

**The Rhetorical Life of Surgical Checklists:  
A Burkean Analysis with Implications for Knowledge Translation**

by

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## **Author's declaration**

This thesis consists of material all of which I authored or co-authored: see Statement of Contributions included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

## **Statement of contributions**

I am the sole author of this thesis, except for Chapter 4, which reproduces a significant portion of a published article on which I am the first author with six co-authors. That chapter also draws more selectively upon three additional co-authored articles. I was the first author of one and substantive co-author of the other two.

## Abstract

This dissertation uses the terms of Kenneth Burke's dramatism to identify rhetorical aspects of surgical team checklists as they have been promoted, performed, studied, and surveilled. I argue that these terms can help to account both for the rapid uptake of checklists into policy and for their more variable effects and uptake into practice. I develop this argument by analyzing a large archive of texts published between 1999 and 2017, including popular media, news coverage, promotional campaigns, primary research, and other forms of scholarship. These published texts are considered alongside ethnographic fieldnotes from a study in which I collaborated to design, introduce, and evaluate an early version of a preoperative checklist at four Canadian hospitals. My analyses are guided heuristically by the first principles and central terms of dramatism, including *action* and *motion*; *motive* and *situation*; *identification* and *division*; *attitude*, *form*, and *circumference*. I use these terms to chart the early emergence of checklists within professional literature; to trace their rapid uptake as a standard of professional communication; to discern their multiple purposes and effects; to illustrate how and why they are enacted, accepted, and sometimes rejected in the operating theatre; and to locate blind spots in applied health services research. Taken together, these analyses demonstrate the importance of diverse rhetorical processes both to the uptake and to the basic functions of checklists. They also demonstrate the value and versatility of dramaturgical terms. I contend in particular that the concept of rhetorical situation, as elaborated by Burke, holds significant potential for understanding and mediating the material and symbolic dimensions of practice and practice change. This dissertation points the way toward a uniquely rhetorical approach to the study and practice of knowledge translation in healthcare work.

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## Dedication

This is for  
my grandmothers,  
Jessie and Dorothy,  
and my aunt Janet,  
all of whose resilient,  
quiet voices  
I can still hear  
cheering for me.

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## **List of abbreviations**

### **General abbreviations**

CPSI Canadian Patient Safety Institute

WHO World Health Organization

### **Abbreviations from fieldnotes**

AR Anesthesia resident

AF Anesthesia fellow

AS Staff anesthesiologist

CN Circulating nurse

SN Scrub nurse

RC Research coordinator

SR Surgery resident

SF Surgery fellow

SS Staff surgeon

## Introduction

This dissertation tells a story about the rhetorical life of surgical checklists. The story has three parts, each featuring a different point in the trajectory of checklists as a form of professional communication and a different point of view for me as a scholar. The first part describes how surgical team checklists emerged into popular and professional discourse and were rapidly taken up, beginning in 2008, as a standard of practice. I observed this rapid uptake from a critical distance in my role as a doctoral student in the discipline of rhetoric. My observations were informed, however, by a prior and more intimate involvement with checklists in the operating theatre. Between 2003 and 2007, I helped to develop, implement, and evaluate an early version of a preoperative checklist at four Canadian hospitals. The second part the story draws upon that experience to illustrate how, in practice, the checklist is considerably more complex, and its effects more variable, than popular portrayals suggest. Many clinicians, administrators, and researchers have now encountered similar complexities, raising questions about how to implement the checklist without reducing it to a perfunctory (and paradoxically dangerous) bureaucratic exercise. Building from these questions, the third part of the story describes how checklists have become a model and site of debate concerning methods for effecting and studying change in professional practice. Here, my orientation is forward-looking and deliberative, as I consider how my research in particular, and rhetorical scholarship in general, might contribute to those active conversations. Each part of the checklist story—its rapid uptake into policy, its complexities in practice, and its provocations in research—raises significant questions that are amenable to rhetorical analysis. Each also calls upon different rhetorical resources and presents different methodological challenges. With the help of one particular theorist, Kenneth Burke, I will attempt to draw them together in ways that may be useful for those with an interest in checklists, in the principles and practices of rhetorical analysis, or in the more general problems of bridging research with policy and practice in healthcare work.

## Background

In 2008, the World Health Organization (WHO) launched a campaign called Safe Surgery Saves Lives. Its goals were to raise awareness about preventable surgical harm, to establish minimum surgical safety standards that could be implemented everywhere in the world, and to establish systems for measuring and surveilling surgical outcomes. The central vehicle that was chosen for effecting and focusing these goals was a communication tool: the surgical safety checklist. This checklist was not intended to serve as a written record but rather to structure an oral exchange among surgeons, nurses, and anesthesiologists at three distinct points in the operative workflow: before the induction of anesthesia, immediately before the start of the procedure, and after the procedure is complete. Its central aim was to ensure that all critical tasks and details about the case were complete, correct, and understood by all members of the operating team. A second aim was to establish a culture that invited and supported open interprofessional communication.

The checklist has in many senses been a remarkable rhetorical success. Beginning with the Safe Surgery Saves Lives campaign, the practice was actively promoted to professional and public audiences. These promotional efforts were underwritten by an international trial which found that implementing a checklist across eight hospitals reduced rates of postoperative complications by over one third (from 11% to 7%) and cut rates of postoperative deaths nearly in half (from 1.5% to 0.8%) (Haynes et al., 2009). A lead investigator of this study, surgeon and writer Atul Gawande, headed the WHO campaign and shaped portrayals of the checklist in popular media. Gawande sets forth his most comprehensive and overtly persuasive case for the humble checklist in his bestselling book, *The Checklist Manifesto: How to Get Things Right*. Surgical checklists were quickly established in the popular imagination as a common good: that is, simple, standard, effective, cheap, and universally applicable. Nearly as quickly, the practice was adopted as a standard of competent professional communication. Within two years, the WHO had registered the use or intended use of the checklist by nearly 4000 hospitals



around the world. Some jurisdictions, including the province of Ontario, have formally mandated the practice, while others have relied upon organized efforts, discursive and material, to motivate change.

As the WHO was launching its campaign, I was winding up work as a research coordinator on a project that sought to design, introduce, and evaluate an early version of a preoperative checklist at four Canadian hospitals. In that context, I experienced directly and dialogically how surgical teams enacted, accepted, and sometimes rejected this communication practice in particular situations. We found that introducing an oral checklist into the everyday work of the operating theatre was often (though not always) quite difficult, and the observable effects of the practice varied from case to case. Team checklists were often good at bridging professional differences and revealing potential problems, but they could also sometimes mask problems and reinscribe professional hierarchies. While enactments of the checklist were routine in many respects, they were also responsive to contingencies of the immediate situation. These experiences have given me a unique vantage point from which to observe and study the subsequent emergence of checklists in professional, political, and popular media. My doctoral research has been motivated, in part, by the incongruence that I have perceived between the unreserved enthusiasm that often accompanies published representations of the checklist and the nuances of this practice in the operating theatre.

The widespread implementation of checklists has faced considerable challenges. Those charged with implementing the checklist have reported, in ways resonant with our earlier research, that while the checklist appears simple in principle, integrating its use into practice is, to echo Kenneth Burke, “more complicated than that.” Social scientists have warned against the temptation to regard the checklist in itself as an instrumental solution to problems that are, at root, social and systemic (Bosk, Dixon-Woods, Goeschel & Pronovost, 2009). A team of researchers in Ontario found that the mandate to adopt checklists in this province yielded none of its promised clinical benefits (Urbach et al., 2014b). These provocations have sparked fruitful, and still emergent, debates

concerning the strategies and forms of evidence needed to warrant and effect changes in professional practice and health systems. They have also drawn explicit attention toward the character and quality of checklists not as a tool but as an act or practice.

The aim of understanding checklists as an act is central to my research in this dissertation. I suggest that one way to explain both the appeal and the challenges of this practice is to attend closely to what it does and how it works (or fails to work) in particular situations. My approach to this task is rooted generally in the rhetorical tradition and specifically in the theories of Kenneth Burke. In alignment with the rhetorical tradition, I ask what the checklist does and how it works *persuasively*, for whom, to what ends, and under what circumstances. In alignment with Burke, I understand persuasion broadly as one aspect of all human communication—that aspect that forges social connections and divisions, shaping our perception of the world and ourselves.

Placing rhetoric at the centre of the human condition, Burke offers a theory of language, motive, and situation that circulates around *act* as its central term. The terms of his dramatism help to reveal the multiple motives that animate situated performances of the checklist. They also help to reveal the multiple purposes and effects of this practice. These analyses have significant potential to account for relationships between symbolic action and the material world—relationships that are central both to the work of health professionals and to the conceptual problems of social science. They also draw attention to the poetic or socio-rhetorical forms that lie at the root of professional practice and practice change.

The enactments of the checklist that I will examine appear in a variety of texts, beginning with ethnographic fieldnotes from the operating theatre (created by me and several colleagues between 2004 and 2007) and ending with a body of scholarship and popular media that is active and evolving at the time of my writing in 2017. Some of these texts are significant as individual rhetorical acts and others as recurrent kinds of act. While this archive of texts is heterogeneous, and therefore somewhat unwieldy, it

has the advantage of revealing different kinds of persuasive work operating at various levels or circumferences. It allows me to observe parallel rhetorical features within dissimilar types of texts, such as news reports and experimental studies. It also allows me to discern variation within received categories—most notably across different iterations of the “simple and standardized” checklist as it is enacted in practice.

For Kenneth Burke, such sites of simultaneous convergence and divergence constitute “margins of ambiguity” (Burke, 1945/1969a, p. xix). These margins of ambiguity are a potent resource. They are the necessary condition for any transformation to take place. The goal, therefore—Burke’s and mine—is to find and study ambiguities in order to clarify how they work. One of my objectives is to produce a thick description that accounts for both recurrence and meaningful divergence across multiple enactments of surgical checklists as they have been performed, promoted, studied, staged, and surveilled. Such points of resonance or slippage can help to account for the successes and challenges of the practice, especially when they arise between the rhetorical strategies used to promote checklists, on the one hand, and those needed to adopt them into practice, on the other.

Representations of surgical checklists demonstrate a wide range of rhetorical appeals and processes. Many are well aligned with the classical concerns of the rhetorical tradition: they are overtly suasive, monologic texts aiming to move people’s actions and beliefs (deliberative rhetoric) and to celebrate both the practice and its users (epideictic rhetoric). The case demonstrates the enduring relevance of classical terms. These terms are, however, insufficient to account for the progression of surgical checklists from being the subject of overt persuasion, to a presumed good, to an accepted standard of competent professional communication, and finally to an aspect of clinical governance. The suasive work associated with this progression has been widely distributed. Its strategies have been overt and tacit; designed and spontaneous; symbolic and material; embedded within organizational and regulatory structures and embodied in performances of the practice itself.

I navigate this range of rhetorical processes in two ways. First, my analysis proceeds inductively. I ask a version of the basic questions that Judy Segal posits as the starting point for all rhetorical analyses: In the promotion and practice of surgical checklists, “Who is persuading whom of what?” and “What are the means of persuasion?” (Segal, 2008, p. 2). In addressing these questions, I draw upon a range of concepts that have been established by rhetoricians and other scholars who study the practices of scientists and health professionals. Second, I use the terms of Burke’s dramatism to chart dimensions of the situations that shape and constrain enactments of the checklist inside and outside of the operating theatre. Rhetorical work is associated with establishing, reproducing, resisting, interpreting, calling attention to, and otherwise navigating particular aspects of these situations. Rhetorical knowledge, as I conceive of it in this dissertation, results from the systematic examination of that rhetorical work. Carried in the direction of social science, it aims to understand not only the checklist as a form of action but also the motives and situations that are revealed through, and constituted by, those actions.

Closely examining enactments of the checklist can yield knowledge about the situations that checklists are being used to address, as perceived and negotiated by a range of social agents. I use the term “negotiated” in two senses, as these situations may at times be brought about, and fought about, discursively, and they may also be understood as a set of conditions that must be navigated by checklist advocates and users. Analyzing a large set of rhetorical acts as they circulate around a specific practice is one way to better understand the symbolic and material dimensions of those situations, along with the specific ways in which they are open or recalcitrant to change.

Checklists have not only endured as a standard of communication for surgical teams but continue to expand into more areas of clinical practice. This case instantiates and bears upon broader efforts to change, control, and conceptualize how health professionals practice and communicate. I contend that Burke in particular and rhetoric in general are uniquely suited to addressing some fundamental questions and

challenges facing these efforts. In health research, these questions and challenges are structured by a variety of interrelated discourses. The most relevant are knowledge translation, patient safety, quality improvement, and interprofessional care. As my analyses will show, checklists emerge at the intersection of these discourses.

As a motivating frame for this research, the discourse of knowledge translation holds particular importance. *Knowledge translation* is a relatively young term addressing an old problem: the relationship between knowledge and action. As a field of research and practice, knowledge translation is framed by the objective of closing “gaps” between what is known and what is done. Its founding premise is that knowledge produced through research should, but too often doesn’t, lead to changes in practice. Around the world, significant resources have been devoted to understanding and addressing this problem. The Canadian Institutes of Health Research (CIHR), for example, was founded with a mandate both to create and to apply new knowledge (CIHR Act, 2000). It has been influential in defining knowledge translation as “a dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge to improve health, provide more effective health services and products, and strengthen the health care system” (Strauss, Tetroe & Graham, 2009, p. 165).<sup>1</sup>

The discourse of knowledge translation presents both opportunities and constraints for scholars of rhetoric and related fields. The resources of rhetorical analysis have significant potential to help in understanding and mediating relationships between knowledge and action (or research and practice). Used pragmatically, rhetorical resources can help to identify opportunities for inciting change; they can provide explanations when scientific arguments succeed and fail in moving people to action. At the same time, the discourse often casts a narrow and secondary role for rhetoric as subsequent to, rather than constitutive of, knowledge production. Rhetoricians and

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<sup>1</sup> My dissertation will not grapple with the extensive literature on knowledge translation or its many related terms (e.g., knowledge transfer, knowledge exchange, knowledge mobilization, dissemination, continuing education, research impact). Central questions running across this literature provide a backdrop for my empirical and theoretical analyses.

other scholars have long demonstrated the far more expansive importance of rhetorical processes in the conduct of inquiry. Used critically, rhetorical resources can unsettle some of the assumptions about knowledge, action, and values that are embedded within the discourse of knowledge translation or within specific initiatives.

All questions of knowledge translation are arguably rhetorical, as they deal with purposeful efforts to change attitudes, behaviours, and policies. Rhetorical theory is particularly apt in the case of surgical checklists because the practice itself is inherently rhetorical in a Burkean sense: it asks professionals to act together across their inherent differences to establish a new form of collective communication. The enactment and promotion of checklists are widely distributed, engaging the interests of diverse constituencies. Both checklists and knowledge translation are rhetorical in a further, ideological, sense, as they help to generate and reproduce cultural and institutional patterns. This case, therefore, exhibits interactions among multiple meanings of rhetoric: as a purposeful search for available means of persuasion, as embodied processes of social identification and division inherent to all human communication, as a dialogic process, and as a constitutive element of material and organizational structures.

The case of surgical checklists features thoroughly integrated efforts to produce knowledge, to produce change, and to produce knowledge about change. It therefore provides a complex but reasonably well-bounded opportunity to develop an expansive rhetorical approach to mediating research and practice. Examining the rhetorical actions of checklists yields insight into the material and symbolic, ethical and aesthetic, epistemic and experiential dimensions of knowledge translation in healthcare work. These insights promise to inform and extend rhetorical theory. They also offer one step toward a larger argument: that theories and methodologies and from the humanities and social sciences are crucial for addressing questions concerning how health professionals do, and ought to, act.

# Objectives

## Ultimate goals

This case study serves two ultimate goals that extend beyond the scope of this project. The first is to articulate a rhetorical approach to problems of knowledge translation in healthcare work. Taking the surgical checklist as a case study, I ask how rhetorical theory can be used to integrate diverse forms of research knowledge within practice and to capture the experiential and situated knowledge that emerges from practice. The second goal is to demonstrate and develop the sociological potential of Kenneth Burke's dramatism. Taking the surgical checklist as a case study enables me to explore the usefulness of these terms across multiple interrelated domains of socio-rhetorical action: promotional rhetoric within professional and public spheres, embodied rhetoric within professional practice, and epistemic rhetoric advancing knowledge about practice and practice change.

## General objectives

Working toward these ultimate goals, my doctoral project pursues two overarching objectives:

To use rhetorical analysis, guided by the terms of Burke's dramatism, to better understand the successes and challenges of surgical checklists.

To use the case of surgical checklists to better understand and develop the sociological potential of dramatisitic terms.

The reciprocal nature of these questions signals the multiple commitments of this work: to knowledge-making and to practice, to rhetorical theory and to health services research. While rhetorical scholars will be the primary audience of this dissertation, my analyses are informed and animated by other real and imagined audiences, including healthcare providers, educators, policy makers, and researchers from various disciplines.

## Specific objectives

The following specific objectives run across all chapters of this dissertation:

1. To produce a thick description of how and why surgical checklists have been enacted in the operating theatre and in a wide range of published texts.
2. To characterize, using the terms of Burke's dramatisic pentad, the situations to which these enactments respond.
3. To identify rhetorical aspects of these enactments.
4. To clarify how these enactments represent and mediate between research and practice (or knowledge and action).

## Chapter outline

**Chapter 1** lays theoretical groundwork. Its guiding question is *Why dramatism?* It introduces key terms from Burke's dramatism, with a focus on *action* and *motion*, *motive* and *situation*, *identification* and *division*. It explains how these terms are relevant to the case of surgical checklists, considered especially as a representative anecdote for knowledge translation. It also suggests how the case of checklists might shed unique light on those terms, contributing to conversations in rhetoric and health services research. The chapter ends by describing the general methodological steps that I took to apply dramatisic terms synoptically to a large set of published texts and fieldnotes.

**Chapter 2** addresses the question *Why checklists?* It traces the early emergence of preoperative checklists in research literature, beginning in about 1999. These early texts reveal a common ground that helped to drive the widespread promotion of checklists. They also suggest multiple intended purposes for the practice, which anticipate subsequent challenges. This analysis demonstrates the centrality of *scene* and *agency*, understood at their widest and narrowest possible circumferences, to the promotion and study of checklists. It provides a foundation for all of the chapters to follow. Each of those chapters tells one part of the checklist story.



**Chapter 3** traces the progression of checklists from being an object of overt persuasion, to a presumed good, to a component of the material and symbolic structures that govern professional work. Its guiding questions are *How and why have checklists been adopted so quickly as a standard of professional practice? And How can rhetorical analysis in general, and dramatism in particular, help to account for and constructively critique this rapid uptake?* Whereas the next chapter will illustrate variation across a large set of similarly structured enactments of the checklist, this one demonstrates how a wide variety of rhetorical acts, distributed across a range of genres, agents, and audiences, collaborate to establish a dominant and relatively stable depiction of this practice. It also reveals rhetorical functions of the checklist that extend outside of the operating theatre.

**Chapter 4** narrows the circumference to the four walls of the operating theatre and the context of a particular research study. It describes the enactment of an early version of the surgical checklist that I helped to develop, support, and evaluate between 2004 and 2007. It asks *How and why do checklists work, or fail to work, in practice? And How can these functions and failures be understood in rhetorical terms?* This chapter characterizes some demonstrably useful functions of checklists that our research team observed, along with some demonstrably useless or harmful ones. I show how some of these effects can be explained by situating enactments of the checklist in dramaturgical terms. This chapter underscores how multiple motives and situations can be seen animating similar—and even singular—enactments of the checklist in practice.

**Chapter 5** examines how checklists have been featured in debates about knowledge and knowledge translation. It asks *What forms of knowledge have been advocated or debated in the study and implementation of checklists? And How might a rhetorical approach navigate and advance these conversations?* I consider three examples: a debate about the efficacy of surgical checklists, a model of knowledge translation designed around checklists, and the use of checklists to advocate for theoretical and methodological pluralism. Together, these examples evince the recognized importance, and

simultaneous occlusion, of rhetorical processes within scholarship concerning checklists. I link this internal tension to larger conversations in the study of professional practice. To consider how a rhetorical approach to knowledge translation might advance these conversations, I distinguish multiple rhetorical aspects of checklist research and reflect upon warrants and opportunities for rhetorical scholarship.

## 1. Situating surgical checklists: A dramatic approach

This chapter introduces dramatism and illustrates its relevance to the case of surgical checklists, considered as a representative anecdote for knowledge translation. Beginning from first principles, I describe Burke's foundational distinction between *motion* and *action* as it applies to his focal phenomena: *situations*, *motives*, and the terms in which humans necessarily interpret and attribute them. I illustrate how these interpretations and attributions—that is, symbolic acts—are inherently rhetorical, forging *identification* and *division* of various kinds. I describe the centrality of rhetoric to Burke's conceptions of action, knowledge, and their interrelationships. I introduce his apparatus for examining motives and situations, the dramatic pentad. And I explain how I used dramatic terms to chart situated enactments of the checklist inside and outside of the operating theatre. Three further concepts—*form*, *attitude*, and *circumference*—are featured intermittently throughout the chapter. These concepts play mediating roles that are important both to the study of checklists and to the more general project of articulating a rhetorical approach to knowledge translation. By engaging specific examples, this theoretical discussion anticipates my empirical and conceptual analyses. It also begins to set this study into conversation with current scholarship related to the rhetoric of research and practice in the health professions.

## Introduction

Here, then, is our situation at the start of the twenty-first century: We have accumulated stupendous know-how. We have put it in the hands of some of the most highly trained, highly skilled, and hardworking people in our society. And, with it, they have indeed accomplished extraordinary things. Nonetheless, that know-how is often unmanageable. Avoidable failures are common and persistent, not to mention demoralizing and frustrating, across many fields—from medicine to finance, business to government. And the reason is increasingly evident: the volume and complexity of what we know has exceeded our individual ability to deliver its benefits correctly, safely, or reliably. Knowledge has both saved us and burdened us.

That means we need a different strategy for overcoming failure, one that builds on experience and takes advantage of the knowledge people have but somehow also makes up for our inevitable human inadequacies. And there is such a strategy—though it will seem almost ridiculous in its simplicity, maybe even crazy to those of us who have spent years carefully developing ever more advanced skills and technologies.

It is a checklist.

(Atul Gawande, 2009, p. 13)

*The Checklist Manifesto* begins with a story. The scene is narrowly drawn, featuring a particular Hallowe'en night in the hospital and a particular patient with a “neat two-inch red slit in his belly, pouting open like a fish mouth” (p. 1). The perspective of the consulting surgeon who examines this patient is narrower still, and that is the point. Atul Gawande, the author and himself a surgeon, is relaying his colleague’s “war story” second hand. Readers are primed to anticipate the missing details that will instigate the war. We are invited to experience the events as they unfolded in shock and confusion, but with the benefit of Gawande’s narrative wisdom. Spoiler alert: The wound that had appeared superficial was caused by a bayonet from a costume piercing deep through the patient’s body into his aorta. Had someone thought to ask about the cause of the injury—to look for the unexpected—its seriousness might have been recognized sooner. This is at least one implicit moral of the story. Instead, the patient becomes suddenly

unresponsive, triggering an emergency rush to the operating theatre where an “ocean of blood burst[s]” from his body upon incision. The patient is lucky to survive. His surgeon remains rattled.

This is the first of many stories featured in *The Checklist Manifesto*. Gawande has a keen sense of story, which he deploys as a central device and sometimes an explicit theme. The stories are arranged into a master narrative of personal and scientific discovery as Gawande observes the ubiquity and the power of checklists across a variety of professional domains. These narrative discoveries serve several overtly rhetorical functions. For example, they allow Gawande to appeal simultaneously to public and professional audiences; they establish his ethos; they appeal to emotion; and they function epideictically to celebrate certain values and behaviours for an implied audience that might find them “ridiculous.” These plainly rhetorical elements, however, do more than seek to persuade. They also serve throughout the book as a source of knowledge and understanding. They provide a means of investigating the uses and limits of checklists in professional practice. Gawande, I will suggest, draws attention to the knowledge-making potential of narrative while also implicitly, and perhaps inadvertently, diminishing the authority of interpretive forms of scholarship. I will return to these themes.

For now, I describe the opening narrative neither to illustrate Gawande’s deftness as a storyteller nor to delve into the rhetorical and epistemic substance of the book. I am interested, rather, in the impressive sweep in scope that it initiates. The opening of the book quickly zooms out from the pouting fish mouth of a stab wound, the acute perceptual focus that is precipitated by the emergency situation, and the specific sequence of actions and motions that ensue: “crashing into the operating room,” cutting the patient’s abdomen in “one clean, determined swipe from ribcage to pubis,” getting “a fist down on the aorta” to stem the bleeding (pp. 2–3). Within 13 short pages, we travel from these detailed, narrowly focused, visceral beginnings to arrive at the far more encompassing scene presented in the quotation above. That excerpt characterizes

a shared human and cultural situation that extends beyond the health professions, let alone the four walls of the operating theatre. Collectively, we have produced more knowledge than any one of us can possibly handle within the limits of our cognitive resources. This is the nature of “our situation, at the start of the twenty-first century” (Gawande, 2009, p. 13). This human situation is the ultimate exigence to which checklists respond.

Gawande is not alone in characterizing the “volume and complexity of what we know” as a defining problem for medical practice. As Cynthia Whitehead has shown, the same problem has been recurrently discovered anew by medical educators for over 100 years (Whitehead, 2013). Tracing historical discourses of the “good doctor,” Whitehead shows how Abraham Flexner, in a 1910 report that is widely credited with setting the course for medical education in North America, advocated for the ideal of doctors who would exhibit the inquisitive disposition of scientists, thinking incisively and drawing upon multiple forms of knowledge “as appropriate to the clinical situation” (p. 31).<sup>1</sup> Flexner’s conception of the “scientist-doctor,” however, was quickly overtaken by discourses that depicted science not as a way of thinking but as curricular content. Within these discourses, doctors became “stuffed” and overwhelmed with the factual knowledge of biomedical science. Concerns about the unmanageable volume of scientific content crowding curricula ran alongside complaints about its inadequacy as a basis for medical practice. Whitehead documents how calls for more attention to the behavioural sciences, social sciences, and humanities have also recurred within medical education over the past century even as these domains have been persistently marginalized.

Similar patterns are apparent within studies of knowledge translation, which commonly depict knowledge as information or scientific content that is problematic in its abundance, overwhelming the capacity of clinicians to keep up with the pace of new research. Research informed by the arts, humanities, and social sciences has made

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<sup>1</sup> This scientific ethos is not unlike the one that Gawande models and, in other writing, explicitly advocates (Gawande, 2016, June 10).

significant contributions within this field while also facing persistent constraints. These patterns give rise to my study of surgical checklists. Like Gawande, I ultimately consider the potential of the checklist to mediate relationships between knowledge and action or practice. My attempts to understand this mediating role turn on a theory of situation (and of human motives) that readily expands and contracts in circumference—a theory worked out by an analyst of language keenly attuned to story, form, and the theatre of human action and motion as both sources of knowledge and forces of change.

The questions that I raise have a similar range in scope to those introduced by Gawande. I examine how surgical checklists have mediated the actions and motions of professionals in the operating theatre and also how they have operated persuasively on a larger scale, as an emergent standard of professional communication and as an object of study. Whereas Gawande offers the checklist as a solution, promoting it with impressive rhetorical force and velocity, I will use it as an opportunity to examine those rhetorical processes more closely. As a counterpart to the rhetorica utens of *The Checklist Manifesto*, this dissertation offers an interrelated emphasis upon rhetorica docens.<sup>2</sup>

One short example, returning to the narrow scene of the operating theatre, will illustrate the range of representations that I will consider in this project. This example is drawn from a fieldnote that I recorded and an enactment of the checklist that I directly observed:

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<sup>2</sup> The former concerns the art and practice of acting persuasively, emphasizing the productive aspect of rhetoric. The latter concerns the art and practice of discerning means of persuasion, emphasizing the critical or analytic aspect of rhetoric. These two aspects are necessarily interrelated, and those interrelationships are significant in this research: overt promotion of the surgical checklist by Gawande and others is undergirded by an explicit interest in the means of changing belief and action, and my own analyses ultimately drive toward an applied rhetorical practice. This dissertation, however, leans very strongly toward the analytic pole, pressing it (for better and worse) in the direction of a systematic, interpretive social science.

A staff surgeon, who has just initiated a checklist, stops mid-sentence and says to me: “You can write down that the anesthesiologist is not paying attention.”

The anesthesiologist retorts: “I’m kind of busy maintaining my airway.”

Although these professionals are acting in the same space, they are not acting in the same rhetorical situation. The surgeon demonstrates an attitude of value toward the checklist. He perceives the anesthesiologist as an obstacle where he should be a collaborator. From the perspective of the anesthesiologist, in contrast, the surgeon’s act of initiating the checklist at this moment demonstrates an attitude of disrespect for his professional work; the checklist does not serve but rather compromises the purpose of preventing harm to the patient. Importantly, these individuals appear to share the same core value of providing competent and safe care. They differ in their orientation toward the checklist as it is enacted in this situation.

This exchange also enacts different attitudes toward my knowledge-making activity. The surgeon seeks to shape my record of the situation by making his interpretation explicit and drawing attention to my role. The anesthesiologist follows suit with a counter-interpretation. My own reading of this exchange is further informed by my prior interactions with these doctors and by my observation of comparable checklist performances. I am aware, for example, that this surgeon is not only acting in the scene of the operating theatre. He is also enacting a leadership role within the larger scene of the hospital. As an advocate for both research and patient safety, he has welcomed the checklist initiative. The anesthesiologist, by contrast, is one of a few people to have expressed open antipathy toward it. He has told me that he plans to avoid checklists “like the plague,” suggesting that they are unnecessary and artificial. His performative interpretation of this checklist, therefore, appears strategic, serving to justify an established oppositional stance. Yet it also points up a valid concern, drawing attention to an aspect of the situation that recurred independent of attitude: the checklist routine often conflicted with a period of critical work for anesthesiologists.



It is difficult to reconcile this enactment with the image of checklists as a means of responding to a shared situation characterized by a problematic abundance of well-established knowledge. Here, the situations are multiple and knowledge is negotiated. The apparent discordance between these two examples—one presenting an abstracted situation that is universally shared, the other a particular situation that admits multiple interpretations and perspectives—constitutes the problem space for this dissertation. I contend that Burke’s terms, collectively labelled *dramatism*, offer first principles and analytic resources that can account for both examples and can chart some productive pathways between them. Clarifying those principles, tools, and pathways in this specific case may go some way toward addressing practical and theoretical challenges that run to the core of rhetorical studies and health professional work.

In this opening chapter, I introduce these first principles and analytic resources, explain why and how I have chosen to apply them to this case, and begin to link them with contemporary scholarship. I will explain why *dramatism* is well suited to the task of articulating a rhetorical approach to the problems of knowledge translation while also running against the grain of the field: *dramatism* is defined by its insistence that knowledge cannot be taken as a point of departure in explaining human motives and actions.

## **Situating Kenneth Burke**

A common way in to talking about Burke is to pronounce the challenge of interpreting his theories or the problem of placing them (Knox, 1957, p. xv). These two terms—“interpreting” and “placing” (or “situating”)—are a pair of Burke’s central concerns, which points to a crux of the challenge. Any attempt to situate Burke’s work will be frustrated if it doesn’t grapple with the understanding that, for Burke, situation is an act; that is, situation implies action (and action, as a symbolic function, implies the interpretation of a situation). It may be that Burke is difficult to place in part because he theorizes the nature of placement itself. In any case, many creative adjectives have been

used to describe his work: “puzzling” and “intriguing” (Gusfield, 1989, p.1), “freewheeling” (Henderson and Williams, 2001, p. xi), “panoramic” (Anderson, 2004, p. 255), “wild and wooly” (Leitch et al., 2001, p. 1269), “by nature unruly” (Crusius, 1998, p. 450).

The secret to navigating Burke’s ideas, I believe, is to follow him in beginning from first principles. Burke is challenging to read because he marshals diverse and sometimes obscure sources in developing his arguments; his reasoning is meticulous, idiosyncratic, and nonlinear; his theories require comfort with ambivalence; and his style is quirky. However, he continually circles back to the same starting point: humans are definitively symbol-using animals—or “bodies that learn language”—and everything else may be derived from this assertion. As partial as any review of Burke’s work may necessarily be, this point of departure is crucial.

While it is tricky to situate Burke along traditional theoretical or disciplinary lines, it is somewhat more straightforward to locate his work in terms of its historical context, purposes, and procedures. Burke wrote presciently in a variety of forms (theory, criticism, poetry, fiction, book and music reviews) from the 1930s–1970s. His work spans the arts and social sciences by extending an original concern with literature in particular into a concern with language and human relations in general. As such, he retains a primary engagement with literary texts and literary theorists at the same time as he engages the texts and concerns of philosophers and social theorists. (A highly selective but recurrent list includes Marx, Freud, Nietzsche, Veblen, and Dewey.) He proceeds by drawing examples, concepts, and distinctions from wide-ranging theoretical works, casting them in terms of his own system of thought. He also draws upon biomedical science, etymology, and observations from personal and political life, “[seeking] insight wherever he might find it” (Carrier, 1982, p. 44). Most prominently, he develops his concepts through close readings of literary texts and through extensive correspondence with many writers and thinkers.

Burke can arguably be aligned most directly with ancient writers about rhetoric (though their concepts, too, are recast within dramatism). This line, as Burke sketches it, includes Plato and Aristotle most prominently, as well as Longinus, Cicero, Quintilian, and St. Augustine. Dramatism can also be understood in antithetical terms as it developed in strict opposition to behaviourism—the reduction of human motives to physiological causes. At a further remove, Burke’s oppositional stance to behaviourism may be seen as a response to all “scientism”—the extension of scientific methods and explanations to phenomena not properly amenable to scientific understanding and evaluation. Burke’s concern is not with science per se but with the inappropriately broad application of principles derived from narrower models and purposes. Burke sees this scientific tendency, also termed the “technological psychosis,” as a defining social pattern of his time.<sup>3</sup> More broadly again, Burke can be seen to resist all autonomy claims (Scientific, Religious, Literary), especially as they come to impose a dominant set of social values and practices as inherently true and good to the exclusion, and scapegoating, of others.

Although Burke’s theories are concerned fundamentally with “human relationships in general,” his direct audience remains concentrated among scholars of language and literature. Clarke Rountree remarks on the diversity of disciplines that have made use of Burke’s ideas: among them, sociology, history, cultural studies, religion, art, anthropology, business, and education (Rountree, 2007a). However, Rountree’s most telling statistic is that nearly 90% of all journal articles engaging Burke’s ideas over the preceding 90 years had appeared in periodicals “traditionally associated with the ‘speech’ and ‘English’ disciplines” (Rountree, 2007a, online). While citations are undoubtedly not an adequate indicator of Burke’s influence, which anthropologist

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3 Many find a similar emphasis dominant within contemporary Western medicine. The term “biomedicalization” has been used to characterize the “complex, multisited, multidirectional processes” by which medicine has pervasively extended its reach through technoscientific innovations (Clarke, Shim, Mamo, Fosket & Fishman, 2003). These processes have been an organizing focus for social studies of medicine. For a Burkean account of technology as a governing “representative anecdote” for medicine in popular media, see Harter & Japp.

Clifford Geertz describes as both “enormous” and “elusive”<sup>4</sup> (Geertz, 1980, p. 172), I join other scholars in contending that his concepts hold significant and still underrealized potential for addressing social problems both scholarly and popular (Kenny, 2008).

Medicine and healthcare work are particularly fruitful sites for developing this potential. Burke himself was preoccupied with bodily ailments, which he probed as sites of mediation and misalignment between symbolic and material realms. His long correspondence with William Carlos Williams evinces this fascination with bodies, language, and medical work. Early in his career, Burke worked for several years as a full-time researcher studying drugs and drug use at the John D. Rockefeller Foundation (Hawhee, 2004). Debra Hawhee argues that this experience influenced the trajectory of his work, leaving him with “a more heavily theorized method of study, a firmer commitment to rhetoric, and . . . a heightened interest in the body’s role in rhetoric and identity production” (2009, pp. 56). Woods argues that medicine serves as Burke’s master metaphor: rhetoric, like medicine, can act as a poison, anesthetic, or cure for individuals and societies alike (Woods, 2012). One of the most fundamental ways to apply and develop Burkean concepts in relation to health, medicine, and healthcare would entail examining the intricate ways in which language and its correlates directly affect human bodies (whether or not that language relates topically to health).

Much more commonly, rhetoricians have applied Burke’s terms to examine the discourses that constitute health, medicine, and healthcare work. This scholarship has drawn centrally upon Burke’s epistemic concept of terministic screens, which helps to discern how dominant terms (“god terms”) and clustered patterns or “equations” of associated terms work persuasively, shaping how people understand and experience health and illness:

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4 “Elusive,” Geertz writes, “because almost no one actually uses his baroque vocabulary, with its reductions, ratios, and so on” (Geertz, 1980, p. 172).

Even if any given terminology is a *reflection* of reality, by its very nature as a terminology it must be a *selection* of reality; and to this extent it must also function as a *deflection* of reality. (Burke, 1996, p. 45)

This concept has been used to examine what is selected for attention, and what deflected, by common ways of talking about health and illness, designing health policies, organizing healthcare practices, marketing treatments, and conducting research. Paired with the concepts of *identification* and *division* (which I will elaborate in this chapter), it can be used to examine the specific dynamics by which different terminologies and “ways of seeing” ambiguously resonate, conflict, or impose themselves over others. Judy Segal’s *Health and the Rhetoric of Medicine* (2005), foundational to the field, is woven with Burkean concepts and charts significant territory along these and related lines.

Most relevant to my research are applications of Burkean terms to understand the practices of healthcare professionals and the conceptions of knowledge upon which they draw. Lorelei Lingard, for example, examines how “competence” functions as a god term in medical education, directing attention toward the knowledge and skills possessed by individual learners and away from the forms of knowledge and collective competence that are distributed across teams and situated in practice (Lingard, 2009). Those collective forms of competence come to the fore in her larger program of research, which examines processes of identification, division, and rhetorical action as they relate to professional learning and interprofessional team dynamics (e.g., Lingard & Haber, 1999; Lingard, 2007; Lingard et al., 2017). In her work with Schryer, Spafford, and colleagues, these processes have been linked to the patterns of rhetorical action performed by prominent genres, such as the case presentation and consultation letter, which serve multiple and sometimes ambiguous clinical, educational, and social or political functions (e.g., Lingard, Garwood, Schryer & Spafford, 2003; Schryer, Gladkova, Spafford & Lingard, 2007; Schryer, Afros, Mian, Spafford & Lingard, 2009). This work

illuminates Burkean questions in principle but draws more explicitly upon other theoretical resources.<sup>5</sup>

The work of Philippa Spoel draws prominently upon Burkean terms, also in conjunction with genre theory, to show how the identity and practices of the midwifery profession have been redefined through its integration into Ontario's system for regulating health professions. Spoel demonstrates, for example, how appeals to the public interest and to abstract values have been used to advance the interests of the profession—while the necessity of engaging with the dominant discourses of scientific medicine and neoliberal consumerism have served, often in subtle ways, to undercut the values, knowledge, and modes of communication that have traditionally defined its practice and identity (Schryer & Spoel, 2005; Spoel & James, 2003, 2006; Spoel, 2007). The work of Colleen Derkatch, too, draws upon Burkean terms to show how biomedical boundaries are asserted even when they appear to be opening the way for alternative perspectives and modes of knowledge. She demonstrates, for example, what is selected and what deflected when alternative therapies are accommodated to the genre of the experimental research report. She also demonstrates how the god terms *safety* and *efficacy* function as gatekeepers, encompassing many meanings that can be deployed strategically to define the boundaries of what counts as medical knowledge.

Taken together, these studies suggest how instrumental and individualistic forms of knowledge can assert and reproduce themselves even within and through discourses advancing collaborative or egalitarian modes of knowledge and practice. They also demonstrate the potential of Burkean terms for understanding the knowledge, values, and practices that constitute healthcare work; for seeing multiple perspectives (including silent ones); and for understanding, in specific ways, how those perspectives are negotiated, and how they are open or recalcitrant to change. There remains, however, quite little scholarship in health and medicine drawing upon Burke as a primary resource, and almost none to my knowledge outside the work of rhetorical

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5 As I note on page 54, Burkean terms are implicit in the concept of rhetorical genres.

scholars.<sup>6</sup> In this dissertation, I develop this potential further by bringing dramatism as a system of principles and terms to the fore. My aim is to produce understanding both with and about this system of analytic resources.

Over the course of my doctoral studies, I have developed my understanding of dramatisitic terms by engaging them in a series of conceptual conversations. Setting Burke's dramatism into conversation with Pierre Bourdieu's reflexive sociology, for example, helped me to appreciate the centrality of socio-rhetorical forms to both scholars' conceptions of embodied action and social power. Working through the apparent contradictions between dramatism and actor-network theory helped me to recognize how thoroughly Burke's conception of symbols is grounded in the material world. Thinking with Burke about cognitive and medical theories of narrative gave me new perspective on the medical profession's conflicting "ultimate orders," which reside, on the one hand, in formal hierarchies of evidence and, on the other, in the inherently narrative nature of medical work. Bringing Burke's concept of situation into conversation with human geographies of healthcare helped me to recognize the heuristic potential of dramatisitic methods as hermeneutics of place. Reading Muriel Rukeyser's poetry and poetics, with Burke in the background, helped me to appreciate the centrality of poetic form in everyday human relations and to discern some core mechanisms of symbolic or poetic transformation. Although these conversations are not fully elaborated in the discussions to follow, traces of their influence will be apparent along the way.

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6 Greenhalgh et al. cite Burke's potential briefly in their review of narrative methods for quality improvement research (Greenhalgh, Russell & Swinglehurst, 2005, p. 443). This reference is fleeting but notable for its authorship by a well-known physician scholar and for its placement in mainstream health research.

## The scope of dramatism

My use of the term “operating theatre” rather than “operating room” is of course purposeful.<sup>7</sup> It resonates with the theoretical resources that I bring to the centre of this work. During my time introducing and observing surgical checklists, I found that thinking with the terms of Burke’s dramatism helped me to make sense of how the practice was being perceived and enacted by anesthesiologists, nurses, and surgeons. My doctoral project has provided an opportunity to test and articulate the value of these terministic resources by engaging with them in a sustained way to interpret a diverse range of situated practices and published texts.

Dramatism is a general term that encompasses the full scope of Burke’s work. The term stems from the axiomatic assertion that humans are symbol-using animals and from the understanding of symbol-use as action. If the capacity to act is a defining element of human nature, then human relations and motives can be interpreted in the same terms as drama. We can look, within every act, for an implied scene to which it responds, an actor or agent performing the act, a purpose being served, and a means and manner by which it is performed. Likewise, we can look, within any purpose or means, for implied agents, acts, and scenes. For Burke, drama is not a metaphor but a method, a philosophy of language, and an ontology (Burke 1966, 1968b, 1985). It seeks to explain how humans act and how they interpret their own and others’ actions. Its resources can be used to make sense of all forms of symbolic action extending from the most mundane expressions (e.g., gossip, habit) to entire philosophies and social phenomena (e.g., psychoanalysis, Marxism, war, religion) (Burke, 1968b, 1945/1969a, 1985). Burke maintains that the “most direct route to the study of human relations and human motives is via methodical inquiry into cycles or clusters of terms and their functions” (Burke, 1968b, p. 445).

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<sup>7</sup> Both terms are commonly used. The latter is standard in North America and in all of the hospitals that I observed.



As an aside, and a corrective to the apparent conceit of this (grand theory) description: dramatism has a paradoxical personality that carries both ambition and humility to their extremes. This can be a puzzling aspect of reading Burke but also an important key to understanding him. For example, you might (as I did) begin Burke's essay "The Rhetorical Situation" expecting him to attend to the localized nature of communication, only to find him "speculat[ing] on the nature of the 'human situation' in general" (1973, p. 263). And you might then read the essay "Dramatism and Logology," in which Burke relates these two central terms to the traditional distinction between ontology and epistemology, expecting the most general philosophical treatment of his system, only to learn that rhetoric contributes to knowledge just as "any bug can contribute to the science of entomology" along Darwinian lines, or just as "the stupidest dreams of the dullest person can contribute to knowledge [along Freudian lines]" (1985, pp. 91–92). Further investigation reveals that these quotations are not as modest as they appear. They serve more to circumscribe the importance of generalized "knowledge" than they do the importance of rhetoric. However, there is a dual sense throughout Burke's writing that his theories are simultaneously all-encompassing and just another set of terms with particular capabilities and limitations.

The distinguishing feature of dramatism is its understanding of language "primarily as a mode of action rather than as a mode of knowledge" (Burke, 1978b, p. 330). Many disciplines across the humanities and social sciences now, similarly, concern themselves with what language *does*, beyond what it says. It is now generally recognized that our use of language actively shapes our identities, social structures, and understanding of the world—including those understandings that are carefully interrogated and argued into more and less stable scientific claims. Burke's work, however, largely preceded the linguistic, narrative, and rhetorical turns around which many fields have since struggled. His concepts, therefore, resonate strongly with contemporary scholarship, while also offering unique terms and insights that are firmly rooted in the rhetorical tradition. They often contain "correctives" for stubborn conceptual puzzles that attend many fields—perhaps especially the questions of (1) how one can view knowledge as

thoroughly constructed by symbols while also mounting credible claims to knowledge about the social and/or natural world and (2) how claims about social and natural phenomena can and should be related to, and distinguished from, one another.

While the philosophy of human motives underlying Burke's dramatism is consonant with many social theories, it introduces a productive dissonance with dominant discourses of knowledge translation in the health sciences. Although models of knowledge translation are invariably cyclical, leading from research to practice and back again, codified knowledge produced through research typically provides an authoritative starting point from which it is assumed that action ought to derive. The directionality of this process is unambiguous. Toolkits, workshops, article titles, and grant moneys all run in one direction: from (research) knowledge to action, evidence to practice, campus to clinic, bench to bedside. Prominent models of knowledge translation, which are aligned with the evidence-based medicine movement, typically privilege the kinds of knowledge that can be experimentally certified: knowledge concerning the effectiveness of interventions, preferably that which can be synthesized on methodological grounds from a body of comparable trials. Such knowledge is often described in concrete metaphors of material production: "As knowledge moves through the funnel, it becomes more distilled and refined and presumably more useful to stakeholders" (Graham et al., 2006, p. 18). Accordingly, empirical and conceptual studies of knowledge translation often begin with a hard, well-tested chunk of knowledge, and then evaluate means of carrying that knowledge into practice.

From Burke's perspective, emphases on knowledge and action "are by no means mutually exclusive" (1978b, p. 330). Theories that regard communication primarily as a process of conveying knowledge and information simply leave too much out of account as an explanation for human behaviour. Working theories of this kind are embedded within many of the terms that are commonly used to describe processes of knowledge translation. For example, information about research is synthesized, disseminated, distributed, summarized, sent, received, and accessed.

A growing body of scholarship has begun to bring more philosophically diverse perspectives to bear upon the interrelationships of research and practice. Greenhalgh and Wieringa, for example, have advocated strongly for philosophical pluralism within this field. They argue that the metaphor of “knowledge translation” itself, along with the “know–do” gap that it seeks to address, necessarily “constrains how we conceptualize the link between knowledge and practice” (2011, p. 501) and relies upon a narrow conception of knowledge as episteme. Knowledge is situated outside of practice, while the forms of knowledge that derive *from* practice—including situated ethical judgments, or phronesis—are placed “beyond the analytic frame” (2011, p. 505). These authors call for alternative metaphors that “highlight the fundamentally social ways in which knowledge emerges, circulates and gets applied in practice” (p. 502).

This call reads as an open invitation to rhetorical scholarship in a Burkean frame. That invitation is made more explicit again by Greenhalgh and Russell (2006), who advocate for a reconception of evidence synthesis as rhetorical action and of policy-making as drama. They argue eloquently that rhetorical processes—reading, writing, interpretation, argument, analysis—have been concealed by “an alternate lexicon of scanning, screening, mapping, data extraction, and synthesis” (2006, p. 37). Beyond recognizing and restoring the terms of rhetorical work, these authors advocate for explicit rhetorical education within the context of health policy:

A more fruitful, and certainly more original, use of research funding would be to promote and evaluate the training of policy making teams in the art of rhetoric, and particularly in what Schön (1990) has called “frame reflective awareness,” designed to ensure that the players in the policy making drama acknowledge and take account of their respective points of departure. Making explicit the values and premises on which each side has built its case will not only highlight “evidence gaps” more systematically but will also generate light rather than heat at the policy making table.

(Greenhalgh and Russell, 2006, p. 41)

As this quotation eloquently attests, a broadly conceived model of rhetoric is not only relevant to the diverse problems of knowledge translation but has been recognized, at

least by some scholars and clinicians, as a promising redirection and investment for the field. At the same time, such an approach must navigate the internal contradictions that are embedded deeply within the ethos, genres, and institutions of medical research and practice. As a number of scholars have argued, the pursuit of a rationalist ethos in the medical profession has led to a concealment of the thoroughly narrative character of its work as a practice (Bleakley, 2005; Montgomery, 2006; Kinsella & Pitman, 2012).

According to Montgomery, medicine is akin to human sciences such as history, economics, and anthropology that are “less certain than the physical sciences and far more concerned with meaning,” but unlike those disciplines it “does not reflect on (because it does not readily acknowledge) its interpretive character or the intermediate rules it uses to reach its conclusions” (Montgomery, 2006, p. 121).

These contradictions are forced to the surface in interesting ways by the discourse of knowledge translation. I would like to believe that the discipline of rhetoric is not only well situated to contribute to this field but also—because of its long tradition of resilience and self-reflection through epistemic expansions and contractions—to actively negotiate, expose, and interpret these internal tensions as they arise in research and practice. In the context of this project, I will demonstrate how these tensions are manifest within the promotion and study of surgical checklists. Using dramatic terms, I will consider the interwoven problems of getting diverse forms of knowledge into action and getting action into knowledge.

## **First principles: Motion and action**

“Things move, persons act!” Kenneth Burke incants this principle often and always emphatically. The distinction becomes a generative principle from which he derives his entire dramatic theory of motives. The centrality of this distinction is widely acknowledged by Burkean scholars and by Burke himself. “To have read Burke’s work,” writes Barbara Biesecker, “is to be familiar with the action/motion distinction” (1997, p. 25). Citing a 1978 letter, Hawhee finds Burke claiming, 30-odd years into his career, that

“the nonsymbolic motion/symbolic action ‘routine’ has effectively ‘sewed up’ all of his theory to date” (2009, p. 186).

This resolute distinction appears to be starkly at odds with the tenets of much contemporary scholarship in the social studies of science, technology, and medicine. Posthumanist theories share a commitment to troubling distinctions between people, other animals, and things. While Burke adamantly defends his “basic polarity” between the motions of things and the actions of people, Bruno Latour, for example, entreats us to account for the social and moral actions of everyday objects like mechanical door-closers (Latour, 1988, 1992, 2008). Within actor-network theory (ANT), articulated by Latour and others, things are respected as powerful actors that have been roundly neglected by social theories and methodologies. At the core of ANT lies the principle of symmetry, wherein things and people are accorded equal importance, with agency (or “actancy”) distributed among them (Gries, 2011). Symmetry challenges us to account empirically for the work of both humans and nonhumans, joined together into the common category of “actants.” Latour’s central principle, in other words, appears to be an adamant refusal of Burke’s.

This contrast is, in large part, a superficial one. It belies Burke’s deep engagement with the complicated interactions of material and symbolic forces as they run through both people and things. Reading motion and action through the terms of ANT sheds light upon the existing, and robust, material commitments of dramatism. It also helps to draw out the methodological potential of the motion/action distinction. As Clay Spinuzzi observes while bringing the principle of symmetry to bear upon rhetorical genre studies, critics of ANT often misinterpret “symmetry as a totalizing worldview rather than a methodological move” (2015, p. 23). I contend, somewhat similarly, that the test of the motion/action distinction lies in its application. Burke regularly *uses* this first principle to diagnose social and rhetorical problems and to discern the conceptual insights and limits of particular theorists and terministic screens. For example, he deploys the motion/action distinction to assert the importance of a “linguistic approach

to the problems of education” (Burke, 1955, p. 259). He uses it to appreciate, extend, and critique Freudian psychoanalysis (1966, pp. 63–80) and Austin’s speech act theory (1975/2010). I suspect that the methodological or heuristic potential of the motion/action distinction has been under-attended in discussions of its theoretical and philosophic implications.

In this section, I first summarize and then complicate the motion/action distinction. I show that the things of Burke’s dramatism do act, but insofar as they act, they are human; people do move, but insofar as they move, they are things. I then begin to explore why Burke so adamantly asserts this distinction while he also persistently complicates it. Drawing a firm line between motion and action in principle enables us to closely examine their specific ambiguities in practice. This insight, I believe, holds significant practical implications that become apparent in the case of the surgical checklist.

### **The motion/action routine**

Here is the basic routine that “sews up” Burke’s expansive theory. Dramatism begins with the definition of humans as symbol-using animals. This definition points off in two directions: toward motives that derive from our symbolicity and toward motives that derive from our animality. The term *action* refers to the former: those “modes of behaviour made possible by the acquiring of a conventional, arbitrary symbol system” (Burke, 1978a, p. 809). The term *motion* refers to the “nonverbal” or “extraverbal” material world, including the physical and physiological aspects of human bodies. Actions are not reducible to motion, but they cannot exist without the wordless physiological motion by which messages are exchanged between bodies as they write, speak, gesture, touch, see, hear, or read. As Hawhee puts it:

At base, nonsymbolic motion names strictly physical movement, human and nonhuman, while symbolic action names the interpretive, communicative activity of language, the story-ing of motion.

(Hawhee, 2009, p. 156)

Burke insists that the realm of motion and the realm of action require different terms of analysis: “[A] ‘dramatistic’ perspective so conceived would decidedly not oblige us to treat of ‘things’ in the terminology proper to ‘persons’ and vice versa” (Burke, 1955, p. 261). For example, “the person who designs a computing device would be *acting*, whereas the device itself would but be going through whatever sheer *motions* its design makes possible” (Burke, 1966, p. 64). In quotations like these, Burke’s use of the terms “things” and “persons” can obscure the fact that his motion/action divide runs not between people and their material environments but within them both. This is an essential point, which I elaborate further below.

Burke does set humans apart as the only animals capable of symbolic action in the sense that he discusses it. “So far as is known at present,” he writes, the only typical symbol-using animal existing on earth is the human organism.” While other animals have signaling systems, those systems are not arbitrary and not reflective. That is, “A dog can bark, but he can’t bark a tract on barking” (Burke, 1978a, p. 810). All animals, then, fall on the side of motion in Burke’s equation. These passages, too, sound like an embarrassment in the context of posthumanist scholarship, which denies humans special or central status among animals.<sup>8</sup>

### **Three complications**

Burke’s first principle seems clear enough until you find him appearing to transgress it. A close reading reveals that the “routine” never stops at the distinction between motion and action. Burke repeatedly complicates this distinction in at least three ways.

***Complication 1.*** A great deal of behaviour that we might instinctively consider under the heading of action, Burke places under the heading of motion, and vice versa. He

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<sup>8</sup> Burke does seem careful to signal the possibility that he could be wrong on this point, as suggested by his caveat “so far as is known at present.” Here he is, along similar lines, placing humans in parentheses: “‘Action’ is a term for the kind of behavior possible to a typically symbol-using animal (such as man) in contrast with the extrasymbolic or non-symbolic operations of nature” (Burke, 1968b, p. 447).

often emphasizes, for example, that humans both act and move. This is particularly true in later texts, which take pains to dispel misinterpretations of his work as being overly concerned with symbols to the exclusion of material reality.<sup>9</sup> However, even Burke's early articulations of the motion/action principle expressly caution against neglecting those aspects of human behaviour that can and should be analyzed in terms of sheer motion:

[T]he formula should warn us not to overlook the term 'animal' in our definition. Man as an animal is subject to the realm of the extra verbal, or non-symbolic, a realm of material necessity that is best charted in terms of motion. (Burke, 1955, p. 260)

On the other hand, bodies that might appear to be in motion are permeated by the realm of action. For example, a sleeping body is acting through its dreams, which derive from our symbolicity. The bodies of an audience are to some extent acting when their temperature rises in response to a film (Burke, 1978a, p. 834). The consistency of a patient's saliva enacts fear of the dentist independent of his projected calm (Burke, 1941/1974, p. 11). The extension of human action into the realm of motion applies, also, to material and technical reality. For example, shooting stars not only move but act "when we empathetically move them in our imagination" (Burke, 1945/1969a, p. 234). And "technology itself is an embodiment of human motives" (Burke, 1945/1969a, p. 251).

It is somewhat trickier to grapple with how dramatism labels as motion what we might instinctively regard as action. Keeping in mind, however, that Burke places animals on the nonsymbolic side of the polarity, we can appreciate that a great deal of capacity for interpretation, communication, and persuasion resides there too. For example, in an early passage, titled "All living things are critics," Burke locates the capacity for

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9 See, for example, the 1966 Foreword to *Philosophy and Literary Form*. "[O]ver the years, my constant concern with "symbolicity" has often been *interpreted* in the spirit *exactly contrary* to my notions of "reality." The greater my stress upon the role of symbolism in human behavior (and misbehavior!), the greater has been my realization of the inexorable fact that, as regards the realm of the empirical, one cannot live by the *word* for bread alone" (Burke, 1941/1974, p. xvi).



interpreting many aspects of a situation in the realm of motion: fish and chickens are able to discriminate between situations that are rewarding and dangerous, for example (Burke, 1935/1984b, p. 5). It is particularly important to note that Burke also locates our inclinations to respond to aesthetic form in the physiology of the body, under the heading of motion. Yet form is also wound up in our most important and distinctly human capacity, as it derives from, and becomes realized through, our use of symbols.

**Complication 2.** While Burke insists that our animal and symbolic motives are fundamentally different in kind, he grapples constantly with their irreducible ambiguity in practice. “Motion and action are readily confounded,” he says, “unless we make an especial effort to distinguish between them” (Burke, 1945/1969a, p. 232). It is impossible to distinguish precisely where motion ends and action begins. Burke actively wrestles throughout his work with navigating these ambiguous zones and understanding the processes by which action is converted to motion or motion to action. He examines, for example, how sensory experiences of authors are encoded in the language of their writing, as when he interprets the imagery of Coleridge’s poems in relation to his opium use (1941/1974). And he examines how our patterns of social and symbolic experience encode themselves in bodies—as endocrine response, as pathology, and as “posture, gesture, and tonality” (Burke, 1935/1984b, p. 253). He speculates, for example, that stomach ulcers among taxi drivers might be “a bodily response to the intensely arrhythmic quality of the work itself, the irritation in the continual jaggedness of traffic” (1941/1974, p. 11).

Two of Burke’s concepts hold particular importance in mediating between the realms of action and motion.<sup>10</sup> The first is *attitude*. Attitude refers to our interpretation and stance toward the situations in which we act. Burke understands attitude as being

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<sup>10</sup> In fact, my analyses point toward three loci of mediation between action and motion. I add this observation in a provisional way, late in the writing process. The first, which I note briefly here, is attitude. The second, which I discuss next, is form. The third, which I touch on in Chapter 2, is circumference. All of these concepts have a conceptual importance that exceeds the space they are given in this dissertation.

incipient to action. Nathaniel Rivers argues that attitude allows for the nonreductive reconciliation of nature and culture (2012). He points toward Burke’s emergent recognition of attitude as “the point of *personal mediation* between the realms of nonsymbolic motion and symbolic action” (Burke, 1984a, p. 394; emphasis in original). The emphasis on the term “personal” is important, as this site of mediation operates within human bodies, through their symbolic (and therefore value-laden) interpretation of the situations in which they act. Dana Anderson similarly turns to the concept of *attitude* to demonstrate how dramatism can account for habituated actions—the embodied social patterns that characterize *practice*—in a way similar to Bourdieu’s concept of *habitus*<sup>11</sup> (Anderson, 2004).

The second concept important to the mediation of action and motion is *form*. Burke defines form in psychological and rhetorical terms as “the creation of an appetite in the mind of the auditor, and the adequate satisfying of that appetite” (Burke, 1931/1968a, p. 31). He distinguishes the psychology of form, which does not lose its appeal with repetition, from the psychology of information, which ceases to appeal as soon as it is revealed. The capacity to respond to formal patterns exists in the nonsymbolic potentials of the body. “The human brain has a pronounced potentiality for being arrested, or entertained” by formal arrangements (Burke, 1931/1968a, p. 45). The *expression* of those arrangements, however, exists in society, culture, and situated human experiences that never precisely recur:

We can discuss the basic forms of the human mind under such concepts as crescendo, contrast, comparison, and so on. But to experience them emotionally, we must have them singularized into an example, an example which will be chosen by the artist from among his environmental and emotional experiences. (Burke, 1931/1968a, p. 49)

And, similarly:

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<sup>11</sup> Incidentally, these two examples find Burkean scholars using the same concept (attitude) to bring Burke into conversation with two theorists who are typically positioned in opposition to one another, Bruno Latour and Pierre Bourdieu.

The speech act would be in the collective realm of ‘culture.’ But it would be grounded in each user’s individual physiological ‘nature.’

(Burke, 1975/2010, p. 552)

This focus on form as “natural” reveals that beneath the radical pluralism of Burke’s theoretical framework lie universal formal principles that reflect inherent structures of mind (Burke, 1931/1968a, p. 48).

While some forms of expression, such as music, may be purely formal in their modes of appeal, language always entails combinations of form and information that can become problematic when they are disproportionate. For example, Burke is concerned, in his earliest work, that dramatic literature had become too reliant upon informational modes of appeal (surprise and suspense) at the expense of formal appeal (eloquence). He proposes that:

The hypertrophy of the psychology of information is accompanied by the corresponding atrophy of the psychology of form. (Burke, 1931/1968a, p. 33)

Burke is writing about literature, but the proposition might help to explain the emergence of simple forms, such as checklists, as a response to persistent overemphasis upon information in healthcare work. The disproportion can run in the other direction, as well. This occurs when formal patterns induce humans to “swing along” with propositions they would not otherwise accept.<sup>12</sup> This again illustrates a process of transformation between the realm of action and the embodied realm of motion.

**Complication 3.** While Burke insists that action is exclusively human, he resolutely resists privileging action over (nonhuman) motion. This is evident in many places. For example, his definition of humans as “symbol using” is routinely appended with “symbol

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<sup>12</sup> This is an essential point of departure for a consideration of power in Burke’s work. Bourdieu’s explanation is helpful here: “In the symbolic domain, takeovers by force appear as *takeovers of form*—and it is only when this is realized that one can turn linguistic analysis into an instrument of political critique, and rhetoric into a science of symbolic powers” (Bourdieu, 1991, p. 213).

mis-using.” We are both symbol-wise and symbol-foolish. Our capacity to use symbols gives rise to unique orders of motive and also to unique problems. Here is Burke, for example, not only thinning the lines of differentiation between chickens and humans but giving an edge to the chickens:

If people persist longer than chickens in faulty orientation despite punishment, it is because the greater complexity of their problems, the vast network of mutually sustained values and judgments, makes it more difficult for them to perceive the nature of the reorientation required.

(Burke, 1935/1984, p.23)

Ultimately, our symbolicity is the vulnerable component of Burke’s polarity. Action is impossible without physiological bodies, but motion can certainly exist without action: “Presumably the realm of non-symbolic motion was all that prevailed on this earth before our kind of symbol-using organism evolved, and will go on sloshing about after we have gone” (Burke, 1978b, p. 334). The realm of nonsymbolic motion is also infinitely larger than that of symbolic action: “The realm of the word is tiny indeed, as compared with the vast extent of wordlessness through time and space” (Burke, 1978b, p. 330).

Motives that derive from nonsymbolic motion are primary in the sense that they precede those deriving from symbolic action in the life of individual human beings. We grow from a state of wordlessness and division from other beings to subsequently *identify* with others “in the cultural realm that symbolism makes possible” (1978a, p. 330). This is significant for the discussion of identification and division, as it indicates the basis for a “universal situation” that is biologically grounded and figures rhetoric as fundamental to the human condition. What we share as humans is a state of division into separate bodies and a capacity to communicate with symbols. This shared situation is prior to any identifications that are built up through affiliations based on class, race, and many other social groupings.

While Burke’s analyses always pass through language, he is often preoccupied with the realities of the natural (and counter-natural) world. (“Counter-nature” is a term that

Burke sometimes uses for technology—those components of the nonsymbolic realm that are created by humans.) As Hawhee puts it:

Burke's focus on nonsymbolic motion subtly encourages a nonanthropomorphic view of the world since it places human bodies among the whole lot of sheer motion—the wind and trees, the sun and the universe, and the nonhuman animals that were effectively here first.

(Hawhee, 2009, p. 160)

### **Practical significance**

These complications raise the question of why Burke so adamantly asserts the motion/action distinction while he also thoroughly transgresses it. Burke raises a similar question himself:

It may be asked, Why make so much of the turn from action to motion in vocabularies of human motivation when in the same breath we testify to the ways in which the distinction is being obliterated or obscured?

(Burke, 1945/1969a, p. 234)

I suggest that by drawing a distinction in principle between motion and action, Burke is able to interrogate precisely how distinctions in practice remain thoroughly ambiguous (and therefore potently transformative). I also suggest that the effective mediation of motion and action—which, again, are irreducible components of human behaviour—is of central importance to effective clinical practice in the health professions and likely to effective human relations in general.

This discussion of first principles may sound somewhat obscure. By using these terms to trace the actions and motions of the surgical checklist and its users, however, I hope to illustrate their rhetorical and practical importance. The concepts of action, motion, and their interrelationships can help to account for some paradoxical effects of the checklist as a practice. They can also account for some of the challenges that arise between the promotion of the checklist and its uptake in the operating theatre. These observations have emerged over the course of my analyses and constitute, for me, some of the most

important lessons of this research. Because they are, accordingly, distributed across different chapters of this dissertation, in various stages of development, they warrant brief attention here.

In Chapter 2, for example, I describe how disciplines stressing motion as an explanatory principle for human behaviour have dominated the study and conceptualization of patient safety. These disciplines emphasize the hazards presented by human cognition itself as a cause of inadvertent harm in surgery and medicine. Advocates promoting the checklist must urge health professionals to recognize the limits of their agency (in the realm of motion) while also appealing to their sense of agency (in the realm of action) to adopt the practice. In Chapter 3, I consider how key advocates navigate this challenging rhetorical situation.

Perhaps more importantly, the motion/action distinction also lies at the core of how the checklist works and how it sometimes fails in practice. One important finding of my study is that the surgical checklist serves multiple purposes or functions. Some of these purposes mediate the action–motion divide in very specific and sometimes disparate ways. For example, to address the problem of humans’ cognitive limits, one approach is to develop protocols and tools that script, standardize, and automate necessary actions. Another is to generate opportunities for reflection and communication—effectively disrupting existing automatic or habituated patterns of practice. Some prominent checklists that have been developed to support healthcare work emphasize one function or the other. The surgical checklist, however, embeds both. The motion/action polarity has considerable power to account for tensions that can arise across these multiple purposes and functions, especially where one purpose is emphasized while others are obscured.<sup>13</sup>

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<sup>13</sup> The tension between these functions is manifest even as I write this sentence. My adoption of the terms “surgical checklist” and sometimes “surgical safety checklist” reflects the language of the WHO. It selects certain features for attention (the checklist tool and its ultimate function of supporting surgical safety). In earlier versions of my writing, I had used the terms “preoperative team checklist” and “preoperative team briefing,” which select different

The implementation of new practices also involves inherent sites of tension that arguably run along the motion/action divide. The goal of sustainable uptake is to make a new practice automatic. In other words, the uptake of a new practice is successful when it becomes established as a social expectation, embedded consistently within patterns or forms of practice that do not require deliberate thought. However, as I elaborate in Chapters 2 and 3, the surgical checklist, as a practice, is only successful when it *interrupts* automatic practices and *facilitates* deliberate action and interaction. When the checklist is enacted in an automatic mode, it is at best ineffective and at worst destructive to its own technical and cultural aims.

Finally, strategies to promote the widespread uptake of this new practice also feature explicit debates concerning whether it is best to (1) persuade and educate health professionals such that they take initiative to adopt the practice, (2) formally mandate the practice to make it compulsory, and/or (3) focus on organizational strategies that enable, necessitate, or incentivize the practice. Advocates of the checklist and of organizational approaches to knowledge translation emphasize the importance and power of changing systems rather than focusing, primarily, on changing minds. Within narrow definitions of rhetoric, this might be understood as a limit to the rhetorical aspects of professional practice and practice change. Within a Burkean understanding of rhetoric, these are simply different kinds of rhetorical appeal, with the differences turning, in part, on the motion/action divide.

These reflections suggest two basic mechanisms of change as it relates to form. The first involves introducing new formal patterns—by, for example, changing the physical or organizational environment, introducing new tools and technologies, and introducing protocols and pathways—that condition practice in certain ways, with or without conscious awareness. These mechanisms are emphasized by those who advocate system-level change. They operate largely in Burke’s realm of motion. A second basic

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features for emphasis. Here, I recognize that my own nomenclature in this dissertation may subtly elide the functions that I am most interested in examining.

mechanism involves drawing conscious attention to form. These mechanisms of change involve overt persuasion, education, and strategies to cultivate reflexivity and mindfulness, for example. They are exemplified by the model of knowledge translation advanced by Kontos and Poland (2009), which merges critical realist philosophy with arts-based interventions to raise critical consciousness. The goal of fostering awareness is important but usually insufficient when problems and inequities are structured into systems. Sustainable change ideally will involve both consciousness-raising components and supporting structural components.

The material dimensions of persuasion have become a prominent focus for scholars of rhetoric. Nathaniel Rivers, for example, advocates for a conception of rhetorical action as a process of “cultivation” that works with symbolic and nonsymbolic elements (2012). Rhetoricians have turned to actor-network theory, social studies of science, complex systems theories, and other materialisms to extend and reimagine traditional rhetorical concepts. These efforts are advanced, in distinctly Burkean terms, by the recently published collection *Kenneth Burke + The Posthuman* (Mays, Rivers & Sharp-Hoskins, 2017). The analyses in this dissertation should contribute to this emergent conversation.

## **Ultimate terms: Motive and situation**

Motive and situation are ultimate terms in Burke’s work.<sup>14</sup> He engages with these terms in increasingly formalized ways, all of which conceive of motives and situations as being united by, and located within, symbolic acts. The term *motive* is brought to the fore within the titles of his (intended) trivium of theoretical works. *A Grammar of Motives*

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<sup>14</sup> Burke describes three orders of terms, distinguished according to the kinds of entities they seek to name (Burke, 1950/1969b, p. 183). The positive order refers to entities insofar as they are empirically available. The dialectical order refers to entities that cannot be reduced to empirical referents (e.g., “positivism,” “capitalism”). The ultimate order provides a principle or idea according to which positive and dialectical terms can be organized into a coherent whole. *Motive* and *situation* are ultimate terms in the sense that Burke’s treatment of them encompasses multiple perspectives or philosophies and theorizes their relation to one another.



tackles the topic in principle, working out a formal methodology and ontology of symbolic action. *A Rhetoric of Motives* considers the dynamics and implications of motives as they play out in all forms of human communication. The planned *Symbolic of Motives* was intended to address the operation of motives at an individual level, as they take form in a single work of literature, symbolic act, or person. Although Burke did not complete this work as a published volume, he indicated that its pieces existed across his writing. Many of these have been collected in a posthumous volume by William Rueckert, drawing upon a long correspondence with Burke and three working iterations of the manuscript that he left behind (Burke, 2007).

While the titles of these books lay stress upon the term *motive*, Burke is consistently preoccupied with the corresponding term *situation*. Motives, for Burke, are located within symbolic acts, and those acts “size up situations” to which they respond in “a way that contains an attitude toward them” (Burke, 1941/1974, p. 1). This is the principle conveyed by Burke’s axiom that “motives are shorthand terms for situations” (Burke, 1935/1984b, p. 29). Motive and situation embody, imply, and constitute one another. This is a key Burkean insight—one that helps to transcend the division between individual psychology and social structure. In many fields of scholarship, and in everyday social interactions, it is common to regard motives as a property of individuals. From a dramatistic perspective, it is theoretically possible to *consider* individuals in themselves, as their identities manifest unique orders of motives. It is also theoretically possible to consider the nature of situations in general as they recurrently shape and constrain action. However, neither is accessible except through their manifestation, together, within symbolic acts. The path to knowledge about individuals and about the external world passes, necessarily, through action and therefore through rhetoric.

Burke is consistently preoccupied with charting the nature and scope of the situations into which acts may be placed and interpreted. Motives are “shorthand terms” because they stand, synecdochally, for a multi-dimensional situation to which the act responds.

Any symbolic action, by expressing a point of view, will also reveal a system of perceived situational constraints and expectations. Burke explains, for example, that “[We] generally use the term [duty] to indicate a complex stimulus-situation wherein certain stimuli calling for one kind of response are linked with certain stimuli calling for another kind of response” (1935/1984b, p. 30). Employing the term “duty” invokes a scheme of judgments about what is praiseworthy and what blameworthy. It indexes the speaker’s orientation in general. Close analysis of acts and terms—for example, what does “duty” or “safety” or “simplicity” mean in a particular context?—can reveal the situations to which they respond. Carried out across a wide set of acts, such analyses might be used as a means of interpreting the various situated motives that characterize a particular work setting or that bear upon the uptake of a particular practice across settings. These are the lines along which I have approached the analysis of surgical checklists presented in this dissertation.

Burke offers an elaborate set of resources for interpreting motives (and, by extension, situations). These resources spin out most formally from the question that he poses in *A Grammar of Motives*: “What is involved, when we say what people are doing and why they are doing it?” (Burke, 1945/1969a, p. xv). The wording of this question reveals a primary concern with the *characterization* or *attribution* of motives. It foregrounds the act of saying what people are doing and why. While Burke’s theory of motives is not limited to conscious processes, one of his foundational assumptions is that a concern with motives is a “distinguishing feature of consciousness” (1935/1984b, p. 30). Humans are always engaged in the interpretation of motives. Burke’s dramatism, therefore, is a theory of how acts are interpreted, both by critics (as a method of analysis) and by all human agents (as an object of analysis).

In the context of *A Grammar of Motives*, the “we” in question encompasses human beings in general along with the full set of philosophical schools that have elaborated theories of human action. In an earlier work, *Permanence & Change*, which takes human bodies as a primary point of departure for reflections on motive, Burke also has his eye

on the many “rival theories of motivation” that have gained currency at particular times for particular groups. It is because motives are thoroughly social and situated that “we have had people’s conduct explained by an endless variety of theories: ethnological, geographical, sociological, physiological, historical, endocrinological, economic, anatomical, mystical, pathological, and so on” (1935/1984b, p. 32). The goal of Burke’s *Grammar* is to grapple with the elements shared by these theories and by the less codified terms in which humans naturally explain their own and others’ actions.

The result is a set of analytic terms: the dramatistic pentad. As I have already described, if there is an *act*, there must also be a *scene* in which it occurs, an *agent* performing the act, by some means or *agency*, and for some *purpose*. These are the five terms of the pentad. In any given act, some of these dimensions will be stressed and others will remain subordinate or implicit, but all will be present as an underlying structure. These terms, Burke notes, possess a basic simplicity and familiarity: they are the who, what, where, when, and why of everyday stories, conversation, and debate. Yet, as tools for critical analysis, they point the way through a complex range of possible explanations for motive—that is, possible ways of situating symbolic acts—along with the interactions and transformations that take place among them. As an ontology, the terms of the pentad name the underlying structure of motives in principle. As a methodology, the pentad provides a heuristic that can be used to discover how that structure is instantiated within acts—and to look systematically for how those acts might be understood otherwise. The terms act, agent, agency, scene, and purpose—along with attitude, a sixth term that Burke often tacks on to the scheme<sup>15</sup>—represent different ways that an act can be explained or interpreted.

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<sup>15</sup> I do not take up the question often raised by Burke, and debated by Burkeans, of whether *attitude* belongs within or outside of the pentad. My untested hypothesis is that it belongs inside (as a sixth term) when the pentad is used methodologically to serve empirical or epistemic functions, as a means of characterizing how motives are attributed, but not when the pentad is considered as an ontology that characterizes how motives are constituted and experienced. (Barbara Biesecker argues that these are simultaneous projects within Burke’s *Grammar* and that the latter, ontological project is ultimately frustrated (2007).) Representations of the surgical checklist might provide a fruitful opportunity to grapple with

The brief exchange between the surgeon and anesthesiologist that I presented at the outset of this chapter is useful for illustrating these principles. Here is the example again:

A staff surgeon, who has just initiated a checklist, stops mid-sentence and says to me: “You can write down that the anesthesiologist is not paying attention.”

The anesthesiologist retorts: “I’m kind of busy maintaining my airway.”

Interpretive work is openly on display in this exchange. These interpretations centre on four interrelated acts that are singled out for attention: the surgeon initiates a checklist, the anesthesiologist continues his clinical work, the surgeon makes an interpretive statement about the anesthesiologist’s action, and the anesthesiologist offers a counter-interpretation. The statements evince two distinct attributions of motive and, correspondingly, two distinct representations of the situation. When the surgeon says that the anesthesiologist is “not paying attention,” he labels an act (thereby making it rhetorical), expresses an attitude of disapproval toward it, and interprets the act as a function of the anesthesiologist’s character or behaviour. This interpretation expresses an agent–act ratio, in which qualities of the agent define the nature of the act.<sup>16</sup> It implies a *scene* in which the checklist (and surgeon) ought to command attention. For the anesthesiologist, the same act is reinterpreted relative to a motivating purpose (“maintaining my airway”). This shift to the purpose–act ratio casts the act in a positive light. It implies an agent who is vigilant and a scene in which immediate patient care—ensuring that the patient receives oxygen—ought to take priority. Within this frame,

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this question, as “attitude” is commonly discussed and measured within certain approaches to safety research and is regarded as an important indicator both of the willingness to adopt checklists and of their positive effects in fostering a culture conducive to preventing avoidable harm. I am not certain that this theoretical excursion would lead to a valuable clearing.

<sup>16</sup> Graham explains, helpfully, that the naming of ratios places the dominant member of the pair to the left (2011, p. 40). In an agent–act ratio, for example, qualities of an act are attributed to qualities of the agent: a person saves a life because they are brave and heroic. Conversely, in an act–agent ratio, the act is dominant in defining the agent: a person becomes brave because they rise to an occasion and perform a heroic save.

the checklist and surgeon are correspondingly resituated as potentially harmful distractions.

In this way, the terms of the pentad can be used to parse out dimensions of the perceived situation. Within any given act, certain aspects of the situation will be selected for attention and others deflected. As a function of these selections and deflections, the same act can be interpreted with an attitude of approval (eulogistically) or disapproval (dyslogistically). This example illustrates how these placements operate persuasively; aspects of the situation can be selected, represented, and deflected in ways that encourage certain courses of action while discouraging others. While this rhetorical negotiation is conspicuous in the example that I have considered, the suasive force of situations is often most powerful in their implicit dimensions, which can evade notice and refutation.

The example also provides a useful point of departure for reflecting upon my role and procedures as an analyst. Dramatistic analysis entails, first, making explicit the motives and situations that are apparent within or implied by a symbolic act. It then involves a search for all relevant perspectives to examine how they resonate, conflict, or exert influence and control. The example above is readily considered as an instance of rhetorical action in which the negotiation of meaning can be directly observed. The same example may also be considered as evidence of broader motives and situations. This more sociological objective requires comparative work to demonstrate the recurrence and divergence of perspectives on a larger scale. Burke characterizes this approach to the pursuit of knowledge as “poetic realism” (1941). In contrast with some forms of scientific realism that seek to eliminate and control for bias, poetic realism advances knowledge by systematically studying biases (that is, perspectives) and how they work. My role is not to step outside of the situation and adopt an unbiased stance but rather to make perspectives, including my own, as visible as possible so that their underlying frames of interpretation are amenable to evaluation.

In addition to being interpreted from multiple points of view, actions can also be interpreted relative to scenes of varying circumference. For example, the surgeon's initiation of the checklist may be considered relative to the scene of the academic hospital or the scene of the patient safety movement, rather than—or in addition to—the immediate scene of the operating theatre. Acts championing the surgical checklist could serve additional purposes, such as demonstrating leadership, changing organizational culture, or earning promotion. Acts can also be interpreted relative to an overarching purpose, value, or belief: they may be done for the sake of social justice, or environmental protection, or religious belief, or profit, for example. In healthcare work, “patient safety” and “patient-centred care” are often invoked as purposes that should supersede the factional interests of individuals and professional groups. Placing an act in different scenes changes its character accordingly. A checklist understood as a tool to serve patient care is likely to be received more positively than a checklist understood as a tool to serve the interests of a regulatory bureaucracy. As my analysis extends outside of the operating theatre to consider the motives and situations apparent within published texts, I encounter a broader range of circumferences, along with a broader range of agents and purposes. Multiple motives and situations can operate simultaneously in consonant or dissonant ways.

While pentadic analysis reveals the potential for multiple valid perspectives, it does not regard all perspectives as equally accurate or defensible. Certain frames of analysis might impose themselves as having greater explanatory and/or ethical value for interpreting a particular act or type of act. Checklists might in fact serve the interests of patient care in demonstrable ways and the interests of bureaucracies in others. Those two sets of interests might be well or poorly aligned within particular regulatory structures. Relevant features of the situation may be deflected, either willfully or inadvertently. The resources of pentadic analysis can be used to reveal the specific ways in which we get things wrong by emphasizing some perspectives to the neglect of others. We also get things wrong by applying practices designed for one situational frame within other situations for which they are ill suited.

Some aspects of the situation will be shared between professionals within the operating theatre—or between authors and particular readers—while others will be unique to individuals. Situations also vary in the degree to which they impose themselves and the degree to which they are open to interpretation and debate. In the case of a medical emergency, the immediate circumstance would be expected to motivate people's actions, overriding all other motivational elements. Even in these cases, however, aspects of wider situations might come into play. For example, the phenomenon of the “slow code” indicates a strategy for navigating competing assessments of a situation, when professionals are obligated to resuscitate a patient within the immediate scene but perceive that action as futile or unethical within larger ones.

Burke is not principally concerned with itemizing kinds of motives in themselves. He is concerned with the ratios among the terms, the patterns among these ratios, the circumferences in which they may be considered, and the areas of ambiguity or tension among perspectives. A dramaturgical analysis will attempt to identify salient patterns of action and interaction, in turn revealing the “dancing of attitudes,” or patterns of belief and value. Fleeting exchanges, such as the one considered above, involve only a fragmentary expression of the dramaturgical terms. Within more elaborate acts or sets of related acts, the terms of the pentad can be tracked down more fully.

Burke emphasizes that no two situations are ever precisely the same, though there is always considerable overlap between them. The resulting fluidity is a key feature of the dramaturgical theory of motives. It is this feature that ultimately resists being pinned down as a science and that retains the humanistic and creative character of symbolic action. This creative character is apparent within the “constellations of regulated, improvisational strategies” (Schryer, 2000, p. 450) that attend more-or-less stable and recurrent situations. It is here, too, that the potential for human agency and purposive action resides.

If this dynamic margin of creative interpretation is fundamental to enabling change and adaptation within local contexts, then it must also play a central role in the empirical

and conceptual study of learning and knowledge translation in healthcare work. Research that is driven by the goal of eliminating variation and measuring compliance in reductive ways will bracket off central aspects of how practices work, how they fail to work, how they generate unanticipated effects, and how they generate valuable forms of knowledge. In their extensive review of literature on the diffusion of innovations in health service organizations, Greenhalgh et al. note the “tiny proportion of empirical studies that acknowledged, let alone explicitly set out to study, the complexities involved in spreading and sustaining innovation in service organizations” (Greenhalgh, Robert, Bate, Macfarlane & Kyriakidou, 2005, p. 220). Standards for reporting experimental research can themselves impede knowledge about change by emphasizing outcomes over processes and by controlling rather than describing confounding variables (Greenhalgh, et al., 2005; Riley, MacDonald, Mansi, Kothari, Kurtz, vonTettenborn et al., 2008). As Greenhalgh and colleagues emphasize, “context and ‘confounders’ lie at the very heart of diffusion, dissemination and implementation of complex innovations. They are not extraneous to the object of study—they are an integral part of it” (2005, p. 220).

A conceptual stress upon *situation* draws my attention to particular enactments of the checklist in order to see beyond them. While I chart a series of actions, that charting, in part, seeks to understand something about the material and symbolic situations that those acts imply, as well as the ways in which those situations might be amenable to change. Material elements are not necessarily less amenable to change than symbolic ones.<sup>17</sup> Building upon surgical checklists as my central case, I argue that conceptualizing

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<sup>17</sup> A helpful example is provided by retrospective analyses of the development and implementation of checklists to prevent central line infections in the ICU. Project leaders and sociologists recount how it became clear that in order to implement the five steps advocated on the checklist, professionals had to gather supplies from 8 separate locations. This problem was addressed by the creation of “catheterization carts” containing all of the necessary supplies. The creation of these carts illustrates the value of material, rather than rhetorical, solutions to problems of knowledge translation. However, as Dixon-Woods et al. note, the act also had symbolic significance, as it demonstrated an attentiveness to the needs of professionals and an administrative commitment to the goals of the project (Dixon-Woods, Bosk, Aveling, Goeschel & Pronovost, 2011).



situations is crucial to understanding the practice of health professionals and thinking seriously about the ethics and pragmatics of problems that often fall under the heading of knowledge translation. I also contend that the concept of situation is valuable to a uniquely rhetorical rethinking of these problems.

The concept of situation is also expansive enough to encompass, in principle, the kinds of generalized situations described in the opening passage and often invoked by the discourse of knowledge translation. These discourses simply invoke particular kinds of situations: situations that are relatively stable, in which a firm consensus has been established concerning the status of knowledge, the actions that it warrants, and the occasions when those actions should be taken. These are important but exceedingly rare kinds of situation. Even when the knowledge to be translated concerns relatively stable phenomena in the natural sciences, the question of how that knowledge should be used is always open to debate. As I will elaborate in chapters 2 and 5, the case of surgical checklists does incorporate knowledge of such stable kinds, as the actions inscribed in these tools are based upon accepted knowledge (not necessarily derived from research) and widely accepted values and purposes. It would be difficult to conceive of any point of view from which preventing inadvertent harm is not a worthy aim. Such situations, however, are simply not representative, even in the case of the surgical checklist.<sup>18</sup> They are especially not representative when the knowledge to be translated itself, along with the processes of translation, is relational, social, and contingent in character.

Throughout the course of my research, the concept of situation has emerged recurrently as a useful way to make sense of diverse acts and to relate them to one another. In my

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<sup>18</sup> As genre theorists have argued, however, recurrent situations *can* be “stabilized-for-now or stabilized-enough sites of social and ideological action” (Schryer, 1993, p. 200). Miller observes that situations are never empirically stable, but they can recur as a social and cultural concept—as a rhetorical achievement (1984). This raises a question: Does my analysis of checklists in the operating theatre, which discerns specific sources of variation across enactments, impede this rhetorical goal or does it rather contribute to assessing the potential and means of achieving it?

analysis of fieldnotes, I use the pentad to navigate different interpretations of the checklist as revealed through its embodied performance in particular cases. In my analysis of promotional texts, I investigate how multiple different kinds of rhetorical acts work together to stabilize a dominant pentadic form. In my analysis of published research (which is somewhat more limited and less consolidated in a single chapter), I apply the terms of the pentad to understand what disciplinary perspectives have been brought to bear in studying and conceptualizing the practice. Within inherently interdisciplinary and transdisciplinary domains of research, these terms can be used to interrelate and translate among different approaches to a problem or topic.<sup>19</sup> Taken together, these deployments of pentadic terms demonstrate the versatility and usefulness of motive and situation as critical concepts.

This kind of large-scale pentadic mapping derives from rhetoric but is not in itself rhetorical. As Burke often reflects, rhetorical and grammatical concerns are always implicated in one another, but they represent two distinct modes of analysis. Under the heading “Does dramatism have a scientific use,” for example, he offers the following:

A dramatistic analysis of nomenclature can make clear the paradoxical ways in which even systematically generated “theories of action” can culminate in the kinds of observation best described by analogy with mechanistic models. The resultant of many disparate acts cannot itself be considered an act in the same purposive sense that characterizes each one of the acts. . . . Thus, a systematic analysis of interactions among a society of agents whose individual acts variously reinforce and counter one another may best be carried out in terms of concepts of “equilibrium” and “disequilibrium” borrowed from the terminology of mechanics.

(Burke, 1968b, pp. 448-449)

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<sup>19</sup> This includes different ways of conceiving problems. One concern raised by social scientists—which resonates with dilemmas in rhetoric—is that their contributions tend to be constrained within pre-existing definitions of the problem at hand, whereas their more significant contributions lie in reconceiving the problem (Zuiderent-Jerak, Strating, Nieboer & Bal, 2009). Such reconceptions risk being received as “critical” in a pejorative rather than a constructive and interpretive sense (Vincent, 2009).

Much of this dissertation ventures into systematically generated observations about action, which culminate in synoptic accounts of recurrent motives and situations. However, such charting becomes rhetorical again whenever it considers specific acts and, ultimately, when it makes visible potential courses of action.

Empirical and conceptual studies of knowledge translation do acknowledge the importance of context in shaping the uptake of new practices. My study should contribute to those ongoing conversations in a way that thoroughly situates both knowledge and practice. One promising contribution of this work that I do not fully explore is the application of a rhetorical theory of situation to the influential concept of *situation awareness*. Situation awareness has many definitions but refers generally to people's active perception of, and responsiveness to, their environment (Salmon et al., 2008). It has been championed as an important element of professional practice, learning, teamwork, and patient safety (e.g., Bleakley, Allard & Hobbes, 2012). It would be interesting to explore how the concept of situation developed in this dissertation relates to, and might extend, this concept.

Attention to *motivation* has been sparser within empirical and conceptual studies of knowledge translation. Where motives are considered in health services research, they are typically regarded as a quantity—more being good, less bad. Further, where professionals do not adopt recommended practices, their resistance is often interpreted as a professional failure or as obstinance without recourse to appropriate forms of evidence to support such attributions. A Burkean analysis of motives will help to reveal and redress such reductions. While a dramatisitic analysis certainly does not rule out the potential for egotistical or negligent motives and attitudes, it is wary of the human tendency to attribute malign motives to those whose perspectives are different from our own.

I suggest that prominent research traditions within the health sciences are relatively ill equipped to account for the nature of professional motives and attitudes or for the specific ways that they might enable and constrain the uptake of new practices. While it

is quite common for safety scientists to assess the attitudes of healthcare providers toward, for example, particular interventions, the quality of teamwork, or an organization's commitment to safety, these methodologies tend not to account for how practices are embedded within the flux of professional work. One central exigence for checklists in healthcare work is the need to draw attention to basic processes or tasks amidst the clamour of other priorities. Yet these contextual realities are often erased from consideration both in experimental research and in short, popular accounts that emphasize the simplicity of the practice.

Within rhetorical studies, this project should ultimately speak to a curious absence. Conceptual discussions of the rhetorical situation typically take the contributions of Lloyd Bitzer as their point of departure. Bitzer famously characterized the rhetorical situation as an "imperfection marked by urgency" that is objectively present within the external environment and amenable to modification through discourse. In this formulation, situations are constituted by a set of objective conditions: an exigence or problem calling forth a response, an audience "to be constrained in decision and action," and constraints "which influence the rhetor and can be brought to bear upon the audience" (Bitzer, 1992, p. 6).

I believe that these terms remain useful for examining the rhetorical nature of pragmatic and even mundane communication in settings such as the operating theatre, where coordinated responsiveness to, and management of, a directly shared and largely physical environment makes up a significant portion of communication work. With adjustments, these basic terms also remain generative for thinking about the production of intentional, suasive discourse—a purpose that Burke's theories were not primarily designed to address. I find the term "exigence" helpful and use it frequently in this dissertation. However, as many rhetoricians have noted, Bitzer's definition neglects the power of discourse to constitute situations (Vatz, 1973); reduces the role and philosophical status of rhetoric to one of *reaction* rather than action (Vatz, 1973; Miller, 1984); relies upon the artificial separation of environments, speakers, and audiences into

discrete elements (Biesecker, 1989); and offers a bounded conception of rhetoric that cannot account for the multiple, simultaneous, networked nature of rhetorical action within open sociotechnical systems (Edbauer, 2005).

Bitzer's conception of the rhetorical situation has clearly been generative. All of these scholars have sought to expand, supplement, or supplant this concept, most recently and significantly through a turn to the concepts of ecology or complex systems. These are productive developments that extend outside the scope of my project.<sup>20</sup> What I find puzzling is how many rhetorical scholars have turned outside the field, away from the concept of situation, and toward material metaphors and models in order to better account for the nonsymbolic, constitutive, multiple, dynamic, networked, and generative properties of rhetorical action. Burke's concept of situation, it seems to me, offers a direct route to these ends. It offers a materially situated understanding of social action that also accounts for the immense power of symbols to select and deflect reality, and to orient people toward action, in ways that are neither elemental nor bounded in time and space. It also, and I think most importantly, retains several foci that are central to the unique power and potential of rhetoric: act, addressivity, and form. Significant potential remains for elucidating and applying the concept of situation as Burke conceives it.

One of the most productive theoretical routes for retaining these foci—and developing the full sociological potential of rhetoric—passes through rhetorical genre theory. At the root of this field, in the essay “Genre as social action,” Carolyn Miller dispatches with Bitzer's theory of situation, turning primarily to Burke's in order to articulate a rhetorically sound theoretical basis for the classification of genres as typified rhetorical action (Miller, 1984). Within this conception, exigence is reconceived as “a form of social knowledge” that cannot be reduced or broken into external material conditions and private perceptions or intentions (pp. 156–158). Only as an intersubjective

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<sup>20</sup> A shared interest in systems theories offers a pathway between contemporary conversations in applied health research and in rhetoric. I have only begun to engage with these bodies of literature.

phenomenon can situations recur. Genres express and respond to recurrent situations, mapping relationships between form, substance, and social action at a particular level of organization. (As Miller describes, these relations can also be mapped at much finer and more general scales.)

The power of this concept has now been well demonstrated and elaborated. The empirical and theoretical study of rhetorical genres has been a remarkably productive site of socio-rhetorical scholarship within various institutional contexts including healthcare work. Burke's foundational concepts, however, have tended to recede from view. They have, meanwhile, been foundational to rhetorical work mapping form–function<sup>21</sup> connections at much lower levels of the structural hierarchy (Harris et al., 2017).

This study builds a case for the value of retaining a central place for the concept of situation in an expansive, Burkean sense of the term. This concept is integrally related to the socio-rhetorical functions of aesthetic forms. Those functions, I suspect, run to the centre of some tricky and under-attended problems in human relations generally and healthcare work specifically. In the context of applied health research, including the analysis that I present in this dissertation, these concepts can be used to identify and understand interrelationships among form, substance, and situated action at multiple levels of analysis as they operate within a particular place or case.

## **Terms for rhetoric: Identification and division**

Historical treatments of rhetoric, in all their diversity, share an emphasis on persuasion. Rhetoric is traditionally the study or practice of persuasive appeal. Burke's theory extends the scope of rhetoric by arguing that persuasion is a particular case of a more

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<sup>21</sup> The distinction between form–action connections and form–function connections seems to invoke a leaning toward action or motion, respectively, where the former suggests deployments of form that are to some extent purposeful and the latter suggests formal effects that exceed awareness or, at least, that operate independent of authorial intention or control.

general process: identification (Burke, 1950/1969b). Identification reflects the fact that we often align ourselves with one another not because we have been directly and purposefully persuaded, but rather because we share certain features in common. We share purposes, scenes, and forms of agency. We share aspects of our orientation to the world. We share acts or experiences. And we share symbolic practices. In this broadened conception, rhetoric comes into play the moment that we begin to communicate. All communication, even the purest of scientific and poetic endeavours, involves elements of appeal. Burke's pentad lies outside of rhetoric because it describes the first principles (the "grammar" or ontology) of symbolic action, but as soon as a symbolic act takes place, we find ourselves in the realm of rhetoric.

It is important to note that much of our communication is overtly suasive and strategic, designed to invoke a specific response. In healthcare, examples include pharmaceutical marketing, quality improvement initiatives, grant applications, code calls, public health campaigns, and knowledge translation initiatives. Educators and professionals may be uncomfortable placing all of these practices in a common set, and there are meaningful distinctions to be drawn among them, but they are all fundamentally and overtly rhetorical: their goal is to move people to belief and action.<sup>22</sup> One contribution of

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<sup>22</sup> The example of code calls presents an interesting case where the problem of communication is essentially a technical matter of getting a message across in a way that gains attention and instigates a scripted set of actions. The new information is a fact alerting people to a critical situation in the realm of motion that requires immediate response. General knowledge concerning what should be done, who should do it, and how, is explicitly established in advance. In a Burkean scheme, this form of behaviour approaches a pure limit of rhetoric—something like a poem—in which identification is forged through shared participation in a form. This participation is both pure motion, in the sense that the appropriate behaviours are automatic and choreographed, and pure action in that those behaviours are conducted in a state of maximal awareness. All participants can, ideally, assume that their goals and knowledge are directly aligned. Problems arise, I believe, when such special cases are taken as models for all forms of teamwork. The case of the surgical checklist and other scripted forms of communication share some features in common with this practice and its ideals.

rhetorical scholarship to healthcare work is simply to recognize these overtly rhetorical dimensions where they are coded as neutral processes of transmission and reception.<sup>23</sup>

The concept of identification includes such purposefully designed discourse but extends the focus on purposeful design to consider other kinds of suasion, variously conscious and tacit, designed and spontaneous. Rhetoric, in this sense, becomes important for establishing *identities* by forging and emphasizing shared qualities, which can include shared social classifications and knowledge bases as well as shared aims, experiences, challenges, purposes, attitudes, meanings, tools, and forms, for example. These processes of identification are forged through social interaction, but each individual will also have a unique set of identifications established through their personal experiences and associations. Within Burkean analysis, there is an ultimate fluidity in our social groupings. We may have dominant identifications according to class, race, gender, or profession, for example, but there are a multitude of principles of identification that motivate any individual's actions. The grounds for identification and division need to be discovered in each case as an outcome of the analysis. The work of rhetoric becomes particularly apparent in eras of instability, such as the one that Burke characterizes around him (which, arguably, has only intensified and calcified between his time and ours):

A Babel of new orientations has arisen in increasing profusion during the last century, until now hardly a year goes by without some brand new model of the universe being offered us. (Burke, 1935/1984b, p. 118)

One additional point is particularly important about Burke's choice of the term identification: it contains a hint of optimism. Because rhetoric is concerned with "the ways in which individuals are at odds with one another," it is inherently a realm of

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23 And one question to be asked is why such recognition is useful. Is this knowledge inherently valuable because it is more accurate, or does it also lead to better practices? In the latter case, does it improve practices by disrupting them, reframing the problem, fostering greater awareness and reflection, and/or identifying effective means of persuasion? Alternatively, is there some risk associated with rhetorical knowledge? Can revealing these suasive dimensions work against the success of the practices?



conflict and competition (Burke, 1950/1969b, p. 23). This emphasis is evident in the history of rhetoric, and it is implicated in the negative connotations that the term rhetoric has come to carry. Burke is acutely aware of this, noting that rhetoric's "contribution to a 'sociology of knowledge' must often carry us far into the lugubrious regions of malice and the lie" (Burke, 1950/1969b, p.23). Pursuing principles of identification allows him, equally, to describe principles of division (Burke, 1950/1969b, p. 22). In fact, identification itself is understood to produce divisions, as when conflicting factions cooperate in opposition to a common enemy. However, Burke is purposeful in placing his emphasis upon identification rather than division. In this move, he signals the ideal potential of rhetoric, which lies not in the perpetuation of conflict but in its transcendence. Early in his career, before arriving at the term "identification," Burke articulates the same principle in *Permanence and Change*. This passage makes clear the centrality and implications of this cooperative emphasis in Burke's work (an idealism deeply couched in a critical realism):

Every system of exhortation hinges about some definite act of faith, a deliberate selection of alternatives. . . . I have sought to hunt out this crucial point in my own statements, and I suspect that I have found it in my admission that, when considering war and participation, or war and action, as the two ends of a graded series, I have chosen action or participation as the word that shall designate the essence of this series. Or we might choose such words as cooperation and communication, and note that even in war the cooperative or communicative element is largely present. Here, in all its nudity, is the Jamesian "will to believe." It amounts in the end to the assumption that good, rather than evil, lies at the roots of human purpose.

(Burke, 1935/1984b, p. 236)

As this quotation emphasizes, the impulse toward cooperation, while it is more hopeful than a fundamental drive toward conflict, is not necessarily good. Burke takes special care to note, here and elsewhere, the many cooperative elements that drive humans toward war and that create the "cult of the scapegoat." He elaborates his theory of perspectives, which ultimately characterizes division and multiplicity, as a counterbalance to the dangers that arise when any single perspective is too efficiently

purified or perfected—that is, when systems of identification are carried too far. Burke, then, is certainly not celebrating identification as a necessary good in opposition to division. He is cautioning us to recognize that the impulses toward both identification and division are inescapable, as they are rooted in the structure of symbolic action itself. Given their inevitability, he urges us to study how these forces of identification and division operate so that we can better guard against their more insidious effects. Studying these operations requires the recognition that identification and division, in practice, are always tangled up in one another. The study of these processes is the definitive (and expansive) concern of rhetoric:

[P]ut identification and division ambiguously together, so that you cannot know for certain just where one ends and the other begins, and you have the characteristic invitation to rhetoric. (Burke, 1950/1969b, p. 25)

One additional general observation is important. I have noted that Burke’s attention to rhetorical processes and social identifications offers an ultimate fluidity that extends to the level of individuals rather than beginning from social classifications. In fact, this ultimate fluidity extends much farther. The individual human is not a category that Burke takes for granted. Far from it, in fact: his unfinished project, the symbolic of motives, was to deal with how various associations and dissociations make “peace” (however fraught) within the individual considered in themselves. Burke’s focus in analyzing identifications and divisions is trained upon the level not of people but of terms. By closely studying the shifting patterns of identification and division (or association and dissociation) as they evolve in a particular work of literature, we can understand something about patterns of congregation and segregation in human relations generally.

The terms *identification* and *division* allow me to interrogate the grounds on which health professionals are encouraged to act together despite inherent differences. The imperative to collaborate currently drives many efforts to improve the practice of health professionals through policy, education, and practice-based initiatives. The team

checklist is an exemplary and a representative case. I will discern the various implicit, overt, and interdependent forms of identification and division that have been promoted through, or revealed by, the promotion, performance, study, and surveillance of this practice.

Calls to collaborate within the health professions obviously hinge upon explicit appeals for identification. They also presume, construct, and respond to a state of division along professional lines. Advocates of interprofessional collaboration and interprofessional education emphasize the “silos” in which different professional groups are trained. Social scientists responding to these discourses have emphasized the relations of power that persist across these groups and that work against idealistic conceptions of egalitarian collaboration. Such sociological accounts are still quite rare within the field of health professions research, and a Burkean analysis resonates with these accounts in their close empirical and theoretical focus on how divisions are produced and reproduced in professional work despite and sometimes through discourses celebrating collaboration. A Burkean analysis should also, however, redirect attention toward the multiple principles and specific means by which lines of identification and division are drawn and redrawn—among terms, people, and groups—through the enactment of surgical checklists.

Classifications according to professional group are based in real functional distinctions in health professional work, and they clearly have explanatory and predictive value in conceptualizing recurrent patterns of behaviour. They also map closely onto various forms of power and capital. My analysis of checklists in the operating theatre—a setting in which hierarchies are notoriously steep and stable—will not question the importance of basic professional categories. However, as I consider uptake of this practice, I will note variations within as well as across professional groups, and I will consider multiple grounds of identification and division. I will examine closely how the practice succeeds in bringing people together and how divisions persist despite the checklist or become revealed because of it. In following checklists outside of the operating theatre, I also

chart processes of identification and division across a wide network of rhetorical acts, agents, objects, and organizations. Within these processes, health professionals sometimes play a conspicuously minor role.

The terms identification and division, because they come into being in a process of action, must be considered as they are manifest on shifting ground, in the “wrangle,” the “wavering lines,” and “endless competition” of actual human interaction (Burke, 1950/1969b). In Burke’s philosophy of language and motives, rhetoric is the domain that is least “at peace” and most constantly moving. My analysis of identification and division therefore offers theoretical and methodological insights by illustrating what it means to analyze a process in continual flux. This case study traces shifting sets of identifications and divisions in two different senses. It considers the coordination, enactment, and effects of this practice as they took place across time and space in the operating theatre. And it considers an actively emerging narrative of the surgical checklist, as it has risen to public attention, generated various forms of scholarship, and responded to challenges and critique.

## **Checklists as representative anecdote**

This dissertation uses dramatistic terms to analyze enactments of the checklist within a large set of promotional and educational texts, research literature, popular media, and fieldnotes from the operating theatre. Broadly speaking, these analyses involved the following steps: (1) gathering and selecting texts according to their topical relevance, (2) using Burke’s pentad to chart situational elements—scenes, agents, purposes, acts, forms of agency, and attitudes—across the set, (3) analyzing rhetorical aspects of these acts and situational elements, (4) locating sites of ambiguity (e.g., implicit tensions in different depictions of the checklist) or imbalance (e.g., a strong focus on some situational elements to the neglect of others), and (5) considering how these analyses might help to elucidate and/or mediate relationships between knowledge and action.

In this section, I briefly describe how I gathered and managed a set of published texts (step 1). I comment on how I charted situational elements (step 2), relating this approach to existing scholarship on the methodology of pentadic analysis. I also explain why checklists may be conceived, cautiously, as a representative anecdote instantiating the larger discourse of knowledge translation (step 5). To illustrate the remaining steps, I rely largely upon my analyses themselves. Additional methodological reflections are also integrated within the chapters to follow.

### **Gathering and selecting texts**

I gathered a large set of representations of the checklist, including over 700 fieldnotes and over 1100 published texts. (Procedures for the collection and analysis of fieldnotes are detailed in Chapter 4.) Approximately 450 of the published texts are addressed to professional audiences and approximately 650 are addressed to general ones. These audiences are heterogeneous and overlapping, as I will detail in Chapter 3, and there are significant rhetorical functions and strategies that cross these general spheres. However, in the process of my analysis, these subsets of texts were assembled and initially analyzed separately.

I used several strategies to gather these texts. These included searches of the PubMed index (for articles published in professional journals), the Factiva index (for news articles), and the internet (for other popular media, videos, blogs, and grey literature). The reference lists of key publications led to additional texts. Using Scopus and Google Scholar, I also searched selectively for texts that had cited influential articles, critical articles, and publications from the Team Talk study. Those texts provide useful context concerning the situations to which checklists have responded and the purposes for which they have been deployed.

I will refer to the overall set of texts as an “archive.” This Foucauldian term best fits the ways in which I understood and engaged with these texts.<sup>24</sup> I returned to the archive iteratively, posing questions of it as my analyses evolved. Within this archive, I sought to identify forms of rhetorical action that were significant and/or recurrent. Texts were significant, for example, if they were frequently cited, shifted the course of the collective narrative, adopted a divergent stance, exemplified specific rhetorical strategies, and/or attended explicitly to rhetorical issues. Recurrent forms of rhetorical action revealed and reproduced dominant conceptions of the situation. For example, low-quality research studies might be insignificant individually but significant insofar as they proliferate in particular forms.

### **Charting situations**

Rhetorical scholars have used the geographical terms “cartography” and “mapping” to describe their application of Burke’s pentad (Anderson & Prelli, 2001; Bates, 2014, 2016; Beck, 2006; McClure, 2012; Meisenbach, 2008; Ropp, 2002). These authors typically refer to mapping motivational equations across a single text (e.g., a political speech), a coherent body of thought (e.g., the work of a single author), or contrasting sets of texts (e.g., two sides of a court case). While my approach shares some of the elements of these studies, my analysis draws upon a broad variety of symbolic acts, considered from a dynamic range of circumstances. I will refer to this as a process of “charting”—a term that Burke himself deploys. This process is distinct from either Burke’s grammar (which aims at delineating universal principles) or his rhetoric (which contends with processes of identification and division). It is the systematic application of dramatistic terms to an empirical case—the “realistic sizing up of situations that is sometimes explicit,

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<sup>24</sup> I have never sought to put Burke’s terms formally into conversation with Foucault’s. However, my way of approaching this analysis has been influenced and inspired by colleagues who have developed Foucauldian analyses related to medical education and interdisciplinarity—especially and most directly by the work of Brian Hodges, Tina Martimianakis, and Cynthia Whitehead. Burke is likewise a silent presence within collaborative work that I have undertaken in Foucauldian terms (Whyte et al., 2017).

sometimes implicit, in poetic strategies” (Burke, 1966, p. 6). The goal is to produce an inventory of situational elements or emphases as they are manifest in a given body of symbolic acts.

Burke himself clearly sees the attribution of motives to be implicit in all symbolic acts, including isolated gestures, elaborated philosophic schools, and the development of tools and technologies. However, dramatistic terms seem to work most naturally when the actions in question are definite and the interpretation of motives is explicitly at stake—that is, acts that explain “what someone is doing and why they are doing it.” Even then, thorough-going dramatistic analyses are necessarily layered and complex. Clarke Rountree’s book-length dramatistic analysis of legal decisions concerning the United States Supreme Court’s *Bush v. Gore* decision provides the most elaborated example that I’m aware of (Rountree, 2007b). Rountree’s analysis circulates around symbolic acts of obvious significance: the formal decision and dissents written by the US Supreme Court Justices. Rountree shows how these acts themselves construct and attribute motives to a definite series of prior acts. He then shows how the decisions, along with the acts represented within them, are in turn reconstructed by reporters, editorialists, and scholars. The entire analysis turns on a layered consideration of motives as they are attributed and reattributed by circles of agents variously interpreting a common set of acts. Rountree’s description and navigation of these acts—and especially of acts-within-acts—helped me to clarify and navigate my own methods of analysis. My analysis, however, does not hold at the centre to a set of specific acts that are available for public inspection and reinspection. The acts that I trace are somewhat tricky to pin down. They are the iterative performances that circulate around, construct, and become obscured by the checklist as a tool.

I have attempted to apply the pentad in the spirit Burke describes it. He indicates, for example, that an analyst can “range far” from these terms in tracking down a particular structure of motives and situations and then “reclaim” them “in their everyday simplicity” (Burke, 1945/1969a, p. xvi). I find the terms of the pentad to be most useful

as a heuristic tool to support the process of invention and analysis, used in conjunction with other terms and resources. They can be cumbersome as a means of communicating those analyses. I therefore use these terms selectively, when I believe they provide unique insight or explanatory value.

### **Checklists as a representative case of knowledge translation**

Burke distinguishes between “informative” and “representative” anecdotes. Both involve a reduction that is necessary to understand a broader subject or phenomenon. The goal of dramatism is to choose an example or model case that is sufficiently *representative* for developing a “calculus” or terminology with the requisite complexity. Burke chooses “drama” as his representative anecdote for developing a terminology of human motives. He chooses the forming of constitutions as a representative anecdote for the study of human relations generally.

This research considers checklists a case or anecdote that offers a promising point of departure for understanding the broader processes of knowledge translation.

Ultimately, this case should support the development of a “terminology” or “calculus” that might be applied to understand the forms of mediation between knowledge and action that attend healthcare work. The case of the checklist provides a reasonably well bounded opportunity to examine these relationships while, at the same time, testing the potential and limits of rhetoric in general and dramatism in particular.

As my analyses will show, this case both represents and helpfully complicates the broader discourse of knowledge translation. For example, it appears at first to echo the dominant storyline of this applied field: a definitive clinical trial advances a knowledge claim, leading to calls for changes in practice, which prove to be challenging and slow, resulting in “gaps” between knowledge and action. Closer attention, however, reveals far more complex and multiple forms of mediation between knowledge and action or practice. These complexities are rendered particularly visible by the case of surgical



checklists, both because the practice itself is at once simple and complex and because it has garnered significant attention as a site of knowledge and persuasive action.

## 2. The emergence of checklists in the health professions

This chapter examines the emergence of surgical checklists within professional literature, especially prior to 2008 when they were launched decisively into the public sphere. Early representations of the checklist, along with foundational texts in the patient safety movement, provide a window onto the arguments, disciplines, and forms of knowledge that set the scene for this practice. They establish a shared problem or exigence: surgery is unnecessarily dangerous. The corresponding purpose of preventing avoidable harm is important but insufficient for explaining the rise of checklists as a preferred solution. I relate this emergence to the dominance of human factors engineering as a source of knowledge and tools, the reduction of this field through analogies to aviation, the characterization of complexity as a source of risk, and the focus on communication as a root cause of error. Checklists also emerged within an implied economic scene, in which resources are scarce and errors expensive. This chapter demonstrates the dominance of *scene* and *agency* as loci of motives driving both the promotion and study of checklists. That dominance has been effected, in part, through the expansion and contraction of scenic terms to their broadest and narrowest scopes. The checklist becomes appealing on the widest possible scale (all surgeries everywhere) because its ultimate purpose—saving lives from inadvertent harm—is rooted in basic human values, because it serves economic ends, and because it responds to universal problems of cognition and communication. While these ultimate purposes are unifying and unambiguous, arguments on behalf of the checklist reveal multiple intended functions or proximal purposes, including catching potential errors, ensuring the consistent completion of tasks, increasing “situation awareness,” flattening hierarchies, establishing a safety culture, and ensuring that diverse expertise is brought to bear upon problems.

## Introduction

Surgical checklists emerged decisively into the public sphere in 2008, with the launch of the WHO Safe Surgery Saves Lives campaign. In professional and research literature, however, they began to appear about 10 years earlier. Representations of the checklist before 2008 are influential and informative because they helped to establish the shared rhetorical situation that has been an important force in defining and driving the uptake of this practice. They offer explicit arguments for the checklist and reveal a range of implicit and explicit functions or purposes that checklists are called upon to serve. Finally, they provide a window onto the disciplines and forms of knowledge that have shaped the design and study this practice. This chapter provides a selective history and analysis of surgical checklists before they became part of the popular consciousness. I will reflect upon several aspects of this scene, along with their theoretical and rhetorical implications.

## Patient safety as a unifying purpose

Checklists emerged in response to a widely recognized scenic exigence: surgery is unnecessarily risky. This exigence has been established and amplified through a variety of text types, popular and professional. It provides a common and incontestable purpose that has been a dominant force in driving the uptake of checklists. However, it is insufficient to account for the dominance of checklists as a favoured solution.

The emergence of surgical checklists was made possible by an exigence that may be located in Burke's *scene*: medicine in general and surgery in particular were exposed as being unnecessarily risky. The wide recognition of this scene has a decisive rhetorical starting point. In 1999, the US Institute of Medicine (IOM) published the report *To Err is Human: Building a Safer Health System*. The report—which rang alarms about the extent, costs, and causes of medical error—has since been cited nearly 18,000 times. In the terms of actor-network theory, it has functioned unambiguously as an “obligatory

passage point” (Callon, 1986), forcing health professionals, administrators, regulators, and researchers to converge in attending to the problem of medical error and the goal of safeguarding patients from avoidable harms. The rhetorical force of this report is regularly acknowledged by health professionals themselves. Guglielmi, for example, as President of the Association of Operating Room Nurses, referred to it as a “burning platform”<sup>1</sup> set alight under “complacent organizations” (2010, p. 1).

One of the important aims of this report was to bring the problem of medical error into a public and regulatory light. This aim was pursued through the report’s key recommendations, which prominently included a call to establish systems for mandatory and voluntary reporting of errors and near misses. It was also effected by the report itself, which advanced pointed claims about the extent and costs of medical errors or “preventable adverse events.” Two claims are particularly important because they were mobilized by this report and have since travelled far and wide. The first is that at least 44,000 and as many as 98,000 people in the United States die annually from preventable medical errors. On the conservative side, this ranked medical error as the eighth leading cause of death in the US at the time of the report’s publication (IOM, 2000, p. 1).<sup>2</sup> The second claim is that over half of adverse events are preventable.<sup>3</sup>

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1 The term “burning platform” is now a cliché for a recognized rhetorical strategy in organizational communication: depicting a crisis in order to motivate change. This metaphor reflects a purposeful deployment of Burke’s scenic principle of motive: depicting scenes of particular kinds will provoke actions consistent with those scenes.

2 These values were extrapolated by multiplying the annual number of hospital admissions in the United States by the rates of preventable deaths found in two retrospective analyses of patient charts, one conducted in New York and the other in Colorado and Utah. The estimation of absolute numbers, rather than rates of error, made these claims rhetorically available for various forms of comparison and analogy.

3 Given that “adverse events” are a natural condition of medical work, judgment—and, in legal cases, a great deal of forensic rhetoric—is required to discern which ones could have been avoided. (This is an important point of distinction from other domains, such as aviation, in which all failures are understood to be avoidable, though their specific causes may be debated.) Although studies have varied in their assessments of the proportion of adverse events that are preventable, the estimate of 50% is broadly supported by multiple studies. It is interesting that this work of situated judgment, in a quantified form, has become quite a stable point of emphasis across promotional materials, as I will note again in Chapter 4 (see

Surgery accounts for a large proportion of these events (between one half and two-thirds), though this appears not to be because adverse events are more common in surgery but rather because surgery is common among people in hospitals (Gawande, Zinner, Studdert & Brennan, 1999).

The first references to surgical checklists, along with several related practices<sup>1</sup>, began to appear in published medical literature soon after the IOM report.<sup>2</sup> These appearances took several forms. The checklist was initially cited as one potential solution within empirical studies and editorial commentaries documenting the extent of medical errors or examining their causes. Aligned in their purpose with the IOM report, these texts serve primarily to evince the extent or interrogate the nature of the medical error problem. From the perspective of a study on checklists, they set the scene, or define the exigence, that demanded an urgent response. In subsequent years, checklists and related interventions emerged as the focal topic of professional and academic publications, including primary research, reviews, and case reports describing particular initiatives. Before the launch of the WHO campaign, the Team Talk research program on which I collaborated was one of a handful of groups publishing research on topics related to structured preoperative team checklists. After the launch of the campaign, publications on this topic began to proliferate.

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page 109). This claim will pop up in Chapter 5 too (page 206), where it is used within arguments expressing skepticism about the checklist.

- 1 These practices include (1) the Time Out—a short preoperative pause mandated in 2004 by the US Joint Commission for the Accreditation of Healthcare Organizations (now The Joint Commission), (2) preoperative team briefings, such as the one that I will examine in Chapter 4, and (3) crew resource management (CRM) team training programs, which often feature checklists as one component. The WHO checklist tool incorporates the first two practices (in addition to post-operative debriefing).
- 2 The term “checklist” has appeared frequently in medical literature databases since at least the 1950s, with a wide variety of referents, including pharmacopoeias and other indices, management guides, symptom lists, diagnostic guides, and assessment tools. Checklists designed to support and structure *communication*, however, appear to be non-existent in indexed academic medical literature before the publication of the IOM report.

Various text types have been important for establishing the basic characterization of medicine and surgery as unnecessarily risky. The terms and claims of seminal reports, including *To Err is Human*, are repeated and reproduced throughout my archive of texts. Promotion of the surgical checklist has responded to the problem of medical error while also articulating and rearticulating this problem on a large scale. Texts serving to reproduce and amplify the depiction of medicine as unnecessarily risky have crossed professional and popular spheres in important ways. The IOM report itself, for example, presented academic research in ways designed to reach general audiences inside and outside of medical practice. The report was widely covered in news media, as are stories concerning specific cases of medical or surgical error. The following headlines attest to the recurrent depiction of surgery, and of surgeons, as dangerous. These articles represent checklists as a means of preventing future events:

Brain surgeons are still drilling holes in wrong side of head

Going into hospital far riskier than flying: WHO

Canada third in items left inside patients

Litany of surgical mistakes and near-misses revealed

Swab left in a patient joins list of Welsh surgical shame

Patient in for a minor op given a mastectomy by mistake

Patient safety similarly emerged as a topic of widespread attention within medical journals. Health professionals have taken up the cause of patient safety in the form of commentaries, literature reviews, case reports, small-scale evaluation studies, large-scale research programs, and conference presentations. One important feature of the patient safety movement is that doctors have been called upon to acquire expertise in the principles of “safety science.” Prominent among them are Atul Gawande and Peter Pronovost, who have played important roles in advocating for surgical and ICU checklists, respectively, in a public sphere.

A full socio-rhetorical analysis, running in the direction of scene, might chart these textual ecologies and economies as they work together to establish unnecessary harm in

medical practice as a dominant rhetorical situation. For example, the social value placed upon academic publications (measured in quantitative terms) must certainly play a role in the recruitment of professional advocates and the proliferation of repetitive, mutually reinforcing academic texts. The cause of patient safety has provided a god term, or governing value, that created economic and rhetorical opportunities for a wide variety of groups to promote the importance of typically underfunded and undervalued aspects of professional practice, such as quality improvement, collaboration, education, and communication. The aesthetic and affective appeal of tragedy is surely one force among others in the production and circulation of news headlines concerning individual cases of surgical error. As I analyze representations of the surgical checklist, in this chapter and again in Chapter 3, I will examine some of these issues. In particular, I will survey the kinds of texts and persuasive appeals that appear to have most powerfully influenced the emergence of surgical team checklists. For this project, however, I regard the problem of surgical error as a site of consensus and a unifying rhetorical force. Although researchers and safety advocates acknowledge gaps in available data, and produce a range of estimates concerning the incidence of avoidable harm, no one argues against the importance of medical and surgical error as a significant problem warranting attention.

The problem of avoidable harm, and the purpose of preventing it, provides a strong and unifying motive for the patient safety movement. It does not, however, explain the emergence of checklists as a central strategy. It was interesting for me to realize that checklists played a decidedly minor role in the IOM report. The term “checklist” appears for the first time in the eighth and final chapter, where the “wise use of protocols and checklists” is recommended as one among a long list of methods that should be “strongly considered” by healthcare organizations in their efforts to improve safety (IOM, 2000, p. 158). Every subsequent reference is similarly qualified: checklists are one solution among many, they are paired together with protocols, and they are restrained by the adjectives “wise” or “sensible” (which suggests their propensity to be used unwisely or insensibly).

“Why checklists?” is therefore an important prior question for rhetorical analysis to address. To understand the enthusiastic and wholesale promotion of checklists, it is helpful to look more closely at how medicine and surgery have been constructed as risky. This requires attention to four interrelated aspects of the patient safety scene. First is the dominance of a particular discipline, human factors engineering, as a source of knowledge and methods to diagnose problems and inform safety efforts. Second is the turn to a particular domain, aviation, as a source of tools, practices, and rhetorical appeals. Third is an emphasis upon complexity as a primary source of risk. Fourth—and most important from a rhetorical perspective—is an emphasis upon communication as both a primary cause and a primary solution to the problem of medical error. I will briefly chart each of these aspects of the scene, noting some of their rhetorical dimensions and implications along the way. This charting also reveals how the discourse of patient safety intersects with other prominent discourses in health services research, including knowledge translation, evidence-based medicine, and interprofessional collaboration.

Alongside these professional and scholarly discourses, two other important aspects of the scene bear upon the emergence of the checklist as a solution: an underlying concern about the cost of medical and surgical care and the movement toward globally applicable protocols. These dimensions of the scene come more sharply into focus in Chapter 3, which picks up where this chapter leaves off, tracing the uptake of surgical checklists forward from the WHO Safe Surgery Saves Lives campaign into policy and practice. That chapter will show how surgical checklists emerged on a large scale as a strategic rhetorical choice shaped by the need to address a global audience. That choice drew upon and reproduced the arguments and symbolic resources that are examined in this chapter.



## Human factors as a terministic screen

Efforts to study and prevent errors in medicine have predominantly been structured by the discipline of human factors science, which situates itself at the intersection of psychology and engineering (Russ et al., 2013). There are two different senses in which this discipline brings Burke's axis of *scene* to the foreground of my analyses. Not only has the terminology of human factors defined and framed the patient safety problem, but that terminology itself interprets human behaviour primarily in scenic terms, as a function of organizational contexts, systems, and technologies. The central argument and refrain of this discipline, especially as it has been applied to problems of safety, is that errors should not be understood as a function of blameworthy and negligent individuals. They are instead a function of poor systems and technologies that are not resilient to the predictable tendencies and limits of human cognition. As the IOM report concludes:

[The] majority of medical errors do not result from individual recklessness or the actions of a particular group—this is not a “bad apple” problem. More commonly, errors are caused by faulty systems, processes, and conditions that lead people to make mistakes or fail to prevent them.

(Institute of Medicine, 1999, p. 2)

If systems, processes, and conditions are at fault for errors, then solutions lie not in greater vigilance or more training but rather in better design of processes, spaces, and tools. In the terms of Burke's pentad, the patient safety movement, driven by the discipline of human factors engineering, is organized around a concerted effort to shift attention away from the agent-act ratio and toward the scene-act and agency-act ratios, such that medical errors (the focal actions at the core of this discipline) are interpreted as a function of systems and tools rather than individual actors. James Reason, a

psychologist and highly influential scholar of human error,<sup>1</sup> epitomizes this argument via antimetabole:

We cannot change the human condition, but we can change the conditions under which humans work. (Reason, 2000, p. 769)

The acts of interest, further, are understood to operate predominantly in the realm of motion. Errors are by definition not purposeful—or, rather, if the acts are conducted with purpose, they are conducted either without a complete and accurate apprehension of the relevant situation or without an ability to change a situation in which action is necessary.

Discursively, this shift has been marked, for example, by the celebration of “safety culture” and the denigration of “blame culture.” Structurally, it has been associated with various systems-level strategies. These include growth in the field of health technology assessment, which investigates how humans interact with technical tools and incorporates safeguards to anticipate and prevent errors; advocacy for confidential reporting systems that encourage health professionals to report mistakes and “near misses” with impunity; and implementation of training programs, such as crew resource management (CRM), which aim to develop “situation awareness” and team communication practices that compensate for the limits of human cognition.

In healthcare, “safety science” has often been presented as a field that requires importing or translating existing knowledge and solutions rather than creating new ones. This framing of the situation adds an important dimension to my analysis of team checklists as a case study in knowledge translation. In published academic literature, the discipline of human factors engineering is dominant as the source of knowledge to be translated. One minor illustration of this uptake is offered by the ubiquity of Reason’s Swiss cheese model of accident causation. (For an exhibit of the model and its popularity, see Google images with the terms James Reason + Swiss cheese + medicine.)

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<sup>1</sup> Reason’s work is rhetorically significant in at least two ways, first for its eloquence and influence and second for its incisive analyses of situated motives.

This model depicts how errors occur when active failures pass occasionally through an alignment of latent weaknesses and pressures within a system (i.e., holes in the defensive layers of cheese).

The field of human factors science warrants some further discussion here. Not only is it important empirically, as a prominent frame within my focal texts; it is also important theoretically as a field that offers generative points of intersection with, and divergence from, the discipline of rhetoric in general and Burke's dramatism in particular. Human factors engineering offers a sociotechnical framework that focuses upon the interactions between humans, their environments (*scene*) and their tools (*agencies*). Philosophically, it has a materialist and pragmatist orientation. While it shares with rhetoric a central focus on the study of human actions in context, its attention is specifically trained upon those aspects of behaviour that operate beneath the level of consciousness, in what Burke would term the realm of motion. As such, it offers an interesting counterpart to Burke, whose ultimate concern lies in discerning those "kinds of action *not wholly reducible* [emphasis added] to terms of motion" (Burke, 1966, p. viii). Human factors science and engineering therefore have significant potential to inform a dramatic analysis and to test the theoretical and methodological value of the motion/action distinction.

The dominance of human factors engineering has important rhetorical consequences for the study and promotion of change in professional work. In Burkean terms, for example, it shifts the scapegoat. Instead of pointing fingers at people—negligent individuals or professional groups—blame is instead located, on the one hand, within material implements and structures and, on the other, within the biological properties and limits of bodies and brains. This move has significant rhetorical potential to unite disparate groups in opposing common, nonhuman threats rather than opposing one another. The primary alternative is to locate danger or risk within professionals themselves, who are

depicted as incompetent, egotistical, and insufficiently vigilant or empathic.<sup>1</sup> If the causes of error are embedded within features of the nonhuman scene that lies beyond conscious control—indeed, even within some of the habituated skills that also constitute excellent practice—then professionals may be easier to recruit to the safety cause with their professional identities intact. Medical and surgical errors, in a sense, happen to health professionals, and their own experiences of trauma associated with committing these errors are brought to the fore. This relative freedom from culpability, however, also points the way toward a loss of professional control and sense of agency as trainees are taught to distrust their instincts and to place their faith, instead, upon negotiated and standardized protocols—a dominant compensatory response to human limits. Materialist explanations for expert behaviour become, in this sense, a rhetorical liability:

It can be disturbing for a clinical population who base their status, professional confidence and sometimes their business model on their individual abilities to realise how much their own performance is shaped by the equipment, tasks, environment and organisation around them.

(Catchpole, 2013, p. 795)

This motivational and rhetorical interplay runs to the core of many current discussions in health professional education and the governance of healthcare work. It also leads to a key site of ambiguity in the design of surgical checklists. There are two typical responses to the problem of human fallibility, both of which are incorporated into the design of checklists as a solution. The first, as I've just noted, is to compensate for human limits by adopting automated or standardized tools designed to prevent humans from making predictable mistakes. These technical solutions operate with maximal efficiency in the realm of motion. The second is to compensate for human limits by fostering communication among people with diverse perspectives and by strategically raising conscious awareness. These solutions operate in the realm of action and often

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<sup>1</sup> Burke's pentad both clarifies this distinction and shows that there are more than two alternatives.

involve interrupting motion, slowing down, and drawing attention to hidden or changing aspects of a situation or to the limits of one's perspective.<sup>1</sup>

Why has human factors engineering been such a dominant force in the construction of safety science within healthcare? I can't offer a comprehensive answer to this question, but I have already made one observation of rhetorical significance. Health professionals themselves have been encouraged and invited to become experts and spokespeople of human factors or "safety science" principles. The successful "enrolment" of actors is apparent in the diverse array of authors who have produced editorials, reviews, and studies deploying these terms. This widespread uptake of terms and tools has led to misunderstandings and "misappropriations" of academic expertise, raising questions about the relationship of academic and applied disciplines (Catchpole, 2013). Although human factors engineering has enjoyed broad uptake and support relative to other disciplines, academically-trained experts in the field have raised concerns about the temporary and unstable funding of their work within healthcare relative to their integrated role within other industries. They have expressed concerns and ambivalence concerning clinician researchers who take up, apply, and write about selected concepts from their field, sometimes deflecting and distorting its foundational principles (Catchpole, 2013; Russ et al., 2013).

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<sup>1</sup> Variations on this same underlying mechanism can be seen in quite different areas of healthcare work. For example, Moulton et al. describe how expert surgeons recognize when to "slow down" as they move from routine into challenging phases of a surgery (Moulton, Regehr, Lingard, Merritt, MacRae, 2010; Moulton, Regehr, Mylopoulos & MacRae, 2007). Kontos and Poland argue for the value of drama for raising critical awareness of assumptions about standard care practices (Kontos & Poland, 1999). In both cases, these strategies involve shifting out of an automatic mode and drawing attention to processes that otherwise lie outside of conscious attention, whether by training (e.g., practised acquisition of surgical skills) or by nature (e.g., structural influences over human behaviour). A similar impulse underlies Burke's notion of "perspective by incongruity": the purposeful attempt to get beyond the limits of our own perspectives by seeking out different points of view.

## Aviation as a reductive analogy

As a scientific and professional discipline, human factors engineering has been highly successful, and generously funded, in various industries including nuclear power, the military, manufacturing, and aviation (Catchpole, 2013). These industries have shared features: they are sociotechnical in nature, and failures of the system have the potential to result in catastrophic events. Although aviation is only one of the domains that has incorporated human factors approaches into its practices and protocols, healthcare applications have largely conflated aviation with the larger discipline (Catchpole, 2013). The metaphors of surgeon as pilot and operating theatre as cockpit are ubiquitous across both popular and professional texts, as illustrated by the following selection of titles:

Navigating towards improved surgical safety using aviation-based strategies

Diffusing aviation innovations in a hospital in the Netherlands

My copilot is a nurse—Using crew resource management in the OR

Briefing and debriefing in the operating room using fighter pilot crew resource management

Why do doctors kill more people than airline pilots?

This emphasis on aviation has resulted in the importation not primarily of assessment and design principles but rather of specific tools and practices that have been developed for the aviation industry. Foremost among these are Crew Resource Management (CRM)—a model of team training that features team briefings as one component—and safety checklists.

In *The Checklist Manifesto*, Gawande introduces the concept of checklists by narrating their emergence in aviation. He describes the Boeing Model 299 military airplane developed in 1935—a bomber that far surpassed the technical capabilities of its competitors but proved “too complicated to be left to the memory of any one person” to fly (2009, p. 34). Thanks to one missed step by a highly experienced pilot, the exemplary

machine crashed on its demonstration flight. Gawande describes how this event precipitated the development of checklists the size of index cards itemizing the steps required for takeoff, flight, landing, and taxiing the plane.

Gawande acknowledges that flying airplanes and treating patients present different problems. For one thing, patients present highly individual and varied medical and surgical challenges:

A study of forty-one thousand trauma patients in the state of Pennsylvania—just trauma patients—found that they had 1,224 different injury-related diagnoses in 32,261 unique combinations. That’s like having 32,261 kinds of airplanes to land. (Gawande, 2009, p. 35)

The work of flying a plane and that of practicing medicine also, importantly, entail different kinds of tasks and problems. Citing Canadian researchers Glouberman and Zimmerman, Gawande offers a helpful distinction between simple problems (which “can be broken down into a recipe”), complicated problems (which “can be broken down into simple problems” but require multiple people with specialized expertise), and complex problems (which are unique and uncertain, like raising a child) (Gawande, 2009, p. 49). Whereas flying a plane falls largely under the heading of simple problems that can be broken down into task-oriented steps, health professionals encounter the full spectrum of problems: simple, complicated, complex.

Gawande goes on to observe that checklists can function in different ways to manage these distinct kinds of problems. Task-based checklists are well suited to problems of the simple variety. They work by directing attention and decreasing reliance on memory to ensure that no critical steps are missed. When it comes to complicated and complex problems, what is required are not task lists but *communication* lists. In these cases, checklists provide reminders of the topics that require discussion or the questions to ask. The example that Gawande provides in developing this point is the case of unexpected problems that arise during large construction projects. Alongside task-based schedules, checklists serve, in these industries, to convene the experts needed to resolve

emergent issues. It is worth pausing here to observe that these two kinds of checklists each invites rhetoric in different ways. In the first case, checklists work by directing attention—selecting certain items and calling attention to them while deflecting others. In the second case, checklists work by inviting dialogue and negotiation. Dialogue itself may serve multiple functions. In the example of the construction project, it is used to manage and resolve known problems. In other cases, it may serve a heuristic function, pointing toward areas of anticipated or potential difficulty.

The example of a complex problem, raising a child, is not similarly reducible to a checklist (though it can be supported, trivialized, or overwhelmed by attempts of both the task-based and dialogue-generating kinds). This example stands out as the only problem that resides fundamentally within Burke's realm of action. The problems that Gawande draws upon throughout his book are almost all technical or material in nature. They involve flying airplanes, preparing meals, distributing supplies, constructing large buildings, and caring for bodies barely clinging to life. Human processes are of course required to solve these problems, but the problems themselves reside largely in Burke's realm of motion. The distinction between simple, complicated, and complex problems appears to sidestep another distinction—Burke's foundational one—between the symbolic and nonsymbolic. The industries that have served as models for the development of human factors science are similarly organized around problems and actions residing predominantly in the nonsymbolic realm. It is also worth noting that depictions of checklists commonly presume that everyone agrees upon the nature of the problem, task, or question at hand. In medical practice, different perspectives concerning the nature of the problem may be a prior and significant site of negotiation.<sup>1</sup> Problems may also exist as a potential future event that may or may not be possible to anticipate.

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<sup>1</sup> These observations may be expected to have limited relevance to the operating theatre, where much of the work does reside in the realm of motion. Yet my analyses in every chapter will suggest that multiple purposes and problems can be simultaneously at play across enactments of the surgical checklist.



Commentaries in medical journals have observed the limits of treating medicine as analogous to aviation. Rogers, for example, observes that airline checklists are conducted by two co-pilots with similar expertise and clearly delineated roles, whereas teams in the operating theatre are characterized by disparate training, high turnover, and steep authority gradients. Unlike pilots, doctors regularly encounter emergency situations and purposefully negotiate risk, both of which require the development and use of judgment under conditions of uncertainty. For these and other reasons, he argues, tools from aviation should play a minor role in medicine. Gaba, in a counterstatement, acknowledges limits to the analogy even while arguing that medicine has not gone nearly far enough in its application of strategies from aviation. “Patients are indeed not aeroplanes” (Rogers & Gaba, 2011, p. 199). Unlike mistakes in aviation, which are public and affect many lives at once, he observes, mistakes in medicine tend to “remain private” and to affect just one life at a time. This makes it even more important to create conditions that generate attention and accountability.

Catchpole observes that training programs and tools such as CRM were incorporated into aviation only after the system and structures had been thoroughly engineered according to human factors principles. The tendency in medicine has been to acknowledge but sweep aside systemic differences, unmooring tools and training programs from their structural foundations. Notwithstanding occasional commentaries asserting the limits of the analogy between aviation and medicine, most texts celebrate or simply invoke aviation as a model that medicine ought to emulate.

The turn to aviation has important rhetorical implications for the promotion of safety initiatives including the surgical team checklist. One recurrent strategy for motivating change has been to compare medicine unfavourably with aviation. Here are two examples selected from one editorial. They are excerpted at length because they address several themes that run across this dissertation, casting the checklist explicitly as an agent:

What is so surprising is the disparity between aviation's routine use of simulator training, line-oriented safety audits, check airmen, crew resource management, proficiency checks, callouts, read-backs, briefings, and checklists and surgery's inexplicably slow efforts to embrace these useful safety tools. The fact that an elementary checklist's efficacy would warrant publication in one of our most prestigious journals signals how far we have to go to match the kinds of safety techniques viewed as commonplace and unremarkable in nuclear power, navy carrier, and submarine operations and in commercial aviation. (Karl, 2010, p. 8)

Checklists are used routinely and habitually by airline personnel and sporadically by surgical workers. In the airlines and military, checklists are viewed as another member of the crew. They are living, evolving instruments. (Karl, 2010, p. 9)

This comparison serves the function of critique, setting an external standard and demonstrating how medical and surgical systems and practices come up short. The message threatens the public image of the medical profession. It also helps to establish the presumption that checklists are useful, as they are well established in other fields of practice. The quotation above explicitly privileges arguments from analogy over the forms of experimental research evidence regarded as necessary to warrant practices in the health professions.

A second recurrent strategy is face-saving: The aviation example is held up to demonstrate that reliance on basic tools, such as checklists, is not at odds with high-level professional expertise. As I will detail in Chapter 3, one of the central rhetorical strategies in Gawande's *The Checklist Manifesto* is to identify checklists with professional excellence.

A third rhetorical implication is that the analogy to aviation is readily accessible to professionals and publics alike. It gives general audiences a window onto the closed and contained spaces of the cockpit and the operating theatre.

## Complexity as a problem

The focus on systems as a source of error has also entailed attention to complexity as a primary source of risk. This emphasis is apparent within the IOM report. It is repeated briefly within the WHO Safe Surgery guidelines (WHO, 2009c). It is also apparent from the outset of *The Checklist Manifesto*. In this section, I briefly describe the meanings associated with complexity in these texts, especially as they relate to the intended purposes of checklists.<sup>1</sup> Within my archive, the problem of complexity is often implicit within representations of the checklist as “simple.” In Chapter 3, I will look more closely at the meanings of simplicity in promotional texts (see page 121). Those meanings reinforce the observations that I make below.

The term complexity is linked to specialization. It describes systems that have many interdependent parts. Those parts are not all visible to any one person working within a system. Risk is associated with this invisibility and with the degree and kind of interdependence among the parts and processes. Those parts are described as being “tightly coupled” when there is “no slack or buffer” between them, as, for example, when one task must be complete in order for the next to be initiated, and when those tasks must be performed under time constraints (IOM, 2000, p. 60).

My description here invokes the technical language typically used to describe complexity and communication within systems. In keeping with these technical metaphors, domains of medicine that are more reliant on technology and more constrained in time are often regarded as models of complexity:

The activities in the typical emergency room, surgical suite, or intensive care unit exemplify complex and tightly coupled systems. . . . One of the advantages of having systems is that it is possible to build in more defenses against failure. Systems that are more complex, tightly coupled, and are

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<sup>1</sup> I do not delve into broader literatures of complexity and complex systems theories. My research may have blind spots in those directions, as my understanding of these theories comes primarily through translational or applied texts.

more prone to accidents can reduce the likelihood of accidents by simplifying and standardizing processes, building in redundancy, developing backup systems, and so forth. (IOM, 2000, p. 60)

It is this imperative toward “simplifying and standardizing” that checklists emerged to address.<sup>1</sup> In *The Checklist Manifesto*, such conditions of complexity and interdependence are presented as primarily cognitive problems:

In a complex environment, experts are up against two main difficulties. The first is the fallibility of human memory and attention, especially when it comes to mundane, routine matters that are easily overlooked under the strain of more pressing events. . . . A further difficulty, just as insidious, is that people can lull themselves into skipping steps even when they remember them. In complex processes, after all, certain steps don’t always matter. Perhaps the elevator controls on airplanes are usually unlocked and a check is pointless most of the time. Perhaps measuring all four vital signs uncovers a worrisome issue in only one out of fifty patients.

(Gawande, 2009, p. 36)

Both passages suggest specific functions for the checklist. Checklists ensure the consistent completion and confirmation of tasks that might otherwise be forgotten or skipped amidst other priorities. These functions are aligned with the use of checklists in aviation and in everyday life. They are apparent in checklists designed to prevent central line infections in the ICU:

Nobody disputed that each of these items on the checklist made sense and would potentially save lives. Yet, before we implemented [the safety program], these interventions were followed inconsistently.

(Pronovost, 2010, Chapter 3)

The goal of standardizing processes is amplified by its resonance with the discourses of knowledge translation and evidence-based medicine. Those discourses typically seek to reduce unwarranted variations in practice and to promote the consistent

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<sup>1</sup> This is a nice example of “qualitative progression,” one of the two principles of progressive form that Burke characterizes. The presence of one quality (complexity) prepares the way for another, counter-balancing quality (simplicity) (Burke, 1931/1968a, p. 125).

implementation of measures established as standards of care. As I will elaborate in Chapter 3 and especially Chapter 5, these discourses introduce a further discursive function for checklists as a translational form explicitly designed to mediate between research and practice. In this mediating role, checklists function to synthesize, select, and deflect research and other forms of knowledge, and to translate knowledge claims into specified behaviours.

In this chapter, I focus on the intended functions of checklists inside the operating theatre. This section has highlighted several of the most prominent cognitive and instrumental ones that derive from the scene of complexity. Checklists respond to the problem of easily overlooked steps by jogging memory and directing attention to features of the situation that are already known. They resist the temptation to skip routine steps by formally defining the actions that must be performed or verified.

In drawing attention toward the multiple interdependent parts within a system, the emphasis upon complexity also points the way toward communication, which introduces additional problems and intended functions. These include the need to coordinate tasks, draw attention to features of the situation that might otherwise remain invisible (establishing a “common mental model”), facilitate the exchange of information, and decrease cultural barriers to speaking up. These functions are described briefly in the next section. In Chapter 4, they are animated by examples from the operating theatre.

## **Communication as a source of risk**

The scene of poorly communicating teams is also a necessary precondition to the emergence of checklists as a predominant solution: the riskiness of surgery and of medicine has been attributed largely to failures of communication. I knew the importance of this scene from my own experience helping to describe and substantiate it. Two principal lines of evidence are used to link communication to the etiology of errors. First, when medical errors occur, communication is often identified as a primary

cause through retrospective analysis. For example, the Joint Commission, an accreditation agency in the United States, publishes statistics on sentinel events and regularly identifies communication as a leading root cause (typically without further explanation concerning how communication failed). Second, prospective observational studies of teamwork or communication are used to characterize sites of tension and potential threats to safety.

The Team Talk project has played a role in articulating these latter arguments and characterizing the nature of communication problems. Of all the publications associated with this project, the one describing, classifying, and quantifying “communication failures” (Lingard et al., 2004) has far and away more citations than those reporting the measured effects of the checklist, describing its development, characterizing its qualitative effects, and theorizing its mechanisms and uptake. This article helps other writers to perform the necessary work of medical research: constructing a problem and justifying intervention.

Communication, both as an exigence and as the form of intervention, introduces complications to the intended and actual functions of the checklist. It also draws upon additional discursive influences from related domains of health services research, including professional education and interprofessional care. These domains of research are relevant to safety but are not organized in the same way around particular, narrowly specified problems.

Texts advocating for the surgical checklist contain three primary assumptions concerning how communication works to increase or mitigate risk. These assumptions are interrelated, but they imply different theories of communication, along with distinct functions for the checklist.

The first assumption is that communication works by directing attention toward essential details and tasks that are easy to overlook. It fosters collective attentiveness to features of a situation that are directly observable or expected. This act of checking critical details serves two distinct purposes. It is intended, first, to serve as a final line of

defence against those rare errors known as “never events” or “sentinel events,” such as operations on the wrong patient, site, or side. The same act of collective verification also works by prompting recall of critical tasks and details. Beyond supporting memory, the checklist instills a sense of collective accountability for the consistent completion of tasks.

The second common assumption is that communication is a problem of information transfer and management:

Adverse medical events are frequently the result of ineffective team communication: either not having enough information, losing it across the transitions of care, or one clinician having a different “picture” of what’s supposed to be done than others caring for the same patient.

(Groff & Augello, 2003)

In this conception, checklists serve as an opportunity for information exchange between professional groups. In some cases, discussions of this function manifest an unambiguous sender–receiver model of communication. Frequently, however, this exchange of information is understood to support the establishment of a common “mental model” among members of the team. While this function emphasizes the exchange of information, it can also be understood in situational and relational terms. Checklists again serve a cognitive function, but rather than directing attention toward routine features of the situation that are accessible to everyone on the team (i.e., safety checks and expected actions), they seek to ensure that relevant features of the situation are made visible. As I will illustrate in Chapter 4, these otherwise invisible features may be technical or social, and they may produce either productive or counter-productive effects. Within arguments for the checklist, emphasis is often placed upon sharing information about technical features of the case, including anticipated surgical challenges, how the patient should be positioned, the type of antibiotic to be administered, or the case-specific equipment that is needed.

Observations from the Team Talk study support and advance these arguments. The predominant direction of information exchange was from attending surgeons to anesthesiologists and nurses. While anesthesiologists and nurses could obtain some information from the case booking, patient charts, and typical expectations for specific kinds of cases, the anticipated challenges of a given procedure or specific concerns of a particular patient are largely held by surgeons and not easy or possible to obtain from documents. This exchange of information has direct pragmatic value where it informs preoperative decisions or enables preparatory actions. It also prepares teams to anticipate, and therefore respond more effectively, to potential challenges. The exchange of information also has relational value, as I describe in Chapter 4.

The third assumption is that communication is risky because hierarchies within the team discourage people from speaking up. Within this context, the checklist works to foster basic acknowledgement among members of the surgical team and to cultivate a safety culture. The function of mutual acknowledgement is captured explicitly in a particular prompt at the start of the checklist, which asks members of the team to introduce themselves by name and role. It is also supported by explicit invitations to ask questions and share concerns. In theory, these acts of mutual recognition help to encourage members of the team to speak up during or after the checklist if they notice that something is wrong. One central goal for safety advocates is to establish environments in which people feel encouraged to voice concerns. Reason explains that culture is a particularly significant threat within complex organizations because it is the only thing pervasive enough to weaken defenses across all levels of a system (Reason, 1998). One significant question is whether checklists require a supportive culture to function properly or whether they can help to create such a culture. In either case, this discussion points up the most thoroughly relational dimension of the checklist practice. Burke cautions against a reductive understanding of language as an instrumental means of conveying information or knowledge. Such instrumental understandings of communication are prominent within professional research and practice, and they



pervade the discourse of evidence-based medicine. Dramatism, therefore, provides an important corrective in its emphasis upon language as a form of action. However, the instrumental functions of language are also of obvious and central importance to work in the health professions. A rewarding, mutually respectful dialogue is not usually possible or effective without accurate and well-managed content. The relational, affective, and ethical functions of language are not separate from, and compensatory to, their instrumental functions. These functions of symbolic action must be understood as they operate in conjunction with one another. Checklists provide one opportunity to examine that interplay. Dramatism can be used to examine the social and ethical functions of rhetorical forms alongside their informational and instrumental ones.

## **Implicit aspects of scene**

This chapter has focused on arguments within professional literature that have either explicitly advocated for checklists or directly set the scene for their emergence. I have also focused on rationales related to the intended functions of checklists as a practice within the operating theatre. Two additional aspects of the motivating scene exist at a wider circumference and are imperative for addressing the question “Why checklists?” These are the context of globalization, which seeks solutions applicable in any context, and an economic scene, in which resources are scarce and errors are an expensive diversion of those resources.

These aspects of scene illustrate a principle of dramaturgical analysis, in which some pentadic elements are explicit and others are implied. Within professional and research literature, the focus on human factors as a source of knowledge, aviation as a model industry, and complexity and communication as sources of risk are explicitly developed through research designed to characterize aspects of the *scene* or problem. By contrast, the economic and global scenes are more often implied by depictions of the checklist as inexpensive and adaptable to any context. These aspects of the scene are not strictly implicit. Both the universal applicability of the tool and its potential to save money are

regularly acknowledged within both research and popular texts. These aspects of scene, however, are not represented as the primary problems to be solved.

## **Rhetoric in the emergence of surgical checklists**

In this chapter, I began by describing a common scene and an associated purpose (“saving lives”) that has helped to drive the uptake of checklists among other patient safety interventions. Considered broadly, the checklist emerged in response to the problem of surgical error. Errors are routinely attributed to deficiencies in communication, conditions of complexity, and the limits of human cognition. The checklist becomes appealing on the broadest possible scale (all surgeries everywhere) because its ultimate purpose—saving lives from inadvertent harm—is unassailable, because it serves economic ends, and because it responds to a universal situation: the limits of human cognition and the necessity of bridging those limits with communication.

Looking more closely at how surgery has been characterized as risky, I discerned a number of distinct exigencies and intended purposes of the checklist. These scenes and purposes all converge on supporting communication, but they do so in a variety of ways, as represented schematically in Figure 1. Intended mechanisms of the checklist include directing attention, compensating for the limits of memory, catching potential errors, prompting the consistent completion of tasks, increasing “situation awareness,” flattening hierarchies, supporting a safety culture, and ensuring that diverse expertise is brought to bear upon problems. This discussion has underscored a central distinction between the instrumental and social or relational functions of the checklist tool. These multiple functions have served as a primary site of ambiguity and debate.

In the next chapter, I will set these intended functions against a backdrop of broader purposes that extend outside of the operating theatre, including saving money, demonstrating regulatory compliance, compelling material investments, and reassuring publics. I will also show how promotional texts tend to emphasize those purposes that

operate at the widest (and narrowest) possible circumstances—arguments rooted in the ultimate purpose of the checklist (saving lives) and in universal problems (the limits of human cognition).

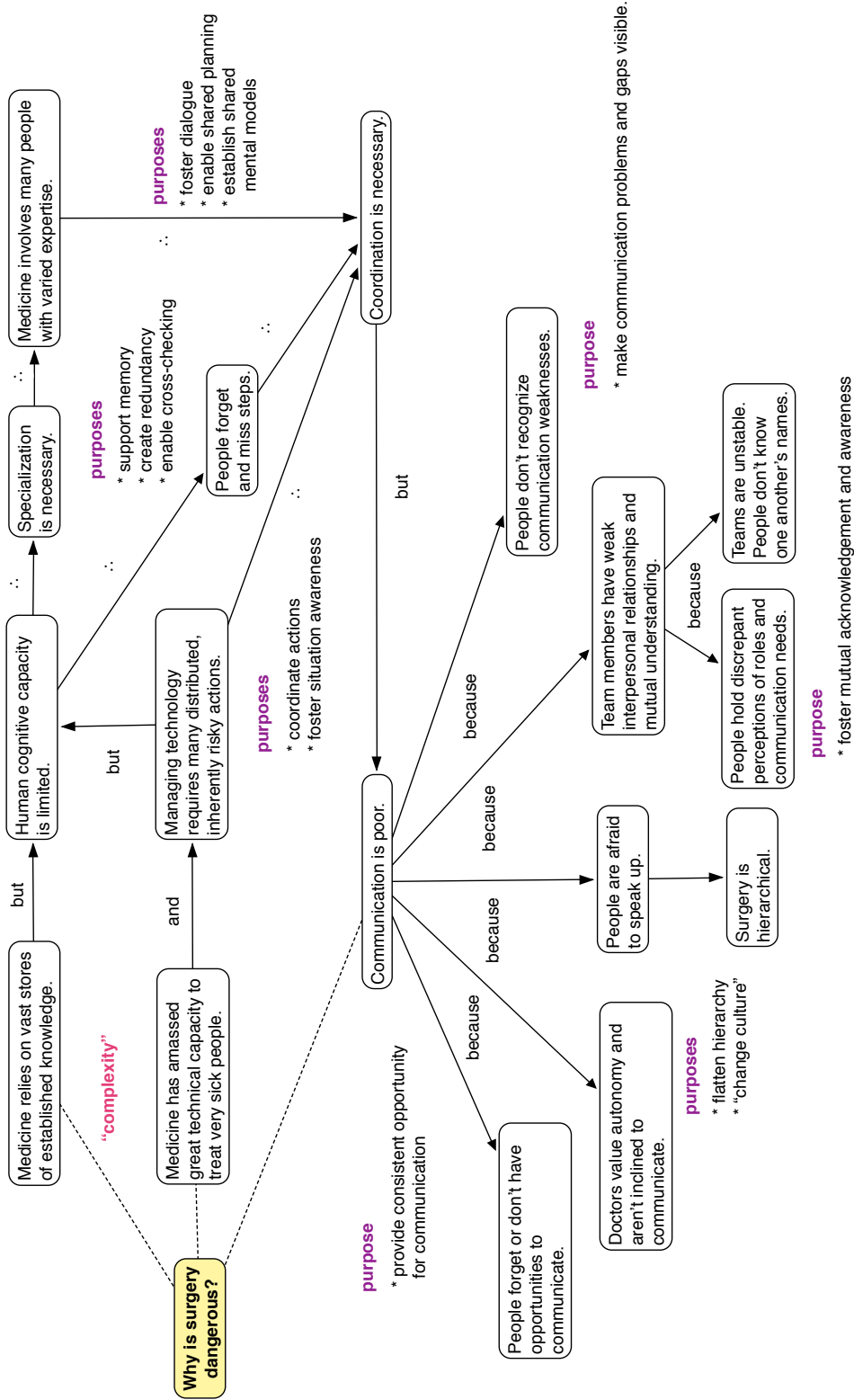


Figure 1. Common arguments for the checklist (scenes and purposes)

The discussion in this chapter establishes a foundation for two interrelated directions of rhetorical inquiry that will run throughout this dissertation. One deals with the promotion and rapid uptake of surgical checklists—a rhetoric *of* the surgical checklist. The other deals with the basic functions and malfunctions of checklists, which are, at least to some extent, intrinsically rhetorical—a rhetoric *in* the surgical checklist. These two directions of inquiry are both distinct and intricately connected. Early literature on patient safety in the health professions enables the promotion and rapid uptake of checklists by establishing a unifying problem along with multiple proximal purposes and lines of argument that can be drawn upon flexibly to recruit multiple alliances. It contributes to the study of how checklists *work* (or fail to work) by parsing out the multiple cognitive, instrumental, and relational functions that were originally intended for checklists as a form. These functions are all arguably rhetorical but in different ways and to different degrees. Some of these functions work specifically by mediating the limits of rhetoric.

### 3. The promotion and rapid uptake of surgical checklists

This chapter charts the promotion and uptake of surgical checklists through professional and popular media beginning with the launch of the WHO Safe Surgery Saves Lives Campaign in 2008. I illustrate how checklists have progressed rapidly from being a subject of overt persuasion, to a presumed good, to a standard of competent professional communication, and finally to an element of the formal and material structures that govern professional work. To explain this progression, I identify a variety of rhetorical strategies and processes by which people and organizations (agents) have collectively promoted the checklist (a form of agency) as a simple way to prevent surgical harm (purpose) in the face of complex, fragmented, risky and expensive healthcare systems (scene). These include traditional forms of rhetorical appeal apparent within overtly promotional texts as well as implicit strategies of enrolment and identification inherent to, for example, dominant discourses, organizational structures, and the affordances of various genres. Overall, the case of surgical checklists illustrates how a variety of rhetorical mechanisms—symbolic and material, designed and spontaneous, overt and implicit, public and professional—can work in concert to effect material change and to establish a relatively stable depiction of the practice. This distributed rhetorical work tends to amplify some purposes of the checklist over others. It also introduces additional purposes that extend outside the operating theatre.

## Introduction

The story told in this chapter begins in June 2008, with the launch of the Safe Surgery Saves Lives campaign by the World Health Organization (WHO). This campaign marked the first public appearance of surgical checklists, and it initiated a period of rapid uptake: within two years, the WHO reported the use or intended use of the checklist by nearly 4000 hospitals around the world (Center for Geographic Analysis, 2010). The practice became mandatory for all surgeries in the province of Ontario in April of 2010. In November of the same year, an editorial published in the *New England Journal of Medicine* concluded that surgical checklists “should be considered a priority for providers, payers, and policymakers” and observed that this practice had “crossed the threshold from good idea to standard of care” (Birkmeyer, 2010, pp. 1964–1965). This editorial diverged markedly from a more skeptical commentary written a year earlier by the same author (Birkmeyer and Miller, 2009).

In this chapter, I consider how and why surgical checklists have been adopted so rapidly as a standard of professional practice. I describe the wide network of people and organizations that have promoted the checklist as a simple way to prevent surgical harm in the face of complex, fragmented, risky and expensive healthcare systems. My goal is to chart significant and recurrent rhetorical acts, strategies, and processes through which checklists have been firmly established as a common good: that is, as simple, standard, effective, inexpensive, and universally applicable.

The analysis that I present in this chapter draws upon a large archive of texts crossing a variety of media and genres. Some are addressed to general audiences. Others are addressed to professional audiences for the specific purpose of promoting surgical checklists. Still others are addressed to, and generated by, professionals for a wider range of purposes. I have opted to integrate my analysis of different text types for several reasons. First, while different genres in this dataset exhibit important distinctions in their rhetorical strategies and purposes, their functions are sometimes

difficult to delineate along generic lines. For example, popular texts sometimes play an important role in advancing knowledge claims, and research texts are sometimes conspicuously promotional. Second, I will suggest that the wide variety of media and genres, along with interactions among them, has itself served important suasive functions in the promotion and uptake of checklists. Third, I believe that this approach is consistent with the procedures modelled by Burke and may help to elucidate the strengths and limits of those procedures. While the work of understanding and enacting checklists can be difficult to separate in practice, it is nonetheless possible to distinguish these functions analytically: the same set of texts can be considered primarily in their promotional aspects or their epistemic ones.

My own aims in this chapter are primarily epistemic. I seek to describe and better understand the specific suasive strategies and processes that have driven the promotion and rapid uptake of surgical checklists, not to recommend strategies or to articulate a stance on the value of checklists as a practice. The suasive strategies and processes that I describe are variously designed and spontaneous, overt and implicit, symbolic and material. This case study is valuable for scholars of rhetoric, in large part, because it offers an opportunity to examine closely how a variety of suasive processes can work in concert, over a short period of time, to effect material change. In Chapter 5, when I turn my attention to debates about the methods and forms of evidence needed to warrant, study, and change professional practices—that is, to questions about knowledge—my aims will become more promotional, as I consider how this project in particular, and rhetorical knowledge in general, can best contribute to the study and practice of knowledge translation in healthcare work.

### **Detailed overview**

In the first section of this chapter, I describe how the surgical checklist was introduced to public and professional audiences through a coordinated set of events and texts across multiple media. I introduce the individuals and organizations that drove these



purposeful, suasive efforts. My description highlights the rhetorical awareness exhibited by these advocates. Not only has the promotion of surgical checklists been overtly rhetorical, but it instantiates a working theory of persuasion as it relates to health systems and professional work. Drawing upon both neo-Aristotelian and Burkean terms, I examine some key strategies of appeal apparent in one text of central importance: *The Checklist Manifesto*.

I then turn my attention to more recurrent forms of rhetorical action, along with a wider set of rhetorical agents and constituencies, that have been involved in recruiting support from health professionals. I focus on three broad and interrelated categories of appeal: arguments and evidence, strategies of identification, and strategies of enrolment. I place emphasis upon the last of these categories, which I take to include the varied discursive and material means by which surgeons, nurses, and anesthesiologists have been cast into active roles in the promotion, use, and study of surgical checklists.

News coverage features additional rhetorical mechanisms through which the checklist has insinuated itself as an expected standard of practice. I describe those mechanisms next, focusing on epideictic rhetoric (used to praise individuals and organizations that adopt checklists and to disparage skeptics), the association of checklists with simplicity and safety (good terms), and the emergent representation of checklists as a metric or indicator of quality and safety. I suggest that these appeals operate collectively as strategies of presumption, and that these strategies both wield rhetorical power and introduce rhetorical liabilities. Some of these strategies are unique to popular media texts while others have analogues in professional genres.

Representations of checklists as an indicator of quality and safety are associated with the uptake of checklists by another group of rhetorical agents: hospitals, funders, and accreditation bodies. In the next section, I describe various means by which checklists have been institutionalized. These means vary in the emphases they place upon mandating or motivating change. I illustrate how certain modes of institutionalization

introduce new motivating purposes and scenes, how they tend to foreclose upon a recognition of checklists as an act or practice, and how they ironically turn blame back upon professional users, contradicting a dominant principle of safety science that gave rise to this practice. I also consider how the uptake of checklists into structures of clinical governance is perpetuated through some of the strategies of enrolment introduced earlier—specifically the rise of research and evaluation studies focused on auditing rates of compliance.

The preceding sections follow a broadly narrative progression, interspersed with rhetorical commentary and analysis. In the final section of this chapter, I summarize and discuss the most salient rhetorical features of this case. I reflect upon why rhetorical terms are useful in accounting for the rapid uptake of surgical checklists, as well as why this case is useful for the study of rhetoric. I conclude by summarizing key features of the case in dramatistic terms, which enables me to locate and clarify the “resources of ambiguity” that have helped to drive and inevitably transform this practice.

Before proceeding, I will add one methodological note concerning my use of Burke’s pentadic terms as an inventional heuristic and my deployment of those terms within this chapter. One basic distinction characterizes (and risks muddling) my use of pentadic terms to analyze representations of checklists within published texts. First, I am interested in the rhetorical actions performed *by the texts that I have gathered for analysis*. For example, what does *The Checklist Manifesto* do as a book, for what purposes, and using what means? Second, I am interested in the rhetorical actions performed *by surgical checklists* as represented within these texts. For example, what does a surgical checklist do, according to *The Checklist Manifesto*? Likewise, what does a surgical checklist do, according to researchers who study them in particular ways, according to advocates addressing their colleagues, or according to professional users of this tool. In other words, what motives are ascribed to the checklist and its users? How do these interpretations and enactments of the checklist converge and diverge, and to

what extent can these functions be understood in rhetorical terms? My primary interest lies in examining how the checklist is represented within the texts that I have gathered. This requires also contending with the larger purposes and means of its users and advocates. My analysis, therefore, shifts between the two levels of analysis.

## **Introducing checklists to professionals and publics**

Surgical checklists were introduced strategically through a coordinated series of texts addressing public and professional audiences, and sometimes both at once. These texts exhibit a variety of rhetorical strategies. They also reveal how the rhetorical situation of the WHO campaign—particularly its imperative to address a global audience—helped to shape the selection of checklists as a focal practice.

In the lead-up to the series finale of the television program ER—in a widely-promoted episode featuring the return of George Clooney, Juliana Margulies, and Eriq LaSalle—a checklist plays the hero (Crichton & Wells, 2009). In this episode, LaSalle’s character, Dr. Peter Benton, intervenes in the path of a rushed and resistant surgeon, pulling out a laminated card and insisting that the surgeons, nurses, and anesthesiologist pause together and review the checklist of items and questions. For example, have members of the team introduced themselves? Have antibiotics been given? What is the anticipated surgical plan? Thanks to the checklist, reperfusion solution is available at a critical moment during the kidney transplant, saving the life of Noah Wylie’s character, Dr. John Carter.

Thanks to media appearances like this one, the surgical checklist is now familiar to many people who have never been inside an operating theatre. The episode enacts the ultimate promise of the checklist: a simple set of reminders, proactively communicated, has the potential to identify critical gaps and prevent disastrous outcomes. It also caricatures a particular barrier: the foil of the humble checklist is the arrogance of the surgeon in charge. This dramatization of the surgical checklist is important because of its high profile and because it is designed to do more than entertain. The episode won a

Sentinel for Health award from Hollywood, Health, and Society, an organization that aims to use entertainment to improve public health (Hollywood, Health & Society, 2009). Whereas most of these awards celebrate efforts to affect the knowledge, attitudes, and behaviours of the general public, this one remains relatively unique in its effort to move the attitudes and behaviours of clinicians. The implicit aim of the episode is to encourage acceptance of the checklist, and to discourage resistance, whether directly (by reaching professionals among the public) or indirectly (by establishing public expectations of professional behaviour).

The expert advisor on this episode was surgeon and writer Atul Gawande. Gawande is widely recognized as the central advocate of the surgical checklist. His public writing on the topic of checklists began in 2007 with an article for *The New Yorker* (2007b), which featured not the operating theatre but the intensive care unit (ICU). The article illustrates how mistakes, while impressively infrequent as a proportion of clinical actions, are inevitable given the volume, complexity, and risks that characterize modern medicine. Against this backdrop of complexity and endemic risk, Gawande celebrates the work of Peter Pronovost, a physician who developed and tested simple checklists to ensure the completion of routine tasks known to prevent central line infections in the ICU. The article profiles the remarkable clinical benefits that were shown to result from the use of these simple tools. In Pronovost's own hospital, for example, the infection rate dropped "from eleven per cent to zero" (Gawande, 2007b, p. 91); in a large study across the state of Michigan, it was reduced by over 60% and sustained for nearly four years, "all because of a stupid little checklist" (p. 94).

I am highlighting, here, Gawande's emphasis upon the simplicity of the tool. Characterizations of the checklist as simple are ubiquitous across promotional texts, especially those addressed to general audiences. This emphasis, however, belies Gawande's attentiveness to the social, economic, and structural strategies through which Pronovost's checklist was introduced—and arguably through which it worked. These topics will come to the fore in Chapter 5. At this point, however, it is interesting

to note a striking contrast between the synopsis, “all because of a stupid little checklist,” and the original publication of the trial being described, in which the term “checklist” is used just once, to describe one of six components of the study intervention (Pronovost et al., 2006, p. 2726).

While the article nominally focuses on the potential of checklists as a tool, it profiles in equal measure the persuasive skills of Pronovost as both a scientist and a “campaigner.” Pronovost is depicted as charismatic, inspiring, committed, and “canny” in his efforts to convince administrators and clinicians to adopt new policies and practices in their ICUs. His leadership is as an “odd mix of the nerdy and the messianic” (Gawande, 2007b, p. 92), a meaningful combination of scientific and religious imagery. Gawande’s examination of checklists is thus interwoven with observations about social and professional change. Pronovost’s persuasive successes and challenges are featured as lessons about how systems and individuals adopt change—and how they resist it.<sup>1</sup>

These lessons undoubtedly influenced Gawande’s emergence as an advocate for checklists in the operating theatre. That advocacy began when, under Gawande’s leadership, the WHO launched a campaign called Safe Surgery Saves Lives. (See

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<sup>1</sup> Gawande’s persistent interest in persuasive successes and failures as they relate to professional practice is also apparent in his acclaimed book *Better* (2007a). In one memorable example, he profiles an obstetrician named Ignac Semmelweis, who deduced in 1847 that doctors, “by not washing their hands consistently or well enough . . . were themselves to blame” for the alarmingly high rates of maternal death caused by childbed fever. Gawande characterizes Semmelweis as both a “genius” who nearly eliminated maternal death among his own patients and a “lunatic” who alienated other doctors by referring to them as “murderers” and berating them at the scrub sink for not washing their hands (pp. 16–17). Semmelweis’s inability to change the practice of his colleagues is often invoked as an example of the medical profession’s recalcitrance to new ideas. For example, one editorial within my archive, addressing surgeons directly, likens skeptics of the surgical checklist to those who “balked at” Semmelweis’s insistence on handwashing (Kapoor and Siemens, 2014). Gawande’s telling, by contrast, underscores Semmelweis’s responsibility for his rhetorical failure: He “refused to publish an explanation of the logic behind his theory or prove it with convincing animal experiments” (p. 16). Such scientific channels of influence were better employed 20 years later when “Joseph Lister offered his clearer, more persuasive, and more respectful plea for antiseptics in surgery in the British medical journal *Lancet*” (p. 17). Semmelweis has recently been a focus of scholarship for medical historians but has not, to my knowledge, been taken up by rhetoricians of science and medicine (Lerner, 2014).

Appendix A for a timeline of key events and texts.) The campaign was the second in a series of global health challenges. (The first had focused on hand hygiene.) Its goals were to raise awareness about preventable surgical harm, to establish minimum surgical safety standards, and to define a set of measures that could be used for the surveillance and improvement of surgical care. An international group was convened in January of 2007 to consider standards in several key areas. While the group's discussions were initially quite broad—encompassing, for example, the prospect of setting minimum standards for equipment and technical competence—they quickly focused in on the idea of developing a checklist tool that would support the consistent performance of well-evidenced practices (WHO, 2007). From the outset, several explicit criteria governed the selection of a focal point for the campaign: standards must be simple, measurable, and universally applicable across resource-rich and resource-poor settings (WHO, 2007). The prospect of setting minimum standards for equipment and technical competence were quickly set aside on the basis of these criteria; such undertakings were less measurable, more limited by intractable structural and economic barriers, and more likely to raise ethical problems, where minimum standards could limit access to any surgical service at all (WHO, 2007, 2009c).

To achieve the goal of universal adoption, the group also sought to articulate standards that were already widely accepted but not consistently carried out. Gawande recounts seeing, in the basement of the WHO headquarters, “pallet after pallet of two-hundred-page guideline books from other groups that had been summoned to make their expert pronouncements” (2009, p. 92). This suggests one intended function for the checklist extending outside of the operating theatre: the form would encode authoritative knowledge within scripts for behaviour and communication. It would carry guidelines into practice. This operation can be understood as metonymic insofar as it reduces the full body of evidence and selects particular actions amenable to a checklist tool. The

checklist selects a relatively small set of universally relevant actions and checks relative to a wider range of topics covered in the associated guidelines.<sup>1</sup>

After 15 months of technical development and political outreach, the Safe Surgery Checklist was launched at a ceremonial event in June of 2008. The tool consisted of 19 items to be reviewed orally by members of the operating theatre team at three distinct points in the operative workflow: the sign in (before induction of anesthesia), time out (before skin incision), and sign out (before the patient leaves the operating theatre) (see Appendix B). Its release was accompanied by supporting documents, including press materials, an explanatory report, video demonstrations, an implementation manual, speaking notes, extended guidelines, and a web page inviting healthcare institutions to endorse the initiative and register their participation. These documents served to confer legitimacy upon the practice, draw public attention, and, as I will discuss further in the next section, enlist and support the work of local advocates.

All supporting documents encouraged users to adapt the checklist to their local settings while respecting a set of design and implementation principles (WHO, 2009a). The adaptation of the tool was seen to be important for two reasons, one rhetorical and one logistical: it would foster a sense of ownership, and it would allow the checklist to be integrated with existing local practices, some of which were expected to overlap with the scope of the WHO tool.<sup>2</sup> These reasons point to further functions of the checklist as

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- 1 Gawande later notes that there was “nothing particularly scientific or consistent about the decision-making process” behind the selection of checklist components (2009, p. 139). He then offers rhetorically sound reasons for the inclusion and exclusion of particular checks—reasons that weigh, for example, strength of evidence alongside potential benefit, ease and cost of inclusion, degree of consensus, and consequences of failure. Some measures are included because they are widely accepted; others are perceived to be important, low risk, and “worth giving a try”; another is excluded because of legitimately divergent practices across countries. Once included in the tool, however, the checklist items carry a presumptive authority that is situated prior to action and beyond argument.
  - 2 An adaptation guide indicates that the “major addition” to existing routines in many settings will be not the safety checks but the relational dimensions of the checklist: “team introductions, pre-procedural information sharing, and discussing a treatment plan at the end of surgery” (WHO, 2009b).

a form. It provides an organizing focus for improvement efforts, serving to engage professionals as active participants in the development of the practice, and it allows for the accommodation of general knowledge to local conditions. These functions may run at odds with those of distilling and scripting universally accepted standards. They appear to facilitate the achievement of “local universality” described by Timmermans and Berg (e.g., Timmermans and Berg, 1997; Berg and Timmermans, 2000; Timmermans and Epstein, 2010).

The press release for the campaign describes the checklist as a “first edition” that would be finalized upon the completion of an international trial, which had yielded some promising but still preliminary results. For many, however, conviction about the value of the checklist was not contingent upon the final results of this study. In the same press release, the Director-General of the WHO asserts boldly that “using the checklist is the best way to reduce surgical errors and improve patient safety” (WHO, 2008). The initiative was formally endorsed by 200 professional organizations. These endorsements were featured prominently in promotional materials and testimonials. The United Kingdom, Ireland, and Jordan had already announced plans to implement the checklist in all hospitals (WHO, 2008). These early endorsements and commitments suggest that uptake of the checklist was driven, in large part, by professional and political imperatives that were prior to, and at least somewhat independent of, the experimental findings that are often described as the starting point for the adoption of surgical checklists into professional practice.

Scientific support for the initiative was, however, soon to follow. In conjunction with the WHO campaign, a pilot study found that the introduction of a checklist at 8 hospitals around the world reduced rates of postoperative complications by over one third (from 11% to 7%) and cut rates of postoperative deaths nearly in half (from 1.5% to 0.8%) (Haynes et al., 2009). With the publication of this trial in *The New England Journal of Medicine*, it became possible to state with epistemic authority that “checklists make surgeries safer,” or, more generally, that a simple act of



communication saves lives. This is a powerful story. The trial generated a wave of news coverage, which invariably juxtaposed the simplicity of the tool with its “surprising,” “dramatic,” and “unprecedented” effects:

“I cannot recall a clinical care innovation in the past 30 years that has shown results of the magnitude demonstrated by the surgical checklist,” said Donald Berwick, the physician president of the Institute for Healthcare Improvement. (Connolly, 2009, January 15)

As I will elaborate, “simplicity” carries multiple connotations in these texts, including absence of technology, ease of use, everyday familiarity, and minimal demands on users’ time. It offers an antidote to the complex, specialized, highly technical characteristics typically associated with surgical and biomedical interventions.

Overt promotion of the surgical checklist reached its pinnacle in 2009 with the publication of Gawande’s bestselling book, *The Checklist Manifesto*, which offers a significant expansion upon his earlier article in *The New Yorker*. Through a first-person discovery narrative, Gawande observes how checklists play an integral role in supporting professional excellence across a variety of domains. Much like the episode of *ER*, this book is particularly interesting for its simultaneous appeal to general and professional audiences. The former, for example, are implied throughout by the plain language descriptions of medical terms and procedures. The latter are addressed in more oblique ways<sup>1</sup> until the closing line of the penultimate chapter, which petitions them directly: “Try a checklist” (Gawande, 2009, p. 186). Using a series of vividly

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<sup>1</sup> A rare critique of the book provides an indirect illustration of how the inclusion of health professionals as an intended audience may have shaped the book’s rhetorical choices. This reviewer suggests that Gawande need not have gone to such lengths to demonstrate the value of checklists in diverse domains of work; it is enough that he so skillfully “transmit(s) the gore-drenched terror of an operation that suddenly goes wrong” (Henig, 2009, December 24, p. C12). The reviewer writes: “If something as simple as a list that reminds medical personnel to wash their hands and introduce themselves by name and job to everyone in the operating room can improve care, that’s reason enough to take the checklist concept seriously” (Henig, 2009, December 24, p. C12). This reviewer may be overlooking an intended professional audience for whom “gore-drenched terror” is insufficient evidence that checklists are the optimal solution.

depicted examples, the book explores the potential, and some of the limits, of checklists as a tool. As the title makes obvious, the book offers an elaborated argument for the instrumental value of checklists in helping people to “get things right.” Somewhat less conspicuous (though still explicit) is another, synecdochic, function of the checklist, which instantiates a deeper argument concerning values. As Gawande later explains, “Contained in the willingness to design and use checklists” is a “greater humility about our abilities, greater self-discipline and the prizing of teamwork over individual prowess” (Gawande, 2010, p. BR5).

## **A closer look: Deliberative arguments in *The Checklist Manifesto***

While *The Checklist Manifesto* is written for a general audience, it exhibits logical, ethotic, and emotional appeals that are designed and carefully arranged to move professional readers. These forms of appeal are made possible by the genre of the popular medical text.

The rhetorical life of surgical checklists has, in many senses, been remarkably traditional. *The Checklist Manifesto* offers the most elaborate illustration of classical modes of rhetorical appeal working, with significant influence, to promote surgical checklists. The book is a carefully designed, eloquently delivered, and overtly suasive attempt to shift beliefs and behaviours. Both the book as a text and Gawande himself, as an author and orator, illustrate the continued relevance and power of classical Aristotelian categories of persuasive appeal. Here, I provide an overview of some central modes of appeal within the book, understood in its function as a deliberative argument that seeks to recommend and move audiences toward a course of action.

The book’s logical appeals unfold as a series of examples, which, taken together, demonstrate the ubiquity of checklists across a range of professional fields. Each of these narrative examples conveys a specific observation concerning how checklists work

or what they can do (and occasionally what they can't). With the help of checklists, for example, an ICU team is able to assemble and act with enough speed and precision to save the lives of drowning victims who have long been unconscious after falling through ice; pilots are able to manage planes that had become too complex for even the most experienced among them to fly unaided; engineers and tradespeople are able to complete large and intricate construction projects, detecting and resolving unanticipated problems along the way. Checklists appear in the kitchen of an award-winning restaurant, where vigilant standards meet a craft that is "more art than science" (p. 85). They help a successful investor to make effective and efficient judgments under conditions of uncertainty.

The selection, framing, and arrangement of these examples build a logical argument about the usefulness of checklists as a tool. They also work ethotically in several ways. For example, they establish the narrator, Gawande, as a man of good sense, casting him as a pragmatic scientist whose conviction has been reached only through a skeptical and enduring pursuit of evidence. It is important to note that this evidence derives predominantly from direct observation and from the experiences of Gawande and others—that is, from reflection upon practice. Occasionally, Gawande's performative skepticism comes across somewhat awkwardly. For example, after extolling the many virtues of the humble checklist, he becomes suddenly circumspect in the final chapter, recalling how he first tried the checklist himself merely to test its usability for others and to avoid being a hypocrite: "[I]n my heart of hearts. . . did I think the checklist would make much of a difference in my cases? No. In my cases? Please" (2009, p. 187). This juxtaposition of eulogy and skepticism, however, reveals how the book—while it is obviously written and marketed for general audiences—seeks also to identify with professional ones. Gawande is not merely demonstrating his good sense or judgment (Aristotle's *phronesis*, one of three components of appeal to character) but also his goodwill (*eunoia*) in identifying himself with the potential reservations of a skeptical audience.

Considered with this audience in mind, the selection of examples that I surveyed above functions, too, as a narrative form of prolepsis, systematically acknowledging and neutralizing a series of anticipated objections. It aims to disrupt prevailing negative associations of checklists as oversimplified, prescribed, and reductive—markers of cookbook medicine that might, at best, serve the needs of novices and administrators but compromise the work of experts in a profession that demands responsiveness to the unique features of each case. Throughout the book, Gawande not only acknowledges but foregrounds many of the complexities of medical work, finding analogues (and, lo and behold, checklists) in other respected fields. If using checklists is not beneath the book’s protagonists—a cast of pilots, engineers, chefs, investors, and physicians who are all portrayed as exceptional in their fields—then it should not be mistaken as a move to diminish the work or worth of medical doctors.

While my emphasis here is upon the classical term persuasion, this is also a good opportunity to invoke Kenneth Burke’s broader concept of identification, which operates in at least two fundamental ways in this overtly suasive text. In the most basic sense, Gawande, as narrator, identifies himself with implied professional readers, stressing their shared experiences, dispositions, concerns, and, importantly, clinical competence—competence that is not threatened but strengthened through the admission and careful consideration of mistakes. In another sense, at the level of the book’s terms, both the checklist and its users become identified with a set (or “cluster”) of recurrent associations. Some of these, including “simple” in various grammatical forms, are ubiquitous across my dataset. Others, including excellence, humility, and discipline—terms characterizing not checklists but their users—reveal one aspect of this book’s relatively unique rhetorical intervention: its effort to shift the values associated with checklists and to frame them as a tool able to support the work of professionals in various ways. (In relation to these terms, the value of judgment is carefully preserved, along with some latitude for “improvisation” and “courage.” By contrast, intuition, autonomy, and heroism appear as opposing, negative terms and values.)

The grammatical positioning of the checklist is also important in building these associations. In *The Checklist Manifesto*, professional agents and their dilemmas are consistently described in detail before checklists are shown to play a supporting role. For example, the opening of chapter 1 features a story about the miraculous save of a young girl who had spent 30 minutes under a frozen lake. The story serves initially to depict the extreme complexity of medicine and to situate successes, rather than failures, as exceptional. It is not until 30 pages and several stories later, at the end of chapter 2, that Gawande returns to this opening example and reveals how checklists had enabled the save. These checklists had been devised by medical teams following a series of similar but unsuccessful resuscitation attempts. In pentadic terms, this story and its arrangement emphasize the agent–agency and purpose–agency ratios, situating the checklist as a tool (agency) that supports professionals (agents) in accomplishing specific tasks (purposes). Philosophically, such associations situate the checklist within a pragmatic and idealist frame of reference. By contrast, the scene–agency ratio, which is dominant across much of my dataset, situates checklists as an instrumental response to the scenic problem of avoidable surgical error. Philosophically, such associations situate the checklist within a materialist frame of reference. Health professionals, here, not only recede into the scene but constitute its most problematic component.

*The Checklist Manifesto* also incorporates appeals to emotion, most notably in the stories that open and close the book. Both of those stories depict narrow saves, told from the urgent, first-person perspective of a surgeon trying to figure out what is going wrong while a patient’s life is suddenly in danger. As readers, we pull for the patients, but we feel with the surgeons. These stories invoke the sense of vulnerability, and the weight of responsibility, that attends professional work. Such depictions are rare within my archive. Recent research, however, has examined the intense and complex emotions that are experienced by surgeons but seldom acknowledged or discussed (Cristancho et al., 2014; Luu et al., 2012). These studies suggest the importance and relevance of emotional appeals in arguments concerning professional practice.

Unlike many other popularizations of scientific and medical work, this book is not subsequent to epistemic texts. That is, its function is not limited to making previously published research knowledge accessible. Rather, it is coordinated with, and I believe compensatory to, dominant modes of research. I contend that the genre of the popular medical text works, in part, to allow for forms of appeal that are traditionally devalued within medical research but that are well aligned with the aim of moving people to belief and action. As I will discuss in the next chapter, these forms of appeal are also arguably appropriate to assessing the merits and limits of the practice—that is, to creating knowledge about checklists through storied, pragmatic, and public acts of inquiry. In many ways, Gawande’s writing on checklists and other topics offers an eloquent model of such inquiry, one that reads as an invitation to rhetoric. In others, it appears conspicuously disengaged from relevant traditions of research.

## **From persuasion to presumption in professional media**

The promotional efforts initiated by the WHO campaign have been distributed, amplified, and localized by multiple constituencies, using varied modes of appeal. These include organizational structures to support implementation efforts; educational materials and campaigns designed to equip advocates with arguments and implementation strategies; opportunities to participate in valued professional activities; and arguments of various kinds within published professional literature.

The purposeful rhetorical actions of influential agents (individuals and organizations) have played a central and galvanizing role in the promotion of surgical checklists. To account fully for the rapid uptake of checklists, however, it is necessary to trace how these appeals have been amplified, distributed, and inevitably transformed across a wider set of rhetorical agents and genres. The success of the WHO campaign has relied upon its ability to recruit a wide assemblage of individuals, groups, and institutions as active participants. Key constituencies that have been implicated in the promotion and uptake of surgical checklists include non-profit quality and safety organizations,

professional associations, accreditation and regulatory bodies, healthcare payers, hospitals and administrative leaders, academic and clinical researchers, and individual surgeons, nurses, and anesthesiologists. The surgical checklist has also drawn interest from for-profit companies marketing tools to support its implementation, use, and documentation (e.g., with training programs, mobile apps, display screens, and information systems). In the remaining sections of this narrative, I illustrate some of the most important constituencies and the means by which they have driven uptake of this practice. I focus on people, groups, events, and structures that have been influential on a global level; in the United States (where Gawande’s core development team was based at the Harvard School of Public Health); and in the province of Ontario, Canada.<sup>1</sup> This section focuses on texts addressed to, and created by, health professionals. The next focuses on news media addressed to general audiences.

Organizations with a mandate to promote safety and quality in healthcare have served to bridge between the WHO campaign and specific, typically large-scale, health systems. North American examples include the Institute for Healthcare Improvement (IHI), the Association for Healthcare Research and Quality (AHRQ), and the Canadian Patient Safety Institute (CPSI). These organizations have launched promotional campaigns and published resources to support the implementation of surgical checklists. In the United States, for example, the IHI challenged hospitals to implement the checklist in just one operating theatre and to begin measuring its effects, a project that it called the “surgical checklist sprint” (Terry, 2009 January 27). This challenge piggybacked directly upon the organizational network established for its prior campaign, 5 Million Lives, which had supported participating hospitals in pursuing specified quality improvement goals (Gold & Simmons, 2009; McCannon, Hackbarth & Griffin, 2007). Such networks or “collaboratives” have been promoted as an

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<sup>1</sup> The province of Ontario is the geographic setting for the applied qualitative research study that provides the observational data presented in Chapter 4. It is also the context of an experimental study that becomes an important site of scholarly and professional debate. This study is discussed in Chapter 5 (see page 200).

infrastructure that provides centralized support for local initiatives (Institute for Healthcare Improvement, 2017; Leape, 2014).

Both the WHO itself and other major quality improvement organizations provide the checklist initiative with symbolic value, in the form of institutional weight and credibility. They galvanize action around particular priorities. In some cases, they appear also to offer relevant expertise and infrastructure.<sup>1</sup> Importantly for my analysis, these organizations also produce educational and promotional materials designed to recruit and support clinicians as active advocates for the checklist within their own local settings. For example, the WHO provided presentation slides, talking points, and step-by-step worksheets to guide the implementation process, along with advice on how to respond to skeptics. These documents, in other words, enrol professional adherents to the practice by enlisting them as leaders and equipping them to act decisively and persuasively. They advise advocates to start small, work first with supporters, build a diverse team, seek administrative support, and devise methods of measuring and reporting performance. Along with these documents, safety organizations promoted “communities of practice” enabling those charged with implementing the checklist to share their experiences.

Perhaps most importantly, the checklist itself serves as a strategy of enrolment. As I have already noted, the WHO encouraged teams to adapt the tool to their local settings. This is a repeated point of emphasis, one that appears as a marginal note on the checklist itself: “This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged.” It is fairly commonly observed that this encouragement to adapt the checklist supports its use in diverse contexts. It is less often recognized that this process of adaptation is itself regarded as an important mechanism of the tool’s uptake and effect. In fact, as I will elaborate in Chapter 5,

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<sup>1</sup> The concept of organizations or centres that provide direct material and conceptual support for change efforts led by clinicians remains quite new and largely aspirational (though service units of various kinds exist within academic medical centres). I believe that such groups have considerable force and importance as a locus of rhetorical work.



checklist proponents interpret a hospital's use of the standard-issue checklist as evidence that the tool was likely not used or not implemented effectively.

Formal arguments on behalf of the checklist also appear in professional journals. These arguments are most overtly suasive in editorials. An explicit case for the practice is also, however, built up through other genres, including position papers, topic reviews, evidence syntheses, case reports, and the introduction and discussion sections of original research articles.<sup>1</sup> These texts and genres place different emphases upon advancing knowledge claims about the checklist and promoting its use. They are not uniform in their support for the practice. Some clinical commentators have been careful to emphasize that checklists are just one strategy, valuable but not sufficient. Social scientists Charles Bosk and Mary Dixon-Woods, writing with Pronovost and Christine Goeschel (a primary collaborator on the work with checklists in the ICU), expressed an early wariness about the temptation to regard checklists as a simple, technical solution to an “adaptive (sociocultural) problem” (Bosk et al., 2009, p. 444). The vast majority of texts in my database, however—not excluding these cautionary ones—collaborate in building and reproducing arguments for adopting the checklist. Even primary research studies investigating the efficacy of the practice often frame research questions that anticipate positive effects and seek validation, rather than investigating what the practice does or how it works. Checklist advocates sometimes cite explicitly rhetorical motives for conducting research: it is not uncommon for authors to argue openly that research on the effectiveness of checklists must be pursued for the very purpose of convincing clinicians that checklists are worthwhile.

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1 These genres have not been a prominent focus for scholars of rhetoric or social studies of science and medicine. Editorials, position papers, case reports, and narrative reviews are systematically excluded from, or minimized within, dominant methods of evidence synthesis in knowledge translation and health services research. While these article types are not all widely cited, their rapid proliferation suggests that they serve important socio-rhetorical functions. My analysis takes a few steps toward interpreting some of these functions. This seems to be a promising avenue for future research.

Arguments on behalf of surgical checklists appearing within professional journals typically proceed from claims concerning the quantity and prevalence of avoidable surgical harm, such as those outlined in Chapter 2. One notable claim that is repeated throughout the WHO promotional materials is that 50% of surgical complications are preventable.<sup>1</sup> It is only sometimes specified that these preventable complications include both errors of commission, in which harm is caused by an incorrect action (e.g., operating on the wrong side), and errors of omission, which involve failing to carry out intended tasks that are generally accepted as standards of practice (e.g., administering prophylactic antibiotics too soon or too late). The most grievous errors of commission, such as wrong site surgery, are often termed “never events”—a term indicating clearly that they should all be prevented. They are obviously the most widely feared and publicized, and they were the first to be targeted with brief Time Out initiatives, among other preventative strategies. They represent a small portion of complications deemed preventable.

Most professional texts further attribute these harms to one or more specific causes: the complexity of surgical work, failures of communication, a lack of standardization, and/or deficiencies in medicine’s safety culture. (For further discussion, see Chapter 2.) Studies that evince these problematic causal connections are widely cited. Checklists are presented as either a promising or a proven strategy for preventing complications in surgery. Their value is warranted by reference to existing research and/or to their use in aviation and other industries. In most cases, quantitative evidence is then sought and cited to link surgical checklists to clinical outcomes (rates of post-operative morbidity and mortality), process outcomes (e.g., rates of appropriate antibiotic administration), “safety attitudes,” cost savings, and team performance as documented through

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1 This claim is notable in part because it later emerges a site of debate. Critics of the WHO study find it dubious that implementation of the checklist could reduce complications by 50%, effectively eliminating all preventable surgical complications, including those with no logical connection to a checklist. The rhetorical significance of this number, along with its evidentiary basis, would warrant a closer look, especially considered alongside the concept of “never events” (which are by definition 100% preventable but too rare to be measured statistically as an outcome in a clinical trial).

observational rating scales. Experimental evidence is widely regarded as most essential for persuading health professionals that checklists are worthwhile.

Beyond their particular claims and arguments, I believe that additional rhetorical functions are played by small-scale research studies and other professional publications, along with the economies of knowledge production that value them by, for example, rewarding publication counts and expecting academic output from clinicians. First, these publications play a reproductive role. They reiterate a collective narrative and recurrently cite particular texts and kinds of texts. Second, these publications help to enrol active advocates with investments in the practice. My database of professional and scientific literature includes 271 distinct first authors, attesting to the fact that checklists have presented opportunities for many people to undertake professionally valued activities, including project leadership and research.<sup>1</sup>

Perhaps the central example of securing professional support through direct involvement is provided by the recruitment of clinical collaborators from eight countries to participate in the checklist development process and the WHO clinical trial. The trial involved only a small number of doctors and hospitals, and the persuasive effects of this involvement may well be incidental to the scientific goals of the project. This doesn't, however, negate their significance. Press coverage in many of the countries praised local doctors and their organizations, both for their early adoption of the checklist and for their involvement in a prestigious international trial. One of the eight participating hospitals was in Toronto, Canada, where some of my own research has been based as a research coordinator and then doctoral research fellow. I have

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<sup>1</sup> This number is greatly exceeded by the total number of co-authors. I did not analyze the distribution of authorship according to authors' clinical or academic credentials. However, the group clearly includes clinician-researchers, leaders, and educators, in addition to a smaller number of non-clinical academic researchers. The number of distinct first authors, combined with the rapid emergence of publications concerning checklists, provides a reasonable proxy for the prominence of checklists as a topic of widespread professional engagement.

observed directly the value associated with this involvement by surgeon advocates and hospital fundraisers.

Professional associations and spokespeople from each clinical specialty have also played an important role in aligning the checklist initiative with the specific professional interests of surgeons, anesthesiologists, and nurses. Anesthesiologists, for example, have been leaders in the use of safety science principles to significantly reduce risks and improve standards of practice. Communication checklists have been explicitly aligned with this history and likened to the equipment checklists already used within this medical specialization. Another interesting offshoot of the checklist initiative that has mobilized action among anesthesiologists has been a fundraising campaign to supply a particular technology—pulse oximeters—to low-resource countries. Pulse oximeters are small, non-invasive devices, typically clipped onto a fingertip, that monitor the level of oxygen in the bloodstream. Pulse oximetry status was included as an item on the WHO checklist despite (or rather because of) the fact that this technology (1) has been standard and consistent for years in developed countries, making its inclusion on a checklist unnecessary, and (2) is often non-existent within resource-poor settings, making the checklist impossible to carry out in full. Its inclusion has provided a political lever for addressing a specific resource constraint. Alongside the checklist, an NGO named Lifebox was founded and partnered with international anesthesia organizations to supply these monitoring devices around the world. This example illustrates another means by which checklists have been aligned with specific professional interests and identities. It also illustrates how checklists work persuasively to instigate change beyond the scope of the operating theatre.

The US Association of Operating Room Nurses (AORN) provides another instructive example of how the checklist has been championed by professional groups and how it has intersected with existing practices. For several years preceding the WHO's global checklist initiative, AORN had adopted a leadership role in championing the national surgical safety directives of The Joint Commission (then called JHACO), an organization

that accredits healthcare facilities and programs in the United States. In 2004, The Joint Commission mandated a “Universal Protocol to Prevent Wrong-Site, Wrong-Procedure, and Wrong-Person Surgery,” a set of standards that included, as one of its elements, a “Time Out” much like the one incorporated within the WHO Safe Surgery Checklist. Nurses were often tasked with advocating and policing these practices. The Universal Protocol has been a recurrent topic in their association journal, at conferences, and at an annual Time Out day. Nurses have reported their development of specific strategies for enforcing the Time Out, such as signs and objects that are placed over the first surgical instrument and cannot be removed until the safety check is complete. These tools provide symbolic authority to the scrub nurse whose role is to hand instruments to the surgeons. Leadership related to these interventions appears to remain important to nurses’ professional identities at an organizational level. AORN, for example, has since developed a hybrid checklist that incorporates and colour codes the shared and unique standards of The Joint Commission and WHO. That tool offers a good example of how the invitation to adapt the Safe Surgery Checklist can both serve the goal of fostering ownership and subtly reshape the design of the practice, as it is overlain upon existing protocols, values, and regulations.

Educational groups and consultants are one final constituency that has been important for enrolling professional support for surgical checklists. Most notable are groups offering “crew resource management” (CRM) training. As I described in Chapter 2, these approaches, which are derived from human factors engineering and from aviation, were an important antecedent to the surgical safety checklist campaign. CRM training typically incorporates briefings or checklists as one component within a broader program designed to bolster processes of collaboration, especially as they predispose high-risk sociotechnical systems to error. Before the launch of the WHO checklist, these groups were already actively working with hospitals and professional organizations. For example, in 2005, the AORN partnered with the group Safer Healthcare to provide CRM training at five different hospitals, many of which opted to

develop checklist protocols. The details of the project were published in a nursing journal and authored by the company CEO (Marshall & Manus, 2007).

One feature of these programs is particularly noteworthy for my analysis: the value of checklist briefings is not argued but rather presumed by these models. For example, the use of checklist briefings is frequently included as a metric within baseline assessments of team performance and as an outcome measure for evaluating the effectiveness of the training programs (e.g., France et al., 2008; Guerlain et al., 2008; Marshall & Manus, 2007; Sax et al., 2009). That is: the use of checklists and briefings is itself regarded as an indicator of effective team performance. While I have situated the emergence of the surgical checklist as a narrative running from persuasion to presumption—a shift that is readily apparent as a proportion of texts across my dataset—it is important to note that these frames have in fact co-existed from the outset.

Within professional and epistemic texts, the trend toward presumption becomes most decisive in research studies, case reports, and evaluation studies that turn their attention away from examining the efficacy of surgical checklists, toward investigating the degree of “compliance” with which they are taken up, the attitudes of health professionals toward them, and the “barriers and facilitators” to implementation. In these studies, the scene or problem at hand becomes the “gap” between knowledge and practice, where, in this case, checklists are accepted as a common good and their incomplete or ineffective use is the issue at hand. These topics can be, and sometimes are, examined in ways that do not take the presumptive worth of the practice for granted.<sup>1</sup> By and large, however, the dominant metaphors of “knowledge translation” and knowledge–practice “gaps” have presumption embedded at their core; they begin

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<sup>1</sup> This is the goal of my own study. It must also, I believe, be one central tenet of a rhetorical approach to “knowledge translation” that is the ultimate objective animating this dissertation. The central challenge for such an approach is to offer strategies for cultivating warranted change without resting on a foundation of certainty and presumption, where fixed and stable knowledge is taken as a necessary starting point. Greenhalgh and Wieringa (2011) suggest that such foundations are inherent to the “knowledge translation” metaphor itself. They advocate for alternative and supplementary metaphors. See Chapter 5 for further discussion.

from a solid base of evidence and/or conviction that an intervention is both well-defined and good. Presumption is a powerful persuasive force when it escapes our attention as the ground that we take for granted. However, it becomes a rhetorical liability when it encounters those who don't believe that the requisite burden of proof has been met, or when it is attended by what Carolyn Miller terms a "poverty of ethos" (2003, p. 202).<sup>1</sup>

Before surgical checklists could enter the narrative structure that governs most knowledge translation research, however, they first needed to be established as a standard of professional practice. Texts from news media provide a helpful window onto that process and some of the rhetorical successes and challenges that it has created.

## From persuasion to presumption in popular media

Within general news media, surgical checklists have moved quickly and decisively from promotional to presumptive representations. This shift is particularly apparent in the ways that checklists are represented as simple and effective and in the use of epideictic rhetoric, first to praise checklists and their advocates and then to marginalize those who fail to embrace the tool or to use it effectively.

Upon the launch of the WHO campaign and especially the publication of the WHO trial, the surgical checklist and its users were celebrated in news media. As I've already noted, these texts emphasized the powerful simplicity of checklists as a practice. Analysts have often observed how popularizations serve to simplify scientific work. In the case of surgical checklists, simplicity itself is the dominant term and value. In

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<sup>1</sup> Miller shows how scientists can fail to be persuasive in a public realm when ethos is reduced to expertise (neglecting values and emotions) and when expertise is further reduced to technical and epistemic forms of knowledge (neglecting practical wisdom) (2003). *The Checklist Manifesto* notably and carefully avoids such reductive moves. However, the conventions of popular and professional genres, the discourse of knowledge translation, and the overt appeals to simplicity associated with checklists as a form all drive toward representations of the practice as a presumed good.

popular depictions of the checklist, it runs alongside “safety” as a god term. No special analytical work is required to notice the general appeal of simple solutions. It is, however, interesting to observe the multiple connotations of simplicity that attend checklists in these texts and to reflect upon their rhetorical implications.

Simplicity, for example, sometimes refers to the absence of technology:

While much of the focus in health care has been placed (understandably) on high-tech, evolving solutions . . . we should not abandon the pursuit of simple, low-tech solutions which can hold the key to profound changes. Such is the case with the outstanding Surgical Safety Checklist developed by the World Health Organization.

(Information and Privacy Commissioner, 2009, p. 1)

The next big breakthrough in surgery might not be a sophisticated new tool or imaging device; instead, it may be a simple checklist that the surgical team has to run through before making the first incision.

(Strickland, 2009)

In these examples, the simplicity of the checklist complements technological progress. In other examples, technologies carry somewhat more negative connotations, such as introducing risk and dehumanizing medicine. Checklists are implicitly or explicitly presented as a humanizing practice or an antidote to the impersonal aspects of biomedicine. (The same representations also contrast checklists with the expense of technology.) Articles emphasizing, for example, the role of “manners” and personal introductions on the checklist acknowledge this form of simplicity. This may be seen as one site of ambiguity within representations of the checklist. Human introductions are depicted as simple relative to technology, which is by contrast complex. In Gawande’s distinction between simple, complicated, and complex checklists (which I discussed in Chapter 2, on page 81), simple checklists are those that can be routinized and mechanized. As I have argued, the introduction of human, relational elements is precisely what characterizes the shift to complexity.



A related meaning of simplicity is implied by characterizations of complexity as a cognitive problem. In the following excerpts, technology and science flood the cognitive capacity of the individual practitioner:

Gawande argues the simple checklist is effective, because, in today's high-tech, complex medical world, there is just too much for the human mind to remember. (Bowser, 2010)

In this formulation, the checklist becomes a compensatory formal response to the challenge of managing an abundance of information. I have shown that such conditions of complexity are a dominant problem to which checklists are offered as a response; in *The Checklist Manifesto*, this problem is presented as a shared human condition. Situating risk within the limits of human cognition is well aligned with the global scope of the rhetorical situation that the checklist and WHO campaign are mandated to address.

The everyday familiarity of checklists is a third aspect of simplicity apparent in popular media texts. In addition to being universally accessible and affordable, checklists are also widely familiar. Popular articles describe surgical checklists as being “no more complicated than your grocery list” (Knox, 2008). Such characterizations tend to emphasize the cognitive functions of surgical checklists over their social ones: they remind you “not to forget the milk” (DerGurahian, 2008). They also serve, symbolically at least, to dissolve the special status of professional expertise, enabling non-specialist audiences to understand and adjudicate one aspect of surgical practice. Several advocates have made this role explicit:

It's going to be hard not to be enthusiastic about this. If I were a patient and I've had a few operations, at the next operation I'm going to ask my surgeon, “Do you use the checklist?” And if they don't, I'll find myself another surgeon. (Ien, 2009)

One final and important connotation of simplicity is ease of use. Popular articles, and also many professional publications, repeatedly describe the checklist as something that “takes only a few minutes” and can be easily “run through.” We often used similar

descriptions when we introduced the checklist to people in the operating theatre. These depictions of the checklist have significant rhetorical consequences. For example, they subtly trivialize the act of completing a checklist, which, to be effective, requires attentiveness at least, and ideally a certain degree of reverence. Second, once the checklist is depicted as simple and obviously good, there are no valid reasons to object or to grapple with their complexities as a practice. As my next chapter will demonstrate, while the checklist does take only a few minutes to complete, coordinating those few minutes can be challenging given the asynchronous workflow of different professional groups. On one occasion, a surgical resident described leaving home early and foregoing a trip to her office in order to arrive on time for a checklist, only to stand and wait. Beyond these logistical challenges, the work of bridging discrepant perceptions, navigating power differentials, and anticipating surgical challenges are all considerably more difficult than a grocery store checklist.

The examples cited above all illustrate how the checklist is established as a simple practice largely through a process of terministic association: the term “simple” used repeatedly as a descriptor of checklists, often in the headlines of articles. Even apart from these associations, however, checklists also appeal as form. They demonstrate a kind of formal appeal that Burke labels “conventional” (CS, p. 126); because the form is so culturally familiar, it inherently invokes a set of expectations, which include simplicity, along with the act of box ticking and the presence of parallel tasks that are possible to complete.

Simplicity, then, is linked to checklists via association and convention. Similar strategies are used to connect checklists to the outcome of “safety.” The names of the checklist and the WHO campaign—the “Safe Surgery Checklist” and “Safe Surgery Saves Lives”—provide the clearest examples. Consider, by contrast, the terms that our research team originally adopted, the “team checklist” or “team briefing,” which emphasize the distinguishing feature of the tool, its use by an interprofessional team, and reveal our primary concern with cultivating interprofessional communication, but do not assert an

effect.<sup>1</sup> The qualifier “safe” within the title “Safe Surgery Saves Lives” also subtly positions patients as being saved both by and from the work of surgical teams.

The effectiveness of checklists in preventing harm is also, of course, supported by overt arguments and suasive appeals. Testimonials are one important form of appeal in texts addressed to general audiences. Gawande, for example, claims that using the checklist catches “something that we would have missed every week” (Priest, 2009). Health professionals are occasionally described as being persuaded through the experience of participating in the checklist initiative:

Debby Lunde, also a registered nurse, described herself as perhaps the “biggest skeptic” when it came time to employ the checklist. “It was one more thing that we had to do,” she explained. After a few months of using the checklist, however, Lunde said she is now one of the strongest supporters of the initiative. One of the things she appreciates is the opportunity to ask questions and raise concerns. “I love the way it brings us together in open communication and connection as a team, totally focusing on the patient,” Lunde said. (Guiden, 2008)

Testimonial evidence sometimes also includes stories of “near misses” and tragic errors, in which surgeons describe occasions when a potentially dangerous error was prevented by a checklist or might have been. (Tragic stories function as testimonial evidence when told by practitioners themselves. When told by journalists and others, they typically function to condemn those practitioners and the organizational bodies that regulate or employ them.)

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<sup>1</sup> A version of the same strategy (of using a title to associate an intervention with its intended effect) is apparent within other clinical and educational interventions. The one that comes to mind is a set of federally-funded Canadian projects called Interprofessional Education for Collaborative Patient-Centred Care. This title links a diverse set of educational practices (collected under the heading “interprofessional education”) to another diverse set of objectives and outcomes (“patient-centred care”). The cumbersome title IECPS, however, could not get much farther from the alliterative ring of the “safe surgery checklist” or the active voice of “Safe Surgery Saves Lives.”

The most widely circulated evidence for the efficacy of surgical checklists came from the results of the WHO trial. Recall that this study found a significant reduction of complications (by over one third) and deaths (by nearly one half) following the implementation of checklists at eight hospitals around the world. In news stories, these results were described as “impressive,” “startling,” “shocking,” “astounding,” and “beyond anything we expected.” They were frequently extrapolated to project the number of lives that could be saved by the adoption of this practice:

With roughly 234 million operations performed worldwide each year, that seemingly modest drop means 10 million people could be spared surgical complications if the checklist were used in hospital operating rooms around the world, says Taylor, a co-author of the study. Here in Canada, where there are some two million surgeries each year, using the checklist in every hospital could protect 60,000 patients from surgical complications.

(Ogilvie, 2009)

Praise and blame are another important means by which checklists have been established as a common good through popular media texts. For about a year and a half following the launch of the WHO campaign, professionals, hospitals, and health systems adopting the checklist were publicly celebrated. Local press coverage, for example, lauded the role played by particular hospitals and consultants in developing the checklist and participating in the trial. In July 2010, surgical teams across the province of Ontario were praised for successfully taking up the practice with an early compliance rate of 92%.

Surgical teams at Ontario hospitals have largely adopted a simple safety checklist as a way to prevent medical mistakes in operating rooms. . . . “To my knowledge” said Dr. Michael Baker, “this is the only jurisdiction in the world that has mandatory compliance—and reporting of compliance—of a uniform checklist . . . there is no parallel elsewhere.” (Ogilvie, 2010)

The Ontario case may have been unique in its approach to mandating the practice. The trend toward eulogizing particular doctors, hospitals, and regions for their leadership in adopting the surgical checklist, however, was quite common in popular media accounts,

suggesting the importance of epideictic rhetoric, addressed to general audiences, for fuelling uptake of this professional practice. The epideictic function is inherent to popular genres covering scientific and medical work, but it is also a strategic move within promotional campaigns. As one anonymous commenter puts it: “Advertise the innovators! Marginalize the status quo!” (Levy, 2009).

The above quotation concerning the use of checklists in Ontario also marks a turning point for articles of this kind, as the uptake of the practice is both celebrated and described in the past tense, as a completed achievement. From that point forward, the use of surgical checklists was not celebrated as exceptional or praiseworthy. It began to be represented as an expected standard of professional practice. This expectation is asserted in the following quotation from Bryce Taylor, a Canadian surgeon who became a checklist advocate through his involvement in the WHO trial:

[T]here is really no reason why every hospital in [Canada] shouldn't be implementing the surgery Checklist right away. (Canada NewsWire, 2009)

Within popular media accounts, this shift from celebrating and arguing for checklists to presuming their worth was a decisive one. The framing of the checklist as presumptively, self-evidently, good, however, was apparent from the outset. The fact that checklists were new to surgical practice was often described as “surprising” or played up to comedic effect. A patient association in the United Kingdom criticized the National Health Service for allowing hospitals a full year to carry out the implementation process. Advocates invoked public opinion to depict the absence of checklists in healthcare as alarming:

“Whenever I talk to laypeople, they are aghast that that's not what is normally done in an operating room,” Berry said. “Normally, a surgeon walks to the table, nobody says anything, and the surgery starts.”

(Schoch 2010)

The presumptive goodness of checklists has also been established through analogies comparing medicine and surgery unfavourably to other industries, most notably aviation:

Checklists seem like a no-brainer. Airlines have been using them for decades to ensure safe flights. But hospital culture, dominated by all-powerful physicians, has been more resistant to change. (Messina, 2010)

This quotation illustrates a rhetorical consequence of such presumptive framing: resistance to the new practice is invariably attributed to the arrogance of individual professionals (usually surgeons); to the protectionist motive of maintaining medical dominance; and to the value of autonomy long socialized into the medical profession. As I illustrated in my discussion of *The Checklist Manifesto*, the analogy between medicine and other professions can be used to promote surgical checklists in ways that preserve and support a positive ethos of professional excellence. Within professional and research literature, aviation and other high-reliability industries typically appear as valuable models to draw from. The same analogy, however, can be used to portray the medical profession in a negative light and to disparage the motives and character of doctors. Through such characterizations, responsibility for any failures of the practice is attributed not to the tool (which is simple) or its context (universal) but rather to qualities of its users and/or to their attitudes. In pentadic terms, acts of resistance or refusal are interpreted along the agent–act ratio. Public comments on news articles often reflect these depictions, characterizing physicians as “prima donnas” with “ego issues” who behave like children: “But I don’t WANNA do it different. It’s too HAARRRD” (Levy, 2009).

I find it interesting that skeptical voices are more often represented by advocates than articulated in their own right. Exceptions are apparent within one particularly interesting text within my archive: a post on the widely-read blog of Paul Levy (Levy, 2009). Levy was CEO of a large Boston Hospital who writes about leadership, negotiation, management, and teaching. In this post, which was written in response to news coverage of the surgical checklist initiative, he laments the difficulty of

implementing change in the medical profession. He describes how his own hospital was pushed to change by embarrassment and scrutiny following a wrong-site surgery. (The hospital had been praised for its transparency in responding to this event.) Describing himself as upset and unable to calm down, he criticizes the failure of other hospitals in his state to rise to his challenge to adopt the checklist. He lays blame and responsibility firmly at the feet of the medical profession, asking “what does it take to implement changes like this in a profession that is so steeped in the practice of giving individual physicians the prerogative to do their work the way they want to?” (Levy, 2009). He later charges that medical staff are “inappropriately comfortable” with the standard of care they provide and lack self-awareness of the dangers they pose. Drawing together many of the rhetorical moves apparent in popular media, he offers an impassioned provocation:

Failure to implement is not the result of economic pressures or the design of reimbursement. The check list takes about 90 seconds, not enough time to make a whit of difference in the day’s OR schedule—and, I am guessing that it will even accelerate a number of cases. No, the imperative must come from within the profession. It has to be based on the underlying set of values to which doctors pledge their lives: avoiding harm to patients. The story about Atul’s study unfortunately says, in so many words, that there is much lacking within. (Levy, 2009)

Levy’s larger message is that the fate of the profession is at risk. If medicine is not seen to be regulating itself appropriately, it will lose the privilege of doing so.

This initial post is followed by 53 comments, including six from Levy and several from high-profile commenters including Donald Berwick and Atul Gawande. Other posts are from practicing doctors (some named and some anonymous), administrators, and members of the public actively engaged in patient advocacy. This is one of the only truly dialogic texts that I was able to find, and its placement on a blog makes it another important site of crossover between public and professional spheres. For the sake of my current discussion, I am most interested in the exchanges among the doctors and administrators, which explicitly navigate questions of motive and rhetoric as they relate

to the checklist in particular and to processes of change in general. Three commenters, for example, across five posts, note that doctors have good reason to be wary, having experienced the imposition of mandatory protocols and standards that are mindlessly applied even when they make little sense. They also assert that 90 seconds is significant in many areas of professional practice with a high turnover of patients. All of the critics resist the motives ascribed to them, but none discounts the potential value of the surgical checklist in particular.

One of the first critics draws a swift and sharp rebuke from Levy, who charges that the poster has a “very bad attitude” and appears “recalcitrant and stubborn.” Apart from a later concession that checklists must be designed well by clinicians themselves, rather than being imposed from without, the arguments of the critics go largely unaddressed. Much of the larger conversation circulates around the confrontational rhetorical tactics used by Levy. One anonymous commenter (who signals a personal relationship with Levy) warns that “[t]aking an adversarial, finger-shaking approach. . . will only diminish your credibility with medical staff.” Berwick, charging that Levy is being “a bit too hard on the MDs,” shifts responsibility toward the education system for the “self-image of heroism, autonomy, and artistry” that it “drums into” trainees. He adds that 90 seconds is “not a trivial investment” for the reason that doctors haven’t been taught to value communication and reflection. (For Berwick, the time is not trivial because it requires a new set of values. For the critics, the time is not trivial because it may be multiplied by hundreds of cases and multiple checklists.) Gawande also asserts the need for positive cultural change and cautions against “the temptation to shake our fists and demand a law that makes every surgeon use our WHO checklist.” His proposed solution lies not in educational reform but rather in the work of growing enthusiasm from the ground up by starting with one operating room at a time and growing the practice outward as the successes and experiences of users makes them “almost evangelical about the effects.”

These comments critiquing a shaming, authoritative, and “finger-shaking” approach are rhetorically sound. They recognize the importance of convincing professionals to adopt



the practice in a meaningful rather than a superficial way. They are sensitive to the need for persuasion and the inadequacy of simply delivering information and directives—a naïve view that still characterizes many attempts to change behaviour. Further, they recognize that suasive processes are deeply rooted in the culture of medicine and therefore need to be addressed toward the systems of education and practice through which that culture is established and performed. At the same time, this exchange suggests a subtly patronizing stance that is oriented toward managing rather than engaging with concerns. Gawande, for example, likens the resistance of surgeons to the “strangely devoted but somewhat defensive and self-deluded way a parent goes about raising a child.” “Moms,” he suggests, would be “outraged” by a checklist limiting their ability to give “soda pop to their children every day.” This rhetorical stance is what Wayne Booth would characterize as an honest form of “win-rhetoric”: the use of sincere means to pursue a cause held to be “unquestioningly defensible” (Booth, 2004, p. 43). The problem is knowing how to change perspectives that are certainly mistaken. This form of rhetoric is worthy of being celebrated, especially when one agrees with the cause. For Booth, however (and for Burke) the ideal form of rhetoric is a genuine “listening-rhetoric”: rhetoric that honestly engages with opposing arguments and perspectives for the purpose of reaching wider understanding of the problem. This form of rhetoric is equally committed but less righteous. It would make a strong case while also considering the concerns, practices, and context of physicians (and parents), rather than rushing to attribute disparaging motives.<sup>1</sup>

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<sup>1</sup> There is, however, the possibility that motives are in fact self-interested, malign, or devotedly mistaken, at which point the ideal of listening rhetoric breaks down. My sense and critique is that the attribution of motives, in the case of checklists specifically and quality improvement efforts generally, tends to be made without recourse to sufficient evidence—and that the kinds of evidence needed are not prioritized or recognized as evidence in health research. I do not have adequate evidence myself to make this critique with confidence at the level of individual texts and authors. Levy and Gawande may have good reasons for attributing motives in the ways that they do. I can, however, show through my analysis how such motivational trends are apparent in the larger discourses. That is, I can trace how deficiencies and challenges of the checklist initiative are attributed to attitudes (individual and cultural) while successes are attributed primarily to the tool itself, to particular proponents, and to

This dialogue illustrates that the most thoughtful proponents of the surgical checklist recognize the rhetorical hazards of directly confronting and asserting authority over professionals who resist the use of checklists. Storied representations seem to provide an alternative, indirect means of sanctioning professional behaviour. The episode of ER, with its depiction of an obstructive surgeon, provides a central illustration. As checklists become an expected standard, eulogistic depictions of checklist adopters are replaced by dyslogistic depictions of those who fail to use the tool properly. By 2012, use of surgical checklists had been established as a standard to such an extent that failure to use checklists is now represented as a cause when errors do occur. For example, following an audit of a UK hospital that had reported negative outcomes, inadequate use of the checklist was identified (alongside budget cuts) as a root cause of the problem:

Surgical teams at Addenbrooke's failed to follow the checklist. On two occasions surgical items were left inside patients while another patient was given surgery on the wrong side of their abdomen.

(“Addenbrooke's,” 2011)

## Standards and surveillance

The presumptive worth of checklists has been institutionalized in various ways, which differ in the emphasis they place upon mandating or motivating change. Once the checklist is adopted as an expected or formal standard of practice, its representation as a metric comes to the fore—with hospitals and administrators as primary agents—and its representation as a practice recedes from view within public representations as well as dominant forms of research and audit.

While health professionals are ultimately the group being encouraged to use the checklist in practice, institutional agents—hospitals and their administrators—have

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organizational agents. The examples presented here constitute one suggestive illustration of this trend.

been an equally important target of promotional efforts. For example, upon publication of the WHO trial, patient safety experts were “already trying to persuade hospitals” to adopt the checklist (Branswell, 2009). Guides for implementing the surgical checklist emphasize the importance of recruiting support from institutional leaders. Arguments addressed to hospitals and institutions introduce an additional characteristic of checklists: their potential to save money. Not only are checklists inexpensive to adopt,<sup>1</sup> but they also have the potential to prevent costly mistakes. This emphasis is apparent in the following quotations:

Without adding a single piece of equipment or spending an extra dollar, all eight hospitals saw the rate of major postsurgical complications drop by 36 percent in the six months after the checklist was introduced.

(Henig, 2009, p. C12)

If [checklists] turn out to curb malpractice lawsuits too, [Gawande] added, “I don’t know what more we want in order for hospitals to adopt the concept.”

(Joelving, 2011)

One important rhetorical distinction should be noted here: in some texts, hospitals are cast in a leadership role for adopting the checklist into policy and securing support from clinical teams. In others, professionals themselves are constructed as the leaders of implementation efforts and are charged with securing administrative support. The latter scenario is optimal and is projected within several key documents from the WHO, which imply a primary audience of health professionals advocating for the checklist within their institutions.

In practice, however, hospitals have often driven the adoption of checklist policies ahead of such optimal staff-led initiatives. In many jurisdictions, hospitals (and, consequently, professionals) have had little choice but to incorporate the checklist into

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<sup>1</sup> Emphasizing the inexpensiveness of checklists as a practice tends to omit consideration of more comprehensive training costs (advocated by proponents of CRM). An interesting contrast to this emphasis can also be seen in the postings of various companies predicting profits for information systems that display information and monitor safety practices including checklist use.

their standard procedures at an aggressive pace. Suasive processes seeking to motivate acceptance of the checklist have been accompanied by formal standards mandating its use or by economic incentives creating external pressure at an institutional level. The tension between motivating and mandating change is an important site of debate. This tension comes sharply to the fore in Chapter 5, but it first appears as an ambiguity within early promotional texts. For example, it can be observed in an editorial change between the first and final editions of the implementation manual, which were published before and after publication of the WHO trial. The initial version states prominently, in the introduction, that the checklist is not intended to become an official policy (emphasis mine):

*The Checklist is not a regulatory device or a component of official policy; it is intended as a tool for use by clinicians interested in improving the safety of their operations and reducing unnecessary surgical deaths and complications.* (WHO, 2008a)

The final version replaces this qualification with a knowledge claim:

The Checklist is intended as a tool for use by clinicians interested in improving the safety of their operations and reducing unnecessary surgical deaths and complications. Its use has been demonstrably associated with significant reductions in complication and death rates in diverse hospitals and settings, and with improvements in compliance to basic standards of care. (WHO, 2009a)

The admonition against mandating the checklist does persist within other WHO texts but is not prominently featured. Promotional texts celebrate commitments by regions and countries to adopt the checklist wholesale.

Healthcare payers and hospital accreditation agencies are two final institutional constituencies that have actively driven the uptake of surgical checklists. In the United States, top-level interventions have been economic. In 2008, for example, the Medicare program, followed by major private insurers, introduced new policies prohibiting reimbursement to hospitals for a specific list of conditions and events deemed

preventable, including several specific surgical errors and adverse outcomes (Brooks, 2007; Rosenthal, 2007). While this policy doesn't mandate specific preventative measures, insurance companies have actively lobbied hospital boards to set patient safety priorities. They have produced and promoted their own version of the surgical checklist (Blue Cross, 2011). While the Joint Commission mandates only the Universal Protocol to Prevent Wrong-Site, Wrong-Procedure, and Wrong-Person Surgery, institutions have extended this policy to incorporate the more elaborate WHO tool, as illustrated by the AORN version of the checklist described earlier.

The province of Ontario is among the jurisdictions that chose to mandate the practice. In 2009, the Ministry of Health and Long-Term Care required hospitals to begin reporting their rates of compliance with all three components<sup>1</sup> of the surgical checklist. The checklist was added as an indicator to a pre-existing quality surveillance system that is accessible to the public and searchable at the level of individual hospitals. The requirement to publicly report rates of “compliance” with the checklist illustrates again the centrality of public audiences in driving and shaping uptake of this practice. It also introduces a significant shift of rhetorical situation. Within reporting systems—especially public ones—the checklist is not only, or primarily, a tool for use by clinicians for the purpose of supporting communication and preventing mistakes. It becomes a metric for use by hospitals to reassure funders and the public. This rhetorical shift marks the establishment of checklists as a component of the material and evaluative structures that govern professional work. In Canada, that shift was further reinforced at a federal level in 2011 when Accreditation Canada designated the checklist as a Required Organizational Practice for healthcare facilities performing surgical procedures (Accreditation Canada, 2010).

The following quotation provides a nice illustration of the discursive transition effected by this shift. In this case, two transitions take place over the course of a single

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1 As with the WHO checklist, these include the briefing (before induction of anaesthesia), time-out (before incision), and debriefing (before the patient leaves the operating theatre). See page 308.

paragraph: from “surgical teams” collectively using checklists to “do their best work” to “surgeons” acting alone, ticking boxes in compliance.

With the annual global volume of surgery now exceeding 234m [operations], the use of the WHO checklist could reduce deaths and disabilities by millions. There should be no time wasted in introducing these checklists to help surgical teams do their best work to save lives. Britain responded immediately, with a nationwide alert issued by the National Patient Safety Agency. The agency issued a slightly modified version of the list and said it would require all hospitals to use it by 2010. Surgeons will be required to tick every box and sign to show they have complied. (Boseley, 2009)

Within both popular and professional accounts of the practice, the checklist has become associated with such terms as “compliance” and “adherence.” These representations of the checklist not only presume its worth but tend to reduce its representation to a statistic. As the checklist becomes deployed as a statistic, its representation as an act or practice, or even as a tool, recedes from view. The focus within popular media coverage often falls not on the checklist itself but on the reports generated through performance assessment systems, which feature surgical safety checklists as one indicator of a hospital’s commitment to quality, safety, and transparency. Within Ontario, rates of compliance with the surgical checklist are one of nine such indicators, two of which track behaviours or processes rather than adverse clinical outcomes.

## **Rhetoric in the promotion and uptake of surgical checklists**

The case of surgical checklists illustrates how a variety of rhetorical mechanisms can work in concert to effect material and symbolic change. In general, these mechanisms are mutually reinforcing, serving to establish a relatively stable depiction of the practice. They also, however, introduce specific rhetorical tensions that can be discerned in Burkean terms.

The forms of persuasion associated with the promotion of surgical checklists are, in many senses, obvious. Both overt and purposefully designed, such forms of persuasion are well aligned with the defining concerns of classical rhetoric. While such forms of appeal remain central concerns for rhetorical scholars working in overtly suasive domains (e.g., political rhetoric, legal rhetoric, advertising), they have tended to be of secondary interest for recent scholars of health, medicine, and science, who have grappled instead with those less obvious forms of persuasive appeal that reside deeply in the terms, categories, and forms that we use to understand the world and to interact within it. Judy Segal, for example, distinguishes between those convergences of rhetoric and medicine that are obvious enough to be displayed and those that “need to be teased out,” turning her attention to the latter (2005, p. 3). Such embedded (and embodied) forms of rhetoric, too, bear importantly upon surgical checklists. One key feature of this case is that it provides an opportunity to observe interactions among overt and implicit, designed and spontaneous, symbolic and material, modes of appeal.

This feature of the case is important to the ultimate objective animating my study: articulating a rhetorical approach to understanding and mediating relationships between research and practice in healthcare work. Such an approach must include a central place for overtly suasive strategies and purposeful action warranted by good reasons. It should affirm the premise that some of the strongest reasons for action derive from the robust mechanisms of formal research. It must also, however, leave behind the positivist presumptions that constrain dominant approaches to conceptualizing knowledge and practice (Greenhalgh and Wieringa, 2011).

A rhetorical conception of knowledge translation should stand counter to any discourse that restricts good reasons to knowledge of a particular, circumscribed, and normative kind, while also rejecting any discourse that treats all reasons as good. As Goldenberg argues, the evidence-based medicine movement offers a valuable pragmatic orientation that is worth preserving; the problem lies in its codification of a rigid hierarchy of evidence (Goldenberg, 2009). The case of surgical checklists, I believe, dramatizes

specifically rhetorical tensions between pursuing the forms of evidence that are sanctioned by those dominant hierarchies—that is, experimental trials that aim to control for bias and quantify a reduction of negative outcomes—and presenting other forms of evidence that aim to examine bias and demonstrate, in positive terms, what the practice does. While this chapter has been focused on promotional rather than epistemic texts, it suggests how this tension has played out through the distribution of rhetorical work (both advocacy and reasoning) across a wide variety of genres, which have the potential to amplify, clarify, motivate, transform, and also to distort. Much of this rhetorical work happens beyond the direct reach of promotional campaigns (though advocates of the checklist have actively responded to and sought to rein in rhetorical challenges).

Beyond being overtly rhetorical in nature, the promotion of surgical checklists instantiates an explicit practical theory of persuasion in the context of healthcare work. I have noted Gawande’s careful attention to persuasive successes and failures. That attentiveness to the means of persuasion and change is also front and centre in publications by Pronovost. With co-authors, for example, Pronovost offers a practical theory of how to effect change in health systems (Pronovost, Berenholtz & Needham, 2008; Pronovost & Vohr, 2014). These topics have been further addressed by research from interdisciplinary scholars in fields contiguous to rhetoric, including human factors engineering and sociology. Some of this scholarship articulates a powerful case for the importance of rhetoric in particular and epistemologies of practice in general. It does so, however, without the benefit of rhetorical terms and concepts.

The rhetorical self-consciousness of this case makes it a valuable starting point for theoretical and educational work. At minimum, this case can be used to demonstrate, examine, and conceptualize rhetorical processes, even when some of those processes require little discovery. This research will make a stronger contribution if it illuminates additional kinds or dimensions of suasive work; helps to translate knowledge among different perspectives, sites, or innovations; helps to diagnose rhetorical challenges;



offers constructive critique; and/or clarifies unique warrants for a rhetorical perspective within this interdisciplinary field.

### **Good men speaking well**

As a spokesperson for surgical checklists, Atul Gawande is significant both as an individual advocate and as a recognizable type of figure. He is a uniquely public example of what has been termed a “champion,” “opinion leader, or “change agent”: a person with the stature and credibility to influence the knowledge and behaviour of colleagues.<sup>1</sup> As a surgeon and public health researcher from Harvard, bestselling author, staff writer for *The New Yorker*, and charismatic speaker, Gawande is a quintessential “good man speaking well.” Beyond these forms of symbolic and cultural capital, Gawande’s writing establishes the ethos of an incisive and reflective surgeon– scientist. Its energy and eloquence themselves illustrate the potential of public writing as a medium for both creating and disseminating knowledge. This role for public writing in medicine has been advocated by rhetorician Joan Leach (2009).<sup>2</sup>

Contemporary rhetorical and social theories have long demonstrated that social change cannot be attributed to the original, controlling influence of singular agents. Depending on one’s philosophical perspective, individual agency has been either tempered or supplanted by an appreciation of the many ways that language and social structures (material and symbolic) work to constrain human action and to limit control over the meanings and effects of the words that we use. Attending to the forms of persuasion that necessarily exceed human control and agency, however, need not, from a rhetorical perspective, negate the central role played by physician advocates in marshalling

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- 1 I hesitate to use the term “unique.” Gawande is an exceptional example, but high-profile media and/or policy roles seem to be a relatively, and perhaps increasingly, common means of influence within medicine.
  - 2 It is also interesting to note, however, that Leach situates checklists (considered in the context of physician–patient communication) in direct opposition to the medical humanities, which she associates with the pursuit of decorum, empathy, reflection, ethics, and narrative (Leach, 2010).

available resources (again, material and symbolic) to significant effect. Research concerning the diffusion and uptake of new practices continues to place considerable stock in opinion leaders as primary agents of social influence—an observation consistent with Aristotle’s privileging of ethos as the most essential type of rhetorical appeal.<sup>1</sup>

Physician advocates, including but not limited to Gawande and also Pronovost, have been crucial to the promotion and uptake of surgical checklists. While this is not particularly surprising, the prominent role played by monologic suasion and by the sponsorship of high-profile medical advocates is somewhat ironic, given that the checklist is explicitly intended to displace the role of the physician hero. Both Gawande and Pronovost certainly enact the value of collegiality, foreground insights gleaned from encounters with others, and position themselves with humility as learners. Their books, however, follow the narrative structure of a heroic quest. (This is most striking in the subtitle of Pronovost’s book: *How One Doctor’s Checklist Can Help Us Change Health Care from the Inside Out*.) Although suasive work associated with the promotion of checklists has become widely distributed, it remains remarkably monologic. Dissenting views are often quickly foreclosed or marginalized. While some popular accounts of the checklist do place emphasis upon the social purposes of the practice, such as fostering team cohesion and encouraging everyone to speak up, nurses are rarely featured as spokespeople. Within news media, checklists are sometimes mistakenly described as a tool that surgeons (rather than teams) are required to use.

My analysis in this dissertation does not grapple explicitly with the role of gender in the promotion of surgical checklists. This section, however, would be incomplete without a few observations on this topic. It is striking that advocates for the checklist, along with

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<sup>1</sup> There is an opportunity to conceptualize the role of opinion leaders, especially those who are also public figures, using the resources of social and especially rhetorical theories. While I do not pursue this opportunity beyond the reflections included in this section, my observations gesture toward the research priorities articulated by Greenhalgh et al., which include examining the “complex and delicate” process of opinion leadership and social influence (2005, p. 225).

researchers and policymakers who are cited as experts, are almost invariably men. (This includes all but one of the professionals profiled in *The Checklist Manifesto*.) This may simply reflect the gender imbalances that still characterize surgery and anesthesiology, not to mention aviation and engineering—the disciplines most often heralded as sources of knowledge. The predominance of male spokespeople, however, has rhetorical implications that would warrant further analysis and research. For example, as I’ve suggested, the promotion of checklists has employed forms of appeal that are rooted in a classical (and masculine) rhetorical tradition. These strategies are sometimes subtly paternalistic. It may be that reliance on such strategies and forms provides a continuity necessary for appealing to professional audiences and enabling change. Alternatively, these strategies and forms may exert a conservative force that undermines the values that the checklist is meant to advance.

### **Enrolment of diverse constituencies**

The promotion and uptake of surgical checklists has been distributed across a wide range of rhetorical agents and genres. I argue that this distribution of rhetorical work, which actor-network theorists would term “enrolment,” is itself a central means of persuasion in this case. It is, in the first instance, designed: proponents of the surgical checklist have recognized and deployed diverse means of persuasion to enlist individual and organizational advocates at local, national, and international levels. The checklist itself is central among these means, as a form and as a “vehicle” for focusing attention and organizing teams around the goal of preventing avoidable harm. The distribution of rhetorical work is also enabled and shaped by existing practices, organizational structures, genres, discourses, identities, and economies of knowledge production that precede and exceed design. The case of surgical checklists therefore offers “the opportunity to theorize and the responsibility to account for an ever-widening sphere of objects, forces, and processes” (Rivers, 2012, p. 34).

My analysis has led me to discover how thorough the formal uptake of surgical checklists has been. As I reviewed popular media coverage of the checklist, I was alert

for divergent arguments and attitudes and was somewhat surprised by how few I found. (Chapter 5 will examine exceptions that serve largely to prove this rule.) While I expected the checklist to be celebrated in predictable ways within popular media texts, my close review of these texts has impressed upon me how thoroughgoing the celebration of checklists has been and how wide is the network of people, things, and institutional structures through which this tool has built momentum. Skeptical voices are more often represented by advocates than articulated in their own right. My analysis in this chapter in many ways catalogues a set of mutually reinforcing persuasive mechanisms. While it sets out to study a process of change, it is also a study of reproduction. At the same time, this case illustrates how the enrolment of diverse constituencies can introduce rhetorical liabilities, constraining the meaning of the practice and the agency of those charged with adopting it.

### **A common scene**

The recruitment of diverse constituencies has hinged upon a common scene or exigence that is shared and reproduced across nearly all of the texts that I considered: medicine in general, and surgery in particular, are unnecessarily dangerous. In chapter 2, I illustrated how that scene has been a dominant force both in the emergence of checklists and in the study of how they work. My analysis in this chapter serves to reinforce that discussion. Raising awareness about avoidable surgical harm—in other words, making this exigence visible—was one of three independent objectives of the WHO campaign. Claims concerning the extent of surgical harm have been readily reproduced and amplified by the generic conventions of scientific literature, as they help to establish a problem and a rationale for research. They have also been amplified through popular media texts, which circulate stories about particular errors and the problem of medical harm in general. I am aware of no debate concerning the gravity and importance of this problem (though its construction as a global concern requires considerable extrapolation across geographic regions facing quite different challenges, kinds of risk, and rates of avoidable harm). This is a good example of a rhetorical

situation that can be understood using the terminology of Bitzer and his critics: the exigence exists in the material world, but many rhetorical acts are necessary to make it visible and to marshal support for a particular response. The selection of checklists as a focal intervention was directly shaped by the audience and constraints of the rhetorical situation as defined by the WHO campaign: the mandate to appeal to a global audience.

As I've already detailed, the general problem of preventable surgical harm has been attributed to several interrelated factors, including the complexity of surgery, the limits of human cognition, and the inadequacies of interprofessional communication. (See Chapter 2 and Figure 1.) These explanations all converge on the checklist as a solution. They also imply multiple functions for the checklist that are variously social and technical. Some popular and professional texts acknowledge these multiple functions. The imperative to articulate simple and universal solutions, however, tends to emphasize the most universal exigencies and most egregious failures. This expansion of the scene works well to justify the practice but omits many features of the local scenes in which the checklist must be implemented and enacted.

### **Public audiences**

Throughout the promotion of surgical checklists, texts designed to reach the public were coordinated with those published in professional and scientific forums. Popular texts have played not a secondary or subsequent but, rather, a primary role both in driving the uptake of surgical checklists as a standard of professional communication and in establishing authoritative knowledge concerning the value and functions of the practice. Texts addressed to general audiences exhibit an indirect means of appealing to professional ones. They also allow for persuasive strategies—prominently including epideictic rhetoric, arguments from example or story, and rounded appeals to both character and emotion—that are traditionally devalued within medical research, but that are well aligned with the aim of moving people to belief and action. When used

rigorously, they are also arguably appropriate to assessing the merits and limits of checklists as a practice.

Many studies of rhetorical accommodation examine the production and communication of scientific knowledge as chronologically sequential: scientific knowledge is established prior to its adaptation for more general audiences. The same sequential relationship is apparent in most treatments of knowledge translation. As a case study, the surgical checklist presents a somewhat different picture. General audiences are not (at least, not exclusively) secondary recipients of knowledge claims previously established in scientific texts. Rather they are addressed in efforts to establish truths and to shift professional culture. This case study also illustrates how public opinion is constructed by advocates in order to warrant the checklist as a practice: laypeople are depicted rightfully aghast that checklists are not already in place. Unlike rhetorical studies of public engagement in science, however, or patient involvement in healthcare, laypeople are typically not engaged as active participants in shaping the practice of checklists.

### **A challenging rhetorical situation**

The promotion and uptake of surgical checklists also dramatize a challenging rhetorical situation that is common to many initiatives that fall under the heading of “quality improvement,” “knowledge translation,” and also “continuing education.” Doctors are ambiguously situated by these discourses as both audience and expert. On the one hand, they are being implored to recognize and change a problematic aspect of their practice: they are being persuaded to recognize the limits of their expertise. On the other hand, they enjoy public authority as experts with a certified form of competence. The ambivalent stance of health professionals as both producers and consumers of scientific and other forms of expertise has not been fully examined.

My study suggests several rhetorical strategies and ambiguities that arise from this inherently challenging rhetorical situation. These include strategies of indirection

(addressing professionals via public audiences) and the proliferation of professional publications and genres, in addition to specific forms of rhetorical appeal. Some of those strategies—such as casting professionals as active participants in the discourse and identifying the checklist with the value of professional excellence—offer rhetorically sound approaches to this challenge, though they require foregoing some control over the advocated practice and its enforcement. It seems to me that these approaches venture onto thinner ground when they attribute negative motives for actual and anticipated acts of professional resistance. It is possible that public texts and fictional depictions of the checklist provide a means of modelling and responding to problematic motives and behaviour. However, these depictions may become unconvincing where they fail to take seriously the perspectives of practicing professionals or the limits and complexities of checklists as a practice.

A central challenge of the patient safety movement is the need to appeal to the agency of health professionals in confronting a problem that they are complicit in creating: surgical teams are called upon to recognize their susceptibility to causing harm, even as their professional identities are built on alleviating harm. This problem is not specific to healthcare. It runs to the heart of the human condition in general. (The same challenge, for example, characterizes efforts to address racism and prejudice by encouraging well-intentioned people to recognize their placement within larger systems.) Burke's conception of motion and action as an irreducible tension existing within human agents provides a theoretical basis for understanding this challenge. My analysis identifies a site of ambiguity whereby promotional texts either cast health professionals as agents, with checklists in a supporting role, or cast checklists as agents, with health professionals exhibiting compliance. The trick lies in casting both roles at once.

### **Form and functions**

In chapter 2, I showed that surgical checklists were intended to serve multiple functions. In chapter 4, I will examine the actual functions (intended and unintended)

of one checklist as it was enacted in particular situations by surgeons, nurses, and anesthesiologists. My analysis of the promotion and rapid uptake of this practice illustrates how the checklist—as a form and a concept—also works rhetorically outside of the operating theatre, both to secure support and to accomplish desired effects.

This analysis illustrates how the checklist works metonymically in various ways. First, it serves as a means of condensing available knowledge or evidence—the standards presented in the full WHO guidelines (which run 96 pages)—into a series of 19 recommended checks represented on a single page. In Burkean terms, this operation is metonymic insofar as it reduces the full body of evidence and selects actions amenable to a checklist tool. Each item on a checklist carries presumptive authority as an instruction concerning what should be said or done. The Safe Surgery Checklist was designed explicitly to encode knowledge and actions regarded as being beyond argument. The checklist selects particular actions for attention (those that are inexpensive, uncontroversial, quantifiable, and performable by surgical teams) and deflects others (those that require more time, resources, technology, or systemic change).

As Gawande makes clear, the checklist is intended not only or primarily to translate a body of knowledge. Another intended function of the checklist is to encode a set of values. By directing attention toward both essential procedural steps and basic interaction with other professionals, the checklist is meant to cultivate professional humility, interprofessional awareness, and a sense of team. The checklist, in this sense, symbolizes and reorients professionals' relationships to one another. This function might be considered synecdochic insofar as it successfully enacts values and dispositions that characterize the culture as a whole. One open question is whether the checklist helps to establish these values or whether those values must exist in order for the practice to be effective.

A further metonymic function exists in the reductive force of the term and tool itself, which stands not only for an abstract body knowledge and a set of values but also a



series of actions coordinated in space and time. To make this observation is, one commentator claims, to “state the obvious”:

[It] it is not the act of ticking off a checklist that reduces complications, but performance of the actions it calls for. These actions do not merely include confirming the identity of the patient, operation, and site and ensuring that the necessary instruments, fluids, blood, and equipment are available; they also include having all team members introduce themselves and having the surgeon brief the team on the critical steps of the operation and address any concerns of the anesthetist and nursing team. The checklist is merely a tool for ensuring that team communication happens.

(Leape, 2014, p. 1063).

However, the specific dynamics of this metonymic relationship—where the checklist, as a term, stands in for a particular set of actions—are rhetorically important and not, in fact, obvious. As I will show in Chapter 4, the performance of checklists in the operating theatre entails a set of actions beyond those scripted beside tick boxes. And scripted actions can take on different significance depending, for example, on the features of a case and the configuration of a team. My analysis in this chapter shows that the actions associated with a checklist range further still. For example, the checklist may provide a focal point that helps to galvanize political action and build organizational capacity. By many accounts, this function is integral to how the checklist works. Beyond providing a mechanism to support more resilient and consistent forms of communication between professions, the process of adapting the checklist provides a vehicle for prompting action by institutional agents and for identifying and addressing some structural problems, as the example of pulse oximeters attests.

This productive function of metonymy is offset, however, by its more narrowly reductive qualities, in which the efficacy of the checklist as a tool and metric obscures attention both to its qualities as an act and to larger structural problems. This reductive function is apparent in experimental studies that treat complex social processes as “interventions” without attending to their mechanisms; within popular media accounts that characterize the checklist as simple; and within the managerial discourses that

reduce the practice to a metric. The efficiency of these genres and discourses produce an effect that Burke might call a “bureaucratization of the imaginative.” The simplifying act that makes the checklist powerful is the same one that renders it vulnerable.

The main point is this: the checklist, as a term and a tool, is necessarily metonymic—it is a part standing for many wholes, a thing for many acts (or many things for many acts). The term necessarily foregrounds the instrument and obscures situational differences in its purposes, functions, and particular enactments. The checklist as a form implies and enables two distinct and apparently contrasting functions: it scripts and standardizes particular clinical and communicative actions, and it appeals as a form specifically because it is malleable and adaptable to local conditions and purposes.

### **Evidence and self-evidence**

Efficacy claims derived from experimental studies have played an essential role in the uptake of checklists. These studies have garnered significant attention in general media, and experimental evidence is regarded as a necessary warrant for persuading surgical teams that the practice has value. As I will examine in Chapter 5, this assumption appears to be well founded for some health services researchers, who argue that quality improvement and patient safety interventions should be supported by the same degree and kind of evidence as other forms of treatment.

This case study also suggests, however, that the role of experimental studies is powerful but secondary in warranting the uptake of this practice. A much wider range of arguments, evidence, and allegiances bear upon the practice and its adoption. The typical move of taking scientific claims as the logical point of departure in studies of knowledge translation distorts available evidence concerning how practice change works. This claim is far from surprising for any scholar examining scientific and medical work. The case of surgical checklists, however, provides a particularly transparent example of (1) how the rhetorical functions of clinical research can exceed and precede

their epistemic ones and (2) how other lines of reasoning find expression in a range of professional and public genres.

Multiple genres exist within professional and scientific literature, each of which places different emphases upon establishing knowledge claims about the checklist and convincing professionals to use it. Additionally, the production of scientific knowledge—and the sociological value associated with that production—has itself been a mechanism for enrolling professionals as participants and advocates in the checklist campaign; there is an economy of scientific knowledge production within the health sciences that has driven the proliferation of research and professional texts. These supplementary genres have, to my knowledge, received little scholarly attention from either rhetorical or social scientific perspectives.

The emphasis upon clinical trial results as a warrant for uptake also obscures the degree to which arguments in favour of the checklist rely upon narrative evidence. Narrative evidence (derived from written reports, testimonials, interviews, and observations) is appropriate in this case for at least six reasons. First, unlike drug treatments, many of the immediate effects of a communication practice are amenable to observation and description. Second, those effects are mediated through experience and perceptions, which are best accessed through careful narrative work. Third, the negative clinical outcomes that checklists seek to prevent remain rare, requiring large studies to detect small changes, whereas the positive procedural outcomes that they are intended to foster may be detected more quickly with far less expense. Fourth, narratives allow for fine-grained comparison across cases and situations. Fifth, as I've shown, the mechanisms and effects of the practice exceed the boundaries of a controlled study, extending outside of the operating theatre. And sixth, narrative allows for the discovery of both intended and unintended effects.

My research has also demonstrated various specific means by which the value of checklists been presumed rather than argued. These include the repetition and association of terms (i.e., the recurrent description of checklists as simple and safe), use

of checklists as an indicator of competent practice, analogies to other industries where checklists are well established, emphasis upon checklists as a tool familiar to everyone, and epideictic rhetoric celebrating checklists and marginalizing critics, actual and anticipated.

Finally, the rapid uptake of surgical checklists has been fostered by the active anticipation and management of critique. This becomes apparent in my discussion of prolepsis in *The Checklist Manifesto*. It is also apparent within implementation tool kits, which teach advocates how to respond to skeptics. Chapter 5 will further discuss responses to those researchers who critique or complicate the practice.

## **A summary, in dramatic terms**

1. One dominant pentadic ratio apparent across my archive of texts is the scene–agency ratio, in which checklists are cast as a tool or form of agency that addresses the scenic problem of preventable surgical harm. Closely related is the purpose–agency ratio, in which the checklist serves the purpose of preventing errors. In either case, the checklist is situated as the key agent or subject of action.
2. These ratios are typically represented at the broadest possible circumference. Avoidable surgical harm is established as a problem of global significance. Emphasis is placed upon causes of harm that are universal: those rooted in the limits of human cognition. The checklist is a tool that is simple and inexpensive enough to be used in any context.
3. These particular ratios (the scene–agency and purpose–agency ratios represented at the widest and narrowest possible circumference) are established and perpetuated by the conventions and reproductive efficiency of several distinct discourses and genres.
  - 3.1. For example, scientific discourses excel at articulating and representing problems that warrant investigation and intervention. In the natural sciences especially, they pursue knowledge claims that are not contingent upon context.

News media excel at circulating stories concerning tragedy and medical harm. Both, together, establish the scenic problems to which checklists emerge as a response.

- 3.2. The checklist is presented as a simple solution to these problems. This depiction of checklists is also perpetuated in a number of ways. It appeals as form—a form that is understandable to general and professional audiences alike. It also appeals to the tendency toward simplification favoured by both popular media and clinical research. Popular media simplifies through the removal of qualifiers, for example. Clinical research simplifies by bracketing off and controlling for variation. Both tendencies are extended by managerial discourses that seek to control costs, monitor the quality of professional work, and demonstrate transparency and accountability.
4. At this broad circumference, the checklist and its driving discourses pursue laudable ends with which few, if any, would argue: prevention of inadvertent harm and cost savings obtained through more robust and consistent communication and mutual understanding among professionals.
5. These dominant discourses, however, create specific rhetorical and logistical challenges, as follows:
  - 5.1. First, the problem that they establish obscures the agency of health professionals. Surgical teams—specifically as they function in Burke’s realm of motion—are not only an aspect of the scene but its most problematic component.
  - 5.2. Second, they articulate the problem at a high level of abstraction that maps imperfectly onto the more local and variable scenes, circumferences, and purposes that motivate and constrain professional work.
  - 5.3. Third, they tend to deflect attention from the nature of surgical checklists as an act or practice. While they acknowledge the social functions of this practice,

their emphasis falls disproportionately on the cognitive ones (e.g., providing memory support and ensuring completion of standard tasks).

6. The most effective rhetorical strategies apparent across the promotion of surgical checklists are those that navigate this challenging rhetorical situation. These include making the broader situation visible by persuading health professionals not only to recognize the problem of preventable harm but to understand how that problem relates to inherent vulnerabilities in their own work. They also include rhetorical strategies that respect and preserve professional identities and skills. This requires introducing a new, pragmatic emphasis that casts checklists as a supportive tool used by health professionals to serve the ends of vigilance and excellence (stressing the agent–agency or purpose–agency ratios). Finally, this rhetorical situation may be navigated by (1) engaging professionals in active roles as clinical leaders and researchers and/or (2) charging them with adapting and implementing the checklist practice.
7. These efforts, however, tend to be thwarted in several ways:
  - 7.1. Regulatory discourses and institutional agents introduce competing emphases that obscure professional agents and acts from view.
  - 7.2. Even those advocates who are savvy about the rhetorical situation at hand and seek to associate the checklist with positive professional qualities tend to interpret professional motives in terms of the problem at a broad circumference, rather than seeking to better understand situational complexities or the multiple priorities that converge upon local work. It may be the case that the broader goal of patient safety does need to supersede all other priorities, and that “safety first” principle is effectively realized and/or symbolized by the checklist. Or it may be the case (as my analysis of checklists in the operating theatre in the next chapter will suggest) that the introduction of the checklist has the potential to compromise safety under certain conditions. Either scenario necessitates close and serious attention to the local scenes and situated

perspectives of health professionals. It requires the integration of local and general knowledge, whether to better persuade users or to better understand and adapt the practice.

- 7.3. The forms of knowledge needed at a local level continue to be systematically undervalued or under recognized.
8. My survey of rhetorical strategies apparent in the promotion and uptake of surgical checklists may be understood as the means by which dominant conceptions of the situation (i.e., dominant pentadic ratios) are produced, reproduced, shifted, and defended from threats with varying degrees of awareness and success.





## 4. The enactment of checklists in the operating theatre

This chapter charts how a team checklist was enacted in the operating theatre of four urban Canadian hospitals in the context of a research study conducted between 2004 and 2007, before the emergence of the WHO campaign. As a collaborator and coordinator on this study, I helped to design an early version of a checklist, introduce the practice to the operating theatre, witness how it was enacted, support those enactments, and co-author publications. The fieldnotes created for this study provide a unique opportunity to examine how the quality and effects of the checklist varied across many similarly structured situations. This chapter introduces the scene of the operating theatre; looks closely at how checklists worked and failed to work; and asks how dramaturgical terms can help to account for the situated successes and failures of the checklist in practice. I use pentadic terms synoptically to chart the range of motives that animated the acceptance and rejection of the checklist in particular situations. Enactments of the checklist were contingent upon the organizational, clinical and social scenes in which they took place and on participants' perceived purposes for participating (protecting patient safety, exchanging information, engaging with the team, fulfilling professional commitments, participating in research, and meeting social expectations). Participants' attitudes reflected their recognition (or rejection) of specific purposes, the briefings' perceived effectiveness in serving these purposes, and the briefings' perceived alignment (or conflict) with other priorities. This analysis illustrates how the popular image of the team checklist as simple, standard, and inherently good belies its heterogeneity within the daily work of the operating theatre. It also demonstrates how deeply rhetoric runs, not only in the promotion but also in the basic mechanisms of this practice.

## Introduction

I was first introduced to the operating theatre and to the concept of checklists as part of a research team led by Lorelei Lingard at the University of Toronto. Over the course of four years and two sequential research studies, we designed, introduced, and evaluated a new communication routine, structured by a checklist, which we termed a “team briefing.”<sup>1</sup> The studies built upon the foundation of Lingard’s research program, which had documented sources of tension among surgeons, nurses, and anesthesiologists, as well as discrepant perceptions of motive, identity, and role across these groups (Espin & Lingard, 2001; Lingard, Reznick, DeVito & Espin, 2002; Lingard, Reznick, Espin, Regehr & DeVito, 2002). We referred to the studies, in shorthand, as Team Talk.<sup>2</sup> As a Senior Research Coordinator, I spent hundreds of hours in operating theatres, first observing teams’ usual communication practices and then introducing the checklist routine and documenting its process and observable effects.

The Team Talk studies demonstrated positive effects of the checklist according to several measured criteria, all of which were focused on the processes of the interprofessional team. We observed fewer “failures” of communication after the checklist was initiated and more consistent administration of antibiotics within parameters shown to prevent postoperative wound infections (Lingard et al., 2008, 2011). In general, surgeons, nurses, and anesthesiologists were willing to participate and reported favourable perceptions of the practice (Lingard et al., 2008). In the first phase

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- 1 In choosing this term, we sought to emphasize the act of communication rather than the tool. In a sense, my dissertation offers an elaborate examination of that emphasis and its implications. Technical and functional distinctions are sometimes drawn between checklists and briefings. For example, Wahr et al. note that “Checklists and timeouts typically are close-ended, with specific information called out and verified, whereas briefings are quick discussions guided by a structured but open-ended checklist” (2013, p. 7). In practice, those distinctions are often conflated.
  - 2 The grants were titled “Team talk: An intervention to structure information sharing and promote patient safety in the operating room” and “Team Talk II: A multi-institutional evaluation of a checklist intervention to structure communication and promote patient safety in the operating room.” Both were funded by the Canadian Institutes of Health Research (reference 57796).

of the study, 92% of participants reported that routine briefings helped to identify problems and 81% reported them to be worthwhile overall (Lingard et al., 2008). The publications reporting measured assessments are, generally, the most widely cited findings of the research program. They are not my primary focus in this dissertation. I turn instead to a selection of the observations that were recorded by me and eight colleagues in the form of qualitative fieldnotes.

While the overall effect of the team checklist<sup>1</sup> was arguably positive, we found that implementing the practice was often quite challenging. Individual enactments of the checklist varied in their quality and observable effects. The practice was accepted and sometimes rejected by clinicians in a variety of ways depending on the situations in which they took place. The purpose of this chapter is to describe some of these variations and to account for them in dramatic terms.

The first part of this chapter provides additional context concerning the Team Talk research program. I relate the larger study to the analyses presented in this chapter. I then introduce the scene of the operating theatre before the introduction of the checklist routine. My description of this scene instantiates some of the problems or exigencies that are commonly described in published literature, as discussed in Chapter 2. It also anticipates some of the challenges that we encountered in implementing the practice.

The second part of this chapter discusses what constituted effective and ineffective performances of the checklist. This discussion draws upon three published papers that were completed before my doctoral studies. (I was first author on one and collaborated substantively on the other two.) I revisit this work in the context of this dissertation for

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<sup>1</sup> This chapter uses terms for the checklist that reflect the original study: “team briefing” and “team checklist.” We purposefully avoided “surgical checklist” because it implied an emphasis upon surgeons in particular. In the remainder of this dissertation, I have adopted “surgical checklist” or “surgical safety checklist” in keeping with the widespread uptake of those terms. Applying that language to the analyses in this chapter, however, would distort the original work.

three purposes: to illustrate the variable effects of this practice, to delineate several of its functions or mechanisms, and to reflect upon those functions in dramatic terms. This discussion substantiates, extends, and complicates the intended purposes of the checklist that were discussed in Chapter 2.

The third and longest part of this chapter situates the checklist in the work of the operating theatre. It considers how and why the checklist was accepted and rejected in particular situations. This analysis is largely reproduced from a published article that represents the first stage of my doctoral research (Whyte et al., 2009). Using multiple examples, it charts two sets of recurrent actions that were required for any checklist to take place: gathering the team and performing the briefing. It then uses the terms of the dramatic pentad to make sense of variations across these enactments.

This analysis emphasizes the complexities of checklists in practice. It leans against popular depictions of the checklist as simple, standardized, and self-evidently good. It also leans against a common tendency in published research to focus on controlling and tidying up variations in the practice. Variations are treated instead as sources of insight. Close attention to enactments of the checklist demonstrates that questions of uptake (why clinicians accept or reject this practice) are interconnected with questions of efficacy (how well does the practice work—and what does it do?).

## **Methodology**

Over 700 checklist briefings were conducted between 2004 and 2007 in the divisions of general surgery at four Canadian hospitals. Three of the research sites were large academic tertiary care centres and the fourth was a community teaching hospital. Across the four sites, 368 participants took part in the checklist briefings (17 staff surgeons, 72 surgical trainees, 88 staff anesthesiologists, 50 anaesthesia trainees, 128 nurses, 8 nursing trainees, and 5 technical assistants). Because this was a research study, participation was voluntary. Approval was obtained from the Research Ethics Boards at all four hospitals and informed consent was provided by all participating health

professionals and students. At the first research site, for the first year of the study, consent was also required from patients.

For almost all checklist briefings, a researcher was present in the operating theatre to observe, help to prompt the briefing as needed, and sometimes to provide and solicit feedback. The process was documented in handwritten fieldnotes, which were subsequently elaborated and transferred to a database. Each briefing record included both qualitative notes and standardized information (number and profession of participants, approximate duration, and timing relative to the patient's arrival and induction of anesthesia). The fieldnotes vary in their richness of detail. Because of the volume of cases, it was not always possible or necessary to record extensive narrative descriptions.

Over the duration of the study, eight researchers participated in conducting observations and supporting implementation of the checklist. I facilitated the project, was a primary observer at three of the sites, and coordinated the work of other research staff. For the retrospective study presented in this dissertation, I reviewed a selection of fieldnotes, with a focus on well elaborated records, especially those that served to reveal the attitudes of participants toward the checklist and, therefore, salient elements of the situation. This retrospective review also revealed our own attitudes as researchers performing the dual role of interventionists (encouraging team members to use the checklist) and observers (documenting the process).

The fieldnotes from this study provide a unique source of similarly structured rhetorical situations. From our point of view as observers, my colleagues and I were limited, spatially, to the circumference of the operating theatre. Within those limits, however, we could observe both diversity and recurrence in the symbolic acts constituting performances of the checklist. In every case, the operating team arrived and similar sets of procedural expectations were activated. Every briefing required someone to initiate, a group to gather, and a performance of certain predictable sorts to ensue. My analysis is

organized around two basic categories of action that were required for any checklist to occur: gathering the team and performing the checklist.

I produced a synoptic account of the motives, attitudes, and situations that were apparent across these enactments. I sought to characterize recurrent patterns, meaningful variations across checklist performances, and remarkable instances. Checklist briefings stood out as “remarkable” for various reasons: they rendered a participant’s interpretation of the situation unusually explicit, they revealed conflicting interpretations of the situation, they were described eulogistically by observers as a particularly good or effective checklist, they were described dyslogistically by observers as a particularly poor or negative checklist, or they subverted our expectations.

This retrospective analysis of qualitative fieldnotes was guided by heuristic questions derived from the dramatic pentad:

What actions were involved in conducting a checklist briefing? (*act*)

What characterized the people who performed these actions? (*agent*)

How did people accept or reject the practice? (*attitude*)

What scenes or contexts affected the briefings? (*scene*)

What purposes did the briefings serve? (*purpose*)

What tools or means were used in the briefings? (*agency*)

Various forms of evidence were drawn upon to address these questions, including direct feedback from participants and observations of how people contributed to, prioritized, swung along with, or strategically avoided the checklist—and how consistent these enactments were across similar cases. These analyses were also informed by my subjective experiences of the checklist, interaction with participants, and discussion of these experiences with other observers. We developed an ability to predict the quality of a briefing based on the members of the team and the evolving features of a situation. Our reflections upon these predictive features helped to guide my attention in reviewing the data.

The questions listed above help to produce a thick description of how the checklist was enacted in the operating theatre. After using the heuristic questions listed above to chart patterns in the performance of checklists, I asked additional interpretive questions:

What do enactments about the checklist reveal about the situations shaping interprofessional work in this setting?

To what extent, and in what ways, are those situations recurrent? In what ways do they vary?

To what extent, and in what ways, are these situations and enactments rhetorical? (How do they forge identifications and divisions?)

How might these situations and enactments be changed?

## **The scene of the operating theatre**

The point of departure for this dissertation is obviously the intervention within this study—the checklist. Before we introduced the checklist, however, I was simply an observer in the operating theatre. At the outset of the study, observations informed the design of both the checklist and a tool for assessing its effects. Then, at each of the four sites, they served as a “baseline” assessment lasting many months, during which we did not intervene in any way. During these phases of the project, I dwelled in operating theatres and recorded notes about how professionals communicated with one another throughout surgical cases, with a focus on preoperative preparation. I spoke with anesthesiologists, nurses, and surgeons as opportunities arose.

In this section, I describe the context into which the checklist practice was later introduced. This discussion serves to illustrate the exigencies that gave rise to the checklist as I observed them within the circumscribed scene of the operating theatre. This depiction of the scene instantiates some of the exigencies that are commonly described in published texts, as laid out in Chapter 2. It also anticipates some of the challenges of enacting the checklist as a practice.

## Members of the team

In the four hospitals featured in this research, the first surgeries of the day are scheduled to begin at 8:00 a.m. Typically, patients arrive to the hospital on the morning of their surgery. They will of course have met their surgeon, but they usually have not met the rest of the operating team: the anesthesiologists, nurses, and surgical residents and fellows.

Some features of the team's composition are particularly significant as they relate to communication in general and the checklist practice in particular. The responsible, attending surgeon was always assisted by residents who varied in their training, specialization, and degree of independence. Surgical fellows and senior residents often worked independently in the preoperative period and sometimes in the opening and closing phases of the procedure.<sup>1</sup> This is significant because residents and fellows often represented the surgical team in preoperative checklist briefings. Because of their consistency in the operating theatre and movement from site to site, this could help to facilitate the normalization of the practice. However, they often lacked the detailed knowledge about the case that made the briefings valuable to anesthesiologists and nurses.

Usually only one anesthesiologist was present in the operating theatre. When there were two anesthesiologists, one was typically overseeing the work of senior residents or fellows in multiple rooms. This is significant because the timing of checklist briefings often needed to be carefully coordinated with anesthesiologists' other critical tasks.

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<sup>1</sup> Residents are trainees who have completed medical school and are pursuing certification within a medical specialty. They are often identified by the number of years they have progressed in postgraduate training (PGY<sub>1</sub>, PGY<sub>2</sub>, PGY<sub>3</sub>, etc.), with those in the early years termed "junior residents" and those in the later years termed "senior residents." Residents work under supervision with gradually increasing independence. Fellows have achieved certification and are pursuing further subspecialty training. They are typically qualified to work independently within their general area of specialization.



There were always at least two nurses present and often three. This typically allowed at least one nurse to participate in the checklist briefings. The challenge was for information to be relayed consistently among members of the nursing team. Throughout the day, the membership of this team sometimes changed as nurses rotated into and out of the theatre for breaks and shift changes. This is significant because the checklist briefings did not necessarily extend their reach to all nurses.

For the surgeries that I observed, the team typically included between 6 and 10 members (3–5 surgeons, 1–2 anesthesiologists, and 2–3 nurses). The particular combination of people varied daily. Specific surgeons, nurses, and anesthesiologists may work together regularly or only infrequently. Each attending surgeon usually has one scheduled operating day each week. Surgical residents and fellows operate on multiple days with different attending surgeons, introducing some consistency to the membership of the operating team for the three-month duration of each student rotation. The same is true for anesthesia residents, who may focus on a specific surgical division for several months at a stretch. Attending anesthesiologists, however, often work across specialties, both inside and outside the operating theatre. Nurses tend to be allocated to a specific surgical division (for example, cardiac surgery or general surgery). However, given the large number of nurses on staff, and the number of rooms that operate simultaneously each day, the membership of the team remains variable and often includes members working outside of their usual division.

### **The start of the day**

Anesthesiologists typically arrived to the operating theatre between 7:30 and 7:45. They then left for the “holding area” where patients await their surgeries. Typically, another anesthesiologist will have conducted a preoperative assessment of the patient. Anesthesiologists will review these assessments and meet each patient in turn, just before the surgery begins. The time before the start of surgery and just after the conclusion of surgery are critical in the work of anesthesiologists.

The preparatory time before surgery is also one of the busiest for nurses. One circulating nurse will also visit the holding area during this time, where she will “check in” the patient according to a specified set of questions. She will bring information back to the operating theatre and give a report to the other nurse or nurses. This information focuses on safety checks: for example, does the patient’s name match the booking sheet, have pertinent allergies been flagged, does the booked procedure match the consent form, and has the consent form been signed and dated appropriately? In addition to performing these checks, the circulating nurse works with the scrub nurse to set up equipment for the case. This equipment arrives to the room according to a computerized list of what the surgeon requires for a given type of procedure. Some preferences specific to each surgeon or case—for example, the number and type of headlights that should be gathered, the supports that will be needed to position the patient, and the kind and size of staplers and sutures that should be opened—are less subject to formal protocol. Knowledge of these preferences is held by experienced nurses who have worked long enough with the surgeons to learn their patterns. When requirements are specific to a patient and surgery, they may be known only to the surgeon.

Surgeons are typically last to arrive to the operating theatre, shortly before 8:00 a.m. Surgical fellows and residents often head directly for the patient’s chart (a binder of information that arrives along with the patient) or the computer screen to study the case that is about to begin. Whereas attending surgeons draw upon an established relationship with the patient and knowledge of the medical history and surgical plan, this established clinical relationship is usually not shared by the other members of the surgical team.

I was the audience, and occasionally a minor helper, within this scene. At the start of the day, the operating theatre tends to feel quiet and intimate. An anesthesiologist arrives, prepares their machines, and leaves. The nurses chat and work alone before one of them goes to see the patient. A surgical resident arrives and looks at information on

the computer. It is not uncommon for these events happen in sequence, with the professions entering and leaving the space in turn but not sharing it. Even when members of the three professions arrive together, their preparatory work tends to be quiet and its spaces distinct. Anesthesiologists work at one end of the small room, near the anaesthesia machine. Nurses work at the other, near their instrument table and documentation terminal. Surgeons work at the side, near the imaging screen. These spatial distinctions were consistent across the four hospitals that I had the privilege to observe.

### **Exigencies for the checklist**

Often this procedural and spatial independence is highly functional. The responsibilities of anesthesiologists, nurses, and surgeons are quite clearly delineated. In this context, with some notable exceptions, boundaries of responsibility rarely blur across professional lines. One anesthesiologist suggested early in the study that a checklist might make more sense in other surgical divisions—such as cardiac surgery or ear, nose, and throat surgery—where the work of surgeons and anesthesiologists is more intricately interconnected. From this perspective, an absence of communication in general surgery is simply an indication that everyone is doing their job.

A surgeon went further, suggesting that silence is a marker of exceptional communication. As I stood observing one day, this surgeon asked if I had caught “the excellent nonverbal communication between the staff surgeon and the scrub nurse.” The room had been silent for some time. The surgeon, who had stepped back from the operating table during an intraoperative X-ray, bounced as he spoke, like a boxer. “You put your hand out and the right thing is there. . . . It’s two things. Experience, but not just experience: excellence.” The comment aptly highlighted a dimension of expert communication that is, indeed, challenging to observe and describe. Patterns of coordinated action can be so shared, so routine, and so well trained that they require few oral cues. Embodied communication enables experienced scrub nurses and

surgeons to anticipate one another's movements and needs. The metaphor of dance has been used to describe communication of this kind between nurses and surgeons (Freischlag, 2012). Ethnographic accounts and surgeons themselves describe the close integration of actions as an ideal form of interprofessional communication and coordination in this setting (Katz, 1999; Wilson, 1954).

In the Team Talk research, we described all communication between professionals. However, our attention was particularly trained on gaps and tensions: those moments when communication, or its absence, created and revealed underlying problems. The following extended example illustrates an absence of communication that suggests not shared expertise, or seamlessly coordinated step-work, but rather fragmented perspectives and lack of situation awareness:

The anesthesiologist meets for the first time with a surgical patient before her operation. His examination raises new concerns about the patient's cardiac fitness. Before bringing the patient to the operating theatre, the anesthesiologist takes time to consult with a colleague who had conducted the preoperative assessment. This consultation is informed by minimal information about the extent of the planned surgical procedure, as the anesthesiologist has not yet seen the surgeon. About 10 minutes later, the surgeon arrives to the hallway outside the operating theatre. He looks through the window and sees the anesthesiologist preparing the patient, and two nurses preparing the room, for surgery. He says with evident frustration: "Well, it's 8:05 and the anesthesiologist is chatting with my patient." He clearly perceives the room to be running behind schedule. He is speaking to himself, to a surgical resident, and to me (a research observer). In the ensuing conversation, he comments on the stress of getting patients off his waiting list. He first met this patient over a year ago. He says that "no one cares whether cases get done." Later in the conversation, he says that professionalism at the hospital is terrible. He feels that he has to watch the nurses do everything "or it doesn't happen." Recently one of his patients suffered a nerve injury attributed to poor anesthetic care. "They'll say they're careful, but I haven't seen it. . . . I find it exhausting."

Some of the minor details described in this example are a composite of multiple observations. The example is unique in its candidness. It is drawn from a site that was far more prone than others to tension. This surgeon believed, and was keen to remind us, that the root causes of the problem were beyond the reach of a checklist. The example also, however, instantiates some recurrent features that were apparent to varying degrees across all research sites, at least some of which convey the need for new mechanisms to integrate the work and perspectives of the team. These include the independence of the professions, both in the nature of their work and in its temporal and spatial distribution; the governing values of both safety and efficiency; the systemic pressures of wait lists and limited resources; and the tensions between collaborative and individual responsibility, with the surgeon typically positioned at the top of the professional hierarchy (as apparent in this surgeon's reference to "my patient").

I use this example, also, to illustrate the clear lack of recognition that characterizes the disjointed situations in which the surgeon and anesthesiologist are respectively working. This example highlights the most recurrent type of problem that we encountered, though usually in more innocuous forms: a need for information about the patient or case often arises for the anesthesiologists and/or nurses before the surgeons' arrival. As I suggested above, this need for information is not necessarily the norm. Most information is available in the patient chart, the pick list, or the procedure booking. Most preparations can proceed as a matter of routine. However, with some regularity, mundane or significant decisions were made and deferred while the nurses and anesthesiologists awaited the arrival of surgeons. In this case, the anesthesiologist's concern creates a delay that the surgeon interprets, without investigation, as a lack of care and professionalism.

Sometimes exchanges were far more positive but were also clearly opportunistic or serendipitous. These exchanges revealed a lack of recognition concerning the communication needs of other professional groups. Such apparent gaps in communication led us to focus on the potential of the checklist to foster mutual

recognition among members of the team and to provide a consistent opportunity for exchanging information and raising questions. This rationale for the checklist is related to the aim, discussed earlier, of establishing shared “mental models” of the case that enable members of the team to better anticipate predictable challenges. It also, however, has an immediate pragmatic emphasis that is not often described in arguments for the practice: it aims to circumvent recurrent, if minor, frustrations in the preparation of cases by better informing preoperative decisions. It also has a central relational emphasis: it aims to draw attention to the needs and questions of different professional groups.

This combination of pragmatic and relational aims was the fundamental impetus for checklist briefings in the Team Talk study. That impetus drew upon years of observational and interview research characterizing the nature and persistence of misaligned perspectives across professional groups in this setting. In *The Checklist Manifesto*, the Team Talk work is described with particular emphasis upon this relational function. It is interesting and significant, from the perspective of knowledge translation, that this intended purpose of the checklist is attributed to the intuition of the primary surgical collaborator on the research team:

Reznick had never heard about the demise of Master Builders, but he had gravitated intuitively toward the skyscraper solution—a mix of task and communication checks to manage the problem of proliferating complexity—and so had others, it turned out. . . . (Gawande, 2009, p. 101).

It is also significant that this relational dimension is acknowledged by the WHO as the primary aspect of the checklist that will be new in industrialized countries, as the safety check components of the practice often existed already in other forms in these settings. This relational dimension is also systematically obscured from view in research that seeks to measure the efficacy of checklists or to audit rates of compliance.

I have described how silence can function ambiguously as a sign of expert performance, a natural feature of work in the operating theatre, or a problematic lack of awareness

and information-sharing (Lingard, Whyte Regehr & Gardezi, 2009). Silence can also be symptomatic of steep hierarchies across professional groups that leave people reluctant to speak up, to identify potential problems, or to reveal gaps in their own expertise. This problematic aspect of culture is regularly acknowledged and emphasized within studies of patient safety. Power dynamics of this kind were also observed over the course of the Team Talk study and represent another exigence for the checklist. The following example, previously discussed in Gardezi et al. (2009), illustrates how deeply habituated these behaviours can be:

This communication event takes place over a 45-minute period. The staff surgeon keeps asking the scrub nurse for “burning forceps,” but often he hasn’t handed them back to her. Instead he’s placed them on a rubber mat on the patient’s chest. To retrieve them and hand them to the surgeon when he next needs them, the scrub nurse has to step down off her stool, reach around the surgical resident who is standing to her right, come back up on to the stool, and hand them across the patient’s abdomen to the surgeon. The surgeon notices this and says, “Just tell me it’s up” and then “We’ll try to remember to pass it back to you.” This happens multiple times, however, with the scrub nurse stepping down and reaching and the surgeon repeating, “Just tell me it’s up!” The scrub nurse looks sort of bewildered. Once she very quietly says, “Up,” but the next time she reaches for it instead. There is no strong emotion in the surgeon’s tone as he repeats the instruction over and over.

This nurse appears reluctant to speak even when actively encouraged to do so, and even concerning a mundane interaction. The example illustrates that simple invitations—even resounding exhortations—to speak up are likely inadequate to the task of changing deeply rooted patterns of behaviour and relationship. Other observations from the study, however, complicate the assumption that nurses readily adopt a subservient role. Nurses varied in their assertiveness, ease of communication, and uses of silence. For example, nurses sometimes use silence as a means of denying requests or of prompting actions among others (Gardezi et al., 2009).

Nurses often hold forms of institutionalized power and control over regulatory mechanisms, including policies, procedures, and documentation. For example, a nurse may not hand the first instrument to the surgeon before a safety check is complete. She may document a delay and attribute it to a particular profession. Or she may insist that the site of surgery be marked on the patient's skin before anesthesia is induced, even if this requires waiting for a surgeon to arrive. Tension can arise when these regulatory forms of power are asserted by nurses and contested or subverted by surgeons. Such dynamics can be difficult to capture and were not dominant within our observations, but were certainly present and were sometimes rendered visible by the checklist. Where members of the operating team are not convinced that the checklist is valuable, it is likely to be perceived as a regulatory or monitoring device of this kind. The common trend toward research that focuses on auditing "compliance" with the practice is likely to reinforce such functions and perceptions—and to corrode the potential of the practice to achieve its intended relational aims.

These cultural dynamics point toward an interesting question that has arisen in recent research, sometimes as a topic of debate and more often as an implicit tension: Can checklists help to *effect* culture change, or does their success as a practice depend upon the prior establishment of a supportive culture? As I suggested in Chapter 3, much of the potential of checklists and similar tools to change culture likely lies outside the immediate context of their use. It resides in the opportunity to galvanize action and build capacity within organizations, with the checklist serving as one point of focus. Our observations, however, do suggest mechanisms by which the enactment of checklists can cultivate positive cultural dynamics and expose problematic ones.

## **Form and (mal)functions**

One feature of the Team Talk work that stands out to me, as I revisit it in the context of my doctoral project, is its simultaneous attempts to understand both the potential of the checklist and its challenges or limitations. This dual emphasis is particularly



apparent in three published analyses that describe not only whether but also how and why the checklist worked or failed to work as intended. The first article reports the development and pilot implementation of the checklist (Lingard et al., 2005). The second looks closely at a selection of checklist enactments that were demonstrably effective, with a focus on the exchange of information (Lingard et al., 2006). The third considers paradoxical or demonstrably ineffective enactments of the checklist (Whyte et al., 2008). All three articles pertain to the first phase of the study, which took place at a single research site. I was a co-author on the first two articles and lead author on the third.

In this section, I draw selectively upon those analyses to illustrate the variable effects that the practice had over the course of the Team Talk project. I illustrate first what characterized “good” enactments of the checklist and then what characterized poor ones. Extending the original work, I also reflect briefly upon how these successes and failures might be understood in dramaturgic terms. There is potential for more in-depth analyses along these lines. For this project, my aim is to illustrate that the checklist, in practice, serves multiple purposes or functions. Some of these are intended and others arise through the practice itself. These multiple functions can reinforce or work at odds with one another. The situated enactment of the checklist affects these functions and their perception by surgeons, nurses, and anesthesiologists.

Enactments of the checklist were considered to be good if they were relatively easy to coordinate, facilitated interactive communication, demonstrated participants’ genuine engagement, generated positive responses or feedback, visibly made team members aware of pertinent information, and/or influenced subsequent actions or decisions (Lingard et al., 2005, 2006; Whyte et al., 2008). Here, for example, is one excerpt from a

team briefing that yielded a demonstrably positive exchange between a surgical trainee, a staff surgeon, and a staff anesthesiologist:<sup>1</sup>

SR: “Medications—none, and no allergies.”

SS (after a pause): “No, she’s on steroids. Prednisone. Tim, did you know she’s on prednisone?”

AS: “Yes” . . .

A few moments later, SS interrupts again: “Wait. Can we go back to medications? She’s on a tonne of narcotics.”

SS and AS then talk about postoperative pain management for this patient. (Checklist 55)

It is noteworthy that this checklist is being led by a trainee, the surgical resident, who initially relays incorrect information. The presence of the staff surgeon ultimately facilitates the constructive functions of the checklist, which appear to include a cognitive aspect (the surgeon is reminded of the patient’s medications), a pragmatic aspect (the surgeon and anesthesiologist devise a plan), and perhaps an educational aspect (the surgical resident, who might not experience the checklist as “positive,” has his inaccurate knowledge exposed). While these functions may well have been achieved by other means, this checklist did its job of guaranteeing an opportunity for meaningful interprofessional exchange.

We identified a variety of productive functions that were achieved by at least some checklist performances. These productive functions involved observable effects on the knowledge, attention, and actions of one or more members of the team. Within the scope of the project, we sought to describe but not to quantify these effects. The following list provides an overview of the functions that we observed. It draws upon previous publications while extending the list and departing somewhat from earlier categorizations (Lingard et al., 2005, 2006).

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<sup>1</sup> Fieldnotes for this study were anonymous. Participants were represented by their professional role. See page xiii for a full list of acronyms. All names used within excerpted examples are pseudonyms.

**Confirming routine details and tasks.** As described in Chapter 2, this is the definitive “task based” and “safety check” function of the practice. When performed effectively, the checklist draws collective attention to the status of tasks and details that are already known to the full team and are broadly applicable across cases. The value of this function lies, first, in its ability to prompt consistent completion of tasks, ensuring that no steps are missed (preventing errors of omission, such as not administering antibiotics). Second, and very rarely, it helps to detect problems or discrepancies (preventing errors of commission, such as administering an antibiotic to which a patient is allergic). Explicit confirmation of routine details was a routine component of the enactments that we observed. The Team Talk study yielded both quantitative and qualitative evidence to support the claim that the checklist can prompt more consistent completion of routine tasks.

**Heightening attention to the case.** The checklist sometimes prompted surgeons to recall salient features of the case or patient history that were already known but not top-of-mind. This function is illustrated in the example above. Some surgeons also reported that having to speak to the details of the case made them more vigilant in reflecting upon it.

**Sharing information not otherwise available to some members of the team.** This primarily included details about the patient’s history and anticipated challenges of the surgery that were not feasible or possible to obtain from the chart. Such information could have observable, pragmatic effects with direct relevance to patient safety, such as prompting anesthesiologists to insert an additional line to help manage severe blood loss. It could also have relational effects, such as fostering a sense of inclusion and shared purpose. As one nurse noted: “It’s nice because we learn more than we would otherwise. It’s broader information than we usually get about the patient. . . . Today, for example, [the surgeon] whistled through it so quickly. We [the nurses] wouldn’t have gotten half of that information from looking through the chart.” (Quoted in Lingard et al., 2005).

**Revealing rare problems and ambiguities.** The checklist provided a forum and an invitation for members of the team to ask questions and voice concerns. Sometimes it led teams to discover problems and ambiguities. We observed a recurrent ambiguity related to selecting, obtaining, and administering antibiotics. Other ambiguities were rare or singular. One notable example that we reported was subsequently reproduced and discussed in *The Checklist Manifesto* (Gawande, 2009, pp 109–111). In this example, the surgery required ongoing communication with a patient who had difficulty speaking. This required special planning between the surgeon and anesthesiologist. While such planning very likely would have taken place in the absence of a checklist, the briefing ensured the opportunity for an inclusive discussion (Lingard et al., 2005).

**Prompting decision-making and planning.** In other areas of clinical practice, more emphasis is placed upon the potential of checklists to support a process of collaborative planning and decision-making. In the operating theatre, this was an occasional function that arose in unique cases, such as the one just described.

**Providing opportunities for education.** Teaching occasionally took place in the context of checklist briefings. These educational opportunities functioned within professions (e.g., in cases when trainees led briefings in the presence of an attending surgeon) and across professions (e.g., surgeons sometimes informed the nurses or anesthesia trainees about the type of surgery being done; nurses sometimes shared contextual knowledge with medical residents about the practices of the surgeon or hospital).

**Fostering a sense of identification among members of the team.** This function was significant but sometimes more difficult to observe. It was fostered by mutual acknowledgement and, as noted above, the sharing of information about the patient or procedure. The working theory is that mutual acknowledgement will encourage members of the team to speak up if problems later arise.

**Fostering awareness of the team.** This function is related to, but distinct from the sense of identification described above. In its most basic form, it is manifest in the

explicit prompt for members of the team to introduce themselves by name and role. In teaching hospitals, it is not uncommon for members of the team not to know one another by name. Our observations suggest that team awareness may also include revealing when members of the team lack knowledge or experience with the case at hand. The checklist cannot address the systemic or educational causes of this problem, but it can, in theory, lead members of the team to adjust their practice and communication accordingly.

**Identifying structural problems.** While most of the productive functions of the checklist were limited to the immediate situation, checklists could also draw attention to structural problems that were amenable to more enduring solutions. This is what Tucker and Edmondson refer to as “first order” and “second order” problem solving (Tucker & Edmondson, 2003). One surgical resident was surprised to realize how frequently preoperative antibiotics and heparin were ordered by the surgeon but not given. The checklist had the potential to flag and address the causes of recurrent structural problems.

**Exposing cultural problems.** This function of the checklist is also described below, as the checklist could instantiate and therefore reproduce problematic hierarchical relationships between members of the team. However, by revealing such cultural patterns, the checklist also has the potential to disrupt them.

These functions of the checklist share some basic mechanisms: when the checklist works, it serves to direct attention, to make potentially hidden features of the situation visible to all members of the team, and to prompt follow-up actions and communication as required. Burke’s dramaturgic terms are helpful here in a couple of ways. First, a dramaturgic conception of situation encourages a rounded perspective on these “potentially hidden features,” which can be material, relational, or both.<sup>1</sup> Second,

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<sup>1</sup> One fruitful area for theoretical development would involve bringing the concept of situation awareness, which is prominent in human factors research, into conversation with the concept of rhetorical situation, understood broadly in Burkean terms. The former, as I understand it,

his concept of the psychology of form can be used to reveal how expectations deriving both from patterns of clinical work and from patterns of social expectation may be reinforced, productively disrupted, or unproductively disrupted by the designed form of the checklist. I elaborate on this suggestion further below.

It remains relatively rare for researchers to describe situated performances, experiences, and observed outcomes of the surgical checklist as a practice. A recent study argues that “genuine engagement and good catches” are valuable metrics “not previously described” for assessing the effects of checklists (Putnam et al., 2016). Observational methods are common but are typically reduced to quantitative measures of compliance with each step of the checklist, defined in behavioural terms. Popular accounts of the practice (as in *The Checklist Manifesto*), along with editorials in professional journals, use arguments from example and testimony to illustrate what checklists do and how they work. However, few studies have systematically examined narrative evidence of the checklist’s effects. Most research focuses upon documenting an absence—that is, a quantifiable reduction of negative outcomes—rather than documenting what the practice *does* in positive (that is, empirically observable) terms. This emphasis makes sense in studies that seek to measure the effects of therapeutic interventions, such as medications, with mechanisms that cannot be directly observed. However, in the name of eliminating biases, the same methodological standards have been extended to practices with mechanisms that can be directly observed and experienced.

I have characterized a set of demonstrably constructive functions of the checklist that we observed in at least some enactments. These functions, however, were neither uniformly nor easily achieved. It did not surprise our research team that the ideal of the checklist as self-evidently good, simple, and standardized is only partially, and only sometimes, borne out in practice. Both the consistency and the quality of checklists presented challenges. Ongoing support from the research team proved necessary to

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emphasizes practitioners’ awareness of developing situations largely in the material realm of motion.

maintain uptake of the checklist routine for the duration of the studies, and checklist briefings sometimes yielded mixed or demonstrably negative effects. Enactments of the checklist were characterized negatively in fieldnotes if they exhibited minimal interaction, featured dismissive or disengaged participation, provoked negative responses from team members, entailed significant coordination challenges, and/or produced demonstrably ineffective or detrimental communication. Here are examples of two such checklists (previously reported in Whyte et al., 2008):

At the “team experience with procedure” prompt, the staff surgeon looked up at the surgical fellow and [the observer] and said, in pointed understatement, “We’ve done a few of these before.” He proceeded to the next prompt. There was no mention or introduction of the student scrub nurse. (Checklist 259)

At the “operative medications” prompt, the staff anesthesiologist confirmed that he would give the antibiotics (no specific antibiotic mentioned) and then took over from the surgeon in leading the briefing. He read the list of prompts followed simply by “yep” (“anesthesia, yep; blood products, yep; positioning, yep”) . . . When he finished, I said that I had never seen a briefing involve so few words. The anesthesiologist responded, “Was that not good?” (Checklist 121)

In the first of these examples, the enactment of the checklist makes visible, and thereby reinforces, the surgeon’s implicit definition of “team,” which appears to exclude members of other professional groups. (Conceivably, making this omission visible to the entire team could also serve to disrupt, rather than reproduce, the surgeon’s perspective.) The second enacts a tick box exercise that is all form and no content. Notice how it directly contrasts the positive cognitive function that was apparent in the example presented earlier; instead of directing attention to each item on the list, it diminishes conscious attention as the anesthesiologist swings along with the form: yep, yep, yep.

In the first phase of the Team Talk study, 15% of checklists (45 of 302) revealed such demonstrably negative or vacuous exchanges in the absence of any positive effect

(Whyte et al., 2008). (The mere absence of a visible positive effect itself was not considered a negative outcome. It was, rather, the norm.) We described five kinds of negative effect:

**Masking knowledge gaps.** The checklist could sometimes mask knowledge gaps, especially when it was enacted in a rote manner and did not serve to raise conscious attention to problems or tasks, as illustrated in the example above. It occasionally became apparent after the checklist, for example, that incorrect information had been exchanged or that follow-up actions prompted by the checklist were not completed.

**Disrupting positive communication patterns.** When cases presented significant issues that the members of the team were clearly eager to discuss, the checklist sometimes served a performative function that felt artificial and disconnected from more purposeful and spontaneous dialogue. As the next section will emphasize, this effect can be extended to the disruption of positive work patterns in general.

**Reinforcing professional divisions.** This negative effect is apparent in the example presented above. It was evident when enactments of the checklist were presented as a monologue, inadvertently excluded members of the group, or relied upon one group disproportionately to accommodate the workflow of others.

**Creating tension.** Checklists could create tension when they conflicted with other professional tasks, compounded a sense of urgency, or required members of the team to instigate the checklist in the face of indifference or resistance from colleagues.

**Perpetuating a problematic culture.** This effect occurred when senior members of the team, including local advocates for checklist, were ambivalent toward it in practice or explicitly deprioritized it under conditions of stress, for example.

We described these effects as paradoxical because they were precisely opposite to the intended functions of the practice, which sought to fill knowledge gaps, establish positive communication patterns, bridge professional divisions, proactively prevent tension-causing events, and help to establish a “culture of safety” (Whyte, et al. 2008).



Burke's concept of form, as it mediates motion and action, can help to explain many of these functions and malfunctions. The checklist is, itself, a purely formal intervention that serves to foster the exchange of information and direct the team's attention—to each other, to the patient, to preparatory tasks, and to the anticipated surgical plan. It works when it induces members of the team to attend consciously to each item but fails when it induces them to “swing along” with the form—an effect easily produced by its repetitive structure and the conventional expectations that the form activates. The checklist can also be understood as a means of *disrupting* and *revealing* existing technical, social and cultural forms. These include at least two kinds of form that reside in the patterned behaviour and expectations of health professionals. The first are the routines that emerge from patterns of technical and clinical work. These forms have been conceptualized by education researchers as states of “automaticity” or “routine expertise” (Moulton, Regehr, Mylopoulos & MacRae, 2007; Mylopoulos & Regehr, 2011). These are an important component of effective professional practice, and they are also a source of risk, as they condition professionals to expect routine patterns and to miss exceptions and errors. The second type of form that may be disrupted or revealed by the surgical checklist resides in the social and cultural expectations of health professionals. These are the forms that maintain social distance between professional groups who must work closely and collaboratively together: between surgeons, anesthesiologists, and especially nurses and students in the operating theatre. As I've suggested, when the checklist makes such cultural patterns visible, they are likely to be reproduced in the absence of further attention or coaching.

During my time in the operating theatre, I grappled with these variations while navigating the dual roles of interventionist and observer. As an interventionist, I felt relieved when a checklist was easy to coordinate and triumphant when it was demonstrably beneficial, especially in the presence of a skeptic. As an observer and scholar, however, I was equally fascinated by the challenges. I sought to understand the characteristics of, and reasons for, both positive and negative enactments of the

checklist briefing—which, it should be noted, are not always easy to distinguish from the much larger category of mundane enactments.

It is important to note that some of the positive and negative effects that we observed may be unique to the context of the study, which preceded the widespread promotional efforts of the WHO campaign. In contrast with the WHO tool, the Team Talk checklist was designed to be used at one point in time (rather than three), did not script roles and responses for each professional group, and sought to address recurrent tensions and communication needs in addition to safety risks (see Appendix B). The use of the checklist in our study was voluntary, which meant that participants had at least some openness to the practice (potentially skewing results in a positive direction) but also no formal obligation to it (making the practice more difficult to sustain). The study was also limited to particular operating theatres, which made the checklist more routine for some participants than for others. Such selective implementation is consistent with advice issued by the WHO and other advocates, which strongly recommends introducing the checklist slowly and selectively, beginning with enthusiastic participants. However, in most recent studies, use of the checklist is expected as a standard, and researchers are not required (as we were) to obtain written informed consent from surgical team members before the checklist could be used. Most importantly, the widespread promotion of checklists has changed the situation(s) that bear upon its uptake and, consequently, the nature and perception of the practice itself.

It is possible, then, that the positive and negative effects we observed are specific to the design of our tool and process, to the unique context of our research study, or to the earliness of the effort. Considerable research, however, verifies that the challenges we encountered are resonant with current experiences. Although the checklist is now widely regarded as an obligatory standard of effective interprofessional communication, adding pressures to adopt the practice that did not exist during my time in the operating theatre, it is now commonplace for authors to note that checklists are not, in fact, as simple as they appear. “It’s more complicated than that” has become a routine

element within the collective narrative of the surgical checklist. Many researchers have therefore turned from questions of efficacy (e.g., what are the clinical and procedural effects of a checklist protocol?) to questions of process and implementation (e.g., how does the checklist work, for whom, in what contexts, and how can effective use be fostered and sustained?).

These questions call for closer attention to the checklist and its limits as an act or practice. In the discussions above, I have begun to examine enactments of the checklist considered in relation to their effects. In the remainder of this chapter, I place those enactments within the flux of the operating theatre. The sections to follow reproduce, with minor modifications, the results and discussion components of a published article entitled “Uptake of team briefings in the operating theatre: A Burkean dramaturgical analysis” (Whyte et al., 2009).<sup>1</sup> This article appeared in a special issue of the journal *Social Science & Medicine* on the topic of patient safety. This journal is addressed primarily to scholars with a background in the social sciences and an applied interest in health and medicine.

## **Coordinating the team**

Two basic categories of action were required for any team briefing to take place: coordinating the team and performing the briefing. Within each category, we observed recurrent actions and interactions that were integral to the briefing process and exhibited predictable challenges and successes across all sites. We also found that specific acts and attitudes varied both within and across sites, professions, individuals, and briefings. In this section, I illustrate recurrent and variable dimensions of checklist

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<sup>1</sup> For consistency with the remainder of this dissertation, I have changed the voice from first-person plural to first-person singular when describing the analysis. This accurately reflects the original work and its extension in this project: the analyses were discussed with my collaborators, and the article received feedback from co-authors, but I drafted the paper and interpreted the observations in dramaturgical terms. I retain the collective “we” when describing the observations and conduct of the study, in which I was one participant within a larger research team.

enactments and characterize the motives and attitudes apparent within them. Following these descriptive analyses, I use the terms of Burke's dramatic pentad to locate the motives that had the greatest effects in facilitating or hindering uptake of team briefings.

**Example 1.** AS: Shouldn't we have done this team gathering before the patient is asleep? Doesn't really make sense to do it later.

SS: Yeah, well things have been kind of chaotic today.

AS: I just think that if we're going to do it, it should be before.

SN: We always do it after induction. Everyone knows.

RC: The ideal time would be to hold it before the patient arrives. But that seems to be difficult.

AS: Yeah, it seems to be impossible. I don't see how this is going to work.

CN and AS both say the effort is needed. (briefing 4097)

Our greatest challenge across all sites was gathering team members together. Surgeons, nurses, and anesthesiologists have different work requirements that separate them in the preoperative period. The most common scenario was that the surgeons arrived when other team members were already engaged in their preoperative work.

Asynchronous workflow often made it difficult to gather teams together at the ideal time, before induction of general anesthetic (Example 1). It also meant that the briefings had to be integrated with other professional tasks.

As ethnographic studies have described, ritualized tasks are an integral aspect of work in the operating theatre (Katz, 1999). The management of sequenced actions in time serves as a mechanism of governance in this setting (Riley & Manias, 2006) and is sometimes a site of interprofessional tension (Espin & Lingard, 2001). Coordinating the team could therefore be challenging even when all professions were present:

**Example 2.** When SR arrives and asks about the briefing, AS is inserting the arterial line. When AS is finished inserting the arterial line, the nurses are in middle of counting instruments. When the nurses are finished

counting instruments, SR is prepping the patient's abdomen for surgery. At this point, SR initiates a short, "pause-style" briefing while he works, without using checklists. (briefing 3003)

The three professions' simultaneous engagement with separate activities was a prominent feature of the scene. To coordinate the team, at least one person had to recognize an opportunity, take initiative to prompt the briefing, and draw the team's attention. Surgeons took most responsibility for initiating the briefings, especially in the early stages of implementation. Individual surgeons developed relatively predictable briefing practices: some initiated the briefing independently upon their arrival to the theatre (sometimes arriving early for this purpose), some had a preferred time in the sequence of preoperative work, and some did not initiate a briefing unless prompted by other team members or the research coordinator. Surgeons also had particular styles for initiating the briefings, as demonstrated in the following contrasting examples:

**Example 3.** SS enters the OR and asks, "Have you done the checklist yet?" He then says loudly, "Let's do it. Let's huddle." Taking a checklist, he leans in toward the SF and AS. The CN comes right over with the patient's chart to join them. (briefing 3074)

**Example 4.** SR is soft spoken but still manages to get everyone's attention. It helped that the room was quiet this morning. SR started by asking AS: "Can we go through the briefing now?" CN and SN picked up on this and turned around, stopped what they were doing. (briefing 3101)

**Example 5.** SS initiates the checklist discussion. He does not make any announcement that he is going to do the checklist, does not include an introduction and does not invite or request anyone else's participation. It is unclear whether anyone is aware that this is the checklist discussion. (briefing 3080)

These examples illustrate two challenges of initiating team briefings in the scene of asynchronous work: navigating time and drawing the team's attention so that the briefing stood out against the backdrop of regular activities. Gregarious communication styles were often the most effective at clearing space and time for the briefing and

drawing the team's attention (Example 3) but they were not necessary, provided that the leader was attentive to others' activities and engaged sincerely with the briefing (Example 4).<sup>1</sup> Example 5 illustrates that without concerted effort, the briefings could remain peripheral to other tasks. This example ambiguously suggests the surgeon's discomfort with initiating the briefing and/or his perception that the briefing would not offer value to the team's work for this case.

In Example 4, the surgical resident's deference to her colleague from anesthesia suggests another challenge of initiating team briefings: navigating social dynamics. Tacit or explicit hierarchical interactions were inherent to the gathering of team members with different professional backgrounds, training, and experience. Existing, strong interprofessional relationships were leveraged to support the briefing intervention, and existing tensions and hierarchies had to be navigated for briefings to succeed. For surgeons, simply demonstrating attentiveness to others' work often fostered smooth team coordination and set the tone for a genuine interprofessional exchange. Regardless of participants' professional status, tensions arose when briefings were initiated without regard for others' work. I've introduced this source of tension already in the opening chapter. Here is another illustrative example, this one featuring an anesthesiologist who supports the checklist initiative:

**Example 6.** The briefing is initiated by SR. CN takes a checklist. The checklist is done around the bed. SS is clipping hair on the patient's abdomen. Everyone in the room can hear. AS has just finished a difficult intubation and is still attending to the patient and looking at the monitor. I know AS wants to participate in the checklist and I'm concerned about SR initiating it in this way. About 30 seconds into the briefing, AS says "Stop. Stop. I can't do this right now." (briefing 4045)

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<sup>1</sup> In fact, this appears to be a continuing challenge. A recent news article reported that operating teams at one hospital had introduced a Tibetan gong to get people's attention for the checklist ("Local hospital", 2017). An anesthesiologist writes that he wishes he had a starter's whistle to get everyone's attention (Guglielmi, 2014, p. 789).

Uptake of the briefing was weakest when it conflicted with other responsibilities, and the most significant example of this arose when the briefing coincided with anesthesiologists' critical work. Such concerns were alleviated when team members from all professions shared responsibility for coordinating the team briefings. In the following examples, briefing opportunities are not only recognized but created by anesthesiologists who purposefully act to integrate the briefing with their own work:

**Example 7.** AS prompted this briefing by walking out of the operating theatre to get SS, who was chatting at the front desk. AS interrupted: "SS you have to come and do the briefing now." SS said yes, he would come, and AS walked back to the theatre to ask CN to join them, but SS continued listening to his colleague. AS yelled down the hall. "SS (first name)!"  
(briefing 3010)

**Example 8.** The briefing was done in a huddle again near the computer. After the patient was brought into the room, AS initiated the briefing by coming over to the opposite side of the room usually occupied by nurses and surgeons and waiting just under a minute for the SS to be ready.  
(briefing 4021)

The active coordination demonstrated in Example 7 was rare. It required existing, collegial relationships among team members; a strong commitment to the briefing initiative; and a personal communication style comfortable with such an assertive leadership role. Both of these examples illustrate the value of anesthesia leadership for circumventing the timing conflicts described above.

Supportive nursing management played a pivotal role in nurses' commitments to facilitating the briefings. At two sites, the briefings were seen by management as an opportunity to promote nurses' leadership. Senior staff nurses at one site would explicitly assign the role of nursing "rep" for the briefings. In most cases, however, nurses who took on leadership roles did so on an individual basis. They facilitated briefings by cuing the surgeon or researcher or by accommodating others' initiation attempts, as illustrated above in Examples 3 and 4.

As teams developed a sense of collaborative expectation for the briefing, less active coordination was required. Colleagues' receptive attitudes toward the briefing created a context that strongly encouraged participation. Once the checklist was familiar to participants, it served as a visual cue to signify the time for briefing and facilitate gathering the team.

**Example 9.** SS takes three [checklist] cards and gives one to CN<sub>1</sub> and one to AF. AF says, "checklist?" and SS replies "checklist." [AF] waves his card in the air and calls out "green sheet." CN<sub>2</sub> smiles at him from the foot of the bed. (briefing 2233)

This strategy was available to less powerful members of the team. We also commonly used it as researchers to help initiate the briefings when necessary. We took the least action possible, such as holding the checklists, asking participants when they would prefer to do the briefing, or asking specific people to take responsibility for initiating the briefing. Decisions about whether, and how actively, to intervene involved considerable judgment, not only to assist in identifying windows of opportunity for the briefing, but also to gauge team members' receptiveness and to anticipate the success of a briefing situation. Participants' attitudes could be lastingly affected by single briefing experiences. Although we had little control over how the briefings unfolded, we could sometimes encourage favourable situations, and discourage problematic ones, by prompting the exchange when an advocate for the briefing was present. Observers' awareness of time is evident in fieldnote references to brief "windows" of opportunity that came and passed, invoking the notion of a rhetorical situation that needed to be both recognized and created.

Coordination challenges were affected by organizational factors that were not amenable to change in the context of our study. Staff shortages, competing responsibilities, and time pressures exacerbated the challenge of gathering all team members together in the same place. Coordination could be onerous for teams that performed more and shorter surgeries (4-7 per day). Teams performing larger surgeries not only had fewer briefings to coordinate (1-3) but also, often, worked with sicker patients requiring more



elaborated surgical and/or anaesthetic plans; as I will elaborate, these cases offered the most readily recognized purpose for the team briefings. Additionally, inconsistent team membership prevented teams from developing the sense of collaborative expectation for the briefings that was crucial for sustained uptake. While ethnographic accounts, and surgeons themselves, have described the ideal of intimately coordinated relationships that allow teams to seamlessly anticipate one another's needs and actions (Katz, 1999; Wilson, 1954), this ideal was rarely supported by the current structure of operating theatre teams as observed in this research.

The physical layout of the operating theatres also influenced coordination: gathering the team was easier where the patient waiting area and staff common areas were located relatively close to the theatres. The proximity of the surgical suites to surgeons' offices and to inpatient units also affected surgeons' ability to manage multiple responsibilities.

## Performing the briefing

**Example 10.** The briefing is done in a huddle outside the operating theatre before induction of anesthesia. All participants (SS, SF, CN, AS) are attentive to the exchange, making eye contact more than they focus on the checklist itself. SS does most of the talking, with occasional questions and requests to others. He describes the patient's tumour as "one of the largest anterior rectal cancers" he has ever seen, shares the patient's preoperative medical history, explains several contingencies in the surgical plan and their implications for instrumentation, and describes the patient as a uniquely emotional individual. (briefing 1126)

**Example 11.** CN prompts the briefing after induction of anesthesia. The surgical resident does the briefing as a monologue, stating what he knows about the patient and not asking for information from others. He says that the procedure should be "quick and dirty" and notes no special considerations. The two nurses hold copies of the checklist. AS continues working and does not take a checklist. (briefing 4069)

Briefings varied in their content, physical arrangement, relationship to other activities, participants, degree of interaction, and style. Some briefings were truly a time of pause,

and others were conducted while one or more team members continued preparatory tasks. Some offered detailed information about the operative plan while others required only confirmation that the procedure would be routine. Some were an engaged dialogue, others an efficient task. These variations may reflect the skills of checklist leaders and/or adaptation of the checklist routine to the changing scene of work in the operating theatre. They also enact multiple perceived purposes for participating. These will be a focus for the following discussion. The most evident purposes included protecting patient safety, exchanging information, engaging with the interprofessional team, fulfilling professional responsibilities, supporting research, and meeting social expectations. (The last of these might better be understood as a lack of purpose or a “scenic” motive, operating largely in the realm of motion.) Briefings often reflected an emphasis on one or more of these purposes, with a corresponding de-emphasis on others. For example, the clear element of team engagement illustrated in Example 10 is absent from Example 11, in which SR’s attitude suggests that he perceives the briefings either as a platform to deliver information or merely as a social obligation.

The team briefing was promoted as a practice to support patient safety, and participants shared an apparent commitment to this goal. When team members were already alerted to a safety concern, or became alerted in a briefing, there was a strong and unified motive to participate:

**Example 12.** SF leads the briefing. CN holds the patient’s chart open beside her checklist. At the prompt for “operative plan,” AF asks if the surgeons expect any challenges and SF replies (with some hesitation) that no major vessels appear to be involved, implying that the surgery will be straightforward. At this point, SS enters, sees the briefing underway, and says, “So this is going to be an extremely hard case. Excessive blood loss is almost a certainty.” CN says, “See, this is why we need the main man!” As a result of the briefing, AF decides to insert an arterial line and reports that his attention has been heightened; the nurses reconfirm the available blood products. SF asks for feedback on his briefing performance and explains that because he is new to the hospital, he has not met the patient.

(briefing 3077)

The apparent purposes of this briefing are powerful because they align closely with participants' personal and professional commitments. Patient safety becomes most salient through the staff surgeon's contributions, as he alerts the team to prepare for a predictable challenge, and this information directly prompts preparatory actions. Vigilance about patient safety is also evident in the nurse's use of the patient chart for cross-checking information. The interactive, collegial tone of the briefing foregrounds the team-building function of the exchange. The surgical fellow's request for feedback indicates his wish to demonstrate competence in the briefings as a professional commitment.

This competence is called into question, however, by his obvious lack of knowledge about the anticipated surgical plan. The nurse's comment is delivered in a joking tone, but it encapsulates a recurrent obstacle in our research. While surgical residents (and in this case a new surgical fellow) were often invaluable advocates for the briefings, and some were excellent communicators, only the most experienced could speak to the operative plan beyond a simple announcement of the procedure name. The exchange of detailed information was a strong motive for anesthesiologists and nurses, especially for large surgical oncology procedures which presented unique medical and surgical challenges. But this detailed information relied on senior team members' expert and personal knowledge of the patient. Briefings were less compelling when they called for detailed information but involved junior representatives unable to provide it.

Even reluctant team members readily took part in briefings when they had direct and significant consequences for patient care. However, most safety checks uncover no problems. Many briefings therefore had no direct, visible benefit to participants' work. Patient safety and information exchange were less powerful motives for more routine, low risk surgeries in relatively healthy patients:

**Example 13.** This was a routine case and nothing out of the ordinary came up. The tone of the checklist was relaxed. No one was impatient with the exercise but there was a sense that people saw the checklist as less important for such a routine case. At the end of the brief checklist, SS said

to me [the researcher] by way of explanation, “she’s not an [academic hospital] patient. She’s a [community hospital] patient.” (i.e., This surgery is less challenging than what the team is used to.) (briefing 1222)

Participants who saw the briefings as unnecessary typically foregrounded the information-exchange function, saying that the briefings did not offer benefits beyond the team’s usual practices of talking to one another as needed. This perspective was common and usually manifest as a simple indifference to the briefing or reluctance to prioritize it over other tasks. Occasionally, it was associated with pronounced antipathy. For example, one participant asked what the point of the study was when “everyone can read the chart”; another said that he would avoid the checklist “like the plague” because he believed that such structured communication was unnecessary and artificial.

Where there was no direct advantage to an individual’s work, participation relied on a range of social commitments: to the research study, to a perceived professional role, or simply to an established routine. Each of these purposes had the potential either to foster the uptake of briefings or to motivate inauthentic participation. For example, the introduction of the briefings as a voluntary research initiative, rather than mandatory policy, encouraged goodwill among many participants in the research-centred culture of the academic teaching hospitals. However, the status of the briefings as a research intervention led other participants to regard them as peripheral to their work. This was apparent when the researcher became the primary audience of a briefing (Example 14) and when participants explicitly designated the briefing as a lower priority than other tasks (Example 15):

**Example 14.** SS speaks to me [the researcher] while he does the checklist, as if to indicate that he knows the answers to all the checklist components. (briefing 2210)

**Example 15.** During the briefing, the nursing coordinator motions to CN to continue setting up. Later she instructs the same nurse to stop and pay attention to the surgical pause “in case they say something you don’t hear.” (briefing 2280)

Perceived social expectation was a weak motive, in the sense that it didn't engender leadership or consistent commitment. However, it was also one of the most important motives involved in the uptake of briefings into routine practice. Consider the following briefing, after which this nurse relayed her enthusiastic support to the researcher:

**Example 16.** CN, who has not participated in the study before, has left the operating theatre. Upon her return, she notices the team is in the middle of a briefing. She is about to count [instruments] but notices that the SN is paying attention to the discussion. CN pauses and follows along with the briefing.

(briefing 2056)

Both social expectation and perceived professional role led surgical residents to be an important driver of the briefings' uptake. Residents often accepted the briefings as just one of many established routines at a new hospital. They also carried their practices with them from one site to the next. Some staff surgeons used the briefings as an educational opportunity, making it clear that they expected active participation from residents and fellows. Others delegated through their own nonparticipation, modelling dismissive behaviours. Trainees sometimes took their own initiative to assume a leadership role, largely independent of the staff surgeon.

Independent of purpose, a common set of acts recurred in observers' descriptions of valuable briefings. These included making eye contact, speaking clearly, inviting others' input, listening actively, and speaking up with contributions and questions. Observers routinely commented on the pacing of the exchange. In successful briefings, teams slowed down to address the prompts carefully and thoughtfully. By contrast, actions that visibly detracted from briefings included rushed or superficial contributions, disengaged participation, and strategic avoidance of the briefing. These observations reflect the centrality of team engagement as a defining feature of successful briefings.

Team engagement was perhaps the least explicitly acknowledged purpose of the briefings—but also one of the most important. Team engagement was implicated in other purposes: participants variously regarded it as a means of exchanging

information, creating a safe environment, or fulfilling professional commitments. It was also, however, an end in itself. Briefings that included explicit acknowledgment of other team members, with introductions, the use of names, and explicit questions, elicited particularly positive responses from participants, especially from nurses.

**Example 17.** “This is brilliant!” CN repeats this several times. Her exuberance is funny. (briefing 3095)

**Example 18.** CN: “I love working with SS (first name) . . . I love his time-outs. . . You know what’s going to happen.” (briefing 3164)

Evidence for team engagement as a strong motive for participation was sometimes merely suggested by participants’ careful attentiveness to the exchange, even in the absence of other apparent motives. As one nurse reported, the briefing could help to create a sense of interdependence: “Even in situations when the checklist doesn’t affect patient care, the briefing creates a time when you come together and focus on a common goal and feel like you’re a part of the team. I can’t describe it. Otherwise, you can feel invisible.”

The act of briefing itself—when it reflected genuine engagement—could be identified as the most powerful motive for participation. Briefings that allowed for attentive interaction among team members elicited explicitly positive feedback from participants, who then accommodated future briefings. Sometimes this motivation was evident in participants’ attentiveness to the act of briefing in the absence of other apparent motives. In contrast, briefings that were performed as hasty monologues perpetuated dismissive or resentful attitudes, which negatively affected uptake. This suggests that the relational exigencies of team briefings (fostering team cohesion) are at least as important as their instrumental ones (transmitting information). This insight is important given that the instrumental functions are the primary focus of research and of arguments that are used to justify the need for checklists but that may fail to convince people to actually perform them.

## **A summary, in dramatic terms**

Motives and attitudes varied both within and across sites, professions, individuals, and briefings. They were contingent on the organizational, medical and social scenes in which the briefings took place and on participants' multiple perceived purposes for participating (patient safety, information exchange, team engagement, professional commitment, research, and social expectation). Participants' attitudes reflected their recognition (or rejection) of specific purposes; the briefings' perceived effectiveness in serving these purposes; and the briefings' perceived alignment (or conflict) with other priorities. In this section, I use the terms of the dramatic pentad synoptically to identify some of the most influential motives affecting the uptake of checklists, to locate sites of variation or ambiguity, and to suggest potential mechanisms for change.

### **Scene**

Scene, interpreted at the narrow circumference of the operating theatre, was the most common frame for participants' acceptance or rejection of checklists in practice. That is, most participants acted in accordance with the immediate situation at hand, participating when an exigence presented itself in the absence of significant barriers. Scenes were shaped by the asynchronous workflow of the three professions (which presented consistent challenges across and within sites), patients' unique medical and surgical features (which varied by briefing and by surgeon), and the social dynamics of the theatre (which varied by site, profession, and specific combination of team members). Our finding that even strong advocates of the checklist could sometimes reject or minimize the practice testifies to the significance of the local scene in shaping the uptake of this practice. It also challenges the common assumption that any acts of resistance must be derive from the values, attitudes, and the character of individual professionals.

These observations suggest that transformation of the scene into a positive motivating force is crucial to the sustained uptake of the briefing practice. Depending on the

features of a hospital, this may require material and organizational changes to alleviate timing pressures and establish briefings as a valued or sanctioned practice at a local level. (Such strategies were generally not possible in the context of our research study.) However, we also observed that modest changes in the social dynamics of the theatre had significant potential to overcome timing challenges, especially when professions shared responsibility for initiating the briefings. There was potential for transforming the social scene, either through participants' immediate interactions (discussed below under Agent and Act) or through framing of the briefing within larger cultural contexts (i.e., placing it within scenes of broader circumference). For example, over the course of our study, the patient safety discourse emerging in scientific, professional, and popular literatures helped to legitimize the briefing practice and made it familiar to participants without the need for detailed explanation and justification. The discourse of evidence-based practice helped to legitimize the briefings as a research initiative. Effective interprofessional collaboration, also widely promoted, was recognized by many participants as an ideal or at least as a social expectation. At some sites, professional leaders saw potential for the briefing initiative to advance a broader imperative of "empowering" nurses.

## **Purpose**

This discussion of broader discursive contexts illustrates the close interrelationship between scene and purpose: viewing the briefing relative to particular cultural scenes brings particular purposes to the fore. Actions were motivated by purpose to the extent that individual agents perceived an alignment between the briefings and their own personal and professional interests. (In this sense, briefings may alternatively be understood as a form of agency in achieving multiple purposes.) Whereas the immediate scene appeared to be the most common locus of motives animating enactments of the checklist, perceived purpose was one of the strongest. Similarly, perceived lack of purpose, or conflict with other purposes, was a powerful deterrent to participation. This is a significant observation because purpose is largely absent in



published representations of the checklist—or, rather, it is held at a broad level of generalization (“saving lives”) where its value can be taken for granted. Evident motivating purposes included patient safety, information exchange, team engagement, professional commitment, research, and social expectation. The last of these might be ambiguously considered as purpose or scene, or a site of translation between the two.

Divergent perceptions of purpose can be an obstacle when they produce discrepant expectations for the team briefing, as when one participant expects an engaged dialogue and another focuses strictly on verifying tasks and safety items. However, they also serve as a resource when they are leveraged to motivate participation from team members with a range of priorities and values. Ambiguities of purpose also suggest the potential for shifting perceptions of the briefing. Transformations occur when an agent’s motivational frame is affected, actively or passively, by those of other agents.

## **Agent**

Individual participants in our study behaved in relatively predictable ways toward the briefing, though their attitudes could shift over time and, as noted above, were responsive to the contingencies of the immediate situation. Certain perspectives and roles were inherent to the work of particular professions. For example, surgeons were most likely to provide information to other team members and had to accommodate the briefings into their responsibilities outside the theatre, while anesthesiologists and nurses were more likely to receive information and had to integrate the briefing with other immediate task sequences. Professional values and identities were also evident in patterns of acceptance and rejection of the briefings. The high value placed on autonomy by the medical profession has received significant attention as a primary barrier to patient safety and interprofessional collaboration (Amalberti, Auroy, Berwick & Barach, 2005; Bleakley, 2006). This intrinsic value was sometimes evident in our study in the form of monologic or dismissive briefing performances. The checklist serves to make these attitudes visible. As such, it can work either to reinforce or to disrupt them.

Although some differences of perspective fell predictably along interprofessional lines, we observed even greater variation within professions than between them. Our experience suggests that some<sup>1</sup> potential for transformation lies with individual agents from all professions. Consistent with research on “champions” and “opinion leaders,” we found that credible and respected advocates who were committed to the briefing had a strong positive influence on uptake. This effect was particularly powerful in our study, as these advocates modelled optimal briefing practices. Because staff surgeons and anesthesiologists usually work independently from colleagues within their own specialty, such modelling was more effective in transforming attitudes across professions than within them. An important observation of our study was that leadership could take on many subtle forms. It required primarily a demonstrated attentiveness to, and respect for, the activities of colleagues from other professions.

## **Agency**

The checklist tool itself was the primary form of agency in this research, and it is a constant of the current study. We found that one of the tool’s most significant effects was its ability to serve as a visual cue signalling time for the briefing. This also provided a mechanism for members of the team, including less assertive or less powerful members, to initiate the briefing nonverbally and nonintrusively by retrieving and holding copies of the checklist tool (laminated green cards), a move that was generally acknowledged by other team members. (Not acknowledging this move ambiguously signified a participant’s concentration on other tasks, or his or her resistance to the

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<sup>1</sup> The original article describes individual agents as holding “the greatest potential” for transformation. That wording now strikes me as too idealistic. However, I remain convinced that an emphasis on cultivating agency, in conjunction with structural changes, is central to practice change initiatives. In Burkean terms, this involves attending to both the motion and action components of human motivation. In plain language, it feels like stating the obvious. However, this combination of strategies is regularly neglected within discourses of medical practice, which either overemphasize materialist motives and strategies (e.g., where the ideal of standardization is pursued in opposition to situated judgment) or idealist ones (e.g., where changes in attitude or curriculum are advocated in the absence of structural change) (Whitehead, Kuper & Webster, 2012).

briefing.) As a tool for structuring communication, the checklist itself was used in various ways, and to various effects, by teams in the operating theatre. This suggests that providing an explicit time for team communication was at least as significant as the checklist itself in producing the effects of the intervention. Various forms of checklist tool have been developed and might yield different results (Allard, Bleakley, Hobbs & Vinnell, 2007; Awad et al., 2005; Leonard et al., 2004; WHO, 2008).

Skills may also be conceived as a form of agency.<sup>1</sup> Performing the briefing required specific skills of attentive, detailed, and efficient communication. Getting the attention of team members was one of the most challenging components of the briefing performance because it required attentiveness to time, assertive communication, and navigation of social dynamics. Such “skills” are not socially neutral. The act of initiating the briefing was far easier for those with recognized power or authority (though the imposition of such authority could also alienate others rather than garnering genuine support). Participants varied in their communication skills and their degree of authority. Uptake of the briefing may be encouraged through directed instruction or feedback—perhaps targeted first to a subset of advocates who can then model effective briefing performances. In our experience, the time pressures of the OR, our dual role as researchers and facilitators, and our own lack of authority in this setting sometimes discouraged us from providing feedback to participants.<sup>2</sup>

## **Act**

A wide variety of coordinated actions were required for each briefing to occur. However, amidst the variability and complexity observed in our study, the act of briefing itself—when it reflected genuine engagement among team members—could be identified as

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<sup>1</sup> Considered more broadly, agency also includes material resources needed to develop these skills and reduce structural barriers to the practice.

<sup>2</sup> Some members of our research team were better situated than others to provide feedback of this kind. My own practice was to be inquisitive rather than directive. This practice had advantages and disadvantages.

the most powerful motive for participation. Briefings that allowed for attentive interaction among team members, especially when they included detailed information about the patient and operative plan, elicited explicitly positive feedback from participants, who then accommodated future briefings. Briefings that were performed as hasty monologues perpetuated dismissive or resentful attitudes, which negatively affected uptake.

The briefings themselves are a powerful means of promoting change. This is one of the most significant observations of our study. It suggests that the consistent uptake of briefings relies on a recognition of their relational exigencies above and beyond their instrumental ones. It also suggests that changes of attitude can result from, rather than precede, changes of behaviour. It is often assumed that knowledge leads to attitudes, and attitudes produce behaviours. The progression might also be seen, in our experience, running in the inverse direction: behaviours produce attitudes, the examination of which produces knowledge.

## **Rhetoric in the practice of surgical checklists**

There are various ways to think about the rhetorical dimensions of surgical checklists as a practice. First, rhetoric was involved in the local implementation and uptake of this practice. Promoting the checklist involved cultivating positive perceptions and experiences of the practice while minimizing constraints. Second, rhetoric, broadly defined, is inherent to the functions of this practice. The checklist *worked* when it induced a mindful and conscious exchange that drew attention to aspects of the situation (symbolic and material) that were otherwise invisible or out of focus. It failed to work when it conflicted with other meaningful actions, remained in the realm of motion, or made visible—and therefore reproduced—problematic aspects of the situation. Third, this analysis produces a form of knowledge obtained through the close analysis of rhetorical interactions. By drawing attention to the specific ways in which enactments of the checklist varied in practice, that knowledge may threaten depictions

of the practice as simple. It may also help to specify and acknowledge situational complexities that, if not addressed or recognized, will continue to frustrate this and similar practices.

One observation of this analysis is that these three rhetorical dimensions of the practice—its promotion and perceived value, its mechanisms, and the forms of knowledge that it yields—are closely interrelated. The remainder of this discussion focuses primarily on how dramatic terms can help to account for the uptake (acceptance and rejection) of checklists. This process of uptake, however, is directly shaped by the perceived functions of the practice and its motivating situations.

Checklists were not straightforwardly accepted or rejected in practice. Rather, they were negotiated, adapted, and articulated anew in each situation. In the context of this study, the ease of implementing the practice varied accordingly. In some cases, the checklist was truly a simple practice that fit easily into the team's work. In others, it fit uncomfortably with existing processes. The success of each checklist briefing was related to the constellation of team members' motives and attitudes as they related to organizational challenges on a given day.

The most influential challenges to the checklist briefings were the asynchronous work patterns of surgeons, nurses, and anesthesiologists; perceived conflict of the briefing with other professional commitments; and perceived lack of purpose (i.e., the belief that the practice does not serve an existing need). Conversely, some of the most influential support for the team briefings came from colleagues' receptive attitudes; perceived alignment with personal and professional interests; and perceived usefulness. Perceived advantage, compatibility with existing practices, and supportive social networks are all commonly held to be important in the adoption of innovations (Greenhalgh et al., 2005; Rogers, 1995).

This analysis underscores the significant situational variability of these features for a single and ostensibly simple practice. A variety of motivating purposes were evident in this study, including patient safety, information exchange, team engagement,

professional commitment, research, and social expectation.<sup>1</sup> One implication of this variation is that the efficacy of a practice must be demonstrated in multiple ways. Because the protection of patient safety is only one factor motivating participation, and the checklist is only one practice among others serving this purpose, producing experimental evidence demonstrating positive safety outcomes is necessary but insufficient. Arguments derived from clinical research are often regarded as the primary means of convincing professionals to adopt a practice. Efficacy and evaluation studies (of widely varied quality) are abundant within professional research. The task of effecting purposeful change, however, involves using a range of resources and strategies for shifting commitments, attitudes, motives, and situations.

This study demonstrates the importance of situating rhetorical strategies at a local level. Our approach drew upon purposeful arguments drawn from published research, a scientific ethos, and a network of relationships that extended from positions of administrative and clinical authority to a day-to-day presence and engagement in the operating theatre. These relationships enabled us to address concerns and recognize opportunities specific to individual participants and sites. Aside from these purposeful actions, the checklist itself worked to persuade and dissuade participation, as it allowed people to directly experience many of the benefits and frustrations of this practice. We observed the usefulness of these strategies and also their limits. Without changes in the material scene of professionals' asynchronous workflow, sustainable uptake of this practice independent of researchers' support was not possible in the context of this study. Most organizational constraints were beyond our control.

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<sup>1</sup> The terms that participants applied to the practice also invoked a range of meanings and attitudes that resonate with these varied purposes. Our fieldnotes document participants referring to the practice as the surgical pause, the briefing thing, the pre-op thing, the list, the green sheet, the checklist, the preoperative survey, the group hug, the round table, group huddle, team discussion, team talk, fireside chat, this thing, "that," meeting, pow-wow, and prayer session. (This list was compiled by my colleague, Carrie Cartmill, at the time of the Team Talk study.)

Within this context, uptake required strong motives (sense of leadership or agency, perception of purpose) rather than weaker ones (social obligation) from at least one participant on any given day. These motives may be located in Burke's realms of action and motion, respectively. The actions taken by advocates for the briefing from all professions—which were usually motivated by a perceived purpose or by qualities of individual agents—created a social scene that motivated less committed colleagues to participate. The increasing familiarity of the briefing as a practice contributed to this scenic motive.

The strongest motive for change was also the simplest and potentially the most consistent: a basic attitude of generosity and attentiveness toward the act of communication itself. This observation is significant because it is not often recognized. The problem of perfunctory regard for the checklist as a tick-box exercise is now commonly noted in professional and research literature. And many accounts of the practice have underscored the intended relational (or “nontechnical”) functions of the practice alongside their more directly instrumental ones. However, the potential of a well-enacted checklist in itself both to produce meaningful effects and to motivate uptake has not been widely discussed. The question of whether a checklist is the best means of fostering such exchanges is an open one. We observed that it is capable of serving this function under supportive conditions.

The practice of the checklist had potential to shift patterns of team communication. However, it also had the potential to make those patterns visible: to catalyze, exacerbate, reproduce—or interrupt them. By bringing different perspectives into closer contact, the practice forces implicit assumptions to the surface. This can be a productive or a disruptive function of the practice.

When checklists are performed in unproductive ways, amidst multiple competing responsibilities, team members have just cause to resist or dismiss them. These legitimate concerns and logistical challenges are regularly minimized and disregarded

by promotional discourses that emphasize the simplicity of the practice (see Chapter 3) and by clinical research that treats the intervention in reductive terms (see Chapter 5).

This analysis suggests a series of conclusions that might inform strategies for change or be explored in further research:

1. Sustained uptake of the preoperative checklist into routine practice requires transformation of the scene into a positive motivating force. There are some symbolic means of changing the scene. For example, the perceived purpose of the checklist can potentially be stabilized by associating it more strongly with the overriding aim of protecting patient safety or by localizing the problem of medical error. Attitudes of support visible at a local level can create a scene readily conducive to the practice; in such scenes, participants new to the checklist take it up without hesitation. However, the immediate scene of the operating theatre also presents significant nonsymbolic obstacles that may be difficult to change.
2. The multiple perceived purposes of the briefings may be a valuable resource for facilitating this transformation. However, they may also complicate or confuse the practice. The work of acknowledging and examining these multiple proximal purposes may help to clarify when they are operating in tension with one another, when particular purposes are being stressed to the exclusion of others, or when particular purposes might be more effectively served by other means.<sup>1</sup> Our experience suggests that some purposes of the checklist may emerge in a local context through enactment of the practice itself. Published adaptations of the checklist also suggest that the local purposes served by the uptake of a checklist routine can shift or multiply in unacknowledged ways.

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<sup>1</sup> This observation is consistent with calls to develop midlevel theories accounting for why complex interventions work. As I will elaborate in Chapter 5, such calls are used to warrant qualitative and social scientific research in ways that can be echoed and extended in rhetorical terms.



3. The relational aspects of briefings are likely to drive uptake, at least for some participants. Acts of briefing themselves, when effectively performed and modelled, are powerful agents of change that may produce, rather than follow from, changes of attitude. Strategies designed to cultivate constructive enactments of the checklist may therefore have a significant role in fostering the uptake and effectiveness of the practice. These could include coaching or fostering dialogue about what makes checklist performances effective and meaningful from the perspective of surgeons, nurses, and anesthesiologists. Our observations suggest that this act of communication can be difficult or awkward and therefore stressful for some clinicians. Widespread depictions of the practice as simple make it difficult to acknowledge the challenges of performing the checklist well and negotiating its complicated relationship to space and time. They make it difficult to attach value to the practice as a skill.

This analysis also suggests several observations about the potential of dramatic terms for interpreting ethnographic data and specifically for studying and mediating the uptake of a new practice. The terms motion and action, which are mediated by form in several ways, help to reveal the specific challenges of establishing meaningful and sustained uptake of the practice. Uptake must become a routine expectation (embodied as an expectation in the realm of motion) but must be conducted mindfully (in the realm of action). A good checklist requires the negotiation of both motion and action. It needs to direct attention. But it also needs to unfold according to an ingrained script, a habit or routine of call and response, which, as Burke alerts us, can lead to the mindless accepting of content.

The terms of the pentad offer pliable resources that help to locate specific sources of variability in the practice and to highlight potential mechanisms for change. This analysis suggests that successful uptake of a practice should be supported with attention to all five motivational terms—or that deficiencies in one motivational axis may require significant compensation in others. It is noteworthy that this analysis has

placed considerable emphasis upon purpose and act as important motivational loci. These aspects of the practice are frequently neglected in published accounts of the checklist, which tend to focus on the interplay of scenes or systems on the one hand, and agents or attitudes on the other, in accounting for implementation strategies, successes, and challenges.

Burke's theoretical terminology gives central importance to the motives of human agents—appropriate to the study of behaviour change—without reducing them to an individualistic conception of human action. This approach may help to bridge the distinction sometimes drawn between cognitive and sociological approaches to studying practice change (May, 2006). In a Burkean framework, the analysis of motives tells us as much about situations as it does about individual actors. Analyzing patterns of repetition and variation across enactments of the checklist produces knowledge concerning (1) the mechanisms and effects of the practice, (2) the motives and attitudes of health professionals as they relate to the checklist, and ultimately (3) the nature of the situations that shape the enactment of checklists in the everyday work of the operating theatre.

## 5. Contested terrain in research on practice

Because of their successes and challenges, checklists have served both as a model and as a site of debate concerning the strategies and forms of evidence needed to understand, warrant, and effect changes in professional practice. This chapter considers how checklists have been taken up into larger conversations about knowledge and knowledge translation. It asks *What forms of knowledge have been advocated or debated in the study of checklists?* And *How might a rhetorical approach navigate and advance these conversations?* I take several inroads to addressing these questions. First, I consider debates surrounding a study that found no significant clinical benefits following the mandatory adoption of checklists in Ontario. Second, I turn to the related case of checklists in the ICU, which have anchored a formal model for knowledge translation. Third, I consider how scholars from various disciplines have used the case of surgical checklists to advocate for theoretical and methodological pluralism. Each of these examples helps to reveal emphases and absences within scholarship on the topic of checklists. Taken together, they reinforce the importance of rhetoric both to the uptake and to the basic functions of checklists. They also illustrate how forms of research designed to investigate these rhetorical processes are simultaneously enabled and constrained by the discourses, organizational structures, and genres that shape inquiry within the health sciences. I link this ambivalent rhetorical situation to broader domains of scholarship on education and practice in the health professions, and I suggest that it is manifest within the discourse of knowledge translation in ways that are particularly conspicuous and particularly relevant to rhetorical inquiry. In order to consider how a rhetorical approach to knowledge translation might engage this ambivalent situation, I consider what rhetorical inquiry adds, or might add, uniquely to interdisciplinary scholarship on checklists.

## Introduction

This chapter examines the simultaneous preoccupation with and occlusion of rhetorical processes, first within scholarship concerning the surgical checklist and then more generally within the health professions. My focus is not primarily on sifting through the large body of research examining the effects of, compliance with, and (less commonly) experiences and performances of surgical checklists. My task, rather, will be to describe how checklists have been deployed rhetorically within larger discussions and debates concerning the warrants for, and means of, effecting change in professional practice. Within healthcare, these topics are typically discussed under headings such as quality improvement, improvement science, safety science, implementation science, and knowledge translation. These terms are not interchangeable, but the distinctions among them are generally unimportant to my discussion in this study. I will foreground the term “knowledge translation” as it resonates both with the case of checklists and with the ultimate aims of my research.

First, I will describe debates that ensued when a group of researchers from Ontario reported that a policy mandating use of checklists in the province did not produce any significant improvements in surgical outcomes. Differing interpretations of this study, along with strategic efforts to marginalize these results, hold rhetorical and sociological significance.<sup>1</sup> For my analysis, this debate is interesting because it illustrates how integral rhetoric is to the meaningful uptake of checklists while also valorizing methods and pursuing forms of certainty that obscure rhetoric from view. This debate is also

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<sup>1</sup> The sociological implications of these debates extend beyond the scope of my project but warrant some reflection. Commentary stemming from this study provides an opportunity to observe convergences and tensions between two dominant discourses controlling medical work: managerialist approaches, on the one hand, and evidence-based medicine, on the other, understood narrowly as hierarchies of evidence ranked on methodological grounds. Advocates for the checklist can be seen advancing a pragmatic alternative that capitalizes upon, but in some ways founders between, these discourses. My analysis suggests that this alternative might benefit from a more robust and explicit conception of rhetorical knowledge and action. Such a conception would need to be supported by organizational structures and likely innovative genres.

significant because it helps to turn concerted attention toward a recognition of checklists not as a tool but as an act or practice that is situated within larger systems.

In the second part of this chapter, I consider how checklists have been formally advanced within a model for knowledge translation. This requires engaging with the older cousin of surgical checklists—the central line checklist in the ICU that has been championed by Peter Pronovost. As I have already described, this checklist was an important precursor to the WHO Safe Surgery Saves Lives campaign. Pronovost and colleagues have developed a model of knowledge translation that is based upon their experiences of developing the checklist, cultivating its uptake into practice, measuring its effects, and attempting to replicate successes in other contexts. Within this model, the checklist serves important functions, both as a form and as a focus for galvanizing larger social and structural changes. The work of Pronovost and his colleagues on the ICU checklist again instantiates interesting tensions in the representation of knowledge and of rhetoric. I discuss the case selectively for the specific purpose of examining those tensions as they are manifest within an explicit framework of knowledge translation.

The tension between the promise and challenges of checklists provides an opportunity to prise open the narrow view of evidence that is often embedded within formal structures of medical research and presupposed by many models of knowledge translation. The third section in this chapter considers how scholars from various disciplines have sought to complicate representations of the checklist and how they have used this case to advocate for theoretical and methodological pluralism. These arguments are well aligned with a rhetorical approach to knowledge translation and with the analyses developed in this dissertation. I take them as a point of departure for reflecting upon the shared and unique contributions of rhetorical theory and analysis in the study of checklists.

Taken together, these three examples all serve to illustrate how rhetoric is both (1) self-consciously central to the practice, promotion, and study of checklists and (2) marginalized or concealed within dominant approaches to studying the practice.

Checklist advocates can be seen wrestling with the pragmatic aspects of this internal tension. My doctoral research has grappled with its theoretical aspects. In the next section of this chapter, I link this tension to larger conversations concerning practice-oriented research in the health professions. In particular, I show that the discourse of knowledge translation manifests similar tensions in ways that are particularly conspicuous and particularly relevant to rhetoric.

In the concluding section of this chapter, returning to the case of checklists, I look for some of the opportunities, challenges, warrants, open questions, and guiding principles that might inform an expansive rhetorical approach to the study of knowledge translation. I consider how such an approach might reconcile the imperatives of moving research knowledge into practice while also capturing those forms of knowledge that derive from action and practice and moving them into research. Dramatistic terms demonstrate the significant challenges of translating situated knowledge and suggest some strategies for understanding and conducting meaningful translational work.

## **Checklists as site of debate**

In March of 2014, a study published in *The New England Journal of Medicine* called the efficacy of surgical checklists into question. Urbach and colleagues used administrative data to compare rates of postoperative mortality and complications during 3-month intervals before and after mandatory adoption of the checklist across Ontario hospitals. They found no improvements, either across the whole province or within subsets of patients at higher risk (Urbach, Govindarajan, Saskin, Wilton, & Baxter, 2014b). The overall rate of postoperative death decreased from 0.71% to 0.65% but did not reach statistical significance. The researchers did note a few significant changes in rates of complication at the level of individual hospitals, but these changes were mixed: at six of the 101 hospitals, complication rates significantly decreased following introduction of the checklist. At three they significantly increased.

The authors consider two primary explanations for their findings. The results may indicate poor adherence to the checklist, belying the extremely high rates of compliance (typically 98–100%) claimed by hospitals within the public reporting system. This explanation is subsequently adopted, elaborated, and amplified by critical responses to the article. Alternatively, the results may indicate that surgical checklists are less effective in actual practice settings than previous experimental studies had suggested. This explanation is subsequently elaborated by the authors in response to their critics. Whereas the former interpretation highlights a failure of implementation and performance (i.e., checklists were not effective because they were not used), the latter highlights a failure of concept and of science (i.e., checklists were not effective because their use has been driven by the enthusiastic uptake of weak evidence). As the authors put it in an editorial on the topic, the checklist was either “underdelivered” or “overpromised” (Urbach, Govindarajan, Saskin, Wilton & Baxter, 2014a). I will consider these two interpretations, and their propagation, in some detail.<sup>1</sup>

A commentary published alongside the study articulates the dominant response. Lucien Leape, a physician and professor at the Harvard School of Public Health, asserts that “the likely reason for the failure of the surgical checklist in Ontario is that it was not actually used” (2014). From this perspective, the study simply demonstrates the inadequacy of centralized mandates as a strategy for effecting change. The claim that the checklist was not used requires inference, as the study did not track any indicators of use beyond hospitals’ reported rates of compliance. As Leape notes, and research has amply demonstrated, such reported metrics are unreliable; wide discrepancies often exist between reported and observed use of the checklist tool (Leape, 2014; Saturno et al., 2014; Sendlhover et al, 2016; van Klei et al., 2012). As indirect evidence of inadequate

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1 Scholars, clinicians, and journalists have framed the Ontario study as a site of debate both for the purpose of critiquing dominant depictions of the checklist and for the purpose of discounting the Ontario study and neutralizing criticism (that is, defending the checklist). The framing is strategic. As I will describe, there is in fact considerable overlap across ostensibly divergent interpretations of the study itself. Strongly contrasting positions do, however, emerge concerning the implications of the study as it relates to the standards of evidence needed to warrant quality improvement initiatives.

uptake, Leape notes that 90% of hospitals reported using unmodified versions of the checklist produced by the WHO or the Canadian Patient Safety Institute (CPSI). The process of modifying the checklist—combined with local training, leadership, and data collection—is regarded as essential for establishing the sense of accountability and ownership needed to foster authentic performance of the actions inscribed in the tool (Leape, 2014, p. 1063). To be effective, Leape implies, uptake needs to happen through persuasive rather than compulsory channels, at least until the practice is widely accepted as a standard. He characterizes this process as inherently difficult and slow. Even if uptake of the checklist were to be effective in Ontario, changes would not likely be detected within the short window of time measured for the study. In light of the presumably suboptimal conditions for fostering uptake, the study is criticized on methodological grounds for allowing only a three-month phase-in period before measuring effect. (In response to this last charge, the authors note that their methods were identical to those used by other trials (Urbach et al., 2014a).)

These arguments, which underscore the centrality of rhetoric to the uptake and effectiveness of the practice, also have an important structural dimension. According to Leape, the processes of training, coaching, and data collection needed to motivate and support the implementation of checklists require resources and expertise not available within most hospitals. These supporting functions, he offers, can be effectively accomplished through “statewide and systemwide collaboratives,” an organizational structure advanced by the IHI and refined through a project that sought to implement checklists in the ICU. That project is considered further in the next section of this chapter. The Ontario experience did not benefit from such infrastructure, and this, too, is interpreted as an underlying cause of the study’s findings. In fact, Leape closes his commentary by arguing that while surgical checklists should “probably not” be mandatory, the establishment of collaboratives to “accelerate” their use should.

A similar argument was recently made in a Canadian context by family physician and author Danielle Martin, who proposes the establishment of “systems that support the



implementation of large-scale change” as one of six “big ideas” for improving the Canadian healthcare system (Martin, 2017, p. 214)<sup>1</sup>. Her recently published book, *Better Now*, profiles the surgical checklist, and the Ontario study, as a central illustrating example to advance that proposal (Martin, 2017). This excerpt from the book was also reprinted in *The Toronto Star* (Martin, 2017, January 16).

The arguments made in Leape’s commentary are repeated and reinforced across professional and public forums. Whereas Leape’s formal commentary lays blame primarily upon the poor quality of implementation in Ontario, subsequent commentaries aim sharp critique at the quality of the research: “I wish the Ontario study were better,” writes Gawande. “But it’s very hard to conclude anything from it” (2014, March 14). In addition to the difficulty of interpreting whether checklists were actually used, the study has been criticized for being underpowered. Critics note that a large proportion of the included procedures were low-risk eye surgeries, which diminish the potential for showing an effect.

News coverage of the study has also sought to undercut both the significance of its findings and the credibility of its authors (who have won many awards and significant grants for their work, including an Article of the Year Award from CIHR for this study). Consider, for example, the title of an article from the Canadian Press:

Experts question study finding no gains from use of safe surgery checklist in  
Ont (Branswell, 2014a)<sup>2</sup>

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- 1 Introducing this sixth idea as “a precondition of all the others,” Martin quotes Stephen Lewis, who declined to provide feedback on a chapter of the book because “The book that needs to be written (if any needs to be written) is a careful, sophisticated political analysis of how change occurs and where there may be opportunities to get done what everyone has said we need to get done” (Martin, 2017, p. 214).
  - 2 The same story also appeared with the more neutral headline, “No gains from use of safe surgery checklist in Ont., study suggests” (Branswell, 2014b).

Here, checklist advocates are characterized as “experts” and the study’s authors are merely “researchers.” Poignant quotations from the advocates are featured prominently within the article:

“I think the (Ontario) study is premature and incomplete,” said Gawande, a surgeon at Brigham and Women’s Hospital in Boston and a professor at Harvard School of Public Health. “If you rolled out a seatbelt change. . .you wouldn’t measure three months later and say: ‘Oops, didn’t work.’”

(Branswell, 2014a)

“The lesson is that it hasn’t been implemented properly, not that the checklist is garbage,” said Dr. Jason Leitch, clinical director for Scotland’s National Health Service, which has achieved a 23 per cent reduction in surgery-related deaths over the past six years using a set of interventions including surgical checklists.

(Branswell, 2014a)

For my research, these critiques are rhetorically interesting for four interrelated reasons. First, they open discussion concerning how best to implement new practices, highlighting a tension between the inclinations to mandate and to motivate change. Second, they instantiate larger debates concerning what evidence is required to warrant the promotion of new practices designed to improve the quality of care: should these apparently low-risk changes in the systems and practices of professional work be subject to the same standards of experimental evidence as clinical treatments? Third, these discussions begin to turn attention to the nature of checklists as a practice, underscoring the fact that measurements of efficacy cannot be detached (as they often are) from methods of characterizing what the practice entailed and how it might have worked or failed to work. Fourth, they reveal an acute awareness concerning the rhetorical implications of scientific claims. The Ontario study was explicitly regarded as a rhetorical threat. By challenging the image of checklists as remarkably effective, it risked “arming naysayers” with reasons not to adopt the practice (Grant, 2014).

Within both popular and professional media, concerted effort has been made to diminish the importance of the Ontario study. For example, the WHO website FAQ page explains with authority that the study “does not necessarily show that the

Checklist does not work” because “implementing the Checklist takes more effort and time than the study allowed.” This explanation is preceded by four questions citing evidence in support of the practice and followed by the presumptive question “Why does the checklist work?” (WHO, 2014). In the wake of this study, professionals also came to the defence of checklists in the pages of professional journals, testifying to the value of the practice by sharing their own local experiences (e.g., Kapoor & Siemens, 2014; van Dijk, 2014; Muniak et al., 2014).

Sharply worded critiques of the study and its authors tend to distort the claims made by David Urbach and Nancy Baxter, the two primary authors. The authors’ arguments are expressed more fully and directly in subsequent texts, including an editorial responding to critics and a published interview with Urbach (Urbach et al., 2014a; Wachter & Urbach, 2015). These texts help to further elucidate the grounds of debate.

Within these texts, Urbach et al. note how reluctant respondents have been to consider the possibility that the checklist was not effective. They critique the strength of evidence available to support the remarkable efficacy claims associated with checklists. They point out that the benefits of the checklist have not been demonstrated using randomized methods. They argue that existing observational and small-scale studies have been vulnerable to selection bias (i.e., the checklist might be systematically omitted with sicker patients) and publication bias (i.e., positive effects are more likely to be reported in the literature). These critiques are firmly rooted in a discourse of evidence-based medicine in which randomized-controlled trials are the authoritative standard for evaluating the effectiveness of interventions—including complex and behavioural interventions (Auerbach & Shojania, 2007).

Studies may also use implementation strategies that are not readily generalized to typical practice settings. The authors note, usefully, that the magnitude of effect found in the original WHO trial had been replicated only in studies that included a checklist within more extensive training or safety improvement programs. In other words, the effectiveness of the intervention may not reside in the tool at all, but rather in some

other component of the study process, such as the broader safety or training programs used to develop, implement, and support the practice, the systems of measurement established for the study, or the sites' awareness of being assessed.

Of importance for my project, Urbach also observes that the dramatic efficacy claims made on behalf of checklists are implausible from the perspective of many surgeons, especially those working in hospitals where many of the individual actions embedded in the checklist were already established as standard practice. The degree of improvement being attributed to the checklist is greater, says Urbach, than the sum of its interventions. For example, a checklist might prompt teams to administer antibiotics more consistently, but the effect of the reminder should not logically be greater than the demonstrated effect of the antibiotics themselves. Recall that one of the claims widely circulated through the WHO Safe Surgery Saves Lives campaign was that 50% adverse events are preventable. Months later, the WHO trial claimed that the checklist reduced deaths by half and complications by over one third—accounting for virtually all of the theoretically preventable adverse surgical outcomes. For Urbach and colleagues, this is the methodologically dubious research:

“For a study to say that 50 per cent (of surgery-related deaths) not only are preventable, but are actually prevented by the use of a . . . very brief, inexpensive, straightforward intervention like adhering to a checklist—it seems like a bit of an extraordinary claim,” he said. “What we found was making extraordinary improvements in patient safety is probably going to take a lot more work than the introduction of something like these safety checklists.”  
(Urbach, quoted in Branswell, 2014a)

This critique is not substantively different from the cautionary notes offered by social scientists or even by checklist advocates, who, as I will discuss in the next section, recognize that successful checklists anchor larger cultural and structural changes.

Interpretations of the study are more closely aligned than they might first appear. Positions on its methodological implications, however, diverge considerably. Urbach argues that patient safety interventions should be held to standards of evidence

comparable to those applied to clinical interventions. The uptake of checklists has been, in his view, unjustifiably rapid. This position cites and instantiates an editorial defending the traditional tenets of evidence-based medicine in opposition to the growing power of safety and quality improvement movements (Auerbach & Shojana, 2007).

An interviewer challenges this position by observing that it makes little sense to expect the same standards of evidence for low-risk interventions as for higher risk pharmaceutical treatments. After all, randomized controlled trials were not conducted before checklists were adopted as a standard of practice in aviation. These arguments instantiate the position advanced by quality improvement advocates (Leape, Berwick & Bates, 2002). In responding to this challenge, Urbach cautions against another type of risk: that practice will become buried under layers of such “low risk” checklists and other interventions. We still need to choose what strategies to use, he argues, and evidence from controlled trials might as well be the standard for those choices (Wachter & Urbach, 2015).

Urbach’s final argument is an interesting one. He makes authoritative claims certifying that checklists have relational value:

[I] think surgical checklists are incredibly useful at improving the dynamics of a very large and complex team in the operating room. They really engage the perioperative care team. Suddenly all of the nurses, anesthesia assistants, respiratory therapists, everyone’s in the room; everyone is focused on the patient. They understand more of the patient’s story, their background, diagnostic tests they’ve had, what brings them to the operating room. They’re great additions to what we do, but I am skeptical that they result in these strikingly large improvements in clinical outcomes that others have reported. (Wachter & Urbach, 2015)

This claim is interesting for several reasons. First, while I have argued for the importance of the relational functions of this practice, these are also the functions that may sit most uncomfortably with the form of a checklist. Second, these functions and

dynamics are the least amenable to measurement within the terms of experimental research. And third, Urbach offers the intriguing suggestion that a more persuasive case could be made for checklists if advocates stuck to promoting its team-building benefits rather than its clinical benefits. This suggestion appears to counter all assumptions that evidence needs to be expressed in terms of clinical outcomes to be meaningful and persuasive for clinicians:

The bodies that mandated the use of checklists didn't do it because they felt it integrated nurses and teams better, or that it reassured patients that they were being better cared for, or that it improved communication. It was adopted because they thought it would reduce the risk of adverse events after surgery. They cited the high profile articles; they quoted the magnitude of these effects. In retrospect, that might have taken away from the credibility with frontline users. If you argued that it's very important to engage teams and make them more functional, improve the quality of communication, and reassure patients that people are aware of their individual problems and that the hospital is focused on their care in a patient-based manner, there could have been more buy-in and less skepticism. (Wachter & Urbach, 2015)

The debates described in this section reveal how rhetorical dimensions of the checklist are integral to its effectiveness in practice. At the same time, they circulate around the results of a primary trial that is unable to say very much at all about the nature of the practice or its mechanisms of effect. These debates also demonstrate an acute self-consciousness concerning the rhetorical implications of scientific research. The arguments of advocates regard consensus, certainty, and clinical efficacy as necessary conditions for uptake of the practice. This example illustrates that certainty is a tenuous achievement and not an optimal place to begin, even when there is broad agreement about what ought to be done. It might be seen as ironic that those researchers who are most skeptical of the clinical evidence for checklists are more convinced by arguments made on relational grounds. Those researchers, nonetheless, advocate for traditional methodological hierarchies that are poorly adapted to assessing complex and relational interventions.

This debate has had a significant effect on the course of professional literature. It has helped to shift researchers' collective attention to how checklists are introduced, supported, and performed. These emphases were not new within scholarship on the topic of checklists. While attention to the checklist as a form of action and object of overt persuasion had closed down in popular media accounts of the practice and in some forms of professional scholarship—processes that I traced in Chapter 3—it was arguably opening up in other quarters of the professional literature as clinicians and managers grappled with the obligation of making the practice work. Emerging attention to the challenges of implementing checklists, however, ran alongside many other reports in which acts of implementation and practice were bracketed from view in efforts to measure their efficacy. The Ontario study, which received significant attention in scholarly and popular forums, brought both kinds of acts closer to the fore as foci for knowledge production and debate. I will begin to consider some of the ways that researchers and advocates have represented and grappled with checklists as a form of action or practice.

The most direct response to the Ontario study has invoked the authority and strategies of biomedical research to shore up efficacy claims associated with the practice. In an editorial taking stock of “what we know now” about surgical safety checklists, Haynes, Berry, and Gawande introduce and celebrate a trial that used a randomized experimental design, monitored actual use of the checklist, and detailed the implementation process (2015). The study reported a reduction in postoperative complications from 19.9% to 11.5% across two hospitals and a significant reduction of mortality at one (but not both), from 1.9% to 0.2%. In praising this research, the editorial cites only a progression of experimental studies within its review of current knowledge.<sup>1</sup> The authors are also careful to attribute positive effects not only to

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<sup>1</sup> I am not suggesting that the authors only value this type of knowledge. Their group has published research of various kinds. Their selection is also arguably consistent with the occasion. Given the influence of these authors, however, the general, authoritative title—“What we know now”—has significant import beyond this occasion and signals that

checklists but to broader programs. Positive trials examined, for example, “a formal system of planning and communication,” a “checklist-driven system of briefing and debriefing,” and “a concerted nationwide implementation program” (2015, p. 829). By contrast, the Ontario study examined “the effects of a law mandating surgical checklist use.” The checklist is no longer cast as the primary agent in these accounts: acts of implementation and their supporting systems are now on trial. Whereas checklist advocates often group together experimental trials of quite disparate checklist tools in advancing efficacy claims (see Appendix B), here they carefully distinguish studies that introduce very similar tools by different means.

The experimental method seems able, here, to absorb challenges by shifting the definition of what is being, or has been, studied. This observation resonates with Colleen Derkatch’s argument that methods are deployed as a rhetorical topos in order to expand and reassert the boundaries of biomedicine in the face of challenges (2008).<sup>1</sup> The underlying claim that has been adopted as a refrain within checklist research is that the effects of checklists are contingent upon their meaningful and consistent use. This claim is supported both by the trial described above and by an earlier analysis that linked the clinical efficacy of checklists to their actual completion in full (van Klei et al., 2012). The shift in language creates considerable space for acknowledging the complexity and systemic dimensions of checklists, and it places onus on triallists to detail the means by which an intervention was introduced. At the same time, these trials continue to reinforce an abstracted view of the practice which implies that its uptake is simple, standard, and effective when done correctly, where correct is often taken to mean complete.

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experimental trials measuring clinical outcomes should be the ultimate arbiter of this practice.

1 This resonance would be interesting to explore further. In the case that Derkatch develops, biomedical researchers deploy arguments from method in order to exclude practices normally situated outside of medicine (complementary and alternative therapies) while appearing to engage them. In the case of checklists, it is arguably the strongest defenders of a traditional methodological hierarchy whose challenges are being disarmed with recourse to similar strategies.



In the study by van Klei et al., “completion” of the checklist was assessed through a retrospective review of patient charts to determine when copies of the checklist had been filed with all of the boxes ticked—a method that reveals significant shifts in the functions of checklists to include documentation, governance, and research. By 2013, compliance had emerged as a common term within published professional research. Assessments of compliance are a dominant approach to characterizing the checklist as an act. They have sometimes been used in formative ways to understand the practice and to better support it. For example, assessments of compliance derived from direct observation can be used to identify the portions of the checklist that are confusing or poorly received. They have also been used to quantify some of the recurrent acts that I characterized in qualitative terms, such as who bears responsibility for implementing the checklist, and how often it is conducted alongside distracting activities. Aveling and colleagues, in the context of an ethnographic study, have introduced helpful distinctions between “compliance” (was the checklist used at all), “completion” (was it used in full), and “fidelity” (was it used in the spirit intended) (Aveling, McCulloch & Dixon-Woods, 2013). (This study offers many further insights, which I discuss briefly on page 246). These formative assessments of “compliance” serve in some ways to give presence to the checklist as a form of action. In theory, they can be used to inform educational, persuasive, and structural interventions—or to adapt the practice itself.

Far more commonly, however, compliance has been assessed as an outcome in its own right, serving as a surrogate indicator for the quality and safety of professional practice. The production of instruments for evaluating checklist performance and policing deviations has itself become a focus of research. Skipped items are interpreted as failures of its users, not as failures of the checklist. This interpretation is conditioned by the term “compliance,” which itself is a rhetorical liability that positions clinicians explicitly as passive actors under external control. Beyond this, the imperative to document compliance has cast new roles and forms of agency that often conflict with the underlying purpose of the checklist as a practice. For example, the role of auditing compliance often devolves to nurses, who are tasked with completing electronic records

(a role that carries pressures to document checklists as complete regardless of their quality); medical students have been cast as “clandestine observers” (a role celebrated as an opportunity for leadership and safety advocacy); and checklists themselves have come to function as documents rather than only as communication prompts.

By the time the Ontario study was published, researchers were already asserting with some regularity that implementation of the checklist was a difficult process that required a concerted strategy, training, and ongoing support, without which the checklist was often taken up in poor and counterproductive ways. One article warranting these claims was an analysis by Vats and colleagues published in the *BMJ* describing the “practical challenges” they had encountered implementing checklists in the UK as part of the WHO trial. The article is a combination of testimonial, advice, and analysis drawn from “interviews and conversations” with clinicians who had participated in the trial. It describes “misuses” and “variable compliance” with the checklist, and its initially mixed reception, along with some systemic barriers identified by clinicians (2010). The authors provide advice for those charged with implementation along with directions for future research.

This discussion creates space for acknowledging variations and challenges in the practice, and it opens the door to recognizing implementation as a persuasive process that requires contending with multiple perspectives and legitimate concerns. Its arrangement and examples, however, tend to place emphasis upon the aspects of those concerns that are mistaken or may be modified when the checklist is adopted correctly. For example, one short paragraph each is given to a range of concerns and barriers that differ in their recalcitrance: the challenges of persistent hierarchies, the experience of checklists as unfamiliar and embarrassing, disagreements concerning the optimal timing for checklist briefings to occur, and the perception of checklist items as introducing unnecessary duplication or irrelevant checks. While some of these barriers point to the need for systemic change, their brief treatment and associated advice suggest that barriers are largely surmountable through training, enthusiastic leadership,

the cultivation of champions, local adaptation of the checklist, and clarification of roles. This plainly rhetorical advice foregrounds the local discursive work through which concerns and perceptions *can* be meaningfully addressed and changed, and it illustrates the value of taking seriously those concerns and perceptions. It also, however, appears to slight the importance of structural change. It also embodies a presumptive form of rhetoric that is geared primarily at changing minds rather than producing dialogic insights about the situations that shape and constrain the uptake of checklists.

Two additional trends are apparent in professional texts that also grapple with the checklist as a form of action embedded within larger systems. Researchers and advocates have begun attending to the strategies by which checklists are implemented into practice. And they have turned to more diverse methodologies to ask critical and exploratory questions about what checklists do, what they cannot do, how they are perceived, and how they work, for whom, under what circumstances. The first trend introduces explicitly rhetorical concerns with a focus primarily upon effecting persuasion. The latter trend focuses on deriving knowledge from action, with varying orientations toward the aims of controlling checklists and understanding them. These trends are taken up in the next two subsections, each from a different point of departure.

## **Checklists as model for knowledge translation**

When I began this project, I did not recognize the extent to which the promotion and study of checklists would engage self-consciously with questions of both knowledge translation and rhetoric (though not in rhetorical terms). These engagements are most apparent in the scholarship and advocacy of Atul Gawande and Peter Pronovost. While Pronovost's work has focused primarily upon the ICU, it is relevant to my current discussion for several reasons. First, Pronovost and his colleagues situate checklists at the centre of a formal model of knowledge translation. Second, this model features explicitly translational functions for checklists, positioning the form as a site of

mediation between research and practice. Third, descriptions of the model seem to embody the internal tensions that are a central thread in this chapter, whereby advocates and scholars contend seriously with rhetorical questions while also setting those questions outside of research or subordinating them to measurable inputs and outcomes. Fourth, this case helps to differentiate multiple forms of knowledge relevant to the development and implementation of checklists. And fifth, this work directly influenced the design and promotion of surgical checklists and therefore sheds further light upon the rhetorical strategies identified throughout this dissertation.

The case of ICU checklists is associated with its own robust literature. I draw upon that literature selectively for the specific purposes outlined above. My discussion will focus upon two texts in particular: a short article in the *British Medical Journal* (Pronovost, Berenholtz & Needham, 2008), which describes a framework for effecting and studying change in professional practice, and a book-length popularization of the same work, entitled *Safe Patients, Smart Hospitals: How One Doctor's Checklist Can Help Us Change Health Care from the Inside Out* (Pronovost & Vohr, 2010).<sup>1</sup> The article is notable for the absence of the term “checklist.” It instead describes the checklist items as a set of interventions or behaviours. The book, which will be my primary point of reference, foregrounds the checklist as a rhetorical device and as a vehicle for translating evidence into practice. Its stronger emphases, however, lie upon culture (integral for driving change) and centralized measurement (integral for scientific legitimacy).

*Safe Patients, Smart Hospitals* is similar to Gawande's *The Checklist Manifesto* in a number of ways. Both books chronicle the authors' efforts to create and use checklists as a tool for improving the performance and safety of health systems. Both reflect explicitly upon how checklists work and how to encourage their acceptance by clinicians. Both invoke the narrative stance of an intrepid doctor who sets out to improve patient safety and discovers the power of checklists for effecting social and

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<sup>1</sup> This book is co-authored by Pronovost and Vohr. However, both the title and the narrative voice of the text foreground Pronovost's singular, first-person point of view. I carry that attribution into my discussion.

organizational change. Finally, both marshal a combination of logical, ethotic, and emotional appeals that are conspicuously on display. Pronovost's book is less skillfully written than *The Checklist Manifesto*. Its value, for my current purposes, lies in Pronovost's continual reflections upon the practices and processes of persuasion, in his careful construction of patient safety as a scientifically rigorous pursuit, and in the relationship of these emphases to one another.

The ICU checklist that has garnered the most attention is designed to prevent central line infections. This tool is distinct from the one developed for the operating theatre. It is a straightforward task-based list, specifying five actions to be performed: "wash your hands before insertion, use full barrier precautions, prepare the insertion site with chlorhexidine antiseptic, avoid the femoral site for insertion, and remove unnecessary lines" (Pronovost et al., 2008, p. 963). As with any intervention, the *implementation* of the list has relational dimensions. One of the most important is that nurses are charged with intervening when they notice doctors not following all of the designated steps. Unlike the surgical checklist, however, this checklist is not primarily a tool for structuring communication.<sup>1</sup> It designates technical interventions that can be "administered to patients." With that distinction noted, the discussion to follow considers what forms of knowledge are being translated within this model and how they relate to the rhetorical work of the checklist.

### **Translating certain knowledge into action**

Within this model, checklists are positioned as a mechanism for translating research knowledge into specific behaviours. Knowledge suitable for translation includes

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<sup>1</sup> Another checklist developed within the same program of research does focus on communication, for the unambiguous purpose of articulating a shared set of "daily goals" for the care of each patient. That tool seems to provide a good example of a checklist that seeks to enable purposive action, and positions clinicians as agents, rather than prompting a sequence of pre-specified motions in which the checklist tool is a primary agent. I do not mean to suggest that one of these checklists is inherently better. Rather, these checklists illustrate how the form of a checklist can serve functions that are not only distinct but, in some ways, opposite, as considered from the perspective of Burke's action-motion pair.

research and expert opinion upon which there is broad consensus but inconsistent performance. Embedding that knowledge within the form of a checklist simply brings it to the level of practice where it can be carried out. This conception of knowledge is consistent with dominant discourses of knowledge translation, which take certain knowledge as a point of departure. Checklists enter this discourse at the pointy end of the funnel, where overwhelming volumes of knowledge are distilled into useful products and tools:

For today's doctor to stay up-to-date with the latest treatments, he or she would have to study an impossible number of published scientific studies for the hundreds of diagnoses they may treat or procedures they may perform, leaving little time to actually practice medicine. Even if doctors read twenty-four hours a day, seven days per week, they could not consume the sheer volume of published literature available. However, if we could distill this research into its most effective components, combine it with what physicians and nurses learn on the job, and produce a simple easy-to-follow protocol that contains the most essential information needed to protect patients from harm—a checklist—we might have something doctors, nurses, and patients actually find useful.

(Pronovost & Vohr, 2010, near end of Chapter 1)

This quotation further illustrates how checklists operate discursively on multiple levels and in multiple contexts. In addition to structuring the cognitive and relational work of healthcare teams, they serve as a device for condensing and translating accepted evidence into concise scripts for communication and task-based action. They “convert” evidence into behaviours and provide clear directives that remove ambiguity.

I would like to make two observations about the condensation function that is so strongly invoked by the quotation above. First, there are two basic ways to reduce large bodies of information. The first is to synthesize the full set of available evidence into a corresponding judgment about what should be done. The second is to select some information or actions to prioritize while deflecting the rest. (These two functions can be related to Burke's discussion of master tropes: the first operation is synecdochic, or

representative, while the second is metonymic, or reductive.) The metaphor of distillation commonly used within the discourse of knowledge translation suggests the former—that checklists and similar tools synthesize available evidence and translate it into actions. However, the primary operation appears to be selection and deflection. Much of the evidence contained within guidelines simply do not meet the criteria of being uncontroversial, inexpensive, measurable, and convertible into a task or behaviour. For example, the WHO guidelines on surgical safety that culminate in the Safe Surgery Checklist contain 11 pages detailing standards for anesthesia personnel, drugs, and monitoring, including 14 recommendations, most of which are not representable as actions on a checklist. These are also the most significant surgical safety concerns in many countries.

Another observation to be made is that many of the steps included on these prominent checklists do not require scientific warrants at all. In the case of the surgical checklist, many are based upon universal values, common sense, and accepted social conventions. Before cutting, for example, it is a good idea to check again that you are operating on the correct side. It is also good to know the name of the person working beside you. In the ICU, similarly, the items selected are explicitly practices that everyone knows and accepts, quite likely without having to read any articles (though Pronovost emphasizes the importance of explaining the evidence supporting the steps on the checklist). The kinds of knowledge embedded within these checklists would not meet Aristotle's definition of rhetoric, as they involve little to no uncertainty.

A caveat is in order, however: Research suggests that the items on surgical checklists are not all similarly uncontroversial. Survey and observation studies suggest that the prompt asking clinicians to introduce themselves is least popular and most often skipped, though they provide little insight into the reasons for this attitude (Rydenfält et al., 2013; Nilsson et al., 2010). Qualitative studies are more revealing. According to a nurse quoted in one study, a prompt asking surgeons to anticipate the unexpected is “like a red rag to a bull” (Russ et al., 2015, p. 6). In the same study, a surgeon notes that

interventions backed by stronger evidence are excluded. Other prompts have raised concerns not because their value is uncertain but because they are layered atop similar checks that were already established.

### **Integrating general and situated knowledge**

Pronovost and Gawande both acknowledge that there is a need to integrate codified knowledge with the experiential and tacit knowledge held by healthcare professionals.<sup>1</sup> In many ways, Pronovost acknowledges the value of such situated forms of knowledge. For example, he describes them as a “tremendously important” means of professional learning. He notes that frontline providers are best situated to identify local problems and risks. And he points out that good decisions are informed by as many perspectives as possible. At the same time, however, experiential knowledge is subordinated to knowledge from research: “much of it,” Pronovost notes, “may not be very good.” He does not take up the problem of how to tell the difference.

The work of integrating codified and informal knowledge is delegated to professionals for explicitly rhetorical purposes. Clinicians and administrators are charged with adapting general checklists to local contexts. This work of adaptation is portrayed as sitting outside of research:

[C]hecklists are useless if people don't use them, and people won't use them unless they own them. So instead of imposing a generic set of rules using the top-down management mode that we already know doesn't work, we thought it better if we supply the evidence, give an example of a checklist, and have teams tailor their own checklist based on what's needed and what works for them, given the cultural dynamics and unique nature of each unit. The why, what, and how behind the checklist is shared and literally developed by the team through group discussions and the telling of real stories involving patient harm. (Pronovost & Vohr, 2010, para. 15)

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<sup>1</sup> Pronovost appears to conflate tacit knowledge, which is by definition difficult to articulate, with those forms of experiential knowledge that clinicians share informally.



The pattern of valorizing experiential knowledge, while also situating that knowledge outside of science, is evident in various forms. For example, the book points out that patients, families, and nurses are often better able than physicians to detect when something is wrong. Similarly, clinicians working in a particular setting are best positioned to know what needs to be done to improve safety. At the same time, however, Pronovost tends to reserve the terms “evidence,” “facts,” “proof,” and “science” for measurable inputs and outcomes. These are allied with, but distinct from, stories. Here, for example, he describes the nature of his allegiance with a parent whose child had died following avoidable medical errors. (The story of their alliance in advocating for patient safety runs throughout the book.)

I got her up-to-date on our work but cautioned her to focus mostly on speaking from her heart, not her mind. This audience did not need facts and figures. Hopkins is full of facts and figures. The staff needed to hear what it was like as a mother to suffer this kind of tragedy. I told Sorrel to let the memory of Josie guide her. The goals of her talk were to help everyone heal, to make this issue of patient safety real, and to generate passion and action to improve safety. (Pronovost & Vohr, 2010, mid-Chapter 1)

Today when I give a talk I come prepared with the facts, I know the statistics. But I have learned that it's real stories that move people, not numbers or facts. There is no question you need to provide proof for your theories. But without the story, without emotion, there is no context, it's just words. (Pronovost & Vohr, 2010, mid-Chapter 1)

Here, stories and experiential knowledge are used instrumentally as rhetorical tools (in ways that raise important ethical questions). While their value as a source of knowledge is acknowledged in some ways, in others they are situated in direct opposition to knowledge, facts, and proof.

### **Garnering political influence**

Pronovost depicts the checklist as an active agent, to which improvements in safety and reductions in negative outcome can be directly, if only partially, attributed. The design

and use of the checklist are not by any means incidental. He also, however, emphasizes that the checklist is only one component of a larger program and is not, in itself, capable of effecting change. Notwithstanding this emphasis upon the limited role of the checklist as a tool, however, he is also keenly aware of its rhetorical force. Here he describes his strategic deployment of the checklist when communicating with an audience of powerful policy-makers:

Politicians loved the central line checklist. It was simple to explain and easy to implement, it had proven results, and, most important, it didn't cost a lot of money. For senators and congresspeople looking for health care reform that could translate easily into crisp, meaty sound bites—the checklist was made to order. I was okay with this fascination with the checklist. If it got us in the door, so be it. Once I was “inside,” I'd push the culture change and measurement aspects of our work, but for now, the checklist was our passkey. (Pronovost & Vohr, 2010, Chapter 8, para. 2)

Here we see, in the most candid terms, that emphasis upon the checklist as a tool has been deployed as a purposeful rhetorical choice, even in full awareness that this choice is a reductive one. In the case of the ICU work, this strategic emphasis upon checklists appears to have emerged over time. As I have noted, the term scarcely appears in the early articles that are credited with demonstrating the potential and efficacy of checklists as tools to improve clinical outcomes.

As my analysis in this dissertation attests, this discursive choice is not without consequences and can serve to frustrate its own objectives. My analyses in Chapter 3 have already suggested how the emphasis upon simplicity readily gains discursive and structural force. It also requires a simultaneous and continual effort to resist oversimplification. One question raised (but not yet answered) by my dissertation is how widescale change can be effectively initiated without recourse to a rhetoric of certainty and simplicity.

## Galvanizing cultural change

This example clarifies a further political and organizational function for checklists that operates at an institutional level. Both Pronovost and Gawande situate checklists within a larger framework for social and professional change. In this context, the checklist serves a social and symbolic function, offering a readily identified focus for bringing teams together and establishing organizational capacity related to the goal of preventing avoidable harm.

Extending his conception of the checklist into a model called TRIP (translating research into practice), Pronovost describes three steps that he and colleagues took to facilitate changes in the ICU:

[D]eveloping an unambiguous checklist that encapsulated as much knowledge or evidence as we could gather on a particular procedure; changing the culture and associated broken systems to remove any barriers to implementing that checklist; and measuring the results so we could gauge the checklist's efficacy and provide feedback to make whatever changes necessary to improve it.

(Pronovost & Vohr, 2010, Chapter 2, second last paragraph)

This quotation suggests several distinct domains of knowledge that are important to differentiate. In addition to the knowledge incorporated into the checklist, these include knowledge concerning culture and systems and the ways in which they are “broken”; knowledge concerning means of effecting change; knowledge about whether the checklist works; and—though not noted in this excerpt—knowledge concerning how it works. In order to consider checklists as a representative anecdote for knowledge translation, it is useful to discern the multiple interrelated forms of knowledge that they deploy and produce.

Within *Safe Patients, Smart Hospitals*, knowledge about culture is represented as a process of personal reflection and observation. For example, Pronovost describes it as a revelation when it occurred to him that nurses would need to be given explicit authority and support to stop doctors who did not follow the steps of the checklist. Similarly,

throughout the book, he reflects upon the discursive and material strategies that he used in his quest to foster change. Many of the strategies that he describes make good rhetorical sense. He emphasizes the importance, for example, of asking professionals how they feel about the intervention and what will make it easy or hard to use. He describes how working teams were created by linking clinicians with administrators, how clinicians were given ownership over the process, and how communication structures were established to share experiences across sites. These strategies recognize the importance enrolling diverse supporters and persuading clinicians rather than compelling them to change. The emphasis remains upon the use of rhetoric primarily as a means of control rather than a means of understanding.

### **Studying whether and how the intervention works**

These reflections are generally unmoored by relevant domains of scholarship. Another caveat is in order here: As I have already noted, Pronovost has written collaboratively with social scientists. That work has combined his team's reflective insights with sociological concepts to explain why the ICU checklist initiative worked so well in the state of Michigan. As Dixon-Woods et al. observe, theoretical explanations for why improvement programs work or fail to work are rare in health research, as are richly descriptive accounts of interventions in education and practice (Dixon-Woods, Bosk, Aveling, Goeschel & Pronovost, 2011). In the absence of such theory and description, there is little to guide those who seek to adopt promising strategies. Interventions that prove effective in one setting often prove ineffective in others. For example, these authors show how efforts to duplicate the successes of the ICU checklist initiative have fallen flat where hospitals have adopted the form of the checklist without doing the work of implementing structural and cultural changes to support the practice (Dixon-Woods, Leslie, Tarrant & Bion, 2013).

Such insights might be complemented in rhetorical terms. For example, the program that Pronovost describes reveals a rounded emphasis upon multiple strategies to motivate change: establishing support structures (*scene* and *agency* at an organizational

level), cultivating a sense of identity and agency among health professionals (*agent*), defining a clearly articulated goal (*purpose*), and developing a well-designed tool (*agency* at a clinical level). Similarly, many of the strategies that Pronovost describes are amenable to discussion in rhetorical terms.

The case of ICU checklists, therefore, does help to advance modes of scholarship that are broadly aligned with a rhetorical approach to knowledge translation. Again, however, the cultural aspects of the knowledge translation program are somewhat ambiguously situated within Pronovost's conception of science. In some instances, all three components of the knowledge translation program are incorporated within this conception:

We have shown that using a scientific approach to patient safety and quality improvement—an approach that includes evidence-based practices, substantive culture change, and good measurement—will make hospitals safer. We have introduced a new paradigm. Patient safety and quality improvement have officially won their place at the table of science. Hospitals and clinicians now demand robust data before making conclusions about quality and safety: a new science is emerging.

(Pronovost & Vohr, 2010, end of Chapter 7, emphasis added)

Other passages reveal that it is specifically the measurement component of the project that establishes the scientific legitimacy of this work:

Measurement is one of the most important aspects of our work. We are scientists and the cornerstone of science is measurement. Without hard scientific proof, we can't be sure something actually works.

(Pronovost & Vohr, 2010, mid-Chapter 3)

[W]ithout complete and compelling data, it's hard to get doctors on board. This is both expected and appropriate. Doctors are scientists at heart, and as such they depend on real evidence, not guesswork.

(Pronovost & Vohr, 2010, mid-Chapter 3)

The organizational model that Pronovost advances is one in which research functions are standardized and centralized, playing a background role to local improvement

projects. The role of researchers is technical and supportive to clinicians' actions: providing research summaries, establishing databases, tracking outcomes, and providing reports.

In sum: Work on checklists in the ICU gives central presence to persuasive processes. This is apparent in Pronovost's narrative accounts of his own strategic rhetorical choices. It is apparent in the model's attentiveness to fostering cultural change by supporting rather than undermining the agency of clinicians. It is also apparent in analytic allegiances between clinicians and social scientists. At the same time, this work often situates these suasive processes apart from measurement, facts, and science. This creates potential opportunities and also some challenges for scholars of rhetoric and related fields.

## **Checklists and the case for interdisciplinarity**

The case of checklists has been used to advocate for methodological and theoretical pluralism in health research. Most notably, in an open letter to the editors of the *British Medical Journal*, 76 academics from 11 countries challenge the journal's apparent policy of rejecting qualitative studies on the grounds of their having low practical value, priority, citation counts, and interest to readers (Greenhalgh et al., 2016). The letter refutes each of these arguments. It cites surgical checklists as one exemplary case of why qualitative methods are necessary: while quantitative studies might demonstrate an effect of interventions to improve safety, qualitative approaches are needed to explain why those effects are realized in some cases and not in others.<sup>1</sup>

Kitto has argued that scholars of interprofessional education and practice should take up the study of checklists in order to interrogate their relational aspects and to problematize the prevailing tendency to regard these tools as a technical fix. Kitto and

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<sup>1</sup> In the health sciences, distinctions between quantitative and qualitative methods are often overemphasized, obscuring more significant conceptual issues. The work of legitimizing the latter in this context has been Sisyphean.

Grant (2014) explicitly note the kairotic potential of the Ontario study, which they argue provides a “window of opportunity to demonstrate how the field of interprofessional knowledge and practice can contribute to the improvement of the design and implementation of safety science interventions in healthcare” (2014, p. 1). Central to this agenda are the concepts of safety culture and collective competence. These approaches are situated in stark opposition to the discourses of evidence-based medicine (Kitto, 2010) and patient safety and quality improvement (Kitto and Grant, 2014). The latter, they charge, “oscillate between system and individualist foci” (p. 2).

While Kitto and Grant distinguish social scientific and cultural approaches from those commonly used in patient safety and quality improvement research, other authors draw these interests into closer alignment. Vincent, Batalden, and Davidoff, for example, advocate for multidisciplinary research centres in safety and quality improvement modelled on those established to study climate change. These approaches would provide structural support for tackling complex sociotechnical problems by establishing a “requisite diversity” of perspectives, a concept that resonates with Burke’s pursuit of “perspective by incongruity.” These authors make only brief mention of checklists as one example among others—again in a passage attesting to the valuable contributions of multidisciplinary scholars in the study of healthcare improvement. In their view, key barriers to such work exist less between disciplines than between academic scholars and clinicians. The latter are depicted as being reluctant to look outside of their own resources and methods for help in solving problems:

The concepts and methods that are common in the social sciences, particularly those from a more interpretative tradition, are quite different from the scientific methods and procedures common in healthcare. Healthcare professionals may regard the methods of social sciences as at best unfamiliar and at worst unscientific, not recognizing that disciplines such as psychology embrace both rigorous experimental methodologies and qualitative approaches. (Vincent, Batalden & Davidoff, 2011, p. i76)

Systems theorists, human factors scientists, and sociologists alike—though with somewhat different emphases— have cautioned against the allure, and even the danger, of mistaking checklists as a simple “technical solution” to an “adaptive (sociocultural) problem” (Bosk et al., 2009, p. 444). Catchpole and Russ (2015), for example, draw a series of contrasts between the “simple narrative” statements about the checklist and the more “complex narrative” statements that they distort and obscure.<sup>1</sup>

The final example that I will cite is also one of the earliest. Shortly after the publication of the WHO checklist and associated trial, sociologists Bosk and Dixon-Woods, writing with clinicians Goeschel and Pronovost, published an editorial in the influential journal *The Lancet* titled “Reality check for checklists” (2009). This editorial, too, cautions against the “simple checklist” story, which is regarded as inaccurate and also dangerous: “when we begin to believe and act on the notion that safety is simple and inexpensive, that all it requires is a checklist, we abandon any serious attempt to achieve safer, higher quality care” (2009, p. 445). The editorial is notable because it manifests a form of interdisciplinary allegiance something like the ones advocated above. In problematizing the simple checklist, the authors draw upon the clinicians’ experiences developing and implementing checklists in the ICU. They emphasize the long, often emotional, and “complex labour necessary to create a collective local faith in checklists” (p. 444).<sup>2</sup> While some other authors focus on the limits of checklists relative to other

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1 Catchpole, in an earlier article that does not cite checklists, raises concerns about the ways in which human factors expertise has been distorted through its well-meaning but reductive application by clinicians. Like Vincent, he notes the lack of stable funding within healthcare contexts, compared to other industries, for in-depth and time-consuming analytical work by human factors scientists. He advocates for new business models to support work of this kind. I point toward these conversations because they are useful reminders that structural considerations, in addition to conceptual and rhetorical ones, attend the conduct of rhetorical scholarship within this inherently practice-based and interdisciplinary domain.

2 I have alluded to but not fully explored the role of religious imagery in depictions of the checklist and its promotion. To cite just one further example, Pronovost describes conference calls supporting the implementation of checklists across Michigan as being “part religious revival and part science class” (Pronovost & Vohr, 2010, mid-Chapter 5). This quotation yokes together science and religion in a way that is somewhat similar to the common conception of medicine as a yoking together of science and art, which I discuss in the next section. Ultimately what I’m driving at, or at least circling around, is the potential of rhetorical



features within a system, these authors (while acknowledging those limits) presume the value of the practice and turn attention toward the complexities of implementation.

As these examples attest, the case of checklists presents an opportunity for scholars who study the complexity of human action and professional work in context. And yet many of these scholars—who include humanists and social scientists but also psychologists, human factors engineers, and qualitative methodologists generally speaking—continue to grapple with structural and discursive constraints. A recent analysis of 25 frequently cited articles reports a recurrent pattern of “inappropriate simplification” in which insights from prior research are not mobilized within subsequent research on the surgical checklist (Mitchell, Cristancho, Lingard & Nyhof, 2017). Within many of these articles, the introduction does not acknowledge earlier reports describing the implementation of checklists as socially complex or their mechanisms as uncertain. Instead, these claims are recurrently rediscovered, without further elaboration, in the articles’ discussions. As these authors note, the generic conventions of scientific publications in clinical journals may be one factor working against further engagement with the complexities of checklists. Additionally, dominant approaches to research—whether or not they acknowledge complexities of the checklist in practice—remain rooted in orientations to research that conceive of the checklist as a stable object offering “a clear solution to a well-defined problem” (Mitchell et al., 2017). While these studies can acknowledge complexity, they are not well equipped to address it or to refine insights from prior research.

My own analysis of scholarly texts supports the observation that most research studies represent the checklist as a tool, understood as a singular “thing” or as an abstraction across multiple acts. Studies that do attend to the checklist as an act tend to be cast in a language of “compliance” that seeks to control and standardize rather than to understand how, when, or why the practice works. These emphases obscure both

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resources to forge a course that does not yoke oppositions together but (to paraphrase Muriel Rukeyser) prevents them from being torn apart in the first place.

persuasion and motivation from view. The most influential studies are those that measure the ultimate purpose (clinical effect), bracketing off the act of briefing, along with its mechanisms or proximal purposes. Studies that do contain efforts to solicit experiential knowledge sometimes bury qualitative accounts awkwardly within more prominent, but to my reading less helpful, reports of small surveys or quantitative observational assessments.

One interesting, if only suggestive, finding of my study is that these patterns of reproduction in the scientific literature of the health professions may be understood as serving primarily rhetorical functions. While they contribute minimally to the production of knowledge, they may serve to recruit adherents to the checklist in practice. These reproductive forms of research are done and rewarded in the name of “science,” within a rhetorical economy that demands research productivity by clinicians, assessed in terms of publication counts. In the process, they appear to drive the problem of information overload—the hypertrophy of information—that is the very problem checklists are called upon to resolve. Further, they introduce rhetorical liabilities by institutionalizing pejorative attributions of motive, such as those implied by terms such as “compliance” and “adherence.” Such representations effectively collaborate with popular and administrative discourses that overemphasize simplicity at the cost of professional agency, casting the checklist rather than surgical teams as the primary agent. These are arguably more significant threats to the understanding and meaningful uptake of checklists than are overt critiques such as those advanced by the Ontario study.<sup>1</sup>

As I suggested in Chapter 3, one result of this reductive tendency within professional research is that the case for surgical checklists is made largely in popular forums, along with professional editorials and case reports, with research (narrowly defined) serving a

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<sup>1</sup> This is a critique, but it also initiates a line speculation about how a rhetorical approach to the mediation of knowledge and practice might work, in allegiance with clinicians, to study and advance genres and descriptive modes of scholarship that facilitate the development, exchange, and rigorous scrutiny of situated and experiential knowledge.

secondary, certifying—and, therefore, “merely” (and ironically) rhetorical—role. In the absence of a conceptual grounding that is appropriately aligned with the study of human action, rather than being modelled on the study of natural phenomena, pragmatic arguments assert themselves outside the realm of research, potentially escaping rigorous scrutiny in the process.

It may be important to emphasize that my argument is not *against* measurement. It is, rather, against research that serves to reproduce common assumptions rather than to produce new understanding. My sense is that these forms of research tend to adopt the guise of legitimacy associated with quantitative research. While my archive of texts includes qualitative studies of quite low quality, these studies still tend to offer small windows on the reality of the checklist as a practice—a realism that is obscured by many (though certainly not all) approaches to measurement. I am inclined here to invoke the poet Muriel Rukeyser, who directly aligns the projects of poetry and science, opposing both to superficial convention:

[T]here is this poetry. There is this science. The farther along the way we go in each, the more clearly the relationship may be perceived, the more prodigal the gifts. (Rukeyser, 1996, p. 160)

The conventional scientist, schoolbound, disavows everything but measurement and classification; he breaks his science into countries; he excludes what he considers inexact. He becomes more and more the reactionary, working for a uniform world. The dogma is one of repetition; a ritual nonsense is uttered, in a loud voice; and suitable tests for the conforming of other scientists and the rest of the citizenry are performed by these who—working scientists, educators, politicians, critics of all forms—now will swear they are behaving scientifically.

(Rukeyser, 1996, p. 161)

The discussion in this section raises translational questions for my own research that demand some reflection here. While I argue for the value of interpretive approaches to research for understanding how checklists work and fail, the uptake of my own previously published research—the articles that informed my analyses in Chapter 4—

has so far been quite limited. For example, the dramatisitic analysis of briefings in the operating theatre, which was published in the journal *Social Science & Medicine*, has been cited just 22 times, almost none of them in high-profile articles. While the paper has garnered positive responses informally from a diverse set of scholars, and has had some circulation on social media, it remains one of the least cited of the Team Talk research papers.

There are several potential explanations for this relatively limited uptake. I have not engaged in promoting this article nor been active, to date, on social media. The article uses the term “briefing” rather than “checklist” and reports on work that preceded the WHO campaign—features that have likely ruled it out of search results or systematic review criteria. The analysis may over-complicate or may leave its contributions too embedded in Burkean terms. The article is addressed primarily to social scientists. A shorter, supplementary commentary addressed to a general audience of clinicians may have had stronger legs. A further and more rhetorically interesting possibility is that, while it is now common to acknowledge the challenges and complexity of *implementing* the checklist, research revealing variation and complexity within the practice itself may be regarded as incompatible with, or threatening to, the dominant narrative of surgical checklists. The analysis may simply be unpersuasive, or it may not be useful to the purposes of other authors. It may also have had forms of influence that are not reflected in citations. I am not in a position to adjudicate among these or other explanations and will not attempt to do so. However, this reflection helps to raise a question that has theoretical, political, and rhetorical significance beyond my own professional development: How can rhetorical and situated forms of knowledge best be translated, especially in contexts not designed to recognize them as legitimate, or in cases where that knowledge is either critical or ambivalent in its orientation?

## **The ambivalent situation of rhetoric in health research**

Taken together, these three examples all illustrate how rhetoric is both (1) self-consciously central to the practice, promotion, and study of checklists and (2) often situated outside, or uncomfortably within, prominent approaches to research in the health sciences. This section broadens the scene to reflect briefly upon how this case instantiates larger patterns within the health sciences generally and knowledge translation specifically.

This excursion from my central case enables me to clarify the ambivalent situation that confronts rhetorical scholarship within these fields. This situation presents a central challenge to the goal of articulating a rhetorical approach to mediating knowledge and action in healthcare work. It also presents an opportunity for rhetoric, which has a long history of grappling with its contradictory placement at the centre and the periphery of inquiry. A better understanding of this situation and its implications is, for me, an important and still emergent outcome of this research. It helps me to clarify and situate the contributions of rhetorical scholarship within an interdisciplinary field.

Beyond informing the warrants and opportunities for rhetorical inquiry, this ambiguous situation also sheds light on the rhetorical processes and entanglements that play out within checklist research; it shapes the rhetoric of checklist science. Clinicians charged with adopting the checklist, and those conducting research on the topic, are similarly confronted with the challenge of reconciling the rhetorical complexities of checklists in practice with received notions and conventions of legitimate research.

### **Ambivalence as a defining feature of medical practice**

Kathryn Montgomery, a literary scholar working in a medical school, argues that the medical profession has mislabelled and bisected itself as a combination of science (understood in outdated, positivist terms, modelled after the physical sciences) and art (frequently acknowledged but understood superficially as a category for anything that cannot be accounted for in scientific terms). In aligning itself with the ideals of the

physical sciences, the profession misunderstands the nature of its work as neither science nor art but *practice*. It continually conceals and erases the fundamentally narrative and interpretive nature of its work, even while it cultivates skills of situated judgment. Montgomery argues that medicine “takes little notice of either the tensions inherent in its practical reasoning or the ingenious means it has devised for expressing and mediating those tensions” (2006, p. 121). She argues that clinical judgment is the definitive form of medical expertise—a form of knowledge aligned with Aristotle’s *phronesis*.

Scholars of medical education and practice have echoed and expanded upon this observation. Kinsella and Pitman, for example, offer an important collection exploring the usefulness of *phronesis* as a term for understanding professional practice and education (Kinsella & Pitman, 2012). Bleakley describes the medical profession’s cultivated insensitivity to story as a “self-imposed institutional autism” (Bleakley, 2005). While advocating a recognition of stories, he calls for a rhetorical and affective “thinking with” stories, rather than an analytical approach to dissecting their form and content. Elsewhere, in work particularly relevant to coordinated practice in the operating theatre, Bleakley and colleagues charge that the turn to *phronesis* is too focused upon an individual rather than a collective ethical practice (Bleakley, Allard & Hobbes, 2012). They call instead for an ethos of hospitality and for an ecological attentiveness.

Schryer, Lingard, and Spafford also critique the problematic and blunt distinction between art and science. They draw fine lines of distinction to show how, alongside *phronesis*, *techne* can account both for the application of certain knowledge and the navigation of uncertain and “savvy” forms of knowledge within particular situations. These forms of situated knowledge are acquired and mediated through the genre of the case presentation, which serves both educational and clinical functions, often in complex and contradictory ways (Schryer, Lingard & Spafford, 2005).

Two final examples are most directly relevant for my current discussion. Greenhalgh and Russell have shown, in rhetorical terms, how discourses of evidence synthesis and transfer actively erase and conceal the nature of rhetorical action within policy-making contexts. Greenhalgh and Wieringa argue that the knowledge translation metaphor itself presumes the separation of scientific facts from practice, the reduction of knowledge to objective research findings (equated with Aristotle's episteme), and the conception of practice as a series of more or less "rational decisions on which scientific findings can be brought to bear" (2011, p. 503). These assumptions have, of course, long been recognized as untenable within the humanities and social studies of science. Greenhalgh and Wieringa chart an agenda for redressing this problem, advocating alternative metaphors and models that recognize knowledge as situated and performed.

These examples help to clarify the simultaneous opportunities and challenges that confront scholars interested in the practices and discourses of healthcare work. As in other areas of health research, studies drawing upon the arts, humanities, and interpretive social sciences occupy a somewhat contradictory ground within this applied field that can be tricky to understand and to navigate. They are, on the one hand, invited and supported by a discourse that presents itself as multidisciplinary. Some scholars pursuing social scientific, community-based, and arts-based approaches to research have been well funded and influential in this domain. On the other hand, such contributions are still systematically impeded by dominant standards of academic research and productivity (Albert, Paradis & Kuper, 2015; Boydell et al., 2016; Greenhalgh et al., 2016), by the metaphors of the field and the ways that its problems are framed (Greenhalgh & Wieringa, 2011), and by the instrumental roles into which social science scholars are cast (Zuiderent-Jerak, 2009). Entering the field requires navigating this contradictory space. The challenge is to advocate for the distinct value of interpretive approaches without positioning them as opposed or compensatory to biomedical and clinical science.

These challenges are forced to the surface by questions of knowledge translation. As a concept, knowledge translation forms a natural allegiance with rhetorical theory and methods. As a discourse,<sup>1</sup> however, it invites a narrowly conceived version of rhetoric as subsequent to, rather than constitutive of, knowledge production. I will briefly (and very selectively) illustrate the absence and ambiguous placement of rhetoric within this broader discourse. One purpose of this discussion is to frame and sensitize my interpretation of checklists as a site of knowledge production. Another is to support reflection upon the dimensions, opportunities, and challenges of a uniquely rhetorical approach to this field, as informed by the case of surgical checklists.

### **The absence of rhetoric in the discourse of knowledge translation**

Within dominant approaches to knowledge translation, the term “persuasion” is remarkably sparse. “Window pane” or sender–receiver models of communication are prominent. Communication is commonly conceived, explicitly or implicitly, as a process of information management, transfer, and access. I will give three examples to illustrate this observation. In each case, the absence of persuasion as a robust concept is illustrated by the deployment of the term in a very limited, though not necessarily

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<sup>1</sup> I find it helpful to distinguish between knowledge translation as a discourse and knowledge translation as a concept. These are necessarily overlapping categories. Knowledge translation as a discourse refers to the meanings and practices that wield structural and discursive authority, whereas knowledge translation as a concept refers to the underlying phenomena and processes whereby various forms of knowledge are mobilized from one situation to another. To the extent that the term “knowledge translation” becomes reified and adopted in unreflective ways, it becomes what Pierre Bourdieu refers to as a “preconstructed” concept, serving to reproduce received structures rather than yielding sociological knowledge. Studying the underlying phenomena or relationships requires first understanding and dismantling its received associations and then “reconstructing” and testing the concept theoretically and empirically. Because preconstructed concepts and problems are often reproduced through social structures (e.g., the priorities of granting agencies that determine what problems are legitimate), they are a perpetual challenge for social science: “Social science is always prone to receive from the social world it studies the *issues* that it poses about that world” (Bourdieu & Wacquant, 1992, p. 236). I reflect on this at some length because it points up the quicksand of engaging the term “knowledge translation”—with its complex of socially defined and legitimated problems and associations—while taking neither *knowledge* nor *translation* for granted.



pejorative, sense. In the first example, Strauss et al. classify three different kinds of knowledge use: conceptual, instrumental, and persuasive. Conceptual uses involve “changes in knowledge, understanding or attitudes.” Instrumental uses involve concrete “changes in behaviour and practice.” And persuasive uses entail the strategic pursuit of “power or profit” in which knowledge becomes “ammunition” (Straus et al., 2010, p. E94). Here, purposeful efforts to change attitudes and behaviours are not considered suasive processes. They involve, for example, the effective delivery of, and access to, clear information and skills of critical assessment. The function of persuasion appears to be limited to strategic, systems-level changes.

Davis et al. also use the term “persuasion” in a circumscribed, but almost opposite, way in an article that distinguishes knowledge translation from continuing education and professional development. Knowledge translation, they argue, is focused on systems, outcomes, and multiple stakeholders, whereas education and professional development focus narrowly on the knowledge, attitudes, and behaviours of health professionals. These authors argue that knowledge translation “subsumes” these other fields and is necessary when “education and persuasion of doctors” are insufficient to “close the gap between evidence and practice” (2003, p. 34). For these authors, then, persuasion is linked to education in its focus on changing the attitudes and behaviours of individual clinicians. It is implicitly excluded from broader engagements with people and systems needed to affect outcomes in material ways.

Both of these examples are drawn from early attempts to introduce and map this applied field. The third example that I will note is drawn from a remarkably inclusive meta-analysis of research on the diffusion of innovations in health services organizations. This review identifies 13 distinct “storylines” that organize different fields of empirical research. (Evidence-based medicine is notably situated not as the definitive field but as one of the 13.) Within this review, the term *dissemination* is distinguished from diffusion, implementation, and sustainability by its emphasis upon “active and planned efforts to persuade target groups to adopt an innovation” (Greenhalgh, Robert,

MacFarlane, Bate & Kyriakidou, 2004, p. 582). However, a robust conception of persuasion is largely absent from the content of the review. Under the headings where it might be expected, such as “communication studies,” “marketing,” or “health promotion,” the studies reviewed tend to describe the structure of social networks or to measure the effects of messages delivered by different media. This general absence is particularly notable given the primary author’s commitment to looking outside of the field and her advocacy, in other contexts, for rhetorical education and scholarship.

The short article by Pronovost et al. describing their model of knowledge translation provides an additional, instructive example. This article does give some presence to rhetorical concerns and concepts. However, these aspects of the framework remain quite muted and are very clearly couched within the dominant discourse of knowledge translation. Within this model, for example, the steps of summarizing evidence, converting evidence to behaviours, and developing systems for measuring and monitoring performance all precede the implementation of designated practices. That implementation follows a cycle organized by the terms “engage,” “educate,” “execute,” and “evaluate.” The terms “engage” and “educate,” in particular, signal rhetorical functions, as they are designed to convince clinicians to adopt the identified behaviours. “Engage,” for example, instructs readers to “explain why the interventions are important.” This may include “sharing real life stories of patient tragedies and triumphs” and “estimating the harm attributable to omitting the intervention in their unit or hospital given their baseline data” (Pronovost et al., 2008, p. 964). Educating clinicians involves “providing the original scientific literature supporting the proposed interventions, along with concise summaries and a checklist of the evidence” (p. 964). Because the practices in question are presumed in advance to be good, these operations are represented as processes of informing or educating, rather than convincing, clinicians.<sup>1</sup> These terms may be contrasted with the more candidly rhetorical

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<sup>1</sup> These strategies are somewhat similar to the “sideways paternalist rhetoric” that Segal finds in the shift from “compliance” to “concordance” in discussions of patient medication use (Segal, 2007, p. 83). The latter term promises to engage with and respect patients as equal

commentary offered by Pronovost & Vohr in *Safe Patients, Smart Hospitals*. Whether they are described as education or persuasion, these processes of enlisting engagement from clinicians are positioned as subsequent to the work of establishing and selecting evidence upon which to act.

## **Rhetoric in the study of surgical checklists**

This chapter has considered a series of examples in which checklists are featured as a model and site of debate about knowledge and knowledge translation. These examples have given me an opportunity to examine how knowledge and persuasion are situated relative to one another within an applied and interdisciplinary field of health research. While the title of this chapter and my selection of examples point up areas of active negotiation, it should be stressed that this field is not characterized, on the whole, by discord. Checklists have generated quite a large body of scholarship<sup>1</sup> that varies in quality, method, and philosophical orientation. This literature is in some ways quite diverse and in others, repetitive. In this concluding section, I draw upon my discussion in this chapter, and my analyses in this dissertation, to distinguish among various rhetorical dimensions and functions of scholarship on the topic of checklists. While these rhetorical dimensions are closely interrelated, parsing them out helps me to clarify the contributions of this project and to open up various possibilities for rhetorical inquiry.

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decision-makers but, in fact, seeks to “empower them to comply” through education. As Burke notes: “Though the distinction between the coercive command and the conducive request is clear enough in its extremes, there are many borderline cases” (1966, p. 5). There is significant potential to examine similar strategies in education and knowledge translation. My analyses in Chapter 3 and in parts of this chapter point in that direction.

<sup>1</sup> I use the term “scholarship,” here and elsewhere, as an inclusive category because the lines often blur between what counts as research, evaluation, and other forms of professional activity that seek to understand and improve practice and education in the health professions. Within my archive of texts, these categories prove very difficult to parse in rhetorically meaningful ways. They would certainly warrant more indepth rhetorical and genre analysis.

One approach to examining the relationship between rhetoric and knowledge in these texts is to consider the **epistemic functions of rhetoric within checklist research**. I refer here to those forms of appeal that are used to pose questions about the practice and to advance and circulate knowledge claims. What strategies of appeal are used to establish knowledge claims, and what forms of knowledge are dominant? I have suggested that this is somewhat contested terrain characterized by multiple forms of ambiguity. For example, the hierarchical standards of experimental research hold purchase even among those who have pursued and advocated broader conceptions of evidence. Methods based in experimental clinical research, which are designed to measure a reduction in negative clinical outcomes, have been regarded as authoritative and necessary warrants for the practice even where other forms of evidence—such as those designed to measure or otherwise document what checklists *do* in positive (i.e., descriptive, empirical) terms—would be more feasible and arguably more meaningful. At the same time, my analyses suggest that claims derived from experimental research may be less central than they appear either for motivating the uptake of checklists as a standard of practice or for convincing clinicians that they are worth adopting. There is an openness to broader conceptions of evidence and argument among those most committed to the hierarchies of evidence-based medicine for assessing the effects of interventions.

Scholarship on checklists also provides an opportunity to examine the rhetorical strategies used to represent critical claims and divergent traditions of research. For example, how do scholars using interpretive forms of knowledge production and qualitative methodologies represent their contributions? What forms of skepticism and critique are apparent and how are they represented? My analyses suggest that some of the most openly asserted critiques of the checklist have in fact been quite readily incorporated within dominant narratives of the practice established within professional texts. On the other hand, some of the most interesting and genuinely critical insights have been enabled by alliances with advocates and clinicians. Aveling, McCulloch, and Dixon-Woods, for example, report an ethnographic study that reveals harmful,

unintended consequences<sup>1</sup> of the checklist, especially in a low-income setting, while also articulating the conditions necessary to avoid them (2013). This work is further translated into advice for those charged with implementation (Aveling et al., 2015). Here, simplified representations are countered by showing the complexity of the practice and its effects in compelling ways. It would be interesting to further trace the representation and uptake of such insights.

From a dramaturgical perspective, a careful eye should be kept on whether negative effects, and lack of effect, are attributed to checklist users, to the tool itself, to those charged with implementation, to ambiguities of purpose, and/or to dimensions of the material and organizational scenes that enable and constrain the practice. My analyses in this dissertation suggest that the original arguments giving rise to the practice—which were rooted in concerted efforts to shift attention away from idealist philosophies of motive toward a recognition of how material systems and tools shape human behaviour—have largely been transformed back into terms that are quick to attribute failures of the checklist to individual agents and attitudes that are presumed, rather than shown, to be mistaken. My analyses have also helped to elucidate specific discursive processes that have driven these transformations.

The epistemic functions of rhetoric are tied up with the **promotional dimensions of checklist research**. I have suggested, both in this chapter and in Chapter 3, that these promotional functions are often, arguably, primary. Scholarship concerning checklists is used to exert influence and to advocate for particular courses of action. These promotional aims are often plainly designed and sometimes openly stated. Authors are acutely aware of the rhetorical authority carried by experimental research. As the

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<sup>1</sup> The most striking one by far is a report about two staff members who, following the post-operative death of a patient, were “threatened with guns by the patient’s family” and later criminally charged during a process that included questioning about whether a pulse oximeter had been used. The hospital had adopted the checklist requiring its use but did not have adequate equipment to enable compliance with the policy. The researchers report how, in this setting, the “low-status front line staff,” but not the surgeon, were left “socially and legally vulnerable” (Aveling et al., 2013, p. 7).

example of the Ontario study reveals, critical claims are actively countered as a rhetorical threat. Researchers have also designed studies to address the specific interests and concerns of stakeholders. For example, published research has projected cost savings associated with the adoption of checklists (to motivate institutions) and sought evidence to counter a common concern of surgeons that checklists will introduce delays. In other ways, the promotional functions of research operate far more subtly, and not necessarily by purposeful design, to position checklists as a presumed good. Identifying these promotional aspects of research does not discount its potential to serve meaningful epistemic functions. It does, however, raise important questions about how research is designed and interpreted. To what extent, and using what strategies, are scholarly texts deployed to persuasive ends? Are these strategies recognized and persuasive to clinicians? What assumptions do they imply about the nature of persuasion? What becomes selected for attention, and what deflected, as a result of these aims?

Scholarship on checklists also advances **knowledge about promotional rhetoric**. This is most obvious in educational texts and editorials, and sometimes reports of empirical research, that discuss strategies for implementing checklists into practice. Often these discussions are openly concerned with persuasion and strategies of appeal. Sometimes advice is couched in the more neutral language of education. General advice on how to approach the work of implementation and persuasion has been quite stable. It includes a focus on adapting the tool to fit local environments and workflows, but it remains predominantly oriented toward organizational strategies for changing attitudes by persuasive means. Recommended strategies include starting small, recruiting local champions (especially supportive surgeons), demonstrating administrative support, explaining why the checklist is important, and providing ongoing monitoring and coaching. There has also been significant advocacy and research calling for educational programs, typically modelled on crew resource management, to accompany and support implementation. Human factors professionals have been positioned as consultants and

educators in facilitating this work. Empirical studies assessing “barriers,” “facilitators,” and perceptions of the practice also directly inform this line of inquiry.

Discussions about the purposes of rhetorical inquiry often turn on the distinction between the goal of understanding persuasion and the goal of effecting it. One warrant for the value of rhetorical scholarship in science and medicine has been its potential to help scientists communicate more effectively. As I will note in my concluding discussion, this is perhaps the most obvious warrant for rhetoric within the discourse of knowledge translation—one that aligns rhetorical analysis directly with the goals of the discourse taken on its own terms. In the case of surgical checklists, recognized experts and advocates have demonstrated a savvy for identifying and deploying available means of persuasion, symbolic and nonsymbolic, far more powerful than any advice I would venture to offer. In this case, the more valuable contribution lies in helping to explicate these strategies of appeal and their potential consequences. The potential for rhetoricians to play an advisory role, oriented toward effecting persuasion, might be greater in other cases, given that the general narrative of knowledge translation is organized around stubborn examples in which solid evidence is not taken up. The market for providing advice, however, seems generally to be crowded in the discourse of knowledge translation, while that of inquiring into strategies of appeal remains, as far as I can tell, wide open. Rhetorical terms can help to explain why persuasive campaigns succeed and also to diagnose why arguments from expertise can fail to be persuasive.

This case does suggest opportunities for rhetorical scholarship that could serve the dual imperatives of providing advice while conducting inquiry valuable to the discipline of rhetoric and to the applied field of health research. These would be located downstream from centralized promotional campaigns at the points where generalized evidence is being incorporated into local practices. My discussion in this chapter has suggested that the work of integrating generalized and local forms of knowledge is often delegated to clinicians and might be both undersupported and underdetermined by relevant evidence. For example, the general advice to start small and recruit local champions

does not typically clarify how those champions might garner wider support, how less powerful clinicians might navigate challenging situations, what forms of evidence and argument are most persuasive in practice, or how to identify and learn from justified concerns. These local processes are also rich sources of insight concerning the mobilization of varied forms of knowledge and values. Locating rhetorical inquiry at these points of practice presents the formidable challenge of negotiating the pragmatic and critical imperatives of rhetorical criticism.<sup>1</sup> It also presents distinct opportunities that might be aligned with, and complementary to, the interests of other scholars, such as human factors engineers and clinicians who have advocated for interdisciplinary centres of excellence and quality collaboratives.

Finally, scholarship in this field can also advance **knowledge about the rhetorical functions of checklists**. While texts addressed to professional readers often acknowledge that the practice serves multiple purposes, it remains quite uncommon for studies to examine the question of how checklists work and what they do. In Chapters 2 and 4, I conceived of this question as inherently rhetorical (though the intended functions of the practice are rhetorical in varying ways and to varying degrees). I have suggested that the questions of how the checklist works and how it is taken up into practice are inherently interrelated and can be contingent upon the local situations that constitute professional work. Some of the best research on checklists makes significant contributions along these lines that are directly resonant with, and informative for, a rhetorical perspective. These include ethnographic and interview studies that are conducted in an exploratory rather than a presumptive mode. It also includes studies that document in descriptive terms the observable effects of surgical checklist enactments. These strike me as surprisingly rare, as testimonial accounts of “good catches” have been an important form of appeal in promotional texts. Studies of how checklists work rhetorically might also be informed by surveys of clinicians’ attitudes.

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<sup>1</sup> These dual imperatives are shared by academic scholars studying professional practice from other disciplinary perspectives. Different disciplines and scholars have negotiated the opportunities and tensions between these roles in different ways.



Such studies are ubiquitous and have been used both to assess receptiveness toward the checklist and to measure its impact by assessing perceptions of teamwork, communication, and the degree to which efforts to protect patient safety are valued and supported. Such “safety attitudes” are adopted as a means of rendering culture measurable. While these studies provide some insight concerning how checklists are perceived by different groups—including how they are believed to work—they usually abstract these attitudes from the context of their enactment.

One of the most common warrants for social science scholarship, and qualitative methods generally, within the study of innovations and implementation in the health sciences is the promise to yield insight concerning not only whether new practices work but also when and how they work, for whom, under what circumstances. These approaches embody realist and pragmatic orientations to knowledge, attending centrally to actions undertaken within particular contexts with specific functions and purposes. Their goal is typically to produce mid-level theories explaining how interventions achieve their effects. These theories play an important translational role as they provide guidance to other groups interested in adopting similar strategies. My analyses in this dissertation demonstrate the potential for rhetorical approaches to draw upon similar warrants while offering distinct terms for explaining the intended and unintended effects of new practices. These distinct terms will be particularly salient where the effectiveness of the practice depends for its effect upon persuasion of one form or another. In this dissertation, I have postulated that checklists work, in part, by mediating the limits of rhetoric, where motion meets action and recurrent forms meet disruptive ones. Those mechanisms may be further investigated in ways that extend beyond checklists or mid-range theories to learning and practice in general.



## Conclusions

The analytic resources of rhetoric can help to account for the successes and challenges of surgical checklists. The case of checklists provides a valuable opportunity to illustrate and test the potential of rhetorical terms. In this dissertation, I have explored these reciprocal premises by developing a series of thick descriptions undergirded primarily by the first principles and key terms of Kenneth Burke's dramatism. In these closing remarks, I reflect upon the key insights of each chapter in turn and then consider several overarching contributions that emerge across the set. In the process, I will reflect upon the limits of this research and the jumping points that it offers up for future work. Returning to my ultimate objectives, I finish by considering how this project begins to inform a rhetorical approach to studying and mediating relationships between knowledge and practice in healthcare work.

### Reflective summary

In **Chapter 1**, I introduced the terms of dramatism and illustrated their relevance both to the case of surgical checklists and to the problems of knowledge translation. I emphasized that dramatism offers a set of terms in which knowledge is thoroughly situated and derived through action. These terms are expansive enough to maneuver among varied perspectives, ranging from the embodied and spontaneous interpretations of individuals (e.g., checklist users) to the formalized perspectives encoded in the conventions and terms of research paradigms (e.g., experimental clinical science) or broader discourses (e.g., patient safety). They can account for relatively stable or recalcitrant dimensions of situated action along with contingent ones. I suggested further that the terms of dramatism are resonant with the concerns of contemporary social theory, social studies of medicine, and health professions education while also offering a unique approach to navigating these concerns.

The theoretical terrain that I charted was quite broad, in keeping with both the scope of dramatism and the scope of knowledge translation. Future work seeking to illustrate the potential of these terms for general or interdisciplinary audiences might further distill and refine these illustrations. The broad scope of my questions and archive of texts has also led me to lean toward synoptic and epistemic applications of Burkean terms. I would, in future applications, emphasize their affective, ethical, aesthetic, and cognitive applications through closer attention to individual acts and their interpretation, to attitude, and to form. These are, I suspect, the most compelling aspects of dramatism and they feel somewhat slighted in this work. The capacity of dramaturgical terms to hinge in these multiple directions, and to expand and contract in scope, may be their most important feature.

In **Chapter 2**, I examined the early emergence of checklists in professional literature. I showed how claims about the frequency of medical and surgical error—which had been established through research and mobilized for policy makers and general audiences—provided a motivating scene and purpose that galvanized collective action of various kinds. These unifying scenes and purposes, however, do not explain the prominence of checklists as a solution. I link this emergence to the dominance of human factors science as a terministic screen, analogies to aviation as a source of tools and rhetorical appeals, and complexity and communication as primary sources of risk. These features are still not sufficient to account for the rapid uptake of checklists (which required external exigencies and coordinated rhetorical actions, as charted in Chapter 3), but they established many of the terms and topoi upon which promotional efforts later drew. I showed how most but not all of the early arguments for checklists were rooted in explicit philosophies that examine human behaviour—and particularly human error—in the realm of motion, as a function of systems and tools (scenes and agencies). I also showed how arguments advocating for checklists tend to invoke scenes of the broadest (and narrowest) possible circumference: surgical errors are depicted as a problem that is global in scope, and they are linked to universal features of human cognition and communication. At the same time, these arguments reveal multiple

intended purposes and functions for the practice that operate at narrower circumstances. I suggested that some of those purposes and functions depend for their effectiveness upon the mediation of action and motion.

Much of the terrain covered in this chapter resonates with interdisciplinary scholarship on surgical checklists. For example, the tenets of human factors science are widely discussed and (selectively) taken up as a basis for patient safety research and interventions; the appropriateness and limits of aviation as a guiding model for patient safety are explicitly debated; and at least two concurrent functions of checklists—technical and cultural—are acknowledged by many professional texts including the original explanatory documents of the WHO. This chapter contributes both to rhetoric and to health services research by explicitly charting these arguments; locating them relative to Burke's concepts of action, motion, scene, agency, and circumference; and making their rhetorical implications explicit. This is more than an overlay of theoretical terms. Parsing out these arguments and their implications enables me to follow them in subsequent chapters. The encompassing scenes and multiple purposes of the checklist set the stage for their wide appeal and rapid uptake as a standard of professional communication (Chapter 3) while also foretelling some of their challenges (Chapter 4): they facilitate the enrolment of diverse constituencies while introducing potential ambiguities in how the practice might be interpreted and used. My analysis also begins to differentiate a greater range of intended functions for the checklist, some of which are emphasized over others in promotional texts (Chapter 3) and prominent forms of research (Chapter 5). While the multiple functions of checklists are regularly acknowledged, they are just as regularly elided. Their potential interactions and internal tensions are seldom explicitly examined.

In **Chapter 3**, I traced the rapid uptake and institutionalization of checklists through a wide network of significant and recurrent rhetorical acts undertaken by diverse constituencies. I used a variety of terms, drawn from both rhetoric and social science, to chart forms of persuasive appeal that have worked in concert to establish a relatively

stable depiction of checklists as simple, standard, effective, inexpensive, and universally applicable. In this chapter, Burkean terms take on a largely implicit organizing role, though they also help me to detect sites of ambiguity and they are useful in pointing up some specific means of persuasion. This chapter contains a variety of empirical observations of interest to the study of rhetoric; these are elaborated to varying degrees and suggest jumping points for more focused research tangential to the goals of this project. One particularly salient aspect of this case is the central role that it features for popular genres both for influencing professional behaviours and for advancing knowledge—particularly those forms of knowledge that are less traditionally valued within the health sciences. Another is the interplay of rhetorical actions that are clearly designed and those that precede and exceed design. A third is the interplay of overtly persuasive appeals with arguments from presumption and strategies of repetition and implication.

While this chapter focuses largely on means of persuasion, it also introduces additional scenes, purposes, and agents that further help to account for the widespread appeal and emergent challenges of checklists. I describe how the selection of checklists as a focal intervention was ultimately driven by an economic and rhetorical situation: the mandate of the WHO to address a global audience, the necessity for inexpensive tools (in resource poor countries), and the imperative to save money (in resource rich ones). These exigencies introduce additional functions for the checklist operating outside of the operating theatre, in some cases to advocate for structural and organizational change and in others to avoid systemic changes while still reassuring publics that action is being taken. These external exigencies and rhetorical strategies have fueled the rapid adoption of checklists as a standard of professional communication while introducing new ironies and ambiguities that can sometimes frustrate their uptake into practice.

The work in this chapter provides an opportunity to consider warrants for rhetorical analysis that are both resonant with those of other disciplines and unique. I will therefore reflect on them at somewhat greater length. This chapter depicts how an

ostensibly standardized protocol gains force and durability through a widely-distributed network of local actions undertaken by diverse agents. This insight is not new, though my own process of arriving at it was forged with a sense of discovery. Timmermans and Berg demonstrated twenty years ago how medical protocols become “universal” because, not in spite of, their capacity for organizing work in a variety of localized ways (1997). In the process, protocols both preserve and reconfigure already-existing social structures and relationships. In the case of surgical checklists, this basic principle is operationalized through, for example, the purposeful deployment of multiple channels of persuasion, the recruitment of diverse allies, and the insistence that checklists must be adapted by their users.

In some ways, therefore, the contribution of this analysis is primarily empirical. It contributes a resonant case triangulated in rhetorical terms. This case also demonstrates the capacity of rhetorical terms to account for both material and symbolic means of persuasion on a large scale. I suggest, however, that rhetorical terms make unique contributions beyond reaching similar conclusions using somewhat different methods. For example, while social scientists tend to place primary emphasis upon the agents (human and nonhuman) that constitute a network, along with the strength of the alliances they form, explicitly rhetorical terms shift attention toward the forms of appeal and resources of identification and division through which those alliances are forged or undermined. My analysis charts diverse agents and constituencies in order to better understand their salient forms of rhetorical action (and motion). This is a slight but meaningful shift of foreground and background.

The focus on discerning means of appeal and pointing up their potential consequences may yield insights that are useful for clinicians and health services researchers. For example, it is now standard advice for advocates of new practices to recruit the support of administrators, to “cultivate champions,” to start on a small scale, to avoid imposing directives unless necessary, and to adapt protocols to fit local contexts and workflows. What is often missing, however, are insights concerning how those localized

negotiations unfold, what kinds of argument and evidence are useful and convincing, how discursive and generic constraints might enable or frustrate rhetorical efforts, and how local negotiations and concerns might themselves be valuable sources of knowledge. My own inclination is not primarily to formulate advice concerning available means of persuasion but rather to help make those means and their internal tensions visible. These contributions draw upon the unique strengths of rhetorical analysis while addressing what appears to be a significant gap in health services research, and perhaps a significant need among healthcare providers.

In **Chapter 4**, I troubled the relatively stabilized depiction of surgical checklists by examining their variable effects and situated enactment in the operating theatre. Drawing upon ethnographic fieldnotes, I illustrated specific ways in which the checklist was sometimes demonstrably useful and sometimes demonstrably not. I suggested how Burke's concepts of action and motion—as mediated by form—might help to account for these functions and malfunctions. I then considered how an early version of the preoperative checklist was enacted, accepted, and sometimes rejected by surgeons, nurses, and anesthesiologists in particular situations. Charting these situations in dramatic terms led me to observe that enactments of the checklist were impeded by features of the local scene, most notably by the asynchronous workflow of surgeons, nurses, and anesthesiologists. They were also motivated by multiple perceived and local purposes that were somewhat contingent upon features of the case as well as the composition, attitude, and expertise of the participating team. Finally, I argued that the quality of the act itself was a significant motivating force independent of direct, pragmatic effect.

This analysis holds significance for rhetorical scholars because it demonstrates how deeply rhetoric runs, not only in the promotion but also in the basic mechanisms of checklists as a practice. Zeroing in on the most elemental, embodied, and largely implicit dimensions of suasion can help to account for the functions and malfunctions of checklists. This component of my analysis suggests the significant practical



importance of motion and action as mediated by form. One intriguing, though still preliminary, hypothesis following from this analysis is that the same set of terms might account in different ways for both the technical and cultural functions of this practice. This analysis is significant because it applies pentadic terms to a unique set of ethnographic texts that document similarly structured rhetorical situations. Interpreting these enactments produced useful information not only about the actions of surgeons, nurses, and anesthesiologists but also about the nature of the situations that enabled and constrained the uptake of checklists into practice.

Subsequent research and commentary have served to validate many of the observations developed in this chapter. For example, patterns of good and poor enactments of the checklist have been described in educational and research texts. The tendency for surgical teams to adopt a “tick and flick” attitude toward the checklist is now quite widely acknowledged, as is (less widely) the risk that checklists can instill a false sense of safety and introduce new forms of risk. The challenge of integrating the WHO checklist amidst the divergent work patterns of surgeons, nurses, and anesthesiologists has been identified as a persistent obstacle in many settings, though other texts imply that uptake is consistent and unproblematic. Qualitative work has also described how responsibility to initiate checklists can be challenging and stressful, especially for nurses. These studies demonstrate the capacity of an early, situated rhetorical analysis to anticipate specific challenges that are borne out on a larger scale. This subsequent research has sometimes directly cited and built upon the published articles that I reproduced and drew upon in Chapter 4. Where it hasn’t, it provides an impetus to consider the heuristic and explanatory value of dramaturgical terms. In what ways do these terms offer unique insights, and in what ways might similar insights be produced and represented more plainly without them?

**Chapter 5** followed an exploratory path toward these questions. I considered how checklists have been featured as a model and site of debate within an interdisciplinary field of applied health research. I examined a debate about the efficacy of checklists, a

model of knowledge translation designed around checklists, and arguments using the case of checklists to illustrate the importance of theoretical and methodological pluralism. These examples helped me to clarify the ways in which rhetoric and knowledge are represented and situated relative to one another. They illustrate how rhetorical processes are ambiguously central and peripheral, conspicuous and concealed, within studies of professional practice. I suggested that this ambiguous placement is significant for warranting the contributions of rhetorical scholarship and for understanding the rhetorical entanglements of checklists. This chapter closes by distinguishing among four kinds of rhetoric within checklist scholarship: epistemic dimensions of checklist research, promotional dimensions of checklist research, studies directly concerned with persuasion (though not in rhetorical terms), and studies concerning how checklists work (which might be conceived as rhetorical). Each one suggests opportunities for rhetorical inquiry.

This chapter offers only cursory comments in Burkean terms, though it implies possibilities for a more elaborated charting. This interdisciplinary field contains research reflecting materialist, realist, and pragmatic approaches to understanding the checklist, but these approaches remain relatively rare. Research has been dominated by an emphasis upon measuring the efficacy of the checklist in ways that obscure action and motive from view. Attempts to account for action tend to be oriented toward control rather than understanding. A dramatic perspective enables me to discern gaps and overemphases within this field.

Rhetorical approaches are well positioned to focus attention on the checklist as an act or practice situated in particular contexts and serving multiple purposes. Strengths of this approach include the ability to recognize the complexity of this practice; to generate insights that are empirically grounded; and to produce knowledge that is conceptually mobile while avoiding the presumptions and abstractions that are systematized within the conventions of clinical research and, often, the discourses of knowledge translation. They have enabled me to examine how broad public discourses

represent and shape the practices of health professionals. The general orientation toward action and realist philosophies of knowledge production are strengths shared by other academic scholars actively contributing to health research including ethnographers and social scientists using interpretive methods. These warrants are also shared by some education researchers, health services researchers, and human factors scientists. The terms of rhetoric generally and dramatism specifically have particular strengths to add to these conversations. They are well adapted to the goals of understanding, adjudicating, applying, and translating among situated knowledge and values. I have identified multiple potential directions for future inquiry that would draw upon these strengths.

## **Contributions**

My general objectives in this research were to use rhetorical analysis, guided by the terms of Burke's dramatism, to better understand the successes and challenges of surgical checklists and to use the case of surgical checklists to better understand and develop the sociological potential of dramatisitic terms. Here I consider some of the primary overarching contributions that have emerged over the course of this work.

### **Charting distributed rhetorical work**

This case provides an opportunity to make explicit the often savvy rhetorical strategies that have helped to propel the widespread uptake of checklists. Rhetorical resources can help to explain why particular arguments and strategies have been resonant and how they can be undermined by, for example, the constraints of scientific genres, economies of knowledge production, presumptions of dominant discourses, and, ironically, conventions of experimental research often regarded as necessary for advancing credible and persuasive knowledge claims.

This case is valuable to the study of rhetoric for several reasons. It illustrates in specific ways the interactions among purposeful rhetorical strategies and those forms of appeal

that precede and exceed purpose and design. It illustrates a cultivation of discursive and material resources of persuasion. And it illustrates, I hope, the versatility of Burkean terms as a means of accounting for these processes in ways that demonstrate the unique contributions of a rhetorical approach.

### **Demonstrating the dynamic potential of Burke's rhetorical situation**

The terms of Kenneth Burke's dramatism have helped me to account for the rapid uptake of checklists as a standard of professional communication; to discern their multiple functions or purposes; to explain their variable uptake and effects in the operating theatre; and to locate blind spots in applied health services research. If my analyses have been convincing, they suggest the richness of these resources for spanning various levels of analysis and for discerning how widely distributed forms of rhetorical action can operate to consonant or dissonant effect.

I have suggested that this versatility is enabled by the concept of *situation*, dynamically conceived. This concept has the potential to do a great deal of rhetorical and conceptual work, and it is particularly important as a translational resource. In the operating theatre, it helps to discern the interplay among clinicians' perspectives. In promotional texts, it provides a frame of reference that helps to organize observations about widely distributed rhetorical work, both spontaneous and carefully designed. In professional texts, it provides a means of looking around the edges of dominant perspectives and attributions of motive. It helps to discern both the potential and the limits of symbolic means of persuasion. It can be applied to individual acts and also used, more synoptically, to chart larger patterns of symbolic action. My application of the same concept to understand embodied, promotional, and epistemic rhetoric suggests the versatility, and unique translational potential, of a term that has sometimes been represented as static or formulaic.

## **Identifying varied forms and functions of checklists**

Checklists are more than a protocol—more, even, than multiple localized iterations of a protocol. While I set out to approach checklists as a form of action or practice, I have encountered them also as a tool, a physical object, a document, a presumptive argument, a conventional form (perhaps but not only a genre), a metonymy, a symbol of safety and transparency, a component of an analogy, and a regulatory tool. This does not exhaust the list of possibilities.

Within and across these formulations, I have suggested that checklists serve multiple purposes. Outside of the operating theatre, they have been positioned as a translational device, serving to carry evidence to the point of practice. They are a political tool used to advocate for structural change. They are a means of galvanizing political action and generating organizational capacity. And they are a tool for governing professional work and demonstrating publicly a commitment to patient safety. These functions were not visible or not clear to me at the outset of this research, when I had considered only how checklists worked with variable success in the operating theatre. My analyses also differentiate multiple mechanisms of checklists in practice.

This range of functions served by checklists inside and outside of the operating theatre has not to my knowledge been described or widely recognized within health research. Nor have the interactions between public representations of checklists and their internal purposes in structuring professional communication. My analyses go some way toward characterizing these purposes, their interactions, and their rhetorical implications. They show how rhetoric and its limits, as they mediate action and motion, are necessary both to the uptake and to many basic mechanisms of checklists.

## **Limitations**

I have relied for these insights upon analyses of texts, direct responses to those texts, and my own past experiences interacting with clinicians. The size of my archive has

enabled me to test many of my interpretations by seeking out direct responses and supporting or contrasting examples. My claims concerning why particular terms and arguments are effective or problematic, however, could be significantly strengthened through other forms of reception-oriented inquiry.

Some considerable weaknesses of this work are associated with such wide-ranging deployment of Burkean terms. This research has what Burke might describe as a “troublesome centrifugal tendency.” I have tried to keep this in check. It illustrates both a strength and a weakness of dramatistic terms. While I believe that I have used these terms in ways consistent with their intention, I have sacrificed some of the precision that comes with the close analysis of specific acts and texts. While I have found these terms to be continually valuable as an inventional resource, they become an obstacle when held too closely, and they are challenging to represent. I am often torn between inclinations to engage more and less explicitly with Burkean terms.

From the outset, I have taken seriously the challenge of producing empirical and conceptual analyses that are useful for multiple fields of scholarship. I have sought continually to understand the purposes, potential audiences, and unique warrants for rhetorical inquiry.<sup>1</sup> These reflections have been enabled and tested through my involvement in interdisciplinary communities and collaborations. While I have grappled conceptually and personally with the challenges of navigating among varied forms of knowledge and practice, however, I have not yet fully joined the scholarly conversations that have motivated this work. I have omitted citations to relevant research and cited other work in brief that would reward more sustained engagement. Much of the work of translating the findings of this research lies ahead.

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<sup>1</sup> Published work that has helped me to find my bearings includes Keränen (2013) and all of the articles that it introduces; Barton (2001); Segal (2009a; 2009b); and Harris (1997). Work by scholars from other disciplines has also provided valuable frames of reference: Timmermans (2013); Albert, Paradis & Kuper (2015); Vincent (2009); Vincent, Bataldan & Davidoff (2011).

## **Coda: Toward a rhetorical approach to knowledge translation**

The dominant discourse of knowledge translation poses questions that are fundamentally rhetorical. They engage directly with problems of persuasion, asking how people can be moved to conviction and to action. These are problems that have preoccupied rhetorical theorists for thousands of years. The problematics of knowledge translation offer a clear invitation for scholars of rhetoric.

The most direct approach to addressing the rhetorical questions posed by the discourse of knowledge translation, taken on its own terms, is to examine the various persuasive strategies by which innovations or research findings are disseminated and received. Exemplars for such an approach can be drawn from rhetorical studies of science in public and political forums, which provide models for understanding how scientific research is accommodated to general audiences and how appeals to scientific knowledge and expertise can succeed and fail.

Even when tackled on their own terms, the problems posed by knowledge translation in healthcare stretch the traditional resources of rhetoric in important ways. While knowledge translation asks familiar questions about how people may best be persuaded to act, those people and actions are widely dispersed within complex systems. Change may require appeals to administrators, healthcare professionals, funders, policymakers, general publics and specific patients. None of these groups can be cleanly divided into expert and general audiences. They all hold expertise, identities, and investments in the topics at hand. Interventions invariably entail both material and symbolic dimensions. They draw upon varied forms of knowledge and values, enacted within situations that are open or recalcitrant to change in different ways and to different extents. Problems of knowledge translation, therefore, drive at current theoretical discussions concerning how far rhetorical tools can go in accounting for material aspects of persuasion. They challenge rhetorical theory to account for persuasive processes that are dispersed across

time and space. In cases such as the one presented in this dissertation, rhetorical scholars can learn from the quite sophisticated and wide-ranging rhetorical strategies and resources marshaled by checklist advocates. Checklists provide a unique opportunity to observe interactions among purposeful rhetorical acts and the structures that shape and constrain rhetorical action beyond the intention of agents.

These are productive opportunities and challenges. In fact, close attention to purposeful persuasion—beginning with the simple recognition of these processes as persuasive—may be one of the most important contributions for rhetorical scholarship within the field of knowledge translation. Rhetoricians join other social scientists and qualitative researchers in calling for close attention to the complexity, context, and mechanisms of new clinical practices, and rhetorical terms can be used to serve these purposes in distinct and complementary ways. Healthcare practices demand attention to the material exigencies and systems that motivate, constrain, and govern clinical work, providing valuable opportunities for theory development related to the material dimensions of persuasion. However, some of the most conspicuous gaps in current knowledge translation research appear to be well aligned with the most traditional tools and purposes of the discipline: the close analysis of discursive strategies of appeal, including purposeful rhetorical acts, recurrent forms of communication, and larger governing discourses.

In other important senses, the problems posed by knowledge translation in healthcare cast a problematic and narrow role for rhetorical theory and scholarship. In most approaches to these problems, the persuasive process begins subsequent to the pursuit of knowledge, the stability of which is taken for granted. A similarly constrained role has, of course, been ascribed to rhetoric across its history by philosophers, scientists, and theologians who have found rhetoric to be useful primarily for disseminating truths acquired by other means. When it comes to the pursuit of truth, rhetoric has been regarded a source of distortion or contamination. According to these conceptions, only in disseminating knowledge or values can rhetoric be harnessed as a force for good.



Such assumptions about science are long outdated across most domains of academic scholarship. However, they are still manifest within the health sciences, in addition to most public discourse about science. Much valuable research is systematically excluded (and dubious research given credence) through the technologies of evidence-based medicine, for example. My analysis in this dissertation suggests that such a narrow conception of rhetoric is problematic not only for the interests of rhetorical scholars but also for those of clinicians and administrators seeking to effect change. Arguments from presumption and authority based upon an impossible ideal of certain knowledge are not especially persuasive. This lack of persuasive value cannot be blamed entirely upon overdeveloped professional egos or upon education systems that cultivate them.

This discussion raises several interrelated questions that are essential to any rhetorical conception of knowledge translation. How can knowledge from the humanities and social sciences inform the strategies and study of knowledge translation, including the translation of relatively stable clinical and biomedical knowledge? How can these disciplines better serve as a source, themselves, of knowledge to be translated? How might problems of knowledge translation be reconceived in ways that are more epistemologically expansive, less presumptive, less reliant upon appeals to simplicity and certainty, and more open to the transformative resources of ambiguity?

It is, of course, possible to acknowledge the constitutive role that rhetoric plays in creating knowledge while still treating the production and application of knowledge as distinct social processes. One question for a rhetorically expansive study of knowledge translation is whether to treat knowledge production and use separately for analytic purposes. There are good pragmatic, analytic, and ethical cases to be made for distinguishing the study of epistemic and promotional texts. Pragmatically, following knowledge across domains introduces problems of scope and focus (as my own efforts likely attest). Analytically, it may risk obscuring real and important differences in the conditions governing the production and reception of texts. The processes and standards of scholarly knowledge production are meaningfully distinct, valuable, and,

by many accounts, currently under threat. At a time when powerful political agents have become blatantly unaccountable to basic facts, when the future of higher education is precarious, when the cultural authority of science is diminished, and that of the humanities more so, differentiating the practices of rigorous scholarly inquiry from those of public discourse feels like a matter of moral and rhetorical urgency. When Burke wrote in resistance to scientism, he had a different situation to lean against.

In the process of writing this dissertation and conducting my analyses, I ultimately treated the production, promotion, and application of knowledge as interrelated processes—to some extent after frustrated attempts to keep them separate. This choice makes the task of advancing a rhetorical theory of knowledge translation considerably trickier but also, I suspect, more productive. Here, I offer four preliminary warrants for this approach, which may or may not apply to other cases.

1. It is truer to my experience. Within my own experience, promoting and studying the surgical checklist have always been integrated activities. Experimental methodologists would critique these dual roles for their susceptibility to bias. Kitto, from a sociological perspective, raises concerns about the potential to critique a program and advance it at the same time (Kitto, Sargeant, Reeves & Silver, 2012). These are valid concerns. For any organizational or clinical practice that has social dimensions, however, convincing people to adopt the practice is necessary to studying it. And those processes of persuasion are often not incidental to, but constitutive of, the practice. I am inclined to maintain that there are distinct advantages (along with significant complications) associated with combining the pragmatic and critical imperatives of rhetorical scholarship. I acknowledge, however, that my shifting professional roles have also facilitated this combination of direct involvement and critical distance.
2. It is more accurate. Research in the rhetoric of science has demonstrated the interdependence of public and scientific genres, as well as the emergence of hybrid genres. Discourses of health and medicine introduce further complexities in the

convergence of scientific and public but also professional genres. A distinction between technical and public spheres is simply insufficient to account for the multiple and ambivalent roles of health professionals in this domain. Considerable commentary has attended to the complex status of patients or consumers as experts in their own embodied experience of health. And education researchers have attended to the forms of expertise that clinicians derive from practice. Too little systematic attention has yet been paid, I believe, to the ambiguous role of clinicians as both producers and consumers of formal research knowledge or to their role in economies of knowledge production. My case study brings these issues to the fore.

3. It is more useful. An expansive conception of knowledge translation that crosses professional, public, and epistemic texts more closely matches the circumstance of healthcare providers, not to mention patients and policymakers, who are faced with the challenge of drawing upon evidence of various kinds and integrating that evidence with particular values within particular situational constraints. Even when scientific claims are well enough established to be effectively beyond debate, they always enter this ambiguous context of use. The presence of broadly accepted knowledge and values is an important situation but it is not a representative one.
4. It is likely more effective. Examining knowledge production, promotion, and use as interrelated processes that cross public and professional domains necessitates the recruitment of diverse forms of knowledge, evidence, and argument. It also escapes the hubris implicit in dominant conceptions of knowledge translation, which, in sliding directly from *is* (science) to *ought* (practice), creates its own rhetorical liabilities, including a blindness to relevant knowledge, a poverty of ethos, and a naïve presumption of authority. Certainty can be a weak and vulnerable ground for fostering change, even in the most obvious of cases, especially for practices that have fundamentally relational mechanisms of action.

A rhetorical approach to problems of knowledge translation should ideally integrate traditional imperatives of the field, which help to understand and facilitate the

movement of established knowledge into action, with an expansive rhetoric, which helps to capture the valuable forms of knowledge that reside in action and practice, moving them into research. It should ideally combine critical tools, which help to identify how some perspectives and forms of knowledge are amplified and accelerated over others, with pragmatic and integrative tools, which help to find productive pathways across diverse, situated perspectives. I do not offer to realize such a bold vision. I make the more modest claim that these larger goals depend upon continued attention to particular acts, to the recurrent acts that constitute socio-rhetorical forms, and to the concept of situation, understood in dynamic terms. The terms of dramatism, understood through the case of surgical checklists, offer productive points of departure.

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## Appendices

### Appendix A: Overview of significant events and texts

This appendix provides a brief overview of the events that are significant to the emergence of surgical safety checklists as studied in this dissertation. Most of the events included here are selected for their rhetorical significance. Some are selected for their specific relevance to the context and substance of my research. For example, while the funding of the Team Talk study and the introduction of mandatory reporting requirements in Ontario have both influenced the larger narrative, I have excluded other studies and policies of comparable influence.

<b>2000</b>	<b>US Institute of Medicine publishes <i>To Err is Human: Building a Safer Health System</i></b>
<b>Significance</b>	This report drew attention to the prevalence and causes of medical errors. It also presented strategies for preventing errors at the level of system design. Although the report makes only scant mention of checklists, it has been extremely influential in establishing the <i>scene</i> to which surgical checklists have emerged as a dominant response.
<b>Associated texts<sup>1</sup></b>	full report (270 pages); summary report; frequent citations within other texts
<b>2002</b>	<b>CIHR funds the Team Talk research program</b>
<b>Significance</b>	This research program, led by Lorelei Lingard at the University of Toronto, was funded to develop, implement, and evaluate surgical team briefings structured by a checklist. The grant was successfully renewed in 2005; the renewal grant extended the work from one to four hospitals, expanded the assessment to include additional outcome measures, and incorporated the goal of studying uptake, which became one aspect of this dissertation. Publications from this study are also significant because they join a relatively small body of published research on checklists that preceded the WHO initiative.
<b>Associated texts</b>	11 academic publications resulting from the study; various study documents, including presentations given to professional groups over the course of the study; fieldnotes documenting checklist briefings; frequent citations within other texts

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<sup>1</sup> This heading refers to texts considered for this study. I briefly describe the texts that constitute the event, as well as those that directly result from or respond to it.

2006

**Pronovost et al. report that a safety program including a checklist eliminated central line infections in the ICU**

**Significance**

This article, published in *The New England Journal of Medicine*, is regarded as a seminal study demonstrating the clinical benefits of checklists. The study reports a reduction of central line infections from 2.7 per 1,000 catheter days to zero within three months across 108 ICUs in Michigan (Pronovost, 2006). The checklist was one component of the intervention, and that intervention was one component of a larger patient safety program. While this checklist directly influenced the WHO surgical checklist, the two initiatives are functionally and contextually distinct. The ICU checklist is a 5-item task-based list; it specifies what one clinician needs to *do*, not what multiple clinicians need to *communicate*.

**Associated texts**

the article itself; Gawande's profile of this work in *The New Yorker*; subsequent publications by Pronovost extending this work into a general model for quality improvement; social scientific research investigating the transfer of this initiative to other settings (with mixed success)

2007 (Jan)

**WHO holds first consultation for the Safe Surgery Saves Lives campaign**

**Significance**

The goals of this initiative were to raise awareness about surgical safety, establish minimum standards for surgical safety across all global contexts, and establish systems for measuring performance and improvement. The program was led by Atul Gawande and began with a meeting of approximately 50 invited experts in Geneva. At this first consultation, the group decided to develop a checklist that would embed a set of basic practice standards applicable to all surgeries. Texts documenting the planning process provide a helpful window onto some of the group's rhetorical choices.

**Associated texts**

WHO Safe Surgery Saves Lives website; grey literature, including briefing documents, agendas, meeting summaries, technical reviews of literature, photographs, and drafts of the checklist tool

2008 (June)

**WHO launches the Safe Surgery Saves Lives checklist**

**Significance**

The launch was marked by a global event featuring endorsements from 200 professional and patient societies. The United Kingdom, Jordan, and Ireland pledged to introduce the checklist in all of their hospitals (WHO, 2008). Following the launch, the checklist began to appear recurrently within news stories and professional publications.

**Associated texts**

press release and background materials; checklist tool and implementation manual (first edition); promotional videos of the launch event; mainstream news coverage; editorials in professional journals responding to the initiative

2008 (Dec)

**Atul Gawande publishes *The Checklist Manifesto***



<b>Significance</b>	This book offers the most elaborated argument for the use of checklists inside and outside of medicine. As a <i>New York Times</i> bestseller, it has been widely influential in raising the public profile of surgical checklists. I argue that the book is also rhetorically significant because it simultaneously addresses general and professional audiences, serving both rhetorical and epistemic functions.
<b>Associated texts</b>	the book itself; frequent citations in other texts; book reviews
<b>2009 (Jan)</b>	<b>Haynes et al. report that introduction of WHO checklist reduced postoperative deaths and complications</b>
<b>Significance</b>	This publication in <i>The New England Journal of Medicine</i> reported significant decreases in rates of death and complications following the introduction of a checklist to selected operating theatres at 8 sites around the world. Following publication of the trial, many governments, hospitals, and safety organizations announced plans to implement the checklist. The trial generated many responses in popular media and professional media.
<b>Associated texts</b>	the original article; press release and background materials; significant media coverage; ubiquitous references within subsequent professional texts
<b>2010 (Mar)</b>	<b>The surgical checklist is featured in an episode of the television drama <i>ER</i></b>
<b>Significance</b>	This dramatization of the checklist reaches a wide general audience. It also demonstrates the use of popular media to influence professionals, whether directly or indirectly.
<b>Associated texts</b>	the episode itself; news coverage profiling the episode and its link to research
<b>2010 (Apr)</b>	<b>The surgical checklist becomes mandatory for all hospitals in Ontario</b>
<b>Significance</b>	The policy in Ontario requires hospitals to publicly report their rates of compliance with all three stages of a safe surgery checklist. Hospitals were encouraged to use the checklist beginning April 1, 2010, and were required to begin reporting rates of compliance beginning July 31, 2010. These rates were added to an existing set of quality indicators, which are accessible to the public at the level of individual hospitals.
<b>Associated texts</b>	Health Quality Ontario public reporting website; popular media covering or citing the policy; professional media discussing implementation strategies

2014 (Mar)

**Urbach et al. report no clinical benefit following mandated use of checklists in Ontario**

**Significance**

This publication, again in *The New England Journal of Medicine*, reported that mandatory uptake of checklists across Ontario had resulted in no significant clinical benefits. This study is significant because it changed the course of the collective narrative concerning surgical checklists. It was regarded as rhetorically threatening, drew attention to the checklist as an act, and instigated debates concerning the evidence needed to justify and study quality improvement initiatives.

**Associated texts**

the original article; news coverage; editorials, interviews, and responses to the article in professional media—some opening and others minimizing debate

## **Appendix B: Surgical checklist tools**

This appendix presents a collection of four surgical checklist tools, along with brief observations about each: (1) the checklist that we developed for the first Team Talk research study, (2) a shortened version of that checklist, which we adapted for the second phase of the study, (3) the WHO's Safe Surgery Checklist, and (4) a version of the WHO checklist subsequently adapted by the Canadian Patient Safety Institute (CPSI). These are the versions of the checklist tool that are most directly related to the research described in this dissertation. They are presented in chronologically, in the order of their development. Many adapted versions of these tools have been published in medical literature and online. Most are similar in design to the WHO checklist. Others vary markedly in their content and apparent functions. In the notes to follow, I describe the development process and point out some salient features of each checklist.

Most texts within my archive portray the checklist tool as the crucial intervention and presume that it works in the same way across all cases. While checklist users are encouraged to adapt the tool for their local settings, the resulting version of the checklist is assumed to be used in a standardized way. Studies often omit any consideration of how the tool is used, attending only to its effects, or assess checklist performances quantitatively, as a rate of "compliance." Compliance sometimes refers globally to the tool as a whole and sometimes refers to a percentage of specific items verbalized.

Such measures of compliance are increasingly documented, using one of several methods: they are audited by external observers, recorded by nurses within the patient record, or captured through a review of checklists themselves, where the tool is used as a means of documentation to "mark" the completed items. The last of these methods introduces a significant and new function for the checklist, as the original tool is intended only to prompt an oral exchange and not to be used as a formal record. This emergent function is common and seems likely to be driven by regulatory or research interests, in addition to conventional expectations of checklists as a form.

## **Team Talk study checklists**

The Team Talk checklist was developed locally, at one Canadian teaching hospital. Figure 1 displays the checklist used at the first research site. Figure 2 displays a streamlined version used at the subsequent sites. The content of these checklists was based upon observational research and consultations with nurses, surgeons, and anesthesiologists. Their structure was developed through a process of trial, error, and dialogue. It was not informed by specific expertise in checklist design. Our working documents from the study reveal that we experimented with different formats, including one that incorporated question prompts and appeared less like a checklist in structure. The choice of simple item-based prompts prevailed, at least in part because it was less text-heavy.

The design of this checklist reveals how it was motivated, in large part, by the general goal of bringing team members together to communicate. This emphasis contrasts the later WHO tool, which is designed foremost to confirm that critical details are correct and that essential tasks are complete. Safety-based prompts are included within the Team Talk checklists (e.g., verification of the procedure name, side of surgery, and administration of antibiotics), but they are interspersed within the tool and are not associated with scripted responses.

The organization of this checklist into a column of patient information, on the left side, and operative issues, on the right side, reflects an attempt to direct attention to the patient. Some of the prompts reveal a concern with patients' and families' experiences. For example, "spoken language" was intended to flag any potential communication barriers in advance of the patient's arrival; family and visitor location is not critical to patient safety but was intended to enable intraoperative communication.

Like other checklist developers, we grappled the challenge of balancing comprehensiveness of content with brevity. Checklist 1 was more inclusive and longer than necessary. Checklist 2 was shortened accordingly following the first phase of the study.

## PREOPERATIVE TEAM CHECKLIST

### Attendance for completion of checklist

At least one senior responsible representative from each profession should be present.

Anesthesia:     Staff     Fellow     Senior resident     Junior resident

Nursing:         Staff     Student

Surgery:         Staff     Fellow     Senior resident     Junior resident

### PATIENT INFORMATION

- Spoken language
- Family/visitor location
- Diagnosis
- History
  - Medical
  - Surgical
  - Anesthetic
- ASA status
- Medications given/held
- Allergies
- Tests
  - Images
  - Bloodwork
  - ECG
- Preoperative consultations
- Other considerations
  - Cognitive
  - Psychosocial
  - Special requests

### OPERATIVE ISSUES

- Procedure
- Operative plan
  - Description of procedure
  - Side of surgery
  - Intraoperative testing and pathology specimens
  - 'Go-ahead likelihood'
  - Estimated duration
- Informed consent
  - Surgical procedure
  - Blood products
- OR team
  - Experience with procedure
  - Students
- Visitors to the OR
- Operative medications
  - Antibiotics
  - Anticoagulants
- Anesthesia requirements
  - Airway
  - General or local
  - Invasive monitoring
  - Temperature maintenance (e.g., warming blankets)
  - Regional block (e.g., epidural)
- Blood products
  - Crossed and typed?
  - Grouped and reserved?
- Patient positioning and supports
- Special instruments and equipment
  - Retractor
  - Laparoscopic
  - Cell saver
  - Headlights
- Recovery location

**Figure 2. Team Talk phase 1 checklist**

## **PREOPERATIVE TEAM BRIEFING**

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**INTRODUCTIONS (IF REQUIRED)**

**PATIENT INFORMATION**

- Name
- History and diagnosis
- Tests and images
- ASA status
- Allergies
- Informed consent
- Family and visitors
- Other considerations  
(cognitive, communication,  
psychosocial, special requests)

**OPERATIVE ISSUES**

- Operative plan
- Anticipated duration
- Intraoperative testing/imaging
- Anesthesia requirements
- Blood products
- Operative medications  
(antibiotics, anticoagulants, other)
- Patient positioning and supports
- Special instruments and equipment
- Postoperative considerations

**ADDITIONS, QUESTIONS, CONCERNS?**

**Figure 3. Team Talk phase 2 checklist**

## **WHO surgical safety checklist**

The WHO checklist was developed through a more extensive international consultation process, which benefitted from a wider range of academic and professional expertise. Some aspects of the tool are, in my view, valuable developments. These include the elimination of some nonessential prompts, the formulation of prompts as answerable questions, and the inclusion of prompts inviting each professional group to contribute.

The WHO checklist is intended to be completed at three points in time or, ultimately, to be distributed across the perioperative process. Based on our experiences, the requirement of collecting the team at three distinct points in time has the potential to be a significant challenge. This challenge is reflected in the WHO's indication that surgeons may not be present for the first, "sign in," stage of the checklist process. (It is noteworthy that the second, "time out," component of the checklist was already mandated in many locations and that the need for proactive communication with surgeons was an important exigence in our research.)

Like the Team Talk checklist, the WHO tool is meant to serve as a communication prompt and not, itself, as a record of confirmed topics or tasks. This is occasionally a source of ambiguity. For example, the original draft of the WHO implementation guide indicated that a single checklist coordinator should be responsible for "checking the boxes"; it also specified the circumstances under which particular boxes should not be checked off. These references to the checking of boxes are removed from the final version of the implementation guide. The checklist form itself, however, suggests itself to the act of ticking boxes, and that imperative is reinforced by the recommendation that hospitals should monitor compliance with the practice. Judging from checklists described in professional and scientific literature, it is not uncommon for adapted versions of the tool to incorporate a documentation aspect.

# Surgical Safety Checklist

**World Health Organization**

A World Alliance for Safer Health Care

**Patient Safety**

A World Alliance for Safer Health Care

Before induction of anaesthesia

Before skin incision

Before patient leaves operating room

(with at least nurse and anaesthetist)

(with nurse, anaesthetist and surgeon)

(with nurse, anaesthetist and surgeon)

**Has the patient confirmed his/her identity, site, procedure, and consent?**

Yes

No

**Is the site marked?**

Yes

Not applicable

**Is the anaesthesia machine and medication check complete?**

Yes

No

**Is the pulse oximeter on the patient and functioning?**

Yes

No

**Does the patient have a:**

**Known allergy?**

No

Yes

**Difficult airway or aspiration risk?**

No

Yes, and equipment/assistance available

**Risk of >500ml blood loss (7ml/kg in children)?**

No

Yes, and two IVs/central access and fluids planned

**Confirm all team members have introduced themselves by name and role.**

Confirm the patient's name, procedure, and where the incision will be made.

**Has antibiotic prophylaxis been given within the last 60 minutes?**

Yes

Not applicable

**Anticipated Critical Events**

**To Surgeon:**

What are the critical or non-routine steps?

How long will the case take?

What is the anticipated blood loss?

**To Anaesthetist:**

Are there any patient-specific concerns?

**To Nursing Team:**

Has sterility (including indicator results) been confirmed?

Are there equipment issues or any concerns?

**Is essential imaging displayed?**

Yes

Not applicable

**Nurse Verbally Confirms:**

The name of the procedure

Completion of instrument, sponge and needle counts

Specimen labelling (read specimen labels aloud, including patient name)

Whether there are any equipment problems to be addressed

**To Surgeon, Anaesthetist and Nurse:**

What are the key concerns for recovery and management of this patient?

This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged.

Revised 1 / 2009 © WHO, 2009

Figure 4. WHO surgical safety checklist



# CPSI surgical safety checklist

This version of the checklist was released by the Canadian Patient Safety Institute (2008). This is the version most commonly adopted in Canadian hospitals.


	<b>SURGICAL SAFETY CHECKLIST</b> <a href="http://www.safesurgerysaveslives.ca">www.safesurgerysaveslives.ca</a>	Your Organizational Logo	
<p><b>BRIEFING – Before induction of anesthesia</b></p> <p><i>Hand-off from ER, Nursing Unit or ICU</i></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Anesthesia equipment safety check completed</li> <li><input type="checkbox"/> Patient information confirmed           <ul style="list-style-type: none"> <li>- Identity (2 identifiers)</li> <li>- Consent(s)</li> <li>- Site and procedure</li> <li>- Site, side and level marked</li> <li>- Clinical documentation</li> <li>- History, physical, labs, biopsy and x-rays</li> </ul> </li> <li><input type="checkbox"/> Review final test results</li> <li><input type="checkbox"/> Confirm essential imaging displayed</li> <li><input type="checkbox"/> ASA Class</li> <li><input type="checkbox"/> Allergies</li> <li><input type="checkbox"/> Medications           <ul style="list-style-type: none"> <li>- Antibiotic prophylaxis: double dose?</li> <li>- Glycemic control</li> <li>- Beta blockers</li> <li>- Anticoagulant therapy (e.g., Warfarin)?</li> </ul> </li> <li><input type="checkbox"/> VTE Prophylaxis           <ul style="list-style-type: none"> <li>- Anticoagulant</li> <li>- Mechanical</li> </ul> </li> <li><input type="checkbox"/> Difficult Airway / Aspiration Risk           <ul style="list-style-type: none"> <li>- Confirm equipment and assistance available</li> </ul> </li> <li><input type="checkbox"/> Monitoring           <ul style="list-style-type: none"> <li>- Pulse oximetry, ECG, BP, arterial line, CVP, temperature and urine catheter</li> </ul> </li> <li><input type="checkbox"/> Blood loss           <ul style="list-style-type: none"> <li>- Anticipated to be more than 500 ml (adult) or more than 7 ml/kg (child)</li> <li>- Blood products required and available</li> <li>- Patient grouped, screened and cross matched</li> </ul> </li> </ul>	<p><b>BRIEFING (continued)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Surgeon(s) review(s)           <ul style="list-style-type: none"> <li>- Specific patient concerns, critical steps, and special instruments or implants</li> </ul> </li> <li><input type="checkbox"/> Anesthesiologist(s) review(s)           <ul style="list-style-type: none"> <li>- Specific patient concerns and critical resuscitation plans</li> </ul> </li> <li><input type="checkbox"/> Nurses(s) review(s)           <ul style="list-style-type: none"> <li>- Specific patient concerns, sterility indicator results and equipment / implant issues</li> </ul> </li> <li><input type="checkbox"/> Patient positioning and support / Warming devices</li> <li><input type="checkbox"/> Special precautions</li> <li><input type="checkbox"/> Expected procedure time / Postoperative destination</li> </ul> <p><b>TIME OUT – Before skin incision</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> All team members introduce themselves by name and role</li> <li><input type="checkbox"/> Surgeon, Anesthesiologist, and Nurse verbally confirm           <ul style="list-style-type: none"> <li>- Patient</li> <li>- Site, side and level</li> <li>- Procedure</li> <li>- Antibiotic prophylaxis: repeat dose?</li> <li>- Final optimal positioning of patient</li> </ul> </li> <li><input type="checkbox"/> "Does anyone have any other questions or concerns before proceeding?"</li> </ul>	<p><b>DEBRIEFING – Before patient leaves OR</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Surgeon reviews with entire team           <ul style="list-style-type: none"> <li>- Procedure</li> <li>- Important intra-operative events</li> <li>- Fluid balance / management</li> </ul> </li> <li><input type="checkbox"/> Anesthesiologist reviews with entire team           <ul style="list-style-type: none"> <li>- Important intra-operative events</li> <li>- Recovery plans (including postoperative ventilation, pain management, glucose and temperature)</li> </ul> </li> <li><input type="checkbox"/> Nurse(s) review(s) with entire team           <ul style="list-style-type: none"> <li>- Instrument / sponge / needle counts</li> <li>- Specimen labeling and management</li> <li>- Important intraoperative events (including equipment malfunction)</li> </ul> </li> <li><input type="checkbox"/> Changes to post-operative destination?</li> <li><input type="checkbox"/> What are the KEY concerns for this patient's recovery and management?</li> <li><input type="checkbox"/> Could anything have been done to make this case safer or more efficient?</li> </ul> <p><i>Hand-off to PACU / RR, Nursing Unit or ICU</i></p>	<p><b>PATIENT INFORMATION</b></p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div>
Adapted from the WHO Surgical Safety Checklist, © World Health Organization, 2008		Surgical Safety Checklist: Canada Version 1, January 9, 2009	

Figure 5. CPSI surgical safety checklist

## Variation among checklist tools

Many other adaptations of the Surgical Safety Checklist have been developed, some of which have been published in medical periodicals or shared online. While most of the posted checklists resemble the structure of the WHO list, others diverge quite widely. One such example is the SURPASS checklist, which incorporates 60 items distributed across the entire course of perioperative care, from admission to discharge (DeVries, Hollmann, Smorenburg, Gouma & Boermeester, 2009; DeVries et al., 2010). Although this checklist is quite distinct in its expansive scope, positive outcomes associated with the SURPASS checklist have been regarded as important supporting evidence that serves to validate the findings of the WHO trial. For example, a physician who had interpreted the WHO trial with some reserve (Birkmeyer & Miller, 2009) indicated that the SURPASS trial “should quiet the skeptics” (Birkmeyer, 2010). Similarly, those charged with synthesizing evidence concerning the efficacy of checklists appear to elide differences across tools. This reflects the practice of pooling studies based on method rather than concept.

It is not yet clear to what extent and in what ways the design of a checklist tool matters. The answer to this question depends somewhat upon how the checklist works. If the checklist functions primarily as a cognitive prompt to ensure that all tasks are complete and all topics verified, then the design of the tool should play a significant role in realizing, or thwarting, this function. If, on the other hand, the tool functions primarily as an intervention that brings the team together, signifies a collective commitment to safety, or provides a focal point for safety initiatives, then the design of the tool might be less important—or it might need to be adapted to these ends. By focusing on the checklist as an act, my analyses in this dissertation tend to emphasize the latter explanation. It is my sense, however, that a well-designed and visually appealing checklist can aid in supporting and clarifying these functions where they are made explicit.

The functions of a given checklist tool can be affected by the process of adaptation. The published literature contains a striking variety of adapted tools. I am inclined to believe that the move toward documentation is a significant kind of variation, as it introduces new purposes and emphases to the checklist tool that have potential to conflict with their intended purposes both as a safety check and as a communication prompt.

## Appendix C: Overview of media coverage

This table provides an overview of the significant events and recurrent kinds of event that have occasioned news coverage citing the surgical checklist. Delineating these categories is useful because they sometimes serve distinct rhetorical functions (in addition to common ones).<sup>1</sup> In most cases, the checklist is a predominant focus; in some, it appears secondarily, as an example or proposed solution.

**Table 1. Events and topics prompting news coverage citing the surgical checklist<sup>2</sup>**

Event or topic	Representative titles
WHO launches Safe Surgery Saves Lives campaign	WHO creates new surgical tool to make operations safer everywhere WHO launches new safety checklist to facilitate safe surgeries WHO proposes checklist to reduce surgery errors
Positive results of WHO international trial are published	Surgical checklist cuts complications by a third Easy surgical checklist can decrease deaths Surgical checklist called lifesaver; Patient safety experts want hospitals to adopt 19-point list after study proves that it works
Specific doctor or hospital is celebrated for adopting checklists or contributing to WHO campaign	University of Washington Medical Center takes part in WHO surgical checklist initiative Professor helps launch surgery safety program Surgical gaffes in check. Six city hospitals adopt operations safety list
Surgical checklist is adopted into policy	WHO Surgical Safety Checklist required for every UK operation from today Ontario unveils surgical checklist Surgery checklist to help save an extra 1,000 lives a year in hospital

- 1 I did not complete a similar categorization of professional and research texts, which might be usefully classified in various ways by topic, exigence, purpose, attitude, and/or genre. I did broadly categorize texts by primary implied audience (general or professional) and primary implied purpose (education, promotion, research, critique). These are indiscrete categories. Sorting them out with more precision would require its own study.
- 2 In addition to the major events and topics listed, additional events and topics were less recurrent or less significant across the set. These include articles advocating for use of checklists outside of surgery (inside or outside of healthcare); citing the checklist within general discussions about healthcare systems; providing public education about the checklist; and reporting on the ER episode.

Event or topic	Representative titles
Specific group or organization advocates for the checklist	<p>AORN endorses the WHO Safe Surgery Saves Lives Initiative</p> <p>Group urges checklists for c-sections</p> <p>Joint statement aims to improve safety in hip and knee replacement surgery</p>
A mistake is made (i.e., a particular surgical error is reported)	<p>Swab left in a patient joins list of Welsh surgical shame</p> <p>WRHA makes changes after needless double mastectomy</p> <p>I spent Tegan’s first Christmas Day on the operating table. . . I’ll never get that back</p>
Many mistakes are made (i.e., the general problem of surgical errors is reported)	<p>Brain surgeons are still drilling holes in wrong side of head</p> <p>Going into hospital far riskier than flying: WHO</p> <p>Canada third in items left inside patients</p> <p>Litany of surgical mistakes and near-misses revealed</p>
Events, awards, and safety campaigns promote the use of checklists	<p>Hospitals encouraged to participate in surgical safety webinar</p> <p>Southern DHB celebrates first patient safety week!</p> <p>AORN and The Joint Commission team up for time out super heroes</p> <p>Regina surgeon receives prestigious award</p>
Tools are marketed to support uptake of the checklist	<p>Imagexpres Corp—“Digital” Surgical Safety Checklist for Apple iPhone, iPod Touch</p> <p>KARL STORZ OR<sub>i</sub> deployed in new operating rooms at Miami VA Healthcare System</p>
Research studies are published or initiated	<p>Adopting a surgical safety checklist could save money and improve the quality of care in U.S. hospitals</p> <p>Surgical safety checklists significantly reduce post-op complications, new review finds</p> <p>Surgical checklists are being tested in a South Carolina experiment</p>
Study reports lack of benefit of checklist in Ontario	<p>Surgical checklists have little effect on patient outcomes, study finds</p> <p>Experts question study finding no gains from use of safe surgery checklist in Ont.</p>
Use of checklist is cited as an indicator of safety or quality	<p>Surgical safety checklist now widely in use</p> <p>New health data will help drive improvements in patient safety</p> <p>Hospital warned over surgery checks</p> <p>Not all surgeons follow checklists that prevent bad mistakes</p> <p>Big brother is watching your surgery</p>