work. In administration, there is a (sometimes shifting) hierarchy of who

writes for and reports to whom, and administrators are expected to put their names to documents they have not written. In Martin's terms (1994), in current bureaucratic practice, "plagiarism" (using the generic term in its widest sense) is allowed and even encouraged when the "plagiarist" is of higher rank than the writer. However, it is not tolerated when the participants are at the same level and therefore in competition with each other, as in the case of faculty research and student papers. This assertion once again illustrates the problem of using "plagiarism" as a generic term (as well as ignoring the elaborate hierarchies of attribution common in technological and scientific fields). Deans certainly compete with other deans, but they often share boilerplates. The people who write for them may be faculty or lower-level administrators competing for their places, but some of these writers are also administrative assistants or professional staff, who compete with others in their own career lines.

Because teaching, research, and administrative communities overlap within the university, and because most administrators come from and may expect to return to the faculty, many administrators (particularly at the level of department chair) are not comfortable with the different discourse practices in which they may participate as administrators. They tend to judge these practices against what they think of as "standard academic practice," that is, against the attribution practices of faculty and student academic work that are common in the fields of study from which they come. I would expect administrators to suspect, often correctly, that neither the faculty nor the general public may see or understand the different discourse conventions under which administrators work and thus the different expectations for attribution between the academic and administrative functions of the university. If ethics are a matter of community practice rather than a single moral mandate, as Michael Davis argues, there is considerable ground for mistakes as well as malfeasance in applying the appropriate convention to a particular discourse situation in the university. Administrators may have expressed discomfort with how they

attribute authorship because they measure their involvement in the production of institutional documents against the practices of research and attribution they learned in graduate school, which at best taught them more about the rules of academic discourse in a particular field of study than about the practices of administrative discourse. And given the ferocity of denunciation that can occur when administrators are accused of plagiarism, they are well advised to feel worried and ambivalent about these practices.

Because neither their faculty colleagues nor the general public may see that the discourse communities and conventions in which administrators work are different from those of faculty and students, administrators are liable to be judged according to the standards of faculty conceptions of intellectual property. Those judgments can be unexpected, harsh, and damaging—and are often motivated by political clashes. As Randall (1999) suggests, the accusation of plagiarism is a particularly powerful weapon when the accuser uses it to exert power over the accused. The accusation of plagiarism, which cuts to the heart of the faculty ethic of academic and intellectual honesty, is taken seriously because of the unexamined assumption that knowledge, particularly textual knowledge, can be owned, and that it is owned in the same way in different professional settings. This assumption is dangerous, in my opinion, because it can be used to destroy reputations and careers and because it keeps us from recognizing the times when administrators actually do step over the boundaries of appropriate use of institutional documents. This chapter, and indeed this entire book, argues that we must complicate the concept of plagiarism and proposes that values about the ownership of intellectual property are not timeless and universal but are centered in the practices of particular groups—even within the same university.

APPENDIX

E-mail Request for Participants

I know you are very busy, but I am asking for about half an hour to interview you about intellectual property issues from an administrator's point of view. This investigation is part of a larger project undertaken by writing faculty from seven universities across the United States, who are working on questions of ownership and attribution raised by the Intellectual Property Caucus of the Conference on College Composition and Communication.

The idea behind this project is our observation that different disciplines hold somewhat different understandings of ownership, fair use, and appropriate attribution of intellectual property, and that therefore students may have trouble transferring what they learn about these issues from English composition courses to courses in other disciplines and eventually to their careers. My piece of this investigation involves examining how academic administrators view ownership of the documents they produce or that are produced for them. My purpose is to identify the common understanding of intellectual property in administrative discourse.

The interview questions (which you are welcome to see in advance) are based on a general list of questions devised by the Intellectual Property Caucus, although because of the exploratory nature of this project, I may invite particular individuals to answer some questions in more detail than others and to digress in ways that uncover disciplinary thinking.

I will not be asking questions about the content of specific documents, decisions, or negotiations. The questions are generic questions about the kinds of documents produced, who actually writes them, who signs them or takes responsibility for them, and to whom the information in them belongs. I will make no attempt to gather any information that is confidential.

The interviews will last about 30 minutes each. I will take notes and audiotape the interviews. (Phone interviews will not be audiotaped.) I will be interviewing some 10–20 administrators or former administrators from various disciplines at Purdue and at other universities. I have obtained approval from the Purdue IRB for this research project.

I am willing to conduct the interview at your convenience during the next two months. I have no compensation to offer, but most of the people I've interviewed so far have found the discussion interesting, and I'll be glad to share the results with you when the project is completed.

Please reply if you would be willing to help me with this, and I'll try to arrange a time that works for you.

Thank you,
Linda S. Bergmann
Associate Professor of English
Director, Purdue Writing Lab

CONCLUSION
Rethinking Our Use of "Plagiarism"

Carol Peterson Haviland and Joan A. Mullin

We began this research hoping that defining disciplinary ownership would lead us to richer understandings of plagiarism, collaboration, and intellectual property and thus to more effective ways of teaching students about these issues. And indeed it has. It also has demonstrated the complexity, flexibility, and plasticity of information sharing, challenging our definitions of "intellectual property" and "plagiarism" even further than expected. Although from the beginning, we have been chiefly interested in what our colleagues say, what they do, and how they communicate ownership practices to their students rather than with the legal wrangling over IP, our interviews mirrored the disputes being played out on the Internet between what people traditionally have done with information and what they now can be seen doing with it. Millions of users—corporations, institutions, and individuals—are attempting through the courts to expand traditional notions of ownership, to protect or extend their profits, or to contain creativity as they seek to establish what constitutes intellectual property, how much one can borrow, alter, and still own, and when citation and acknowledgment are necessary.

Our research, likewise, found that rather than explore these questions in their classes with students, academics often defaulted to their traditional nineteenth-century Germanic roots—those nested in notions of expertise, disciplinarity, and single authorship.[1] This results, at least overtly, in responding

1. For a recent discussion of how this influence led to "an emphasis on rigorous research, typically empirical, and publication in scholarly journals," see Michael Carter's (2007) "Ways of Knowing Doing and Writing in the

to plagiarism by quantifying it—by counting words, lines, and phrases—and by punishing those who have not been "original" enough, ignoring the knowledge-building that takes place in activity systems (disciplines) and ignoring what, in fact, scholars actually do.

This gap between what courts and corporations may lead us to think and what people actually do through file sharing, appropriation, remixing, and mashing via the Internet, offers an analogy to the gap between what university sites dedicated to plagiarism lay out for classrooms and the practices in which faculty engage in their own disciplinary work. Just as legal rulings do not cover all circumstances, so, too, the simple definitions of plagiarism found on most university Web sites cannot cover all possible scenes, and they offer little teaching about citation as knowledge-building. This is confirmed by the participants we interviewed who, while uniformly defining plagiarism in the negative—as direct copying without citation—described acknowledgment as integral to the literate practices by which they *build on and extend* their work within disciplines and interdisciplines (another case of the tendency to remix and mash). As Russell and Yañez (2003) succinctly put it, writing

> tends to disappear into the activity it mediates. It is messy to analyze, because contexts are networks, not containers. People act in multiple, interacting systems of activity where writing that seems the 'same' as what one has read or written before is in practice very different—and not only in the formal features, the 'how' of writing. Lying behind the *how* are the *who, where, when, what* and—most importantly—the *why* of writing, the motives of people engaged in some system of activity. (359)

As we investigated the who, where, when, and what of ownership and citation in these disciplines, we began to see why faculty engage in their particular practices: these practices allow them to participate in knowledge-building communities, to

Disciplines." Such "siloing" of knowledge also underpins our practices of tenure and promotion—a process that depends on proving ownership.

know and to be known in the professional arenas that matter to them; they are part of an ethos that gives faculty credibility, standing, and tangible professional and personal rewards. Because our interviewees already knew how to participate in their intertwined systems of communication and citation, they had both a sense of what counted as intellectual property and an understanding of how collaboration and recognition were valued as academic inquiry practices. However, they were far less sure about how they had acquired this knowledge or how to articulate it to students, novices who are expected to negotiate the complex discourse activities of a discipline and at the same time intuit what is known, not known, recognized, and cited. Instead, they, too, relied on generic definitions of plagiarism and their resulting policies. However, these do not accurately represent faculty's unspoken, disciplinary expectations about student citation practices; they also end up making the reasons that underpin disciplinary processes of citation invisible, recreating for students the same barriers to learning practices as were set for faculty when they were students. As Prior and Shipka have found,

> what is historically striking are the institutional practices that so foreground single activity systems and so codify and formalize practices that it appear[s], at least from a certain perspective, that the work activity [i]s ever a single, solid, and rule-governed phenomenon. (2003, 207)

Michael Carter warns us that relying on generic definitions of research

> obscure[s] the complex disciplinary goal structures behind the research paper. . . . As a rule, the goal is not simply to write a research paper for the sake of learning to manage research, but to use the process of doing and writing research to shape a disciplinary way of knowing. (2007, 407)

Part of that research process—and a way of learning a discipline—is to know what is owned and how that knowledge is

created, disseminated, challenged, and expanded in a visual, textual, and auditory world of multiple, continually-shifting literate practices, of inter-disciplines, remixes, and mashups.[2] Our interviewees provide the support for Valentine's claim that

> it is not enough for students to know the rules or textual practices of citation, partly because they do not cover all enactments and partly because they shift as disciplines and the varied technologies that support them shift. Rather, students need to come to understand citation and plagiarism as literacy practices—as complicated ways of making meaning. (2006, 105)

In light of these shifting particularities, commonalities, and contradictions, we conclude here not by offering a set of templates that faculty members can use to instruct students how to "document" their research, but by offering a process of field and classroom inquiry in which faculty can engage students, exploring with them the "who, where, when, what and—most importantly—the why" of disciplinary knowledge and knowledge building. In so doing, we suggest, students will not merely "learn rules," but rather they will see the concepts that undergird the ways in which disciplines—and different instructors within those disciplines—shape their research questions and define their research practices as they build on, reconsider, or reject others' worlds through their particular lenses. Understanding these activities, we contend, more fully prepares students to participate in disciplines whose understandings of collaboration, plagiarism, and intellectual property continually evolve. We believe we can start by interrogating the definitions we presently use to name these concepts, terms that have shaped and limited our own understandings and thus the understandings we transmit to students.

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2. To clarify the difference: "*Remix* is the reworking or adaptation of an existing work. The remix may be subtle, or it may completely redefine how the work comes across. It may add elements from other works, but generally efforts are focused on creating an alternate version of the original. A *mashup*, on the other hand, involves the combination of two or more works that may be very different from one another" (Lamb 2007).

OWNERSHIP/ORIGINALITY/PLAGIARISM

"Ownership" initially seemed exactly the right term to get us beyond simplistic understandings of plagiarism and cheating, but it quickly became problematic. Across disciplines, our informants alternately embrace, contest, and resist flattened definitions of ownership. In their own work, they speak unabashedly of including the work of other writers under their own names: in some cases, their signatures add the required authority or prestige to the texts, and in others they simply represent an expected and hierarchical collaboration in which participants are differently represented. Likewise, our fieldworkers first trouble the term "ownership" when they mention it as more significantly tied to their study sites than to their textual research productions, and then resist the concept altogether because of its colonialist connotations. Such challenges move us away from thinking of intellectual property solely in terms of ownership, turning us instead to originality, which is another cornerstone of traditional readings of intellectual property.

Yet, art informants complicate our view of originality and push us to rethink its role in constructing plagiarism. Art practitioners' engagement in appropriation, homage, and pastiche raises questions for all disciplines about how our assignments also invite appropriation, homage, and pastiche, about how faculty members and students might be differently accountable for originality given their different knowledge bases within an activity system. Originality thus becomes a matter of point of view, as Malcolm Gladwell explains in his detailed examination of a playwright accused of plagiarism:

> by the time ideas pass into their third and fourth lives, we lose track of where they came from, and we lose control of where they are going. The final dishonesty of the plagiarism fundamentalists is to encourage us to pretend that these chains of influence and evolution do not exist, and that a writer's words have a virgin birth and an eternal life (2004, 7).

Writers as diverse as Gladwell, Bakhtin, and Bazerman maintain that even though authors may use others' words, they use them with their own intents in their own spaces. Students' intents are based on students' performances—their practicing—a process of learning that implies imitation and repetition; this is much different from the intents of academics as they develop and situate themselves in ongoing conversations that they already claim as their own.[3] The word "original" takes on new meaning for faculty as their

> writing occasions call for a very intricate dance between the new and the familiar: in all disciplines, 'new' work must be derivative enough to make sense, to mark writers as credible insiders, to evoke interest and relevance, and yet be original enough to be considered a contribution. (Bazerman 2005)

Even when work is at its most resistant, that which it resists must be recognizable in order for readers to grasp its full function. In this regard, all texts—written by novices or by experts—in some fashion appropriate, pay homage, and pastiche, but the extent to and the means by which they accomplish this is driven by the disciplinary activity, not by a romantic notion of originality. In our classrooms, however, we often send mystifying messages when we merely refer to "originality" as part of our assignment criteria—assignments, whose intent is often not to be original anyway, but to put together known information in a way that is new to the student writers.

When we ask students, for example, to write summaries, we are not looking as much for original words as for skill in selecting and arranging another's ideas for yet another reader's use. Here, then, we need to communicate clearly what we know about how summary writing functions in our fields, about why we work from primary sources, about how arrangement and word choice can shape even "objective" writing, such as summaries, and thus lead to subtly different texts. We also need to

3. For a discussion of other ways faculty differently privilege their actions from those of students, see Haviland and Mullin, 1999.

discuss the *occasions for* summaries and the expectations readers have for summaries, and we can begin with asking students why they read summaries and what they expect to learn from them. Otherwise students can see summary assignments as busywork, and we should be disappointed but not surprised when they produce them as such, often resorting to copying or downloading someone else's summary because the work we are asking them to do has already been done (why repeat it?). We need to assign summary writing for real purposes and to link those purposes to larger assignments that require summary as an activity that contributes to an ongoing conversation, demonstrating how summaries function in, say, a particular disciplinary controversy or grant proposal. By situating the activity (summary) within the "why," we can mitigate the negative response that creates either insufficient citation or "originality despair" in complex assignments.

Experienced scholars can easily overestimate students' understandings of disciplinary content and of what might be original, and yet originality despair among students is a serious consequence of the flattening of rules defining plagiarism. As Jonathan Hall points out, it is a

> question about the boundaries of identity: where, exactly, do ideas which are 'mine' leave off, and ideas which are 'other people's' begin? It is, of course, a question without a clear answer, and any honest account of any creative process, academic or otherwise, will have to acknowledge these kinds of doubts about the tenability of the concept of ideas as anyone's personal possession. (Hall 2005)

As a consequence, when faced with challenging texts to read and summarize, and with unfamiliar information to organize in new ways, it is no surprise that, intentionally or not, students copy ideas, words, or phrases, without citations. Comparing learning a disciplinary culture to learning a foreign language illuminates this logic. Learners often revert to copying others' words and phrases as they struggle to gain fluidity in the language: "They're appropriating 'reliable syntax' in a field where

they're scared to make a mistake . . . and unable to paraphrase or even sure if it's possible to paraphrase!" (Kearns 2007)

For example, our informants spoke of both the rules and the vagaries of visual production. Most clearly protected are the photographers whose professional associations have articulated specific guidelines and who are further guarded by corporate Web crawlers looking for appropriation. Students are taught about these and the laws that seem quite clear: stealing an image is wrong, just as stealing a photographer's negative is wrong. Likewise, it is wrong for a photographer to steal code for a computerized image or for a computer scientist to steal a new interface or piece of software. At the same time, however, those very companies whose business is the selling and buying of images, those who so strenuously protect themselves and their clients, appropriate portions of images or investigate and adapt codes (sometimes allegedly illegally).[4] As more of the public exchange stories about their codes, their pictures, their texts being appropriated,[5] it is little wonder that these taking and manipulating practices multiply, despite what might be said in a classroom.

Common disciplinary practices that encourage mimicry through a variety of exercises, formatting, and rubrics further complicate this dilemma. This is easiest to see where art students are told to go to a museum and copy a painting, turning in the copy for feedback about technique; or where fashion design students are told to look through magazines for forms that appeal to them and to sketch them—to start from the original form but then expand or repeat it. Architecture students are given similar projects, as are graphic artists and illustrators.

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4. See Monica Hesse's (2008) description of several instances of this: For example, Fox News posting a picture of a cute dog during an NFL game that was lifted from Flickr—originally taken and posted by Gaughran-Perez after dressing her pug in a Santa Claus hat. The company ignored the "all rights reserved" post.
5. As Paul Tolme notes, "When I traveled to South Dakota in 2005 to write a story about black-footed ferrets, I never imagined my words about the little weasels would one day appear in a trashy romance novel." (Tolme 2008)

Here our cross-disciplinary research creates a puzzle: how are these uses of someone else's shape, form, or idea—without attribution—really different from taking words, lines, or ideas and incorporating them into newly pastiched research papers? How can the visual inform textual production and our thinking about plagiarism in ways that are both more nuanced and precise? (See also Orr, Blythman, and Mullin 2005.)

Our culture—and our students—need to better understand faculty members' own successes and missteps with these ventures, and academics can contribute to this understanding by talking explicitly about their personal and disciplinary, intellectual, ethical, and legal understandings of "originality" and "ownership." They can build into courses discussions about originating, remixing, and mashups, about owning via originating, and about owning by commissioning or purchasing or building on a foundation. They can talk concretely about how Beethoven's Fifth Symphony might be differently owned by Beethoven, by his patrons, by a particular symphonic interpreter, or by a recording company. They can incorporate into classrooms discussions of how artists and Disney, computer scientists and Dell, or those of us who edited this book and Utah State University Press are originators and owners of intellectual property. Faculty can explore with students what they own through their production—and what we each gain from claiming ownership—and thus *why* we claim it.

How texts of all kind are used and claimed is closely connected, as court cases reveal, to what is gained, for, despite what we like to think, "the rhetoric of creative originality doesn't fully explain our preoccupation with footnoting and credit" (O'Rourke 2007). Unless we are more forthright with ourselves about plagiarism and why we disapprove of it, our students may simply make the pragmatic association of grades, labor, plagiarism, and punishment, and, therefore, feel more intrigued with "getting away with it" than with understanding it. What could be a fertile learning space then decays and a "scent of mistrust" develops when students are seen and see themselves as

"being monitored because they are not toeing the line, achieving enough, working hard enough" (Bazerman 2002, 443). By focusing on catching the plagiarists, we miss focusing on why students may be plagiarizing; by assuming that they plagiarize because it is convenient or because they are lazy, we ignore the tradition of the academy that encourages performance over substance, that reifies originality while ignoring the complexity of knowledge-building. Thus we might want to begin by admitting to ourselves—and our students—that

> for "publish or perish" faculty, . . . ideas are, quite literally, all that they have; it is their claim to ownership and origination of ideas that is the basis of their continued employment. Perhaps this is why we tend to oversimplify the complex issues surrounding plagiarism: because it threatens the very way that we put food on our tables. (Hall, 2005)

However, our participants' conversations about ownership, originality, collaboration, and plagiarism, and the ways they build on others' ideas and work, suggest to us that our actual practices not only challenge what we think we know about the term "plagiarism," but also call into question that for which we as faculty want to be recognized. This thrusts us into very uncomfortable territory. But to change the conversation about plagiarism, to link it to our actual disciplinary practices, we need to place ourselves in precisely the discomfiting positions in which we place our students.

COLLABORATION

Although some academic departments, particularly in the humanities, continue to prize, and even demand, individual scholarship, our informants assert that their own work is often unavoidably collaborative and, again, that they simply "know" how to negotiate credit and ownership within resulting collaborations. In contrast, collaboration in their classrooms seems more complicated: while some informants report that they conduct almost entirely collaborative classrooms and others

construct some collaborative activities, much of this classroom work does not closely parallel disciplinary collaboration.

While the disciplinary activity systems that thrive on collaborative projects may earn individual attention (e.g., Gehry in architecture, Versace in design) or collective recognition (the list of authors for a science article), insiders in fields understand that the work is collaborative, regardless of how that collaboration is publicly marked. The scene is different, however, in classrooms. Even though students receive grades as a result of their group work, the activity on which their evaluations are based is seldom negotiated or even visible. Faculty members often assign/apportion grades based on their estimations of students' contributions or on self or peer evaluations of performance. On the one hand, individual grades are the stakes by which students accrue recognition for original work; on the other hand, as students in some of our classes attest, classroom collaborations become games, not real scholarship. Students generally dislike group work because, in their real world—school—individual excellence is what counts. The contradiction is apparent to them, but what is not made apparent in classrooms is any parallel between recognition for their assignments and recognition for work they might do—collaborative and individual—outside of school. Students often view the issues of ownership and plagiarism as a school activity rather than as a disciplinary activity, shrugging off the issues as simply rules to guess at or an individual faculty member's idiosyncrasy (which indeed, they may be). When they are in art and design, they see how collaboration works toward a material end; when they are in business or higher education administration, they witness how documents are patched together from multiple sources. Unlike some of their humanities counterparts, faculty in other fields may be more realistic about disciplinary practices based on collaboration and sharing, making it even more difficult to apply that one-size-fits-all definition to students' work. Thinking in terms of a generic definition of plagiarism works against students who, while engaging in appropriate disciplinary practices in art or

business, will be penalized for applying those practices to history or literature.

These disciplinary differences can be generative spaces where students learn about ownership and recognition. For example, we found that even though our informants expect students to work collaboratively as they generate their projects (as they write computer code, for example), very rarely do any of them spend significant time walking groups through practices that parallel those they conduct with their colleagues as they plan, discuss ownership, and determine credit for collaborative projects. In their own academic work, before even starting to write a grant project with another scholar, several informants routinely negotiate investigator and primary author roles up front, although they also report that sometimes it becomes necessary to renegotiate these arrangements as the projects develop and particularly when author roles shift. We can facilitate student decisions about and engagement in collaboration as knowledge-building, helping them see it as much more than dividing up a project, going off to their corners to write, and coming back with a large roll of tape to assemble the collected results. Also, rather than insisting that students' practices remain different from faculty practices, we can create methodologies that elicit and credit collaborative student work according to disciplinary practices.

A methods and research class in the major might begin by discussing why scholars or investigators collaborate.[6] Why do they discuss ideas with colleagues, and how do they then use feedback to expand or focus a project? How do they situate

6. Too many institutions and departments have no carefully scripted series of prerequisites for students in the major, making instruction haphazard at best. This often leads faculty to assume that students have learned about disciplinary knowledge and citation practices elsewhere, freeing them from teaching about such issues. While not all classes will need to address them, the curriculum should guarantee that students will learn about acknowledgment in a timely fashion, be able to practice their understandings, and have occasions to work on increasingly complex activities that call for thoughtful application of disciplinary constructions.

conflicting perspectives? How do they incorporate or reject conference feedback? We might even ask students to determine how these practices might translate to the classroom collaborations we orchestrate. Perhaps, instead of writing "the research paper," sociology students might track the evolution of a question or issue, noting how it has been shaped and changed, what disciplinary questions stimulated the further research, and what new questions have emerged. This then could lead students to discuss the same kinds of issues that faculty members consider when they assign authorship of publications. Likewise, faculty could incorporate this same sort of inquiry as students write and publish code, as they do laboratory research and report their data, as they prepare field notes for publication, or as in management courses they negotiate representations of themselves as writers/sponsors/signers of public documents or artists of public works. Such negotiations could also open questions about different publication sites. For example, students could look more closely at both using and publishing in electronic forums where, unlike in traditional print spaces, an audience might be able to immediately and publicly react to text, alter it, or build on it.

This would also demand that we rethink our reward system. If, as Rebecca Moore Howard (1999) asserts, we all "stand in the shadow of giants" and student "patchwriting" should be recognized as novices' valid attempts to walk with them as they enter a discourse, then we also need to reconsider differently using and rewarding collaboration with other voices and with peers in our classrooms. Classrooms, in the novice-professional sense of the word, are discourse communities in which members engage in building entry into a knowledge-field, but while it flies in the face of our grading system, might recognition for community discourse building more readily apply to the class as a whole? Might we begin to imagine our classes as learning collaboratives to begin with? Might, then, class members be rewarded for leadership positions, yet others be rewarded for their contributions to those individuals? How might the class be held responsible

for the mutual creation, documentation, recognition, ownership, and accountability for knowledge-building?

There is little doubt that assigning students a single class grade would never appease our competition-saturated culture, at least now; but how might our collaborative classrooms more effectively teach the processes of meaning-making and rewards other than an alphabetical ranking that doesn't appropriately correspond to the actual merits of collaboration that builds a community? We are suggesting that work groups can be clearly discussed, constituted, and given tasks that reflect a discipline's inquiry and processes, and that the term "collaboration" take on more than just a classroom role, it becomes seen as a learning *process*, an activity. As a result, we need to reconsider how our misuse of the word "plagiarism" is blinding us to fruitful classroom and discourse collaborations and how it calls into question our assessment practices (see also Bazerman 2002) as well as our model of competitive marking and ranking.

RESEARCH QUESTIONS/PRELIMINARY ANSWERS

Thaiss and Zawacki's (2006) and Russell and Yanez's (2003) work demonstrates how faculty might use research questions and practices as activities—and teach them as such. At the heart of their data and of our participants' reflections is the realization that

> Without a theory of activity that attends to the intersection of durable projects, individual goal-oriented acts, and the affordances of mediational means and that also acknowledges the fundamental heterogeneity (and hence lamination) of activity, studies of writing have typically continued to rely on ideologies that see writing as a general skill of transcription and as everyday mappings of the social world, which seem to suggest that a named social space is a bounded, definite object. (Prior and Shipka 2003, 208)

We might also begin questioning our current constructions and practices that shape student learning by recalling our own initiations into our fields and by recording how our students do it.

We might identify overlapping complexities, answer questions, and ask how knowing is constructed, how credibility is established, and why particular resources are chosen. Understanding these activities might not only help faculty shift their plagiarism paradigm, but also could create practices that help students delineate what belongs to them and what needs to be cited as belonging to others.

We use this book project as an example: although each researcher began with the same questions, we often ended up in different places, adjusting our questions according to emerging data, drawing on each others' findings as we compared them, receiving feedback from tentative propositions and resetting our boundaries. We noticed how those in fields we were investigating defined our questions according to their own disciplinary perspectives, and this changed how we thought about our subject and how we might continue to investigate it. For example, Boland and Haviland immediately became intrigued with fieldworkers' identification of study spaces (sites, populations) as something they owned, although they subsequently substituted the term "stewardship" or resisted the term "ownership" altogether. This discovery led them to look more carefully at the connections between disciplinary epistemologies and research and ownership practices. When faced with the plastic definition of appropriation in art, architecture, and design, Mullin found herself questioning what had seemed to her "givens" in defining plagiarism in the humanities, and these questions caused her to rethink how she teaches research in her field to students who are increasingly working in multimodal environments. The common use of borrowed texts in academic administration invites all of us to wonder how the divide between institutional members who make rules about plagiarism and those who must follow them mirrors the gap between faculty's actual disciplinary practices and their hidden expectations for their students in the classroom.

This leads us to believe that questioning definitions of plagiarism and ownership is especially crucial, and not just because

students come to our classes prepped with traditional ideas about ownership and research and with very general ideas about citation practices. The terms as currently constituted and used falsely constrain our practices within a narrow "social space" (the classroom), treating the collaborative facets of our activities as general skills that have little to do with functions across boundaries.[7] In the same way, faculty foster a reduced notion of citation and its relation to ownership by teaching generic genres or templates of ownership, further ignoring the systems of activity that frame our intellectual work and making it more difficult for students to understand and enter our actual complex systems with a sense of inquiry and curiosity. At best, we teach practices students cannot transfer to other writing scenes, and at worst, we set them up for negative transfer, as happened to Tim in Anne Beaufort's (2007) study. In his progression from a first-year writing course to a history major to an engineering major, Tim assumed the habits of historians were directly applicable to those of engineer.

Coupled with Beaufort's descriptions of Tim's experience as a professional engineer and Steve Westbrook's reminder that academics conceive of intellectual property in more generous terms than do those outside of the academy, we must ask if it is possible for "students [to] acquire genre knowledge without participating in the larger activity system" (Thaiss and Zawacki 2006, 169). Just as Thaiss and Zawacki then ask, "to what extent can we teach activity system by teaching its genres, like the lab report in biology, for example," we ask, to what extent can we teach activity systems by teaching plagiarism as a contained object? For example, if we were to use Youra's (2008) term "authorized collaboration" in discussing plagiarism with students writing lab reports, we might allow them to see how, at each juncture, when scientists make sense out of things by putting questions and discoveries into works, they are "writing the text" of that study—and that they are assuming both the credit

7. For a thorough discussion of how we need to look at the "doing" within disciplines, see Michael Carter's "Ways of Knowing, Doing, and Writing in the Discipline" (2007) or Lethem (2007).

and the responsibility for its integrity. In the large-scale collaboration that is the norm in science, when students understand *the* "*who, where, when, what,* and—most importantly—the *why*" they are writing lab reports *within* a discipline; they can more easily understand when they should and should not copy, cite, and appropriate. Likewise, as Boland and Haviland note in chapter 2, when positioned as readers and writers rather than as punishment avoiders, students can describe ownership and citation practices in readerly-writerly terms. When they observe that as readers they want writers to cite so that they can track authorial credibility and sequencing, they are offering the same reasons faculty writers offer. When they say that they want to be cited as writers because they want credit for their work and because they want to be included in continuing conversations about the issues they are working on, they are responding much like the academics that our chapter authors interviewed.

Inquiry originally was at the center of education; we are suggesting here that we consciously return to that purpose by studying and sharing our research processes rather than merely disseminating our knowledge. We can reduce the anxiety over disciplinary coverage by recognizing how thinking, reading, and writing collaboratively engages students (as it engages us) in a more lasting kind of learning, foregrounding the *activity* of research rather than the transmitting of results (Brent, 274). This might well have transformative repercussions within our institutions. Should our worth as academics hang not merely on our own originality, it might then be possible to have our teaching considered equally important—our ability to share our research processes, assimilation, analysis, and knowledge-building. However, our interviews here realistically lead us to conclude that, as a start, faculty members can more accurately develop a vocabulary for their research activities, define their systems, rethink "plagiarism," reconsider notions of "originality," and reform classroom practices to more consistently reflect inquiry processes. Of course, we would like to claim these statements as our original work, but can we?

As is our custom as academics, what follows this conclusion is a works cited list that documents how much we owe to our colleagues whose conversations we have engaged and expanded. But our work owes acknowledgment to those outside that list: Linda Bergmann, for example, has been an essential contributor to this project from its inception, taking a central role in multiple conference presentations, talking through the introduction with us, deliberating in conference hotel bars over how to interpret our data, as well as originating her own chapter. Other colleagues in each of our institutions listened intently, generously setting aside their own projects, enlarging our views with their perspectives as we worked out the evolving meanings of "originality," "collaboration," and "plagiarism." Howard, Bazerman, Hall, and many others contributed unwittingly by giving their own conference presentations and publishing their own texts, upon which we have built, and the result is a multiply revised "conclusion" in which we have tried but surely failed in places to document sources and in which our two voices are indistinguishable. Thus, we conclude with a retreat from "originality," which we believe no longer serves usefully, and return to what seems a more viable although flawed and complicated term "ownership." But we return with new thinking.

Ownership in a capitalist society cannot stand uncomplicated, for if we leave it as such, we leave it to lawyers and to plagiarism-detecting services to chart our relationships with texts and ideas.[8] We could then eliminate overusing the word "plagiarism," substituting discussions of our community practices: collaboration, appropriation, and knowledge building. In order to do this, however, we believe that we need to take a closer look at the dramatically different significance we assign to the various marks we make. Why, for example, can a student or a faculty

8. We have abundant examples in higher education—the most recent in the area of assessment—of the costs of neglecting our responsibilities to define our own terms. While the movement to regularize testing of college students by the federal government has been stopped, it will again emerge if we don't assert our own knowledge in the public sphere. The same is true of "plagiarism."

member appropriate a design element in a paisley print popular in the sixties, expand it with and within other elements, and not be charged with plagiarizing? Whereas that same student—or faculty—who selects a set of words aptly describing "interacting systems of activity" and then situates those words in and within her written text must quote and cite or be held to a charge of plagiarism?

Given what our research here has shown us about our communities' practices, we are led to question whether the Romantic construction of originality, which is so much a part of plagiarism discussions valorized long ago by textual scholars, is useful in any form. We suggest here that discussions open up in classrooms and in our wider communities, reaching people engaging in current practices that mitigate these traditional definitions. We suggest that these discussions of what one owns be situated in our present information-rich, technology-supported contexts. We believe that pointed and purposeful discussions among professional groups that share practices should consider

- How might beginning students write short papers about which they don't know anything? What kinds of assignments might allow them to demonstrate what they already know, and then how they are discovering and understanding existing knowledge with which they are not familiar? What assignments might encourage them to map ways of pushing current thinking further yet provide the authorial sequencing that allows readers to understand their maps?
- How can students speak in/to discourse communities while they are yet novices? Claiming a voice in a discourse community takes the ability to read, extract information, and synthesize it, and then to speak or write about that material in ways that will be understood and accepted within that community. How might we teach

students to "read" discourse communities, to more fully understand attribution rhetorics, and to resist as well as acquire existing forms? How might interim strategies such as patchwriting figure in this process?

- What is the role of ownership and knowledge building in a discipline's teaching, research, and learning? What is the place of each in a community of initiates, and what language most accurately describes actors and activities within their contexts?

Equally or perhaps more importantly, we challenge the terms we presently use to name these concepts, terms that shape and limit our own understandings and thus the understandings we transmit to students. Price (in Hall 2007) refers to the pockets of ambiguity that our terms "ownership," "originality," "collaboration," and "plagiarism" evoke, but we are coming to see these terms as already being fashioned by a public who prefers the fluidity and participation of a Wikipedia, or the tagging of information as a folksonomy. As Brian Lamb notes,

> Educators might justifiably argue that their materials are more authoritative, reliable, and instructionally sound than those found on the wider Web [e.g., Wikipedia], but those materials are effectively rendered invisible and inaccessible if they are locked inside course management systems. (Lamb 2007)

Those locked course management systems are indicative of an unexamined sense of faculty and institutional ownership, which, while useful to the continuance of traditional measurements, has fostered current one-size-fits-all, rule-bound discussions of plagiarism (and of education). Not only are these now not applicable to every discipline, but also they will become increasingly inapplicable to any discipline as information systems change: one only needs to go online to Creative Commons, CopyWrong, or Flickr to witness the growing rebellion against current ownership practices—ones to which our students are exposed daily (unfortunately, not in most of their classrooms).

The real question for us, then, is whether universities will continue to draw lines everyone crosses anyway, to uphold traditional notions about knowledge and meaning-making, despite rapidly changing technologies, or whether they will participate in the flexible processes already taking place both within and outside its walls. As Margo Blythman recently noted on an online plagiarism discussion list:

> I'm enough of an old style leftie still to have a belief in a degree of technological determinism. In my view there is absolutely no point in saying things like 'don't cut and paste', 'don't use wikipedia' etc. . . . it reminds me of when I was a kid in the late 50s and we were not allowed to use biros which were seen as not only wrecking your hand writing but also morally dubious. The technology exists—we have to work out how to use it. I find myself asking more and more about students' work that is perceived as plagiarised whether they plagiarised the argument or constructed their own argument then cut and pasted to fit it. We have to find ways of making the second legitimate. (e-mail 8 July 2006)

Blythman compares attitudes toward plagiarism to those toward writing technologies, and we build on that, looking at the relationship between automobile drivers, speed limits, and police officers. If drivers see only an external relationship between speed limits and themselves, they will observe speed limits only when they believe police officers are in a position to cite them if they do not: their motivations are anchored in avoiding punishment. However, if drivers feel an internal motivation for observing speed limits—such as motorist safety or fuel conservation—they will observe limits regardless of the presence of an officer. Likewise, we believe that we have presented overwhelming evidence that plagiarism rules can never cover all occasions because conventions are context specific and fluid, and, even more important, that if students—indeed writers generally—find only external motivations for trying to observe these rules, plagiarism will continue to be a cat-and-mouse game—with no winners. However, if faculty turn to

internal motivations, looking first at why and how they care about intellectual property and forms of ownership in their own work, and then to using these answers as they design and help students produce writing in their field, they can make an important shift to internal motivation—to help students situate themselves as readers and writers who matter in conversations that create knowledge.

Such discussions of plagiarism should help us think more reflectively about why we teach, why we are passionate about inquiry, and what we own as scholars/students. We need to work at how to align our disciplinary practices with those in our classrooms,[9] thoughtfully undermining our own institutional assessment practices, defining clearly what we need to measure and how, and, therefore, what role appropriation plays in our content, what constitutes learning in our fields. By rejecting or more carefully articulating what our informants revealed to us as contested terminology—"plagiarism," "ownership," "intellectual property"—we might actually free ourselves from the limits of those terms. This could, in turn, create space for us to shape, realistically, how we define ethical disciplinary action in our classrooms and in our professions, engaging, with the authors of chapter 1, "what it means to be an author today, what it means to have—and to share—agency." We might, in turn, narrow the gap between what our institutional traditions still uphold and we as practitioners do in our fields as well as in the increasingly larger world of the Internet as we build, appropriate, remix, mash, and create new knowledge.

9. Current movements to incorporate problem-based learning, undergraduate research, and study abroad move in useful directions, but they can more easily reach their potential if informed by discussions suggested here.

APPENDIX A

Common Research Questions—Intellectual Property and Plagiarism[1]

Faculty "Ownership" of Creative and Intellectual Work

1. What kinds of writing do you typically do as part of your scholarly and/or professional work? (May include production for classes or the public or writing computer code, for example, as well as written text.)
2. Do you produce this work individually or collaboratively?
3. What factors help you decide when to collaborate?
4. If you collaborate, how do you share credit for or ownership of your work?
5. What kinds of writing or other intellectual work are owned in your field? (For example, images, ideas, code, artifacts.)
6. What constitutes shared knowledge in your field?
7. How is ownership rewarded?
8. How do you decide what/how/when to give credit to others for their contributions to your work?
9. What purposes does citing or giving credit serve in your work and in the work of your field?
10. How do you give credit or attribute ownership in your field? (Think about features such as formal citation, shared authorship, acknowledgments, and the order of artists' names.)
11. How did you learn to attribute ownership or give credit for others' contributions?

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1. Basic questions were adapted slightly for disciplinary context by each interview team.

Student "Ownership"

1. How are faculty creativity, scholarly production, ownership, and attribution similar to or different from student production, ownership, and attribution?
2. Do you expect your students to collaborate on your assignments? How do they acknowledge this collaboration?
3. What does the concept of shared knowledge mean to your students?
4. What errors in giving credit or attributing do you see in your students' work? What constitutes plagiarism in your classes?
5. To what extent do you expect students in your upper-division courses to know and apply the conventions for attribution in your courses?
6. What consequences occur when they fail to attribute appropriately?
7. What roles do you play in teaching your students about ownership and giving credit for others' contributions to their work?

The Future

1. With what questions about ownership/attribution does your field currently wrestle?
2. What new questions do you anticipate? What implications do these questions/directions have for your teaching?

APPENDIX B

"Common" Knowledge

Using recommended Web sites to find out what is common when a student isn't yet a member of an academic field can prove challenging. On the St. John's Web site, Miguel Roig states:

> one must give credit to those whose ideas and facts we are using. One general exception to this principle occurs when the ideas we are discussing represent 'common knowledge'. If the material we are discussing is assumed to be known by the readership, then one need not cite its origin. Suppose you are an American student writing a paper on the history of the United States for a college course and in your paper, you mention the fact that George Washington was the first president of the United States and that the Declaration of Independence was signed in the year 1776. Must you provide a citation for that pair of facts? Most likely not, as these are facts commonly known by average American college and high school students. The general expectation is that 'everybody knows that'. However, suppose that in the same paper the student must identify the 23rd president and his running mate and the main platform under which they were running for office, plus the year they both assumed power. Should that be considered common knowledge? The answer is probably no. It is doubtful that the average American, would know those facts. (http://facpub.stjohns.edu/~roigm/plagiarism/Plagiarism%20and%20common.html)

Another site notes that:

> Facts can be viewed as common knowledge if they are generally known and widely established. The term 'common knowledge' implies that the audience and the author have agreed on certain facts, so accepted common knowledge might vary depending on your audience. For example, dates referring to well-known events can be viewed as common knowledge. So, when referring to

> December 7, 1941 as the date the Japanese forces attacked Pearl Harbor, you would not need to cite a source for your information—if Americans comprise your target audience. (http://cai.ucdavis.edu/plagiarism.html)

Given these examples, how are students who may know the twenty-third president of the United States, who are Civil War buffs, or who are just precocious determine whether they must cite: does it hang on whether they know the information or whether they believe their audience knows? Are they writing for a general audience, the teacher, or their classmates? For initiates into a discipline, it can seem as if nearly everything should be cited, especially because almost all sources that discuss common knowledge point out, "When in doubt, cite" (and are we safe in not citing this quotation?) This becomes even more interesting when faculty members acknowledge their students' varied backgrounds. For example: "If you are writing a paper about western Canada and you refer to Edmonton and Calgary as the two major cities in Alberta, you would not have to cite a source. This is generally known" (http://www.athabascau.ca/studserv/inthonesty.htm#comkno).

While this Canadian Web site considers Canadian geography to be common knowledge, a student in a US classroom would have to cite this information. Yet, a Finnish student receives this advice:

> stating that 'Abraham Lincoln was the 16th President of the United States' would not require a citation; even if most Americans could not tell you where Lincoln was in the numerical order (not to mention non-Americans, many of whom would not even know a person named Lincoln had been a President). Again, this is knowledge that is easily found, is not changeable, and thus can be assumed to be 'common.' (http://www.uta.fi/FAST/PK6/REF/commknow.html)

This appears to offer a good guideline for common knowledge—it "is easily found, is not changeable." Yet, on the Internet, much information is repeated and is thus easily found

and authoritatively cited. How are students to know what is always common in another country but new to them? The key might be in audience: in what country or culture is the writer; what knowledge would most people have? But how can students always know this?

Determining whether or not to cite for a specific audience is especially problematic when definitions of common knowledge seem to depend not on some overarching agreed-upon set of terms but rather on the status of being the student:

> Of course, in every professional field, experts consider some ideas 'common knowledge,' but remember that you're not a professional (yet). In fact, you're just learning about those concepts in the course you're taking, so the material you are reading may not yet be 'common knowledge' to you. In order to decide if the material you want to use in your paper constitutes 'common knowledge,' you may find it helpful to ask yourself the following questions:
>
> • Did I know this information before I took this course?
> • Did this information/idea come from my own brain?
>
> If you answer 'no' to either or both of these questions, then the information is not 'common knowledge' to you. In these cases, you need to cite your source(s) and indicate where you first learned this bit of what may be 'common knowledge' in the field.
>
> (www.unc.edu/depts/wcweb/handouts/plagiarism.html)

Such "guidance" actually contradicts the idea that there is "common knowledge"—something "everyone or the average person knows." Instead, any knowledge must be quoted if the instructor thinks that the student couldn't have known information prior to a course. This contributes to a deficit version of plagiarizing, one that sees knowledge as property students can't own until they have gone through appropriate, approved processes (i.e., "my class"), and it puts students in the position of guessing what faculty members will think they don't know. It also assumes that all students come to class as blank slates—the same blank slates. In trying to clarify this, students might find:

> *Common knowledge*: facts that can be found in numerous places and are likely to be known by a lot of people.
>
> Example: John F. Kennedy was elected President of the United States in 1960.
>
> This is generally known information. You do not need to document this fact.
>
> However, you must document facts that are not generally known and ideas that interpret facts.
>
> Example: According the American Family Leave Coalition's new book, *Family Issues and Congress*, President Bush's relationship with Congress has hindered family leave legislation (6).
>
> The idea that "Bush's relationship with Congress has hindered family leave legislation" is not a fact but an *interpretation*; consequently, you need to cite your source. (www.indiana.edu/~wts/pamphlets/plagiarism.shtml#terms)

It is not unlikely that students would read that "Bush's relationship with Congress has hindered family leave legislation" in more than one source. However, if students are new to the discipline, how do they know that this statement is an interpretation when such conclusions might well be seen as fact—as common knowledge? This is especially possible if students read that, "Common knowledge is information that is widely available. If you saw the same fact repeated in most of your sources, and if your reader is likely to already know this fact, it is probably common knowledge" (http://www.infoplease.com/spot/plagiarism.html).

The University of Wisconsin, Madison's approach places the discussion on a useful track when it highlights a special section under common knowledge:

> Field-specific common knowledge is 'common' only within a particular field or specialty. It may include facts, theories, or methods that are familiar to readers within that discipline. For instance, you may not need to cite a reference to Piaget's developmental stages in a paper for an education class or give a source for your description of a commonly used method in a biology report, but you must be

> sure that this information is so widely known within that field that it will be shared by your readers. (http://www.wisc.edu/writing/Handbook/QPA_plagiarism.html)

This also, though subtly, reminds students of their status in the academy, but it gives no hints as to how they should determine whether something is widely known in a field. Again, they may read an idea in several sources and conclude that it is common knowledge, only to be told that they have plagiarized an opinion. The University of Oregon's document attempts to remedy this problem:

> Hairston and Ruszkiewicz (1993) define common knowledge as "facts, dates, events, information, and concepts that belong generally to an educated public. No individual owns the facts about history, physics, social behavior, geography, current events, popular culture, and so on." (614)
>
> Therefore, common knowledge does not need to be cited—the difficulty is knowing when something is, in fact, widely known. An added twist is that each discipline has its own common knowledge, for example, psychologists will be familiar with the work of Jean Piaget so you do not need to establish who he was. If you are not sure whether or not something is common knowledge, ask your instructor. (www.unc.edu/depts/wcweb/handouts/plagiarism.html)

If faculty wish to help students become independent, responsible researchers/writers, they certainly will encourage such questions. However, realistically, how many students are going to ask their instructors about common knowledge every time they aren't sure? And how many lines of students or e-mailed questions can instructors accommodate?

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