Giving Credit When Credit is Due: The Ethics of Academic Authorship

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ABSTRACT: Issues of academic authorship pose few problems for philosophers or those in the humanities, yet raise a host of issues for medical researchers, engineers and scientists, where multiple authors is the norm and journal articles sometimes list hundreds of authors. At issue here are abstract questions about desert, as well as practical problems regarding the distribution of goods attached to authorship— tenure, prestige, research grants, etc. This paper defends a version of the author/contributor model, where the specific contributions of authors are described in a footnote, against other models of authorial attribution. Such a model offers the best guarantee that authors will get their due, as well as providing the most reliable protection against misconduct and fraud. The paper also argues that it is important for this model to be institutionalized across disciplinary boundaries as the increasingly interdisciplinary nature of research will inevitably bring discipline-specific authorial norms into conflict.

Issues of academic authorship have been largely ignored by philosophers, undoubtedly because the task of assigning authorial credit tends to be a very straightforward for them. Philosophical articles are almost always single-authored, and on those occasions when there are multiple authors, there are virtually never more than two. This is generally true for most academic research in the humanities. Engineering, scientific, medical and even social scientific articles present greater challenges. Here, journal articles are almost always collaborative, and it is not unusual for articles to list well over ten authors. A recent article in the journal, *Nature*, for example, featured 209 authors.[1] While this was a large and admittedly unusual study, articles with well over 50 authors regularly appear in that journal, and the general trend of articles with over 100 authors is rapidly increasing.[2] The growth in the number of authors is obviously a feature of the increasingly complexity of scientific research and the ease with which modern communication technology facilitates collaboration. Bruce Fye notes, summarizing a finding by D. T. Durack, that 98 percent of the articles published in the *Boston Medical and Surgical Journal* 100 years ago were single authored, "whereas today

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fewer than 5% of the papers in this journal's successor, *The New England Journal of Medicine*, are written by one person."[3]

Questions about authorship fundamentally concern issues of credit and desert, and the issue of multiple authors in academic research articles raises a number of interesting practical ethical questions. For one thing, many important practical issues—professional prestige, research funding, tenure and promotion decisions—hang on these questions. For another, issues of authorial credit have been implicated in cases of fraud and scientific misconduct, such as in the cases of John Darsee and Robert Slutsky, two separate examples of fraud and data fabrication, in which co-authors, who were brought in for prestige or to sanitize the papers' findings, were completely oblivious to the fraud.[4]

Given the complexity of contemporary research, these trends characterize the new reality of academic authorship. This paper will offer a philosophical examination of these issues, as well as some practical suggestions for how they might be addressed. It focuses primarily on scientific and medical research, but the overall considerations apply to any kind of academic research. Indeed, given the increasing interdisciplinary nature of research, puzzles about authorship are liable to become increasingly common, even for academic research in the humanities. The paper will defend one model of settling these issues—the author/contributor model, in which the specific contributions of the authors of the research are described in a footnote—against other popular alternatives. Additionally, central among the paper's suggestions is the importance of creating robust, public, trans-disciplinary standards of authorial attribution that are institutionalized into the structures of academic publishing. In any area of professional ethics, ethical dilemmas tend to arise when there are no applicable, widely shared norms. Such dilemmas might arise just because of the complexity of the situation. More insidiously, they might arise because ambiguity allows people to intentionally take advantage of situations. In either case, the lack of clear standards is what gives authorial malfeasance an opportunity to flourish, such that virtually any well-established system is better than none.

I. DESERT AND AUTHORSHIP

To ask if people are rightly being given credit for a publication, or whether they have been given enough credit, or indeed whether they are being given credit that they do not deserve, is to inquire into questions about merit or desert. One of the more useful discussions of desert claims has been offered by John Kleinig, who argues that such claims come in two forms.[5] One is general in scope and does not depend upon any kind of institutional background, as when we say that "Smith deserves a break-through. He's been working at that problem for years now."[6] Another relies upon an institutional or legal structure, as when we say, "Nolan deserved the prize for his efforts. His painting was by far the best."[7] Kleinig argues that such claims share a common basic structure of the form, "*X* deserves *A* in virtue of *B*."[8] Here, *X* is the *deserving*, the agent to whom the thing is owed; *A* is the *deserved*, the thing that is owed; and *B* is the ground of desert, the considerations in virtue of which *X* is deserving. Institutional claims introduce a

fourth element, "*X* deserves *A* of *Y* in virtue of *B*," where *Y* is some institutional source from whom the deserved in question is owed.[9] Claims about authorship might take either form, but they more usually appear to be institutional in nature. For example, the claim, "Smith deserves to be listed as an author of that article" makes the claim that Smith is owed authorial credit for her work from a discreet source (i.e., here would be co-authors, or the journal in question). In debates about authorship, many of these issues are rather straightforward. The deserving is the putative author in question; the deserved is credit as an author; the institutional source will be the author's collaborators, the editors of the journal, or the scholarly community. The crucial question, of course, concerns the grounds of authorship. On what grounds is a person rightly considered an author?

Kleinig argues that with regard to the grounds of desert, "When we say '*X* deserves *A*' we are implicitly committed to holding *reasons* for *X*'s desert. . . . However, not any sort of reasons are appropriate to the making of desert claims. Desert can only be ascribed on the basis of the characteristics possessed or things done by that thing or person."[10] Kleinig's main point here is that desert claims, at least when applied to people, always depend upon what has been done. Desert claims are backwards looking and do not depend on forward-directed considerations such as the good consequences that might follow. An author becomes an author because of what she has done, not on the basis of how authorship might benefit her.

It also seems true that the kinds of considerations that count as genuine grounds of desert will depend upon the kind of thing that is deserved. The ground of authorship claims for a painting, for example, are different from those of a scientific journal article. An artist can claim credit for a painting only if she is the one who has painted it, part of the point of a painting being that it depends upon the person who has composed it. When we admire a painting, we admire many aspects of it, but crucially we admire the technique of the person who painted it, the actual composition of the painting itself. A person who claims to have merely furnished the idea, but not the painting or composition of the work, cannot claim to be its creator (though she might deserve credit for something else, or might otherwise have a reasonable claim of some kind against the painting's author). A painting that arises out of Michelangelo's workshop, but that was not painted by Michelangelo himself, is not a Michelangelo painting, even if he furnished the idea, and supervised its composition.[11]

In speaking specifically about the grounds of desert for academic research articles, it seems as if the kind of thing it is crucially depends upon its intellectual content. Research articles always make claims or discoveries whose nature is fundamentally conceptual. Consequently, the grounds of desert claims will always revolve around a person's intellectual contributions to the article in question. This is obvious enough, and is the centerpiece of any set of authorial guidelines. For example, in their statement concerning authorship, the International Committee of Medical Journal Editors (ICMJE) define an author as one "who has made substantial intellectual contributions to a published study."[12] Of course, the crucial issue here revolves around what counts as a "substantial contribution." To clarify the ICMJE adds that "authorship credit should be based on (1) substantial contributions to conception and design, acquisition of data, or analysis and interpretation

of data; (2) drafting the article or revising it critically for important intellectual content; and (3) final approval of the version to be published," and they specifically state that acquisition of funding, mere collection of data, or general supervision of research without an active role is not sufficient for authorship.[13] Thus, a dean or department chair who secures financial resources, a lab chief who is not actively involved in a research project in her own lab, or a bench scientist who merely performs experiments and plays no role in overall research design or analysis, does not deserve authorial credit, and their contributions are better noted in a paper's acknowledgments section.

Is this too narrow an understanding of authorship? Mario Biagioli worries that this definition might be too limited, asking "should credit be attached only to the cognitive results of the research effort or should it be about work and labour."[14] Biagioli never actually answers this question, but he does worry that many conflicts over authorial credit are not actually debates about whether a contribution counts as a substantive intellectual contribution to a research project, but rather are debates over competing conceptions of what counts as genuine authorial credit. As he writes, "the practice of honorific authorship and the denial of credit sometimes experienced by less powerful members of the research committee may share a common root in a too narrow definition of credit."[15]

But while Biagioli raises this as a possibility, it does not seem to be the most likely explanation of disputes about authorship, and in any case, it does not, by itself, provide reasons for overturning this conceptual account of authorship. Junior members of a research team often raise real concerns that their more senior colleagues have not given them appropriate opportunities, or credit for their contributions. It seems more likely that these complaints arise not because these junior members have a different, more inclusive conception of authorship that is not shared by their more powerful colleagues, but rather that they have the *same* conception of authorship, and their complaint is that their intellectual contributions are not garnering the recognition that they deserve. Similarly, it does not seem likely that those who "gift" authorial credit to senior distinguished colleagues or friends might justify their actions by arguing for a more inclusive understanding of authorship, but argue (if they argue at all) that the contributions are indeed intellectually significant. As the ICMJE guidelines recognize, the flip side of authorial credit is responsibility, and genuine authors need to be in a position to accept responsibility for the whole of a publication. Those who make no intellectual contribution to the project, or whose contributions are minor are not in a position to assume such responsibility. This point about the importance about assuming responsibility for the content of a particular article also helps to clarify when an intellectual contribution counts as substantial. For if a researcher's contributions are not central to the overall project and they have not participated enough in the project as a whole to rightly take responsibility for it, then their contribution is not likely to have been substantial.

II. INCLUSION AND EXCLUSION

On the account offered above, a researcher must make a substantial intellectual contribution to a research project in order to deserve authorship. Having established

a general criteria for authorship, however, says little about how these issues ought to be practically adjudicated. Discussions about who ought to be included as an author can be awkward and difficult, rather like discussions about money among family or friends. The reason for this is that the norms and ideals involved with research collaboration are very different from those involved with determining authorship. The former is ideally characterized by a steadfast determination to mine the truth, a spirit of cooperation, mutual respect and collegiality. The latter is more associated with desert or credit, and personal and professional goals tied to personal advancement. When people think about desert, they are concerned with whether they are getting their due, whether their contributions are rightly respected, and the connection of authorship to promotion, prestige and personal career goals. Further, while authorship is not exactly a zero sum game, credit and prestige are limited resources, and everyone wants what they deserve. This is not to say that discussions about authorial credit are intrinsically selfish or that it is appropriate for participants to fight for as much credit as they can extract from their collaborators. Cooperation and generosity ought to prevail here too, but the stakes and issues involved are certainly distinct.

Consequently detailed discussions about authorial credit can be awkward to say the least. Nevertheless, given the importance of these issues and the extent to which they can lead to conflict and unfair treatment with real consequences, it is important that transparent, deliberative group discussions among all involved parties take place. It is best for these conversations to take place before a project is underway so that all participants can sign off on the project and the assignment of responsibilities and roles. Participants, especially junior members, are only really in a person to fight for what they take to be appropriate credit before the project is begun. Deliberation ought to include all members of the research team, and a consensus ought to be reached about everyone's roles, so that everyone is content with not only their own lot, but the roles of others. Of course, these discussions might need to be revisited in the course of the project. Out of research concerns, participants' roles might be adjusted, or new members might be brought into the project. These discussions might remain in a state of flux, but transparent group discussions that lead to a clear delineation of roles at the start of the project can eliminate a great deal of controversy later.

The flip side of the issue of inclusion, is the problem of exclusion, or cases when people are counted as authors when they do not deserve credit. The most obvious instance of this is 'gifting' authorial credit to persons who have not actually participated in the research project in a substantial way. Such gifting can occur in numerous ways. Researchers might include the name of a well-known senior colleague because they hope that his or her name might open doors for publication. Alternately, an authorial credit might be granted in order to benefit a friend. More insidiously, a department chair or dean might demand that they be included as an author on every paper that is produced by his or her department or school. In all of these cases gift authorship is objectionable. It grants credit to those who do not deserve it and dilutes it for those who do.

A trickier case involves granting an authorship credit to a researcher's graduate student, who participates in a research project, but in an insufficiently substantial

way in order to rightly earn mention as an author. Such a graduate student might be involved in data collection or the performance of experiments without any real role in the analysis of this data or results, or no role in the overall conceptualization and design of the project. Here, the problem is trickier because the motives of those who bestow authorship are benevolent, and might even be understood to be a part of what good mentorship involves—providing the research and publication experience that are important parts of a young career. Indeed, especially because the more pressing problem is that graduate student's contributions do not get the credit and recognition that they deserve because they do not have the power or authority to fight for what they are owed, it might seem that such gift authorship is really no problem at all. Nevertheless, while such inclusion seems benevolent, it grants credit to those who do not deserve it. More important, if a professor really wanted to help the career and development of graduate students, the thing to be done is to try to include them in more substantive ways rather than simply assigning them menial or minor roles and giving them credit they do not deserve. Under these conditions, they get little real research and publication experience and are wrongly credited for work that they did not do.

One remedy to problems of exclusion is the requirement that authors should be required to sign off on both their own contribution as well as contributions of others. Thus, on submitting a manuscript all authors officially declare that they themselves have satisfied a given journal's authorship requirements, and that to the best of their knowledge, all other authors have as well. Such a formal model of validating substantive participation in a research project should provide a sufficient disincentive for participants to gift authorial credit to others, especially if violations are backed by the threat of printed declarations of censure or embargoes for publication in that particular journal. This practice is becoming increasingly common. *The Journal of the American Medical Association*, for example, requires a signed statement that the author has "participated sufficiently in the conception and design of this work and the analysis of data [when applicable], as well as the writing of the manuscript, to take public responsibility for it."[16] The contributions of others can be noted in a paper's acknowledgements. Though here too, the issues are not so simple. The ICMJE recommends that "because readers may infer their endorsement of the data and conclusions, these persons must give written permission to be acknowledged,"[17] and this also seems like a sensible requirement.

III. DEFENDING THE AUTHOR/CONTRIBUTOR MODEL

The issues discussed above are familiar and pressing, but undoubtedly the most vexing issue involved with the ethics of authorship is the question of the order of authors, and especially how to decide who is listed first. This is a widespread problem, affecting even those academic articles that have only a few authors. It is also weighty, as papers inevitably come to be known by their first authors, with subsequent authors often only being captured by an 'et al.'

Journals have adopted a variety of tactics to deal with these issues. Some, for example, mandate an alphabetical listing of authors in order to resist the impression that the first author plays an unusually substantial role in the conduct of the

research project. As Don Riesenberg and George Lundberg note, however, "the oft-heard call for alphabetical listing of authors is a cop-out and takes [no] . . . subtleties into account."[18] The problem here is that participant authors do play different roles and those who make greater contributions than others should rightly be given credit to the extent to which this is possible. Further, the practice of assigning the first author special responsibility for the project is so deeply ingrained, that it is unlikely to be erased even if the practice should stop. Those with surnames that begin with letters from the beginning of the alphabet are likely to unfairly benefit, and those with names late in the alphabet have incentive to avoid journals with this practice.[19]

A better solution is the increasingly widespread contributorship model. On this model, the particular and specific contributions of each participant are described in a footnote. This provides an opportunity for each contributor to receive exactly the amount of credit that he or she deserves, and also makes it easier for interested parties to contact the appropriate author with questions that they might have about specific aspects of the research. As Robinson et al. notes, "the concept of 'contributor' frees people from the ambiguities of current authorship conventions that so often lead . . . to disputes. The present practices of determining authorship do not lend precision in understanding the depth and specificity of an individual's role."[20]

The contributorship model, however, can be pursued in different ways. One version, the guarantor/contributor model, attempts to do away with the notion of authorship entirely, and replace it with a double-tiered system of *guarantors* and *contributors*. A guarantor is a participant in the research who has taken on the burden of overseeing and managing the whole project. Consequently they assume a special responsibility for the work as a whole. A contributor is anyone else who participated in the research project. Their particular contributions are described in a footnote and they are responsible only for their particular contribution. A less radical alternative is the author/contributor model, which preserves the traditional notion of authorship and supplements it with a detailed description of what each author has done. The guarantor/contributor model has been adopted at such prominent research journals as *Radiology* and the *British Medical Journal*. The author/contributor model has been adopted at *The Lancet*, the *Journal of the American Medical Association* and the *Annals of Internal Medicine*, among others.[21]

The appeal of the more radical guarantor/contributor model is that it completely does away with the antiquated system of authorship, and replaces it with a system that is more suited to the realities of modern research. As Drummond Rennie, Veronica Yank and Linda Emanuel, who have vigorously defended the guarantor model, note, "abandoning the concept of author in favor of contributor frees us from the historical and emotional connotations of authorship, and leads us to a concept that is far more in line with the actuality of modern scientific cooperative work."[22] On this model, any number of participants can be listed as contributors, and researchers are therefore freed of having to determine whether a person's contributions are significant enough to merit an authorial credit. Participants' contributions are specifically noted and they receive exactly as much credit as they deserve. While there can be more than one guarantor, the assumption is that only

a very few will ever be in a position to oversee the project as a whole, and take responsibility for its overall integrity. It therefore promises to more accurately dispense credit, minimize disputes about authorship, ensure that someone is held accountable for the research as a whole, and free other researchers up from the unrealistic demand that they take ownership and responsibility for a project, aspects of which might be outside of their professional expertise.

This model, however, faces a number of problems. Its appeal lies in the fact that there is little limit to the number of people who can be listed as contributor. It is thus both generous and accurate in dispensing credit. It acknowledges the contributions of all for exactly the work that they did. It accomplishes this by offering contributorship as a middle ground between the older notions of authorship and acknowledgement. But while these are attractive features, the system is likely to perpetuate the same conflicts that arose over debates about authorship. Those who would have been unsatisfied with a mere mention in the acknowledgements section instead of an authorial credit, will now be fighting for the title of guarantor, as opposed to being a mere contributor. While the contributions of each contributor are exactly noted, the breadth of the general category tends to dilute the significance of the contributions of those who might have been considered authors on the older scheme of assigning credit.

A more serious problem is the fact that contributors are freed of the responsibilities of the traditional author. This is to say that they are only responsible for the specific portion of work that they conducted and have no responsibility for the contributions of others or the work as a whole. Part of the appeal of this reduction in responsibilities is the fact that scientific research has grown so interdisciplinary and complex that it is unrealistic to expect all participants to take responsibility for parts of the project that lie outside of their professional expertise. The more traditional notion of authorship is in this way unrealistic in its demands. But one might worry that by limiting overall responsibility only to a work's guarantor, this model assigns too little accountability to a work's contributors; it tends to deemphasize a contributor's overall responsibility. While Rennie, Yank and Emanuel note that contributors still "have some obligation to hold one another to standards of integrity,"[23] this obligation will amount to little if contributors have no formal stake in the project as a whole. It looks like this model will do nothing to prevent the kind of scientific fraud of the Darsee and Slutsky affairs. Contributors in such cases can simply say that there was no obvious evidence of misconduct, and in any case, as contributors, they had no responsibility to wade into the details of the project as a whole that might have revealed evidence of fraud. One might say that there are two problems here. First, the guarantor/contributor model places unrealistic demands on guarantors who themselves might not be capable of fully taking responsibility for aspects of a complex research project. Second, it places too few demands on contributors. The responsibilities of a guarantor are too great, and those of a contributor, too weak.

The author/contributor model, on the other hand, avoids these problems. Like the guarantor model, the precise contributions of each participant are described. Unlike the guarantor model, authors are expected to have a stake in the project as a whole. Even if it is the case that some aspects of the project might be beyond

their professional expertise, authors cannot simply avoid the attribution of responsibility by saying that they had no responsibility beyond their own narrow contribution. Debates about authorship are controversial precisely because the line at which a participant's intellectual contributions become significant enough to merit an authorial credit is hard to determine. But the difficulty in determining this point does not mean that there is no meaningful distinction between a substantial contribution and an insubstantial contribution. The guarantor model attempts to solve this problem by drawing a bright line by fiat, which leaves the category of guarantor too narrow and the category of contributor too capacious. It does not solve issues of authorship so much as it attempts to skirt them, and so sacrifices the necessary responsibilities that ought to be a part of academic research.

The author/contributor model coupled with the requirement for a signed statement of participation described above would seem to ward off a number of problems with regard to designations of authorship. Nevertheless, one might raise certain objections to this model. For one thing, one might argue that listing contributors in this way is impractical since it would require the consumption of additional space in journals where space is already at a premium. This objection, however, seems trivial, as such listing are unlikely to take up that much space, and the benefits it creates seem to outweigh the burdens that it imposes on journals. A deeper more interesting objection is that more detailed categories of contribution are only likely to make authorship decisions more contentious, as authors fight not just over who gets to be named as an author, but the order in which they are listed, and the particular contributions they may or may not have made. In contrast, the advantage of an alphabetical system is that there is in effect only one debate—who gets listed as an author—rather than multiple ones. The worry here is that the cure is worse than the disease, and that everyone in the academic research community would be better off by simplifying the debate and deemphasizing issues of authorship.

This is a serious worry and it highlights one of the attractions of the alphabetical system. It is not, however, decisive. One problem is that an alphabetical system leaves too many issues unresolved. It does nothing, for example, to address the issue of gifting authorship. But more positively, a model that describes the precise contributions of research participants has many benefits. To reiterate, it addresses the issue of gifting authorships; it more accurately dispenses credit for the particular contributions of authors; it allows readers to have a more accurate sense of what roles each author played, making it easier for the appropriate author to be contacted with research questions. More generally, it eliminates the ambiguities that often lead to disputes.

The contributorship model certainly requires more discussions among authors, and might for this reason be thought to lead to more conflicts. But this is an unnecessary worry, or at least it is an unnecessary worry if it widely adopted and incorporated into the expected norms that govern research and publication. One of the benefits of listing authors' specific contributions is that the this model necessitates earlier and more frequent discussions about issues of authorship, and so controversies are likely to be settled earlier before they become contentious. As such it encourages conversations and eliminates ambiguities. Conflicts are

more likely to arise when authorial agreements are uncertain or lack transparency. A research culture where the author/contributor model predominates, and the norms of transparency, publicity and deliberation are institutionalized and expected by all participants, is a research culture where conflicts will be avoided and merit is likely to win out.

IV. INSTITUTIONALIZING NORMS OF AUTHORSHIP

This last point about the importance of embedding these authorial guidelines into the institutions and culture of the research community is particularly important and highlights a central issue for any area of practical or applied ethics: *ethical controversies thrice in conditions of uncertainty*. This is true for accountants, soldiers, scientific researchers, or anyone operating in an area lacking well-established ethical norms. When there are no clear norms that are widely shared, expected and enforced, or when it is not clear how a norm applies to some particular problem, people can act with little thought, or those with more intentionally malicious intentions can operate more freely. The problem here is not necessarily that an issue itself is complex or irresolvable, but that there are no widely known standards to ward off questionable behavior. Such ambiguity creates conditions where unethical behavior can take root. A group of researchers might all think that gifted authorships are patently unjustifiable, and might privately grouse about a department chair's demand for authorial credit, but it is more difficult to resist when the norm is not public and institutionalized. When there are clear, public standards, such demands cannot even be made. When new guidelines are widely adopted, and become the expected norms governing publications, when frank and open discussions about authorial credit become the status quo, many of the causes and controversies surrounding the ethics of authorship are likely to become less severe as they are choked off from the oxygen that enables them to survive.

As research of all kinds grows more interdisciplinary, it becomes important that these norms are established not only within individual disciplines, but span across them. Conflicts about authorship are likely to arise as the accepted, unquestioned norms guiding authorial credit from one discipline, come into contact with norms from others. If engineers are used to listing authors alphabetically and chemists are used to the author/contributor model, then conflicts will be unavoidable. Further, discipline-specific norms are themselves likely to be eroded as they come into contact with the norms of other disciplines. No authorial guidelines are likely to remain robust in an environment of competing standards, and the lack of common guidelines is likely to lead to confusion by an increasingly diverse group of readers. These conditions of uncertainty are conditions in which authorial malfeasance can flourish.

The only realistic hope of instituting such norms lies in the hands of journal editors. A great many disciplines have attempted to promulgate authorial guidelines that span across individual *journals*. It is increasingly important that these groups further collaborate to generate norms that span across *disciplines*. This should most obviously happen in disciplines that are likely to collaborate. It is likely, for example, that engineers of various different kinds are likely to

collaborate on certain kinds of projects. Other kinds of collaborations are perhaps less likely, but as research becomes more complex and interdisciplinary, it is hard to predict where the next great area of collaborative interdisciplinary research will arise. For this reason, it would be extremely helpful to have common authorial standards that span across virtually every academic discipline. Different disciplines will always have their own particularities, but there do not appear to be any irresoluble problems, and common standards will reduce a great deal of uncertainty. International groups like the ICMJE and the World Association of Medical Editors (WAME) are a step in the right direction, but it is important for such group to grow wider in scope, not just geographically, but also across disciplines. The creation of something like an international association of academic journal editors is necessary in this regard.[24]

There are, of course, a wide variety of stakeholders on this issue. Universities, journal editors, academic and professional societies, and academic researchers themselves need to play roles in encouraging the adoption of better authorial guidelines, and in creating conditions in which academic research of all kinds can flourish. The general pressure to publish or perish, for example, is one of the significant background conditions that exacerbate problems about academic authorship, and is a worrying problem in its own right as breakneck rates of scholarly production and the practices of 'thin slicing' journal articles has created diluted and cumbersome academic literatures.[25] The problems here are wide, and can only be resolved by cooperative efforts among all those who are involved.

Journal editors, however, have the unique power and authority to institute robust, interdisciplinary authorial guidelines. International, interdisciplinary societies of journal editors can meet to create workable guidelines that will satisfy the needs for their own particular disciplines, and can promulgate these guidelines throughout journals in their own disciplines. Most important, only journal editors have the power to enforce these guidelines. They alone can ensure that authors are signing the relevant statements of authorial contributions, and they alone can mete out the appropriate punishments when abuses are discovered.

This puts a great deal of responsibility on journal editors, responsibilities which such editors are not always willing or qualified to embrace. As Don Riesenberg and George Lundberg note, "Journal editors . . . are only advisers to authors,"[26] and cannot be expected to settle every debate about authorship that arises between collaborators. Additionally, they cannot be expected to police researchers to ensure that that appropriate standards are being followed. This is true, but they do, have unique powers to encourage the development of norms and to enforce them, and no other bodies appear to be in a position to do this. Unfortunately, there is good evidence that this is not being consistently done even with the guidelines that have already been adopted. The ICMJE criteria, for example, has been adopted at over 500 journals worldwide, but numerous studies have shown that these standards are not consistently applied. Veronica Yank and Drummond Rennie, for example, in a study of articles published in *The Lancet*, a journal that has adopted the author/contributor guidelines for authorship, found that 5 percent of those articles studied included no description of contributions, and 44 percent of those studied do not fulfill even a lenient interpretation of the

ICMJE's guidelines.[27] A similar study of articles in the journal *Radiology* showed better adherence, finding that 68 percent of researchers adopted the criteria.[28] In either case, substantial portions of these articles fail to meet established criteria. This is disheartening, and is perhaps best explained by persisting confusion about authorial standards, and how contributors should be listed. Much work can be done to clarify these standards, but it is surprising that journal editors are not enforcing standards that they themselves have adopted. Editors cannot be police officers and do not have the time or resources to investigate the contributions of all of the authors in their journals. But there is no reason why they cannot ask the authors of accepted papers in their journals to abide by their authorial guidelines.

Once these norms are widely adopted across different disciplines and become enculturated into the habits and universally accepted standards of academic conduct, then little further enforcement will be necessary because researchers will police themselves. Disciplinary bodies of journal editors can encourage the adoption of these standards on whole disciplines. Interdisciplinary bodies will be the only entities who can ensure that these norms prevail over different fields of academic research. These common standards will have to be negotiated at such an interdisciplinary level. This paper has attempted to defend one approach. But regardless of what common standards work best for multiple disciplines, the creation of common standards are necessary to ensure that all get their due.

Endnotes

1. T. Teslovich et al., "Biological, Clinical and Population Relevance of 95 Loci for Blood Lipids," *Nature* 466 (August 5, 2010): 707–13.

2. Antonio Regalado, "Multiauthor Papers on the Rise," *Science* 268 (1995): 25.

3. W. B. Fye, "Medical Authorship: Traditions, Trends and Tribulations," *Annals of Internal Medicine* 113 (1990): 317–25, at 322.

4. For an excellent overview of the Darsee and Slutsky scandals, see Anne Hudson Jones, "Can Authorship Policies Help Prevent Scientific Misconduct? What Role for Scientific Societies?" *Science and Engineering Ethics* 9 (2003): 243–56, at 244–8.

5. John Kleinig, "The Concept of Desert," *American Philosophical Quarterly* 8 (1971): 71–8. In fact, Kleinig argues that there is a third kind of desert claims that focuses not on a brute desert claim, but rather *quantity* as when someone might say, "McKenzie deserved about 5 years jail for his offense" (71). It is not so clear that this constitutes a third kind of claim, however, since it is distinguished only by the specificity of what is deserved. Nothing much hangs on this point, however.

6. Ibid., 71

7. Ibid.

8. Ibid.

9. Ibid.

10. Ibid., 73.

11. Certain kinds of modern art might well have different criteria for the grounds of authorship. When Marcel Duchamp famously presented a urinal as a work of art, he made himself the author of the composition, even though he played no role in its construction.

He is responsible for *presenting* it as a work of art, and so is its author. But, of course, part of the point of this kind of art is that it subverts our understanding of what art is.

12. International Committee of Medical Journal Editors, "Ethical Considerations in the Conduct and Reporting of Research: Authorship and Contributorship," *Uniform Requirements for Manuscripts Submitted to Biomedical Journals.* Available at http://www.icmje.org/ethical_1author.html.

13. Ibid.

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