



# Disciplining Bioethics: Towards a Standard of Methodological Rigor in Bioethics Research

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Contemporary bioethics research is often described as multi- or interdisciplinary. Disciplines are characterized, in part, by their methods. Thus, when bioethics research draws on a variety of methods, it crosses disciplinary boundaries. Yet each discipline has its own standard of rigor—so when multiple disciplinary perspectives are considered, what constitutes rigor? This question has received inadequate attention, as there is considerable disagreement regarding the disciplinary status of bioethics. This disagreement has presented five challenges to bioethics research. Addressing them requires consideration of the main types of cross-disciplinary research, and consideration of proposals aiming to ensure rigor in bioethics research.

**Keywords:** bioethics, discipline, interdisciplinary, methodology, methods, multidisciplinary, rigor

## INTRODUCTION

In the last forty years, bioethics has increasingly become a distinct field of research and academic activity. It has witnessed the development and growth of a new profession, journals, graduate programs, conferences, and the like. All this reflects the growing recognition of the importance of, and challenges to, ethical decision-making in the health care context. As bioethics becomes a more respected field within universities and hospitals, many of its advocates refer to it—whether descriptively or prescriptively—as a “discipline.” This is not an uncommon phenomenon. Indeed, the past few decades have seen the emergence and institutionalization of many new “disciplines,” including women’s

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studies, cognitive science, peace and conflict studies, and the like. These new developments reflect the need for academia to be more responsive to social issues, as well as the recognition of the limitations of the more traditional disciplines (Salter and Hearn, 1996, p. 3).

While there is much excitement regarding the potential of these new disciplines, they face common theoretical challenges. Bioethics is no exception. Though taking on the appearance of an emerging discipline, there is actually a good deal of disagreement regarding its disciplinary status: bioethics has been called a discipline (Callahan, 1973; Ackerman, 1980; Borry et al., 2005; Williamson, 2008), an applied discipline (Baron, 2006), a demi-discipline (Jonsen, 2004), a sub-discipline (Callahan, 1999), and a second-order discipline (Kopelman, 2006). Others, especially more recently, have suggested that bioethics cannot be placed within the traditional framework of disciplines, instead considering it multidisciplinary (Bennett and Cribb, 2003; Sugarman and Sulmasy, 2010; Coggon, 2011), interdisciplinary (de Wachter, 1982; Silber, 1982; Green, 1990; Árnason, 2005; Iltis, 2006; Jonsen, 2007; Azevêdo, 2007; Brody, 2009; de Lange, 2009; Master, 2011), or transdisciplinary (Jonsen, 2004). Others, still, more cautiously refer to bioethics simply as a field (Beauchamp, 2003; Belkin, 2004; Faden, 2004; Wolf and Kahn, 2005; Dunn et al., 2008; Durante, 2009).

While this may strike some as merely a terminological dispute, it reflects a more fundamental disagreement. Because academic disciplines are characterized in part by their methods and standard of rigor (Thompson Klein, 1990, p. 104), disagreements regarding the disciplinary status of bioethics suggest disagreements regarding its methods and standard of rigor. Surely, however, there is no confusion as to its methods. Sugarman and Sulmasy (2010) have outlined dozens of methods that have made important contributions to the vast bioethics literature. Each of these methods has a home in the established disciplines—law, medicine, philosophy, theology, sociology, and so forth. In turn, each of these disciplines has its own standard of rigor. In other words, each discipline has more or less agreed-upon criteria to determine when the application of methods to inquire into a particular question can be said to yield truthful and valid results (Thompson Klein, 1990, p. 104). Yet if bioethics draws on an array of disciplines, then what constitutes rigor in bioethics research? Perhaps it is this question that underlies the disagreement regarding the disciplinary status of bioethics.

Yet this question is also important in its own right. Indeed, it has been recognized that there is no agreement as to the primary method of bioethics research (Anonymous, 2007). More than that, fields of inquiry that draw on a broad range of methods and disciplinary perspectives have been criticized for lacking rigor (Thompson Klein, 1990, p. 102). This is a serious charge, with five identified implications. These challenges are outlined in the next section in order to underline the importance of rigor. This article then further explores the

concept of the discipline and its relation to methods. Given the weaknesses of the established disciplines, the concepts of multi- and interdisciplinarity will be considered as alternative frameworks within which bioethics research can take place. Finally, five different conceptions of bioethics methodology are outlined in the hopes of moving closer to an understanding of rigor in bioethics research.

## **FIVE CHALLENGES**

The two corresponding problems addressed—(1) the disciplinary status of bioethics and (2) the standard of rigor in bioethics research—pose five serious and practical challenges for the future of bioethics.

1. In a theoretical context, there are no clear standards for answering bioethical questions (Anonymous, 2007). Because researchers have different goals and apply different methods, it is uncertain how normative conclusions should be assessed (Molewijk, 2004). Indeed, theoretical research in bioethics has been undertaken by

libertarians, communitarians, deontologists, neo-Kantians, utilitarians, neo-Aristotelians, virtue theorists, feminists, Rawlsians, Habermasians, narrative theorists, interpretivists, principlists, casuists, civic republicans, liberal egalitarians and religious ethicists of every persuasion. (Turner, 2009, p. 779)

With such a broad array of theoretical backgrounds, it seems that there is no way to objectively evaluate and compare the different conclusions reached by each.

2. The absence of a standard of rigor also raises problems for the process of peer review. Master argues that while the criteria of good scholarship—such as “originality, quality, value, and validity”—are common across the disciplines, the interpretation of these terms differs between them (2011, p. 104). How should these terms be understood in assessing the quality of bioethics research? In addition, researchers are often unaware of the methods and assumptions used by researchers in other disciplines (Sulmasy, 2010, p. 315). What may appear to be a reasonable assumption, or the appropriate use of a method, may in fact be mistaken. If, on the other hand, they are recognized as inappropriate, then by whose standards should they be modified?
3. The lack of clarity regarding the disciplinary status of bioethics and its standard of rigor pose challenges that are not merely epistemological, but also social. Turner notes that the absence of an agreed-upon standard of rigor undermines bioethics researchers’ “claims to authority, credibility and legitimacy” (2009, p. 779). If rigorous scholarship is that which meets the “criteria for truth and validity” (Thompson Klein, 1990, p. 104), then surely the lack of agreed-upon criteria will undermine the value of that scholarship and

those that produce it. This may prove to be a serious threat to the work of both clinicians and researchers.

4. In the clinical setting, Callahan suggests that the absence of “disciplinary standards, criteria of excellence and clear pedagogical and evaluative norms” makes more difficult the process of practical decision-making (1973, p. 68). Without a broad understanding of the various disciplines from which bioethics draws, and some means by which these perspectives can balance against one another, ethical decision-making may not incorporate all the relevant information. Though much has changed since Callahan offered this critique, effective integration of various disciplinary perspectives continues to be a challenge in clinical settings (Jecker, 2007, pp. 107–108).
5. Finally, the uncertain disciplinary status of bioethics raises questions regarding its institutional setting. As noted at the beginning of this article, bioethics has increasingly come to resemble a discipline—at least in terms of its institutional development. If the epistemological and methodological challenges noted above are not adequately addressed, then it may be the case that to ensure rigor, the research questions of bioethics are better addressed as sub-fields within the more established disciplines. Of course, the very growth of bioethics attests to the inadequacy of the traditional disciplinary framework within which bioethical questions were previously—albeit to a lesser extent—asked. Nonetheless, clarity regarding the disciplinary status of bioethics would be valuable in bioethics education and curriculum development.

The lack of clarity regarding the disciplinary status and standard of rigor in bioethics poses both theoretical and practical challenges. Working towards resolution would be in the interests of clinicians, researchers, and students. The firmer are the theoretical foundations of bioethics, the more capable it will be of addressing the social challenges at which it aims. In so doing, it is necessary to consider more closely the nature of academic disciplines, and determine whether bioethics is itself a discipline, or instead requires some alternative conception. The following section considers the concepts of disciplinarity, multidisciplinarity, and interdisciplinarity. These have been identified as the most common terms applied to bioethics (see “Introduction”), and are considered the dominant categories in the literature on interdisciplinarity (see Thompson Klein, 1990; Lattuca, 2001; Moran, 2010; Strober, 2011).

## **ACADEMIC DISCIPLINES**

There is no universal agreement regarding the definition of an academic discipline. Many scholars, however, understand the disciplines as having two components (Becher, 1989, p. 20). First, they have certain

sociological characteristics. This includes institutional structures such as journals, research centers, academic programs, and conferences (p. 19). This also includes social practices such as shared language and identification with a unique intellectual tradition (p. 37). Understood in these terms, it would not be unreasonable to view bioethics as a discipline. Second, academic disciplines have epistemological characteristics. Indeed, the emergence of academic disciplines was largely rooted in a desire to better understand the world. As Lattuca notes, the disciplines allow us to “divide the world into smaller and smaller parts, hoping that in understanding the parts we will eventually understand the whole” (2001, p. 1).

Recognizing that each discipline aims to understand a particular feature of the world, Thompson Klein notes that each is characterized by a set of “tools, methods, procedures, exempla, and theories that account coherently for a set of objects or subjects” and which further shape the “criteria for truth and validity” (1990, p. 104). In other words, the epistemological features of a discipline focus on its subject matter; the methods and tools used to understand that subject matter; and a standard of rigor that determines whether those methods and tools are used properly. Yet it is these characteristics over which bioethicists sharply disagree. What is especially problematic about this disagreement is not only that it seems to be far more extensive than in the more established disciplines, but also that it seems to preclude the possibility of distinguishing bioethics as a discipline itself, rather than as merely a subset of research questions within other disciplines.

The notion that academic disciplines can be neatly categorized and distinguished, further, has also been challenged. A number of authors have pointed out that the sociological characteristics of disciplines are flexible and changing. Becher argues that they are “subject to both historical and geographical variation” (1989, pp. 20–21). Weingart, further, argues that the disciplines are “social constructs, products of long and complex social interactions, subject to social processes” (2000, p. 39). While it is not necessary to trace the history of the disciplines, the literature certainly supports these claims (see Becher, 1989; Thompson Klein, 1990; Salter and Hearn, 1996; Moran, 2010).

A number of authors have also argued that the epistemological criteria of academic disciplines are similarly unfixed. This seems to be the case both in theory and in practice. Kowall (1995) argues that, logically speaking, academic disciplines cannot be distinct: they exist as a pragmatic way to organize knowledge, yet human aims are constantly changing. What is pragmatic, then, must change. This truth is further evident in practice. Becher points out that “[t]here is no single method of enquiry, no standard verification procedure, no definitive set of concepts which uniquely characterizes each particular discipline” (1989, p. 43).

Rejecting the conceptual category of the discipline, some authors have advocated a transdisciplinary approach to knowledge (see Somerville and

Rapport, 2002; Nicolescu, 2008). While there is disagreement as to its meaning, the connotation that disregards the concept of disciplines is the one that advocates “the development of a holistic worldview” (Lattuca, 2001, p. 116). On this view, all knowledge is to become unified, and disciplinary boundaries have no place (Salter and Hearn, 1996, p. 35). Though much of the literature on transdisciplinarity is quite recent, it is also highly theoretical. As such, it is not clear how this epistemological approach can be applied in practice. Moreover, it is not clear whether this approach would prove beneficial in bioethics research.

For these reasons, it is helpful to retain the concept of the disciplines. Despite the challenges raised, they remain the most practical way of organizing knowledge—on both an intellectual and institutional level (Salter and Hearn, 1996, p. 22). Only by accepting this category are the concepts of multidisciplinary and interdisciplinarity relevant. These concepts presuppose the existence of, and demand the collaboration between, various academic disciplines (pp. 31–33). As such, the notion of an academic discipline is acceptable and should be understood in terms of its sociological and epistemological criteria, as outlined by Becher and Thompson Klein.

Based on this definition, it is instructive to consider whether bioethics can be described as a discipline. Certainly, it does seem to exemplify the sociological characteristics of a discipline. This can be seen in its journals, research institutions, graduate programs, and professionalization. Further, a review of the literature suggests some sense of common language, identity, goals, and history. It is the epistemological characteristics of bioethics, however, that remain very loosely defined. Indeed, Sugarman and Sulmasy (2010) describe dozens of qualitative and quantitative methods used in bioethics research. In addition to these, Turner (2009) notes that bioethics accommodates a huge range of ethical theories. As such, there is little to no agreement as to which of these theories and methods dominate, and how different normative conclusions are to be compared and evaluated. For these reasons, bioethics fails to exemplify the epistemological characteristics of an academic discipline.

## **METHODOLOGICAL VARIETY**

Some authors describe bioethics merely as a field. That is, it represents a series of research questions that are addressed within the context of a particular discipline. In this way, bioethics might be seen as a field within a range of other disciplines. This might be proposed as a way to overcome the five key challenges. If bioethics research is conducted within the context of other disciplines, then the quality of that research should be determined by the standards of those disciplines. This model, however, is not a helpful solution, as it does not offer any tool for comparing the results of bioethics research. Further, it overlooks the opportunities inherent in considering a broad range of disciplinary perspectives in bioethics research.



Roy, Williams, and Dickens present a strong argument in defense of such an approach. They note that bioethics consists of two main questions: What should we do, and how do we determine this? (Roy et al., 1994, p. 29). While much of the literature focuses on the former question, this article is concerned with the latter. It asks, in other words, which methods can help us determine what we should do. Roy et al. (1994) argue that a broad array of methods will be necessary because of the difficulties of reaching normative conclusions. In particular, they outline six types of difficulties.

First, knowing what to do requires some knowledge of the social consequences of a given action. Yet in many instances, decision-makers lack the necessary evidence or experience (Roy et al., 1994, p. 30). As such, empirical research can be conducted to provide this information. Of course, the social consequences of an action may be felt in many spheres of life, so research must consider all relevant implications—whether they are legal, political, economic, sociological, psychological, or medical. Second, knowing what to do requires maximal awareness of all facets of the situation. In many cases, however, decision-makers do not possess all the relevant facts (p. 31). Communication and collaboration between experts, then, can help overcome this challenge. Third, knowing what to do requires maximal knowledge of the relevant values at stake (p. 32). Empirical research into belief systems, particularly across religious denominations and cultural traditions, is vital in identifying relevant values.

Fourth, while anthropological and theological research may broaden knowledge of the values at stake, they do not provide the tools for accommodating and balancing between them. This is where legal and political research can be of great importance. While it is impossible to determine the “right” belief system, there are useful tools that can be used to encourage respect, cooperation, and order (Roy et al., 1994, pp. 35–36). This is not to say, however, that all possible belief systems should—or could—be accepted and accommodated. At some point, certain values will need to be sacrificed for others. Determining which values should be sacrificed and to what extent presents a fifth challenge, which can be addressed through philosophical research. This is to be done by assessing “the foundation, implications, scope, and interrelationships of [various ethical] principles” (p. 36). Finally, good bioethics research should not include any unwarranted assumptions. Yet what constitutes a warranted assumption by one discipline may not be considered warranted by another (p. 32). For example, while economics assumes people to be perfectly rational, a good deal of psychological research has challenged this assumption. Considering a broad range of disciplinary perspectives can provide greater insight into previously unexamined assumptions. This includes assumptions of fact—where further empirical research is valuable—as well as assumptions of value, which should be examined through philosophical research.

The current bioethics literature is rife with articles urging further integration of empirical research (see Callahan, 1999; Sulmasy, 2003; Molewijk et al., 2004; Sugarman, 2004; Goldenberg, 2005; Ives, 2008). Particularly helpful is an article by Borry et al. (2005), which outlines three important critiques that motivated empirical research in bioethics. First, applied philosophical ethics became seen as too abstract and impractical—a problem because bioethics was originally dominated by philosophers and theologians. Second, the rise of clinical ethics introduced new challenges and demanded greater case-based ethical reasoning. Finally, a movement emerged in the 1990s that emphasized the belief that “healthcare practices will improve by means of decision-making based on a careful appraisal of the best available evidence” (Borry et al., 2005, p. 67).

While these developments increased pressure for collaborative work in bioethics, they were themselves a result of changing conditions in the twentieth century. With the rise of new medical challenges, as well as the rapid development of biotechnology, the demands and challenges of health care changed considerably. Only by considering a broad range of disciplinary perspectives could bioethics adequately address these needs and challenges (de Wachter, 1982, p. 282). It has come to be accepted that to make good normative judgments, bioethics research must rely on an array of methods. Jonsen, for example, has described bioethics as a “consilience” (2004, p. 49) of other disciplines. The challenge, he points out, is to determine if and how it is possible to more closely integrate facts, theories, and methods across disciplines. To determine whether this is possible, it is essential to first consider the concepts of multi- and interdisciplinarity.

## **CROSS-DISCIPLINARITY AND MULTIDISCIPLINARITY**

As noted, the boundaries between the academic disciplines change over time and are rough at any one time. Yet this is not the only major challenge in trying to characterize a discipline. Academic disciplines emerged as a means of dividing the world, and knowledge of it, into parts. In the latter half of the twentieth century, scholars began to wonder to what extent we could understand the world by understanding its parts. Since the 1970s, research institutions have been putting more emphasis on academic inquiry that crosses disciplinary boundaries (Lattuca, 2001, p. 43). The expectation is a broadening range of available methods and theories for research, as well as the promotion of efforts to compare and integrate the research findings of various disciplines.

There is an extensive literature on such research. Two problems emerge, however, with any attempt to make generalizations about this literature. First, there is extensive classification of the many types of cross-disciplinary work. Lattuca (2001) presents a list of eleven different types, differing in terms of



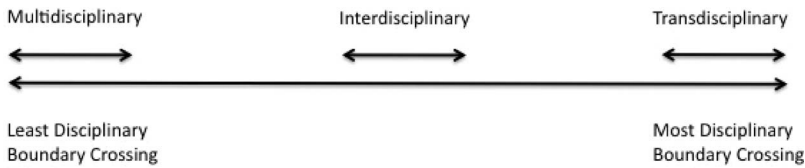


Figure 1: Spectrum of cross-disciplinarity.

how and to what extent disciplinary boundaries are crossed. Thompson Klein (2010) identifies an additional eleven categories. Second, there is substantial disagreement with regard to what each of these terms mean: an extensive literature review found fourteen different definitions of interdisciplinarity alone (Aboelela et al., 2007).

All this disagreement should come as no surprise. Any kind of cross-disciplinary work necessarily admits of degrees—in other words, research can cross-disciplinary boundaries to a greater or lesser extent (see Fig. 1). Both multi- and interdisciplinarity, then, should be seen as existing along spectrums (Lattuca, 2001, pp. 248–249). Not only does each category exist as a spectrum, but they also each belong along a spectrum. That is, the extent to which disciplinary boundaries are crossed increases as one moves along the spectrum from multi- to inter- to transdisciplinarity (Strober, 2011, p. 17). For the purposes of this article, however, these concepts are defined in their most general and distinguishable terms. This provides a rough sense of where contemporary bioethics stands, and where it may develop in the future.

While there are different definitions of multidisciplinary, a general definition describes it as “the simple act of juxtaposing several disciplines . . . [that makes] no systematic attempt at integration or combination” (Miller, 1982, p. 6). Similarly, Barr defines it as “a cooperative enterprise in which traditional forms and divisions of professional knowledge are retained” (1997, p. 1005). On this definition, multidisciplinary research is highly problematic. To see this, it is worthwhile to recall the earlier section defending methodological variety in bioethics research. If bioethics exists as a field within other disciplines, then the body of bioethics literature is multidisciplinary. Consequently, the problems that arise when treating bioethics as a field are the same as those facing any multidisciplinary activity: not only is research limited to the perspective of any particular discipline, but there is also no way to compare the research findings between different disciplines. Alternatively, bioethics research could also be described as multidisciplinary if multiple methods are juxtaposed within each paper. Yet it would remain a problem to compare and evaluate the findings of the constituent disciplinary perspectives. Evidently, to overcome these challenges, it is essential to move further along the spectrum to a more integrated form of cross-disciplinary research.

## INTERDISCIPLINARITY

There is substantial disagreement regarding the definition of interdisciplinarity. Thompson Klein suggests, however, that there is some fundamental agreement that takes interdisciplinarity to be “a means of solving problems and answering questions that cannot be satisfactorily addressed using single methods or approaches” (1990, p. 196). This, however, does not provide any substantial distinction from multidisciplinary. As such, she goes on to define interdisciplinarity as “a process for achieving an integrative synthesis, a process that usually begins with a problem, question, topic, or issue” (1990, p. 188).

In understanding how this integration works, two important points must be noted. First, interdisciplinarity is an active process that does not merely occur by virtue of proximity. That is, just because various academics from a range of disciplines may work together—teaching a class, writing a paper, working on a committee, and so forth—it does not follow that the resulting product is necessarily interdisciplinary. Second, there is no universal or general method of interdisciplinarity (Thompson Klein, 1990, p. 191). Determining how different methods and theories can or should be integrated depends on what the relevant methods and theories are. This will, of course, differ depending on the particular research question or field of inquiry. This is particularly evident in the research of Lattuca (2001), who interviewed thirty-eight academics pursuing interdisciplinary research, and found that definitions of interdisciplinarity largely depended on the research question and the academic background of those conducting the research. As she notes, “[i]nformants engaged in all forms of interdisciplinary research had to negotiate, albeit to varying degrees, disciplinary assumptions and methods” (2001, p. 159).

All this should be taken to suggest that it the task of those doing interdisciplinary research to develop their own unique interdisciplinary method. Thompson Klein (1990) offers some guidelines in directing the development of such methods. They include clarifying the issues, determining what is necessary to answer it, determining the roles of researchers, collecting all relevant data, and promoting communication and collaboration (Thompson Klein, 1990, p. 188). They also include joint meetings, education, and data collection and analysis (p. 189). Finally, they emphasize the importance of building the skills of communication, trust, and interaction between researchers (p. 190). While Thompson Klein’s suggestions are evidently vague, it remains the task of bioethicists themselves to clarify the integrative process for interdisciplinary bioethics research.

Interdisciplinary research faces a number of challenges. Notably, it has been criticized on theoretical grounds for lacking rigor (see Thompson Klein, 1990, p. 194; Salter and Hearn, 1996, p. 3; Lattuca, 2001, p. 60). Indeed, if each method of interdisciplinary research is unique, then so too will be its standard of rigor. Interdisciplinarity also faces a number of practical challenges. In

particular, communication across disciplinary boundaries may be difficult due to lack of familiarity with, or alternate uses of, particular language. An interesting example is a comparison of how philosophers and sociologists define “confidentiality”: “Whereas the sociologist would call something confidential because it was being kept secret, the philosopher would say that it was kept secret because it was confidential” (de Wachter, 1982, p. 278). In addition to the barriers to communication, Thompson Klein also points out that interdisciplinary activity is challenged by competing worldviews (1990, p. 188). This is evident in the above example, as the sociologist is likely to see facts about the external world as constructed, whereas the philosopher is likely to see them as an objective reality. While it is beyond the scope of this paper to suggest solutions to these challenges, they are nonetheless vital to consider when developing any method of interdisciplinarity.

Lattuca (2001) makes an equally important point, arguing that certain disciplinary backgrounds or questions lend themselves more towards interdisciplinarity than others. Based on interviews with a wide range of academics, she notes that most natural, physical, and some social scientists have a positivistic approach to knowledge, which is characterized as being objective, value-neutral, rationalistic, ahistorical, generalizable, and cumulative. Other social scientists and most of those working in the humanities, however, adhere to a poststructuralist epistemology, which is characterized as subjective, relational, pluralistic, and nonreductive (Lattuca, 2001, pp. 104–105). This suggests that positivists are more capable of crossing disciplinary boundaries in seeking a better understanding of the world, whereas poststructuralists may be less likely to find value in methods and theories alien to their respective disciplines. These findings are consistent with those of Aboeela et al., who conducted a literature review of interdisciplinary research spanning a twenty-five year period (2007, p. 336).

The challenges facing interdisciplinary research are both theoretical and practical, and have been well documented (see Thompson Klein, 1990; Salter and Hearn, 1996; Lattuca, 2001; Strober, 2011). Highlighting these challenges is not meant to undermine any attempts to achieve interdisciplinarity. Rather, they are meant as a warning to those seeking to develop an interdisciplinary method of bioethics research. Nonetheless, given the fact that models of interdisciplinarity will necessarily differ depending on the research in question, it may prove less challenging—compared to other emerging fields—to develop a truly interdisciplinary bioethics.

## **ENSURING RIGOR IN BIOETHICS RESEARCH**

Based on the definitions considered in this article, contemporary bioethics research can be best described as both a field and as multidisciplinary. It is a field in that a great deal of bioethics research is conducted through the

perspectives of the established disciplines. In other words, the research itself is conducted according to the standards of each discipline. Yet because so many different kinds of research take place, the body of bioethics research can be described as multidisciplinary. The findings of many different disciplines are compared to one another—either at the microlevel (within papers) or the macrolevel (between papers). With no formalized means of comparing research and findings, there is evidently little to no integration among them, thus precluding the defensibility of describing bioethics as interdisciplinary. This article will not consider any proposals that defend bioethics as a field within other disciplines, or as multidisciplinary. These are, in effect, proposals in defense of the status quo—which this article has tried to show to be highly problematic. Instead, this section will consider those proposals that aim to ensure rigor in bioethics research—in particular, by clarifying what are its relevant methods and theories, and if and how they should be integrated. There are two options for bioethics: becoming a discipline in its own right, or becoming genuinely interdisciplinary. This section will consider a number of proposals for each of these two options.

### **Option 1: Becoming a Discipline**

To qualify as a discipline, bioethics would need to demonstrate the sociological and epistemological characteristics noted by Becher (1989) and Thompson Klein (1990). Some writers have presented arguments not for bioethics as a discipline, but rather for having bioethics subsumed within one particular discipline. In this way, bioethics would become the “property” of that discipline, and that discipline alone. As such, the standard of rigor in bioethics research would merely become whatever standards that discipline has already established. Green (1990), for example, argues that bioethics belongs as a subset of moral philosophy, applying the methods of philosophical analysis. Powers, by contrast, sees bioethics as “an inherently political contest” (2005, p. 320), and suggests that bioethics research should be approached through the lens of political science. Any attempt to compare these and similar proposals would likely get no further than a debate over the relative value of the established disciplines. While adopting any of these proposals would ensure rigor in bioethics research, they should nonetheless be rejected. This article has already pointed out the benefits of having a range of disciplinary perspectives in bioethics research—a popular position defended by Sugarman and Sulmasy (2010) and Roy et al. (1994), among others.

Alternatively, in his book *Against Bioethics*, Jonathan Baron (2006) outlines a model of bioethics as a distinct discipline. Despite the title, what Baron is really against is the application of particular principles in clinical bioethics. This includes, in particular, the four central principles proposed by Beauchamp and Childress (2008): autonomy, nonmaleficence, beneficence, and

justice. While these principles are rooted in moral philosophy and became increasingly recognized in light of particularly unethical treatment of persons throughout the twentieth century (Baron, 2006, pp. 10–13), they often conflict with one another. Further, there is no clear method for negotiating and balancing between the various principles. In reality, the process is largely intuitive and often depends on the beliefs of practitioners (pp. 15–16).

Instead of—or as a resolution to—this principled approach, Baron advocates the application of utilitarian moral theory. This view clearly indicates what ought to be done in a difficult situation (Baron, 2006, p. 16)—that is, the action that “maximize[s] the total expected utility of all who are affected” (p. 25). In this way, it is a practical approach that overcomes the difficult conflicts that emerge between the various principles. Indeed, Baron argues that the appeal of the four principles noted above is that they work as tools to allow us to achieve the best outcomes (p. 20). Where they fail, a more strictly utilitarian approach is necessary. In applying it, Baron proposes using what he refers to as utilitarian decision analysis—a tool that seeks to rigorously assess and apply utility in order to make practical decisions (p. 37). In general, it is applied in this way: First, the utility of all possible outcomes is determined. This value is then multiplied by the probability of this outcome coming about. The resulting values represent the expected utility. Following utilitarianism, the action taken should be the one that maximizes utility.

In considering the ethical problems that arise in the health care context, bioethics research would focus on what options are available, what options are most likely to maximize utility, and what can be done to ensure the best use of the chosen option—in short, it would become exclusively empirical. While a variety of methods and disciplinary perspectives would be necessary, this approach is not interdisciplinary. Sulmasy (2010) contends that integrating empirical research methods is not possible. Furthermore, it is not clear that the application of utilitarian moral theory necessarily makes this approach interdisciplinary. As Bennett and Cribb (2003) point out, all empirical research contains ontological and normative assumptions. These assumptions would exist alongside the assumptions made by utilitarianism—with no clear indication of whether and how these assumptions are compatible.

Evidently, this proposal is one that clearly attempts to develop bioethics into a unique discipline. By removing normative debate and competing ethical theories, Baron’s approach would greatly reduce the relevant methods and subject matter of bioethics research. In this way, the epistemological characteristics of bioethics would more closely resemble the criteria outlined by Thompson Klein. Further, if researchers were to adopt this proposal, the sociological characteristics of a discipline—including a shared language and identification with a particular research tradition—might further develop. With a practical, flexible tool and a clear standard of rigor, bioethics would be able to overcome the five critiques noted at the beginning of this article.

The problem with Baron's approach, however, is that it is subject to the same critiques that are leveled against utilitarianism more generally. It is suggested that applying utilitarian theory may result in policies and actions that many people intuitively believe to be morally unacceptable (Baron, 2006, p. 43). As such, many prefer alternative ethical theories. It may also be argued that it is difficult to apply decision analysis accurately. There might be a lack of knowledge regarding the range possible outcomes, the utility of each outcome, and how to determine this utility. Similarly, it may prove very difficult to determine the probability of each outcome coming about (p. 50). While these difficulties provide opportunities for extensive empirical research, they also pose a serious practical difficulty. For those attracted to Baron's proposal, there is clearly an opportunity to refine and build upon what he has presented. Should this endeavor fail, however, there are two other available options. The first is to develop alternative proposals for a concept of disciplinary bioethics. The second is to develop a genuinely interdisciplinary bioethics.

## **Option 2: Achieving Interdisciplinarity**

A number of authors have outlined proposals for interdisciplinary bioethics research. Because there is no single model of interdisciplinarity and each model depends on the type of research in question, this section considers three proposals presented in the context of bioethics research. As such, this list is by no means exhaustive of all possible models of interdisciplinary research. Rather, it aims to present the most distinctive and discussed proposals in the bioethics literature. By considering three very distinct approaches, this section also reiterates the difficulty of defining interdisciplinarity singularly and broadly. Furthermore, by raising some objections to these proposals, this section will further clarify what needs to be done to improve upon them.

### *Bennett and Cribb/Weaver and Trevino*

Rebecca Bennett and Alan Cribb (2003) argue that contemporary bioethics research uses two methodological models. The first model applies the tools and theories of moral philosophy to health care and medicine. Non-philosophers engage in these debates and help inform various arguments with empirical data. Nonetheless, "the central method of bioethics is moral philosophical enquiry" (Bennett and Cribb, 2003, p. 10)—and empirical data alone cannot imply normative conclusions. With the growing importance of empirical research in bioethics, this model has come under attack. Among the arguments against it are those that propose a more relativistic approach to ethics, as well as the claim that the tools of philosophical inquiry are incapable of firmly resolving any ethical dispute.

Instead, Bennett and Cribb favor a second model. On this view, bioethics research relies on a multidisciplinary approach whereby each discipline uses its



own methods to develop normative arguments regarding practical challenges that arise in the health care context. They note that all empirical research depends on “theories and models that . . . embody ontological and normative assumptions” (Bennett and Cribb, 2003, pp. 14–15)—and so for this reason, it would make little sense to suggest that empirical data replace philosophical inquiry. They favor a model of bioethics research in which disciplines work independently and concurrently. Indeed, they argue that the findings of bioethics research “need to be understood and evaluated in their methodological and disciplinary contexts” (p. 15).

A number of important problems arise for model two. First, it is clearly a multidisciplinary approach that denies the possibility of methodological integration. While this is a plausible view, it fails to address the challenges outlined at the beginning of this article—and is subject to the same challenges multidisciplinary research in general faces. More importantly, however, it should be pointed out that if, as Bennett and Cribb suggest, empirical research relies on ontological and normative assumptions, and philosophical inquiry is incapable of definitively resolving disputes, then the findings of empirical research are as uncertain as any philosophical argument. For these reasons, then, the second model of bioethics research proposed by Bennett and Cribb fails to offer a strong account.

Given the failure of model two, it is worth re-considering model one. This model offers the possibility of a truly interdisciplinary approach to bioethics research. On this account, arguments with normative conclusions can be built upon both normative and descriptive premises, the latter being informed by empirical research. This kind of relationship between ethical theory and empirical research has been described as “symbiotic” (Weaver and Trevino, 1994, p. 132). In this process, while “the two forms of inquiry remain essentially distinct in their theoretical principles, methodologies, and metatheoretical assumptions,” the findings from each type of inquiry are “potentially relevant to the pursuit and application of other forms of inquiry” (p. 133). That is, ethical theories reflect upon, and are applied in light of, particular empirical facts. At the same time, the findings of moral philosophy may affect both the focus of and assumptions behind empirical research.

To avoid the challenges of Bennett and Cribb’s second model, any empirical research should be based on ontological or normative assumptions that are consistent with those evaluative premises in the argument. While this proposal does provide an interdisciplinary methodology, it remains problematic. First, it does not overcome the challenges to philosophical inquiry as noted above. In other words, it fails to offer any algorithmic mechanism for comparing different normative conclusions. Second, it does not propose any algorithmic mechanism for evaluating or comparing non-normative bioethics research. While these challenges prove damaging to this proposal, they are not definitive. Instead, there may be opportunity to refine this proposal by considering these challenges.

*De Wachter*

Maurice A. M. de Wachter (1982) has outlined perhaps the most extensive interdisciplinary model for bioethics research. He begins by noting that no person can individually acquire adequate training in all the disciplines relevant to bioethics. Even if this were possible, it should be recalled, such an individual's work would not necessarily be interdisciplinary. Instead, de Wachter argues, bioethicists must define "the ways and methods of doing bioethics as (an) interdiscipline" (1982, p. 276). Reaffirming what has been noted so far, he argues that interdisciplinary research both depends on and reinforces the independence of the disciplines.

In integrating the constitutive disciplines in bioethics research, de Wachter proposes the following five-step process:

1. One starts by accepting methodological epoché, i.e., all disciplines abstain from approaching the topic along lines of their own monodisciplinary methods;
2. One tries to formulate in an interdisciplinary way the global question, acknowledging all aspects as well as the total network;
3. One translates the global question into the specific language of each participating discipline;
4. The answer to this (translated) question is to be constantly checked for its relevance in answering the global question;
5. One agrees upon a global answer which must not be produced by any one particular discipline but rather integrates all particular answers available (pp. 279–280).

De Wachter is particularly emphatic about step (1), arguing that interdisciplinary work cannot succeed without it. His emphasis, like Baron's, is on clinical practice. In that context, methodological epoché may be achievable. For example, when a physician questions what he or she should do in an unclear situation, it would not be difficult to look beyond the medical practice and consider legal or psychological implications of the possible courses of action. Because of limited time available to make clinical decisions, applying the five-step process need not be so rigorous, and may be applied loosely.

Yet in the context of research, it would be far more difficult to successfully apply this process. Step (1) seems, in principle, achievable, although it may prove very difficult for researchers to approach a research question outside of the disciplinary perspective in which they were trained. Step (2) is rather vague: it fails to provide both guidance for formulating the research question, and any means by which to determine whether this formulation was done "in an interdisciplinary way." While step (3) appears achievable, step (4) poses serious problems. In particular, whether research is deemed relevant to a particular question is subject to disciplinary bias. It may seem essential to some,

and highly irrelevant to others. The challenge of interdisciplinarity is to avoid this bias, and to establish common standards through which the relevance of research can be assessed. It is this challenge that also makes step (5) difficult. How can researchers trained in different disciplines agree upon an answer when they have different standards of what is good? This five-step process appears, then, to focus on the process of conducting research, while neglecting the challenge of determining how the research ought to be evaluated.

De Wachter does, however, suggest a method for determining whether interdisciplinary bioethics research is successful: if it produces research, normative arguments, and facts that could not have been produced had bioethical questions remained to be addressed within the context of individual disciplines (1982, p. 283). In so doing, the originality and novelty of interdisciplinary bioethics research can be assured. While this is an essential component of rigor, as noted above, it fails to provide any criteria through which to determine the quality of interdisciplinary research, and the reliability and applicability of its results. As such, de Wachter's account is inadequate. It should be emphasized that his account need not be disregarded; rather, it is an important step towards interdisciplinarity, and requires additional thought and ideas for expansion and clarification.

#### *Van Der Scheer and Widdershoven*

In their 2004 article, Lieke Van Der Scheer and Guy Widdershoven present a fusion of ethical theory and empirical research, which they refer to as integrated empirical ethics. They argue that both individual experience as well as empirical research on the experience of others can inform ethical theory. At the same time, ethical analysis can shape and modify behavior. As such, there is an ongoing process of adjustment between the two (Van Der Scheer and Widdershoven, 2004, pp. 72–73). They also point out a number of important critiques to this proposal. First, they recall the “is-ought” fallacy, which holds that descriptive statements (about what is) cannot logically imply prescriptive statements (about what ought to be). Second, they note that any attempt to draw normative conclusions from empirical research alone can have problematic implications. That is, without unchanging normative standards, judgments about what we ought to do will change as facts about the world change. This could result in an inability to distinguish between correct and incorrect moral judgments (p. 73).

To these critiques, they offer a number of responses. First, they argue that normative judgments can be informed by both ethical theory and empirical research. That is, recommendations for an action require both an ethical framework, as well as knowledge of how people can and do act (Van Der Scheer and Widdershoven, 2004, p. 77). The problem with this response is that it does not specify how and to what extent ethical theory and empirical research inform

normative conclusions. Second, they argue that drawing normative conclusions from empirical research would not result in relativism. Experience does not determine moral judgments, but rather forms their origin. Rather than providing guidelines or rules that are only true for the individual or culture, experience helps establish moral guidelines that “are evaluated on the basis of their capacity to adequately lead to satisfactory solutions or situations” (p. 77). There are a number of problems with this response, however. First, it does not provide any basis for determining what counts as satisfactory. Second, it allows for the persistence of practices that appear morally satisfactory and yet remain deeply unethical—for example, the practice of slavery. Finally, it appears to be consequentialist—so it faces all those objections raised against consequentialism. While this proposal, like the others, faces significant challenges, it also provides a basis from which to develop an interdisciplinary method of bioethics research.

## CONCLUSION

This article has drawn on the literature of both bioethics and interdisciplinarity studies in order to address the question of what constitutes rigor in bioethics research. This is a question about which contemporary bioethics researchers sharply disagree. The broad disagreement regarding the disciplinary status of bioethics reflects disagreement as to the primary methods, standards, and ontological assumptions of bioethics research. As researchers from a range of disciplinary backgrounds tackle bioethical questions, they do so with the methods, assumptions, and corresponding standard of rigor central to their respective disciplines.

The absence of an agreed-upon standard of rigor by which all bioethics research can be assessed and evaluated raises five important challenges. First, this disagreement suggests that there is no method by which the varied finding of bioethics research can be assessed, compared, or integrated. This is a serious problem if researchers hope to be able to resolve real-world bioethical challenges. Second, the absence of any standards of evaluation undermines the peer-review process. It could make the process less effective, and result in research whose quality simply cannot be assessed. These two problems suggest a third—namely, that the credibility and legitimacy of bioethicists and their respective institutions is undermined. This may lead to further challenges in quality of research and funding. Fourth, the decision-making process in the clinical setting becomes hindered. Decision-makers may fail to integrate all relevant information, or may do so mistakenly. Finally, the absence of a standard of rigor throws into question the institutional setting of bioethics. Without the qualities of a discipline or a method of interdisciplinarity, institutions dedicated to bioethics research will face challenges in defending both their uniqueness and the quality of their research and education.

With the aim of resolving some of these challenges, this paper has addressed a number of important proposals: two that aim to address bioethical questions through a particular disciplinary lens, and three that aim to develop unique interdisciplinary methods for bioethics research. Each proposal has its merits and its difficulties. It is the task of bioethics researchers to consider these and other proposals, and continue to revise and develop them until there is an agreed-upon method by which all bioethics research can be evaluated. Though this is no doubt a difficult task, it is a necessary one in order to overcome the five central challenges that bioethics research faces today.

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