Writing Research Differently

Writing Research Differently:

How Community-University Partnerships Re-imagine the Research Article

By

Margaret Malone

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For Daniel, Louis, Oliver and Lauren.

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FOREWORD

Margaret Malone has provided us with a most thoughtful and detailed study of the origins of the research article, the ways in which research articles and their journals have reinforced unequal dimensions of knowledge, and the hopes for a way in which writing by community-university research teams might be re-imagined. This book is a tour de force and should be required reading by all editors of academic journals. *Gateways: International Journal of Community Research and Engagement*, under the leadership of Margaret Malone, has become the leading international journal of community-university research partnerships. *Gateways* has taken up the challenge of how to include excluded, marginalised and subaltern knowledge within the structure of a research article. And how best might a journal transform itself as it seeks to challenge the larger structures and processes of the institutionalisation of knowledge?

This book opens with a call for change. Change in how research articles might be constructed to work with emerging ecologies of knowledge. It offers a detailed history of the research article, an exploration of what is needed to move from commodity-based research to community-based research, details on the inner workings of the bibliometric world of research journals and reflections on what might be possible for the future.

This book comes at an important moment. We are in a time when knowledge democracy movements are challenging the two knowledge monopolies of our times: the monopoly of Eurocentric knowledge over knowledge of the majority world; and the monopoly of academic knowledge over community and Indigenous knowledge including the knowledge of lived experience. Malone refers to several authors who challenge European knowledge hegemony. I would like to share insights from three other women scholars who cover similar ground but with a more gendered lens: Catherine Odora Hoppers, an Acholi scholar from Uganda; Miranda Fricker, a British philosopher; and the late Florence Piron of Quebec, Canada.

Odora Hoppers was responsible for leading the South African parliament to recognise the importance of Indigenous Knowledge Systems in a decolonised intellectual world. She says, “Most exigent in a decolonised context such as South Africa, and the African continent, is the transformative challenge of developing appropriate protocols, codes of conduct, and terms under which any integration and dialogue should occur. For scientists and academics, it also implies taking community holders of knowledge as fellow experts … For all the disciplines, it mandates a rethinking of the tenets and limitations of existing disciplinary arrangements."[1]

Florence Piron, a communications scholar and pillar of knowledge democracy based at Laval University in Quebec, gave visibility to a vast array of mother-tongue scholars working in West Africa and Haiti. She tells us that, "Anyone who is familiar with postmodern anthropology, the sociology of science, feminist studies or postcolonial studies is aware of the interpretative or epistemic violence that pervades any attempt to interpret the words of a socially more vulnerable other."[2]

Miranda Fricker, a British scholar now working at New York University as a philosopher, provides us with important perspectives on epistemic justice in her work on power and the ethics of knowing. She notes that, "Epistemology as it has traditionally been pursued has been impoverished by the lack of any theoretical framework conducive to revealing the ethical and political aspects of our epistemic conduct. Within the Anglo-American tradition, feminist epistemology has been rather a solitary voice as it bravely insisted on this point."[3]

Piron reinforces one of the messages of Malone's work in reminding us that efforts by some to interpret the words of the more vulnerable are an act of epistemic violence. Fricker claims that we have yet to develop the theoretical basis to deal with the ethics of knowing. Odora Hoppers' work tells us that academics should recognise community knowledge holders as experts.

This line of thinking is very much what Walter Lepore, Rajesh Tandon and I explore in our recent book on *Bridging knowledge cultures*[4]. In this book, we develop the concept of knowledge cultures, which are the spaces and processes by which knowledge is created, validated, shared and acted upon. Knowledge cultures are diverse and often contextually based. Within the academic world a knowledge culture has evolved within specific methodological frameworks, validated through peer reviews, and shared through books, journals, and conferences with uneven implications for action. In our book we explore 10 case studies of community knowledge cultures from different parts of the world. The case studies cover, for example, fisherfolk communities, Tribal women in India, rural farmers in Colombia and Indigenous communities in Canada. Our study shows that knowledge and its creation and use in communities is part of everyday life. It is validated through practice to see what works and what does not. It is shared through ceremony, festivals, storytelling and community meetings. Knowledge creation in community settings is linked directly to action, to finding a way to improve aspects of community life.

This leads me to the question of the research article. The research article, as Malone thoroughly documents, is a tool of the academic knowledge culture. It is deeply imbedded in the ways in which knowledge is validated and shared by the millions of academics around the world. Malone challenges us to explore how the research article might be transformed to better carry the words of the excluded or in other ways less powerful communities or people. Her critique of the limitations of the research article as a way of conveying community knowledge stimulates additional questions for us as readers. For example, what newer forms of sharing research findings exist that might allow for more egalitarian and respectful conversations amongst knowledge workers from both community and academic knowledge cultures? Even if community voices were to appear in a research article in a journal, the readership of that article would almost certainly not be community members. So, can we have different styles of publications? Can we share knowledge through exhibitions or festivals? Can we create action plans based on articles rather than critical reviews? Can we transform the often-dominant critical approach to the academic gaze into creative work of transformation? And what of theatre, dance, videography, murals, poetry, painting, sculpture, ceremony and carnivals as spaces in which the ecologies of knowledge might grow?

Margaret Malone has created a thoughtful invitation to all academics, to all of us, to broaden our ideas and practices regarding research articles written within the parameters of epistemic justice. I look forward to hearing from many of you with your suggestions.

Budd L Hall, O.C., PhD
Co-Chair UNESCO Chair in Community-Based Research and Social Responsibility in Higher Education
Centre for Global Studies
University of Victoria

PREFACE

I am a professional editor. This is my trade, my craft. Over many years, I have worked on a wide range of publications, all of them written, all of them non-fiction, some highly illustrated: history, art criticism, reference books, gardening, cookbooks. More recently, for the past 15 years, I have been the Managing, now Executive Editor of an academic journal focused on community-based research and practice. It was in this role that I observed, a few years ago now, that community-based research partners rarely wrote their own research article, despite the clearly vital contributions they were making to the research itself. Why didn't they? I remember sitting there in my study, thinking "someone really should investigate this". A few seconds later, I concluded that it might as well be me.

I recount this because it's relevant to this discussion that I undertook this research and not someone else. Rhetorician and educator Charles Bazerman, whose work I greatly admire, argues that texts can be examined "in relation to four contexts, as these contexts are referred to, invoked, or acted on in the texts"[1]. For Bazerman, these contexts are "the object under study, the literature of the field, the anticipated audience, and the author's own self". Thus, as is true for any author, I do not come to this inquiry empty-handed. Undoubtedly, I explored the question of authentic and diverse participation in the scholarly communication and dissemination of collaborative research with one foot firmly planted in the professional and institutional world of an editor of an academic journal. I can tell you the full text article downloads per year for this journal and how those numbers tracked over the past ten years or so. I know the journal's current citation rate per article and Altmetric "attention" figures. I can confirm that the journal has readers in nearly every country in the world and an increasingly geographically diverse author-by-country profile. I have seen the positive impact on downloads from making articles available in HTML, alongside PDFs. I can attest to the significant impact free and open access has, for readers and authors. In sum, I have worked with authors, reviewers, editorial colleagues and readers around the world. The journal, by many measures, is a success and I wish for that to continue. This is the professional and practical knowledge and experience that I bring to this research, accumulated over the years.

At the same time, another issue was being brought into sharp focus for me: the peer-review system was listing badly. Further, it was clear that these two issues were connected. As an editor of an academic journal interested in institutional and social change, it was apparent that what we were doing, how and with whom was only partially fulfilling the journal's stated goal of adding more (and different) chairs to a global research table.

Consequently, this book marks my formal movement into research–planting my other foot, as it were, into the systematic and critical exploration and analysis of a problem that matters to me and, I believe, to others. Research is a critical companion to my professional work, just as my editorial background adds real purpose and context to my research. Both come together in this book, in what is hopefully a useful contribution towards communicating research and practice in ways that are sustainable, democratic and change oriented.

Acknowledgements

This book is based on my PhD thesis, undertaken at the University of Technology Sydney (UTS), Australia. I have revised the text to make it more appealing to an audience more diverse than that of my (greatly appreciated) thesis examiners. The academic marketplace is increasingly disinclined to publish PhD theses in book format, even when revised, so I am grateful to Cambridge Scholars Publishing for bucking that trend. Their acceptance of my book proposal is but the latest piece of evidence attesting to the wonderful guidance provided to me by my PhD supervisors at UTS, EM/Professor Jennifer Onyx, Professor Simon Darcy and Professor Paul Ashton. I remain deeply thankful to them.

For some time, I have had the great support of the UTS Centre for Social Justice and Inclusion at UTS. The Centre has provided unwavering enthusiasm throughout this research to me personally and through its role as co-sponsor of *Gateways: International Journal of Community Research and Engagement*. *Gateways'* Editorial Committee and Advisory Board also have my great appreciation for their constructive collaboration over the years. My other institutional home throughout this period has been the UTS Business School, Management Discipline Group. As an academic editor, with a research focus that does not neatly follow traditional disciplinary lines, I have only ever been made to feel welcome. That is no small offering. I'd like to acknowledge the great support of the Management PhD Community: faculty, staff and my fellow student cohort. A number of others also must be thanked: Lisa Adams, Professor Theodore Alter, Professor Marcus Höllerer, Dr Shannyn Palmer and JJ Winlove, for his wonderful design work on Figures 6.1 and 6.2.

CHAPTER 1

A PERSISTENT ABSENCE, AND THE POTENTIAL FOR CHANGE

The starting point for this book was a simple-seeming question: why don't community-based partners and collaborators–so clearly vital to the research itself–author their own research articles? The immediate prompt for that question was some numbers that I had just produced for myself. Going back through the published volumes of the journal I am involved with, *Gateways: International Journal of Community Research and Engagement*, I manually tallied up the published authors from the previous decade (2008–2018), dividing them into the following broad categories. This is what I found:

- 25% of published articles are sole authored by university-based academics;
- 50% of published articles are co-authored by university-based academics, at one or more universities;
- 24% of published articles are co-authored by university-based academics and community-based partners, with academics as the lead authors;
- 1% of published articles are either sole authored by community-based partners or the lead author is community-based.

The results were somewhat deflating, for the journal, this individual editor and also, I conjectured, for the emerging field of community-based research. While authorship is only one means of publicly signifying participation in research, it is a powerful one. These figures appeared to contradict what lay at the very heart of the "engaged" movement, recently described by Canadian scholar-practitioners Rich Janzen and Joanna Ochocka as "research that seeks both to challenge and provide an alternative to externally led and expert-driven research"[1]. Further, I knew from the literature that this lack of diversity in scholarly communication and dissemination wasn't unique to *Gateways* journal, but extended to other journals, books and conferences that were also focused on community-based research and practice[2]. This persistent diminution of diversity and plurality at the point of the institutionalisation of knowledge appeared in stark contrast to the ideals and methodologies of engaged research. It also contradicted what I knew from working on countless individual research manuscripts from the past decade-plus years: community-based partners, in all their variety, were integral to the research. They were committed, active and thoughtful collaborators. Yet the above figures on authorship confirmed what I already suspected to be: that a sustained disparity existed between the vital activity of non-academic partners *within* research articles and their presence *without*, in the architecture of the article, as it were. As an editor of long-standing, steeped in the conventions of the written text and the processes of academic publication, my attention fell onto the research article itself. I wanted to know what was going on, how, why and what could be done about it.

By making the research article my focus, I was drawing into the centre of the frame what is arguably the cornerstone of academic life: the sharing of new knowledge in its written form. Indeed, genre analyst John Swales has described the research article as "this prestigious genre, with its millions of exemplars a year"[3]. Globally recognisable, the research article is and always has been a powerful point of entry into, and the product of, institutional spaces that are concerned with the legitimation, accreditation and consolidation of what knowledge is, how we know it and for what purposes. Who gets to participate authoritatively and authentically in these spaces matters. This is especially true for engaged research and practice, which has done much over the past few decades to repair and revitalise community-university relationships. Yet it remains the case for so many outside institutions of higher education that the research article can appear irrelevant, unwelcoming and unreliable. However, it is particularly telling that even among academics, the research article today may find few friends. Australian anthropologist Michael Taussig goes so far as to write that "agribusiness writing is what we find throughout the university and everyone knows it when they don't see it"[4].

To query why there are so few community-led research articles is therefore not an innocent question. As critical discourse analyst James Paul Gee has written, "Since, when we use language, social goods and their distribution are always at stake, language is always 'political' in a deep sense"[5]. For this reason, clarified during the course of this research, I have come to feel strongly that we cannot simply discard or disdain the research article, even if it were possible. Nor can we simply "progress" our way out of "the coming barbarism", as Isabelle Stengers writes[6]. There is too much at stake. Ecological fragility, gross inequities and deficits of democracy mark our era. Of the many resources that need to be reclaimed, reused and re-imagined, surely one of them is the peer-reviewed research article.

Such a hope puts the focus squarely on institutions of higher education, as vital centres of research, teaching and learning. They have an enormous responsibility and the resources to help bring about a more sustainable, democratic and just world. Indeed, UNESCO argues that institutions of higher education are uniquely positioned "to help solve some of the world's greatest problems". They go on to state, however, that this will require them to "systematically rethink their role in society and their key missions"[7]. The UNESCO report identifies three critical developments required of higher education: a shift towards inter- and trans-disciplinarity; greater dialogue between and integration of diverse ways of knowing; and proactive outreach and partnering with external others.

My focus on diverse and democratic participation in the empirical research article is therefore just one example of countless efforts, all seeking to contribute to a better world. In this book, I examine genre conventions as *semiotic* resources, in order to explore crucial *social* questions of authority, legitimacy and credibility, as well as their potential to effect much needed change. So, from initially wondering why *they* don't do *this*, this book is the result of turning that question on its head. I now ask what is it about the peer-reviewed research article that prevents (and also perhaps enables) critical, innovative and diverse participation in the scholarly communication of community-based research and practice?

Community-based research and practice

Engagement between universities and communities has been described by US-based scholar KerryAnn O'Meara as "one of the major innovations within higher education over the last 20 years"[8]. A more recent report prepared for the European Union writes that today community engagement "encompasses all of the university's core activities, and potentially involves local, regional, national and international dimensions"[9].

I use the term "community-based research" in this book, although I recognise that the history of participatory and action-oriented research is large, evolving and varied. Equally, there is a spectrum of partnerships, practices and projects all sitting under the umbrella term "engagement", with greatly varying degrees of authenticity and effectiveness. At the same time, the literature reveals that the central tenets of participation, reciprocity, knowledge democracy and research-for-change are widespread and sustained. Key priorities include a commitment to co-identified issues of concern, the involvement of external collaborators as rightful co-investigators rather than mere informants, adherence to democratic practices and shared authority, the incorporation of multiple methods, and inclusive dissemination practices. Strand et al. suggest that CBR has the "potential to unite the three traditional academic missions of teaching, research and service in innovative ways [making] it a potentially revolutionary strategy for achieving long-lasting and fundamental institutional change"[10]. They conclude that CBR "challenges some basic assumptions about knowledge itself: what constitutes valid knowledge, how it is best produced (and by whom), and who should control it"[11].

This definition charts a path for community-based research that is fundamentally distinct to that of Western scientific positivism. In the context of clinical and public health, for example, Wallerstein and Duran argue that CBPR is an intentionally critical approach to research, one that seeks to engage with questions of knowledge, power, relationships and agency in order to effect positive social change. Rather than comprise a set of specific research methods, they argue CBPR is an "orientation … which equalizes power relationships"[12]. As Saltmarsh et al. elsewhere argue:

> Democratic engagement is not dismissive of expert knowledge–on the contrary, it is expertise in solving social problems that is sought by communities–but is critical of expertise that claims an exclusionary position relative to other forms of knowledge and other knowledge producers.[13]

There would be few universities today that do not aspire to be, in some form or another, "engaged": a trusted, reliable partner with and for their external communities. However, there runs a fairly strong thread of disquiet throughout the literature regarding this increased institutionalisation, with many pointing to tokenistic rather than transformational efforts. In Australia, Winter and colleagues speak for many when they say that community-university engagement may "hold potential for an emergent public policy that resists neo-liberalism", but that equally the movement is at risk of being "readily co-opted to a market driven agenda"[14]. More recently, the authors of a survey of public engagement professional staff at universities in the UK came to very similar conclusions. They foresaw two possible "imaginaries". In the first, "a plurality of diverse external engagements will recede and be cauterized by an urgency to expedite narrow predetermined impacts". In the second, regulatory mechanisms will actually open up "the potential for more diverse associations and applications of knowledge"[15]. Certainly, the persistent absence and marginalisation of diverse voices in the scholarly literature even in journals focusing on community-university engagement suggests institutional accommodation rather than transformation.

Within English-language speaking countries, consideration of engagement with external communities as a serious and substantive aspect of higher education was kickstarted in earnest by the publication in 1990 of Ernest

Boyer's *Scholarship reconsidered*[16]. O'Meara has written that part of the impact of Boyer's work was due to the new vocabulary it brought to what many already saw and felt, "breaking a long silence regarding alternative views of how to define and assess quality scholarship"[17]. Boyer urged readers to remember "just how recently the word 'research' actually entered the vocabulary of higher education … scholarship in earlier times referred to a variety of creative work carried on in a variety of places, and its integrity was measured by the ability to think, communicate, and learn"[18]. At the time, Donald Schön, a contemporary of Boyer, succinctly articulated the institutional challenge, writing:

> The problem of changing the universities so as to incorporate the new scholarship must include, then, how to introduce action research as a legitimate and appropriately rigorous way of knowing and generating knowledge. If we are not prepared to take on this task, I don't understand what it is we are espousing when we espouse the new scholarship. If we are prepared to take it on, then we have to deal with what it means to introduce an epistemology of reflective practice into institutions of higher education dominated by technical rationality.[19]

More recently, Boyer's colleague, Eugene Rice, reflected on Boyer's observations on the critical–and deteriorating–link between education and democracy. Rice cited the Occupy movement, that "motley group of protesters", who were doing more to highlight wealth inequality than nearly anyone else, including "faculty in publicly engaged universities". He argued that "the future of the scholarship of engagement, as I see it, moves toward the democratization of scholarship itself"[20].

The above vignette points to a recurring theme within community-based research and practice: the risk of co-option and integration into business-as-usual modes within higher education. At the same time, I do not mean to idealise the engaged movement. It is certainly possible that non-critical passivity "lurks in the shadows of community-based research", as some argue[21]. Care needs to be taken, too, not to portray the various different movements seeking social and cognitive justice as any sort of unified whole. During the work on this book, it became quickly apparent that there exist multiple and fragmented discourses, in which social activism, civic renewal, community-based research, action research and other participatory approaches, Indigenous and other traditional ways of knowing and being, as well as efforts seeking change within discipline-based science, are oftentimes little more than uneasy allies in the broader context of the neoliberal academic marketplace.

In addition, “community” is not a simple or straightforward term. I decided to limit my focus to community-based research collaborations which feature local, face-to-face and ongoing relationships among a range of people–groups which are “explicitly formed to carry out important community work”[22]. This excluded many partnerships, such as online or geographically dispersed collaborations. To a degree, I was guided by the empirical material that I used for my analysis, which featured place-based local community groups and organisations working with their higher education partners. This restricted social scope also ensured the emphasis remained where I wanted it: on the research article.

Orientation

The research for this book did not follow a conventional trajectory. The genre conventions of the empirical research article are at its core, but not in any easy or technical sense. Rather, what unfolds across the chapters is both targeted and exploratory, a response to the realisation that to understand the genre conventions of the research article as socially significant resources demanded an examination from more than one perspective: historical, institutional, commercial, semiotic, metaphorical. It meant developing a framework that would allow me to move back and forth among these various elements in a careful and interconnected fashion. Three key pillars emerged: a sociohistorical understanding of the evolution of the research article; a conceptual lens of an “ecology of knowledges”; and a multimodal social semiotic theory of meaning making. I introduce them briefly here, before exploring them in more detail in the next three chapters.

The evolution of the research article

The English-language peer-reviewed research article is inseparable from Western science. Sociologists and historians of science have traced the roots of today’s research article to the need for credible witnesses to validate the claims of nascent scientists in the seventeenth century. Shapin and Schaffer, in their excellent study of “the experimental way of producing knowledge”, argue that, alongside novel instruments such as the mechanical air-pump, “social and linguistic practices … were important constitutive elements in the making of matters of fact and in protecting such facts from items of knowledge that were thought to generate discord and conflict”[23]. They detail the assiduous efforts of leading natural philosophers at the time, such as Robert Boyle, to develop shared conventions for the written report that would "portray the author as a disinterested observer and his accounts as unclouded and undistorted mirrors of nature"[24].

Thus, from the outset, the research report–as a communally conducted and approved form of witnessing–was understood to be socially, politically and institutionally important. The combined impact of commercialisation, globalisation and digitisation has only further entrenched its social significance and established its conventional rhetorical form. Today, the peer-reviewed research article is a cornerstone of academia, the public face of a highly regulated space.

An ecology of knowledges

Across his comprehensive and decades-long efforts, Boaventura de Sousa Santos has argued that there can be no social justice without cognitive justice. Central to this proposition is his analysis of the "abyssal" nature of hegemonic Western thought that has rendered other ways of knowing and being invisible, erased, non-existent, and thus "justifying the current state of affairs as the only possible one"[25]. As an alternative, he proposes an "ecology of knowledges", a dialogue between scientific and "nonscientific" artisanal knowledges that does not seek to impose hierarchy or a false sense of unanimity. Santos' work is highly relevant to community-based research. He articulates forcefully and thoroughly the complex of ideas, histories and practices that underpin key notions such as plurality, reciprocity and knowledge democracy. His work also contributes to the many long-standing and diverse efforts that critically and creatively re-imagine what it is to "write up" research, or what Lorraine Daston calls "communicative science"[26]. But here, as we embark on these monumental efforts, Santos contributes in largely suggestive ways. He writes:

> The contexts in which the ecologies of knowledges occur create epistemic-political communities demanding other kinds of rhetorical argumentation: instead of technical language, vernacular language; instead of monological narrative, dialogical narrative; instead of explanation, translation; instead of methodological accuracy, intelligible results; instead of contributing to science, contributing to society; a balance between new replies and new questions; neither certainties nor immoderate doubts.[27]

Social semiotics and genre analysis

Dwight Atkinson has commented on the capacity of genre conventions to "look both ways", explaining that they "provide the means by which group solidarity and internal control are fostered … [while] from the outsider's point of view, such conventions also provide barriers to group entrance"[28]. Social semiotics and genre analysis provide a way for me to understand how genre conventions do this purpose-oriented work. As social semioticians Gunther Kress and Theo van Leeuwen explain, "meanings are made in social action and interaction, using existing, socially made, semiotic resources that change ceaselessly in their use"[29]. They make a point that is central to my focus, arguing that "semiotic change necessarily follows on from social change, so that the semiotic resources inevitably lag behind"[30]. Genre analysis thus offers me the tools to identify that "lag", along with other moments of innovation, modification and adaptation that occur, while social semiotics forms the theoretical bridge, a way to connect those rhetorical patterns made tangible on the page with the wider, ongoing concerns articulated by Santos and so many others.

Research questions and chapter overview

I began this introduction with my realisation of how infrequently the journal I am involved with published (and even received) manuscripts by community-based partners as either the lead or sole author. I was struck by the difficulty of deep institutional change, as opposed to its accommodation. I recall US-based authors, Fear and Sandman, who recently declared the need for a "second-wave movement" for engagement, due to their concern over the movement's lack of substantive progress. They write, "in this second-wave movement, we won't contend (as we did before) that *the academy is underengaged* because we will have recognised that the academy has always been engaged–sometimes overengaged and for private gain"[31]. Similarly, it is necessary to ask what sort of second wave movement is required of peer-reviewed research articles, artefacts that have always been engaged in the world, and never more so than when viewed as a mere technical act and outcome of accurate transcription.

The key questions that shape this book owe a debt to critical discourse analyst Norman Fairclough. He writes that four methodological "stages" need to be considered when undertaking critical discourse analysis[32]. I used them as a starting point for the development of my own research questions, outlined below. Fairclough's suggested stages are:

Stage 1: Focus upon a social wrong, in its semiotic aspect
Stage 2: Identify obstacles to addressing the social wrong
Stage 3: Consider whether the social order "needs" the social wrong
Stage 4: Identify possible ways past the obstacle.

My focus "upon a social wrong" and research questions are:

1. The dominant genre conventions of research writing limit the participation of diverse expert contributors in the scholarly communication and dissemination of community-based research.
2. What role do scientific genre conventions play in the scholarly communication and dissemination of community-based research?
    - Who participates, how and why?
    - How do journal processes of external peer review limit or enable participation?
    - How do authors use the dominant genre conventions?
3. What is the purpose of the research article?
    - Why is it important for engaged research and practice?
4. What is the transformative solution?

The original empirical research presented in this book builds on the opening three "pillar" chapters, as outlined above. I begin in Chapter 5 with a relatively well-known method–an online questionnaire survey–then move slowly but surely (I contend) through the systematic genre analysis of various written texts in Chapter 6, before progressing on to the less well-trod pastures of a comparative case study of a non-linear, multivocal and multimodal museum exhibition in Chapter 7. The large Chapter 6 has three sections: one, a genre analysis of peer reviews of manuscripts later declined; sections two and three feature the genre analysis of published co-authored research articles, examining the Introduction and their organisation. To finish, Chapter 8 offers some thoughts on the journal principles that might underpin a community-based research article. It also addresses the question that runs throughout this book: what is the purpose of the research article, for community-based research in particular?

I am not saying this arrangement is a movement from worse to better, or weak to strong–the opposite in fact. The coherence and persuasiveness of this book is very much dependent on its careful progression. With each step, the theoretical and analytical point of entry becomes progressively more precise and more in-depth.

A final note. My interest clearly resides with the research article. In 2016, nearly 2.2 million articles were published: a 56% increase over the past decade[33]. By 2018, this had risen to over 3 million articles per year[34]. The research article is–*it could be*–the tool of the many, a potent means of effecting sustainable and equitable social and cognitive change. However, as Gaventa and Bivens argue, "a linear relationship between democracy and knowledge cannot be assumed. The promises of both the democratic and knowledge society are mediated by power relationships that affect both who participates and whose knowledge counts”[35].

The communication and dissemination of community-based research is an ideal entry point for thinking through these questions. I am aware that a community-led research article may appear to be an oxymoron to some. But it is impossible to start from scratch. In the words of Indigenous scholar Margaret Kovach, “When the rubber hits the road, the practice of Indigenous methodologies will be felt in Western knowledge centres”[36]. What follows are some tentative steps at *naming the conventions* for hitting the road, hopefully in ways that will be seen as relevant, inclusive and reliable for use by others who are also travelling this road.

CHAPTER 2

A BRIEF HISTORY OF THE EVOLUTION OF THE RESEARCH ARTICLE

This chapter was prompted by a question: why do we write research articles in the way that we do? I discovered, quite quickly, that I did not really know. I came to question even the artefact itself–staring too closely at so many research articles that what had seemed familiar before became decidedly strange. The simple-seeming question, "What is this thing?", is not so simple to answer, much less the more complex, "What is this thing we write?". The research article is certainly a thing, an outcome, a powerful example of genre writing, but one that is so thoroughly enmeshed in other things–material, intellectual, economic, social and symbolic–that to call it a written documentation of research barely passes muster.

While the emergence of the research article occurred first in the natural sciences owing to the need to collectively and publicly witness the new experimental methods, the research article is now an integral part of higher education. Throughout the twentieth century, in particular, adherence to the scientific method was deemed necessary by other academic disciplines, such as the social sciences, if they were to attain equal standing with the "hard sciences" in institutional and societal legitimacy and credibility. The broad scientification and market-based modernisation of life more generally extended from the school and workplace to environment and home. The research article has been the key communicative means by which modern universities have established their dominance as expert producers of "new knowledge". Community-based researchers communicate and disseminate their scholarly research through the peer-reviewed research article, too, just as every other field of research does. A thoroughgoing understanding of this mode of production is thus needed, in which writing "as information [is] to be set aside from writing that has poetry, humor, luck, sarcasm, leg pulling, the art of the storyteller, and subject becoming object"[1]. Thus, a primary aim of this chapter is to explore the research article, from multiple, interconnected angles–semantic, social, commercial and technological. It does so through a selective overview of the evolution of the English-language research article over the past 350-odd years.

Alongside its ubiquity, the research article as a form of genre writing has an air of ahistorical purity: that it just *is*. Bazerman argues that "this attests to the success of scientific language as an accomplished system [in which] the apparent transparency of the system to the latercomers is something then imputed back to the firstcomers and makers of the system"[2]. A major contribution over the past few decades by discourse analysts and other scholars has been to explore how the globally recognisable form of the conventional empirical research article belies its contested, creative, purposive evolution[3]. A central theme of much of this research has been to show how the development of Western science constitutes more than a grand historical event unfolding without influence on the emergence and stabilization of the genre conventions of the research report. And equally, that the evolution of those rhetorical and linguistic characteristics of written research had no bearing on the larger story of the "scientific form of life"[4].

This chapter draws on many sources and disciplines, most especially those of genre analysis, histories of science and information science. Together, they comprise my necessary anchoring points in this unavoidably sweeping discussion: one, that the research article is a form of genre writing; two, it is socio-historically constituted; and three, as a consequence, it is subject to and part of change. Genre analyst John Swales has aptly summed this up in his description of the research article as "a dynamic textual institution undergoing, like nearly all genres, continuous if slow evolution"[5]. The technological developments of the past few decades, for example, have produced enormous changes in both what gets published and how, with potential for more to come. Yet how this technological potential might be harnessed, by whom, and for whose benefit, are issues which have characterised the entire history of the research article. The current push to expand free and open access to the published results of publicly funded research, for example, is not entirely dissimilar to seventeenth-century negotiations over whose Letter to the Editor should be published.

The chapter is organised around the following themes that are also largely chronological: the evolution of the research article as a privileged form of witnessing; the impact of digitisation and online publishing; article standardisation; evaluation through peer review; innovations in the "born-digital" era; and authorship guidelines. While necessarily selective, I highlight some of the active and persistent efforts by leading individuals and institutions to encourage (and even at times mandate) the adoption of specific genre conventions and practices for the proper communication and dissemination of scientific and academic research, as well as the many incremental changes that have occurred. This chapter recognises in the evolution of the research article its very contested, situated, socially shaped development, as well as its socially-*shaping* potential. This understanding may rob it of some of its ahistorical purity but grants it greater possibility and us, greater agency.

A privileged form of witnessing

This discussion begins with the founding in 1665 of the first and, for many decades, the most influential English language scientific journal, *The Philosophical Transactions of the Royal Society of London*[6]. (The French *Journal des Sçavans*, established by Denis de Sallo, appeared just two months before, in January 1665. It is considered the first European academic journal.) *The Philosophical Transactions* was established by the Royal Society of London for Improving Natural Knowledge, itself founded only shortly before, in 1660. Within just a few years, the Royal Society had been granted a royal charter, giving it privileges held then by few other institutions outside of State and Church. Most crucially, the charter included permission to print without government censorship[7]. The speed of this is testament to the privileged, well-connected membership of the Royal Society. It is all the more remarkable given the major events at the time in England–in particular, the recent Restoration of the monarchy under Charles II in 1660, following the civil wars and Interregnum (1649–1660). State and Church were actively and punitively reasserting control, and the production of and access to knowledge was sharply curtailed.

Steven Shapin has described the careful manoeuvrings of these nascent scientists during this time as a "finely focused" scepticism towards the universities, whose teachings were then dominated by Aristotelian scholasticism[8]. In contrast to their famously disputatious methods, the Royal Society sought to establish itself as an inherently genteel space, one for men of independent mind and means, whose very character could vouch for the disinterested credibility of their activities and findings[9]. Influenced by powerful figures such as Francis Bacon (1561–1626), the Society argued for the primacy of studying the natural world through new mechanical tools and experimental methods, as well as the communal and public nature of their research endeavour. *The Philosophical Transactions*, which began by publishing the proceedings of the Royal Society meetings, was an integral part of this delicate social and political balancing act. Shapin and Schaffer have written that the "public space insisted upon by experimental philosophers was a space for collective witnessing … what in fact resulted was, so to speak, a public space with restricted access … restricted to those who gave their assent to the legitimacy of the game being played within its confines"[10].

At the heart of the new science was the experimental use of mechanical instruments such as the newly invented microscope, telescope and air-pump as a valid means for representing and investigating the world, producing empirical matters of fact that comprised the proper foundation for an objective and true account of the natural world. This new natural philosophy thus challenged traditional ideas of both what could be known and the proper means for attaining and sharing that knowledge. Nevertheless, its adherents were quick to assert that the new science was in no way incompatible with belief in a Christian God. As Shapin explains, in the early modern period, "it was widely said that God had written two books by which his existence, attributes, and intentions might be known"[11]. One was Holy Scripture; the other was the Book of Nature.

A crucial figure in the journal's early success and development was Henry Oldenburg (1619–1677), one of the Society's first two secretaries. Fluent in European languages and Latin, he corresponded with a wide network of natural philosophers, instituting the mediated publication of their letters as well as the regular Society proceedings. Atkinson writes that Oldenburg turned "these seemingly mundane duties into an art; in so doing, he in some ways *invented* the scientific journal"[12]. Over fifteen years, his copious correspondence–over 3000 letters–demonstrates the early importance of the letter form for genteel men of science and the role of the editor in skilfully removing potentially "divisive or disruptive" elements from the public realm[13]. By establishing boundaries between what could be shared and what should remain private, Oldenburg helped create the "social characteristics and social boundaries" of natural philosophers in the seventeenth century[14].

If Oldenburg was finely attuned to the social and political context of his time, so too was his patron Robert Boyle (1627–1691). In particular, Boyle was alert to the importance of consistency in their writings, as a powerful means to establish the legitimacy and credibility of the new science. Boyle provided explicit instructions to fellow experimentalists on the ways in which facts should be made visible on the page to best demonstrate their independence from theory and supposition. For example, Boyle argued for a clear textual separation between the reporting of facts regarding natural phenomena and any speculative reflection on causes (which was more properly the realm of theology); modesty in tone and content (shown by the reporting of failures, for example); and an unadorned style of writing, indicative of the undistorted integrity of the experiment and experimenter. As Boyle argued, a "florid" style was like painting "the eye-glasses of a