

PART I

Introduction



I

Creative research communication

Internationally, public engagement and communication has become an important aspect of research and policymaking, allowing research establishments, and their researchers, to explore public perspectives on their work as well as providing access to research findings to wider publics. Alongside this, a considerable research communication and public engagement community has emerged, who are interested not only in the design, techniques and methods for research communication and engagement but also approaches to communicating creatively and evaluating the impact of such work. This community encompasses a broad range of disciplines, from practical engagers through to researchers studying how and why such practices emerge, as well as their wider influence and impact. The community is interested in research communication and public engagement activities emerging from a wide range of subject areas, particularly the sciences, but also the social sciences, humanities, mathematics and the arts. Though research communication activities are well established in the United Kingdom, there is extensive work occurring at an international level which warrants attention and sharing beyond national boundaries.

Science communication

Taking the sciences as a starting point, the time since the mid-1980s has seen an increased interest in how best to communicate scientific issues. Science communication, broadly understood to focus on the public communication of scientific subjects to non-experts, was brought to the fore by the highly influential Bodmer Report, titled *The Public Understanding of Science*, in 1985 (The Royal Society 1985), and subsequently the scientific community has been under sustained pressure to undertake

public communication and engagement activities. That is not to say that communication did not play an important role before this time; in fact, as will be documented in Chapter 2, the sciences have a long record of attention to the role of communication and education. Nevertheless, the mid-1980s marked a resurgence of effort and thinking where science communication is concerned (Wilkinson, 2010). Scientists were not only encouraged to communicate their work but were provided with funding, training and support to go about this, with an assumption that improved communication would assist in resolving issues associated with poor public understanding. This paralleled work in formal educational contexts which, since the middle of the twentieth century, had sought to improve scientific literacy internationally (Wilkinson, 2010; DeBoer, 2000). However, as many scientists were considering the role of communication in their work for the first time, some approaches were marred by reliance on a theory which became known as the ‘deficit model’, an assumption that communication follows a straightforward and linear process, whereby the main problem to be solved is public ignorance of scientific issues (Wilkinson *et al.*, 2011a; Irwin, 2009; Trench, 2008). This distorted many complex scientific issues which were emerging at that time; issues that were not simply about understanding, but about motivation, trust, ethics and power, to name but a few of the complexities. Science communication then had two functions:

Science communication has emerged in recent years as an area of research and practice in its own right. Its origins can be traced to a practical concern with how to disseminate scientific knowledge from specialist communities of scientists to diverse audiences such as policy-makers, journalists and wider publics. However, what started as a set of practical questions about how to communicate science soon bumped up against theoretical questions shared by the field of science and technology studies. (Doubleday, 2009: 26)

Thus by the turn of the millennium, science communication embraced a language of dialogue, context and engagement, alongside a more critical consideration of the role of research communication. No longer would science communication be only about communicating ‘one way’ (though this was and is still evident in many science communication approaches); instead there was to be room for consultation and participation (Wilkinson *et al.*, 2011a; Rowe and Frewer, 2005). Marked by a whole range of approaches, from dialogue events to online consultations, and citizens juries to consensus conferences, science mirrored trends occurring in many other fields by embracing (at least verbally) a broader agenda for engagement (Davies *et al.*, 2009; Chilvers, 2008; Davies, 2008).

At first many such communication and engagement initiatives were primarily focused on ‘STEM’ subjects (science, technology, engineering and maths), an acronym which originally emerged in the United States. Over time as the infrastructure for ‘science’ communication has increased, we have seen an extension of this conversation, with some now proposing a model which includes the arts and design: STEAM (science, technology, engineering and maths, art and design, or science, technology, engineering, art and mathematics, depending where you are based; see <http://stemtosteam.org/>, <http://steam-notstem.com/> as examples). STREAM has also been proposed which would add religion and the arts to the mix, whilst STEMM also incorporates medicine. It is perhaps easy to overlook the role of the social sciences within these acronyms, perhaps on the assumption that they would fall within the ‘science’ category, but it is important to remember that such disciplines are rarely fully recognised within the typical ‘science’ communication activities encompassed in STEM agendas and therefore they may warrant an additional reminder.

Aside from an awareness of the acronyms (of which there are also many more iterations), there is the problem of distinguishing disciplines. Bastow *et al.* (2014) estimate there to be a multitude of disciplines that make up the social sciences, arts, humanities, science, technology and engineering – often with no standard international definition or consistency around which groupings feature where – for the purposes of research funding for example. This complex web of disciplines becomes further complicated by subjects, such as geography, that overlap the social sciences, arts and design, as well as STEM subjects (Bastow *et al.*, 2014). In some spaces disciplines will be collaborating, in others competing, and it is a network likely to become ever further complicated by the emergence of increasing multi- and trans-disciplinary working. While this may encourage an extension of science communication approaches to other disciplines and agendas, it is important not to forget that many disciplines are forging their own paths where research communication is concerned, and to recognise the unique features of some subject areas, as well as their commonalities.

The institutionalisation of public engagement

In the context of the United Kingdom, and to an extent Europe, we are currently in a period of initiatives which some have described as ‘the institutionalisation of public engagement’ (Maile and Griffiths, 2014a:16). Public engagement, loosely framed, involves researchers conversing with, listening to and engaging with non-experts. The institutionalising of this agenda would include initiatives such as the establishment of a

National Coordinating Centre for Public Engagement (NCCPE) in 2007 which sought to liaise with UK universities nationally to support their work with members of the public, as well as the inclusion of public engagement within impact criteria in the national Research Excellence Framework (Maile and Griffiths, 2014a). Public communication and engagement thus has the potential to influence a university both financially and in terms of its research ranking. We would add to these types of structural changes additions to funding criteria, which now promote the inclusion of research communication within research funding applications as ‘pathways to impact’ and increasingly seek to enable researchers to take ownership of engagement activities, rather than have them conducted by others on their behalf. For instance, a number of schemes that previously supported engagement activities on their own, post research, have now been encapsulated within more traditional research applications as part of dissemination, communication or engagement ‘packages’. This means that the researcher must now take a more central role in the communication of their own research. As Maile and Griffiths (2014a:17 emphasis in original) describe, such approaches indicate not only an instrumental perspective of knowledge but also a ‘*centralised diktat*, rather than voluntary participation’ where public engagement is concerned.

There are perhaps reasons why researchers from the arts, social sciences, design and other such disciplines (including the sciences) are wary of such developments. Whereas in the late 1990s it would have been a researcher’s own choice and desire to communicate, sometimes in the face of a lack of support at department level, this offered them a certain freedom to use communication techniques of their choice, perhaps relating these to their disciplinary area or on their own terms. New institutional incentives to engage and communicate offer benefits in that researchers may be better recognised or supported in their activities, for instance through promotional criteria, but this may also change the quality, individuality and motivations for communicating publicly. Those researchers who hold communication as something central to their role, carry it out for personal enjoyment or who only see quite tangential benefits, may question the broader drivers and the impact they may have on the actual engagement that takes place. As such, research communication poses questions not only for individual researchers but also for their broader disciplinary homes.

Public disciplines

Beyond the boundaries of what is being encouraged by institutional and policy initiatives, a number of disciplines have been engaging in

conversation around their own ‘public’ standing. Some of these conversations have included the idea of ‘public’ disciplines such as ‘public sociology’ and ‘public criminology’, encouraging professional disciplines to think about how they can engage with publics and stakeholders outside academia, and what responsibilities they have regarding wider public agendas (Loader and Sparks, 2011; Braga *et al.*, 2008; Sprague, 2008; Turner, 2007; Burawoy, 2005). These approaches seek to encourage academics to actively participate in public debates of relevance to their fields, providing their knowledge in more public ways (Burawoy, 2005).

It may seem surprising that certain areas of social science are now debating this type of public role, as it might be assumed that because they explore social issues, social scientists are more likely and able to communicate their work. However, some subjects, like crime and justice, sexuality or religion, can be controversial and, although this might make them particularly newsworthy, researchers may see themselves as needing to keep out of the debate. They can also be issues which have significant personal relevance to people, and some researchers may feel they are walking into a ‘hot climate’ if they communicate publicly about their research (Loader and Sparks, 2011: 2; Grauerholz and Baker-Sperry, 2007).

Nevertheless, a decade of increased financial and funding pressures across all subject areas has led to a heightened awareness of the need for a discipline to display its social worth, and there have been various discipline-based ‘campaigns’ which have lobbied for the importance of a particular field. This focus on demonstrating the public relevance of research is not without criticism. In the arts, for example, there is strong opposition from some researchers to what is perceived as an instrumental approach to arts funding, with artists calling for ‘art for art’s sake’ (Belfiore and Bennett, 2008). Concerns particularly arise about funding streams that encourage artists to work with researchers from other disciplines with a view to helping to communicate their research, in what some artists perceive as a handmaiden role (see Chapter 5). Whether you are a social scientist, scientist, artist or engineer, deciding to communicate your work publicly is something that warrants careful consideration and planning on the part of the individual. Your discipline is now more likely to stand behind you, but at the same time individuals can face particular concerns when at the ‘forefront’ of that communication effort.

Public intellectuals

Aside from pressure to demonstrate the impact of research, there has also been a renewed interest in the role of academics as ‘public intellectuals’,

particularly as public intellectuals are perceived to be in decline (Eliaeson and Kalleberg, 2008; Posner, 2003). Furedi's (2004: 2–3) critique of the role of universities and the level of public discussion they now generate describes a setting where intellectual furore has been marginalised, where art, culture and education are seen as instruments only of practical purpose and 'engines for economic growth'. He identifies this as an accident of the 'new ethos of managerialism that dominates cultural and intellectual life'. Whilst we might assume that calls on intellectuals to take a greater role in public life would naturally align with increased opportunities for research communication, there are some important aspects to bear in mind with regard to Furedi's argument. Crucially, he is critical of the way that knowledge is now frequently operationalised to appear 'ordinary': 'instead of affirming their authority, the cultural elites appear more interested in appearing relevant, accessible and in touch with popular opinion' (Furedi, 2004: 5–6). Intellectuals are therefore increasingly drawn to appear faceless and professionalised, which Furedi argues diminishes the cultural value of their work, their potential to be taken seriously or to be disruptive protagonists. Furedi explores the paradox that we live in a flourishing knowledge society where at the same time knowledge is being packaged in banal and mundane ways for marketing, consumption and transmission, with value placed in its receipt, above its content. Ever-expanding opportunities for life-long learning, formal education attendance and museum and cultural visits, according to Furedi (2004), may neglect their greater purpose and value. 'There is a new breed of university managers, museum and gallery directors, and "knowledge" entrepreneurs who regard the content of culture and ideas with indifference. Their concern is to use culture to achieve an objective that is quite separate from its inner content' (Furedi, 2004: 3). Furedi posits that 'a precondition for expanding genuine public engagement is the provision of standards equivalent to the best that society has to offer' (Furedi, 2004: 23–4). Thus, whilst Furedi (2004: 108) and others call on academics to fulfil the role of public intellectuals (Calhoun, 2009), they also speak against managerial agendas that see research communication from its instrumental perspective alone; 'bite-sized, easily standardized effort that can be easily measured, weighed and served to an infantilized public'.

This book explores ways that academics can begin to take on Furedi's challenge, stepping up to the role of public intellectuals, by participating in the public sphere through discussion of their research. Whether it is through contributing to political discourse or more practically to policymaking through provision of evidence (Chapter 8), participating in public debates and discussions either in person (Chapter 4) or through the media (Chapter 7), there are opportunities for researchers

to take on the role of public intellectuals, contributing to society in many different ways beyond the direct benefits that their research may have. By considering the plurality of publics and their diverse needs and interests, it is quite possible to find a communications niche that neither offers up bite-sized chunks of research nor conceptualises the public as lacking the capacity to consider the myriad of issues raised by research, but instead explains and considers thoughtfully the value of research endeavours and their potential benefits to society.

Research online

Compared with when Furedi (2004) was admonishing academics to take on this public role, the opportunities for researchers to participate in the public sphere have changed dramatically, though many of these opportunities may more easily fulfil more simplistic managerial agendas rather than enable academics to take on the role of public intellectual. Twitter could not be a better example of a 'bite-sized effort', given that it requires research to be summarised for the public in 140 characters or less, though academics might use Twitter to promote more substantial blog contributions. Digital and social media have had an impact on researchers' professional practices in a broad variety of ways, from access to the latest literature, to research collaborations across continents and changes in how data can be accessed or manipulated, as well as the introduction of new research methods. The sheer proliferation of available information is perhaps the most obvious ramification for researchers' professional communication; for instance, some estimates suggest that in the field of medicine two new papers are published per minute (Chalkstream Communications, 2014). From a research communication perspective, however, digital and social media have also opened up opportunities to reach stakeholders and publics (see Chapters 6, 7 and 9). It is now straightforward to create a public blog and many researchers are actively using social media, both for professional communication and to make their research more widely available. However, the plethora of opportunities to communicate online brings challenges, in terms both of choosing the best platform and of generating a readership or followers. Managing and maintaining a strong digital profile also takes time, potentially eating into the periods available for other professional activities.

Research communicators

The years since the mid-1980s have therefore encapsulated many changes for researchers at all levels who are interested in communicating their research. Much has been learned in science communication

about what does and doesn't work, and why, whilst other disciplines have been reflecting on their own role in research communication processes. From an individual perspective the students of today are more likely to see communication and engagement training featuring in their plans for the future; whilst the growing institutional and policy infrastructure to support and encourage communication and engagement, particularly when applied to research impact, is subtly altering the possible incentives and disincentives for participation. Thus, these are important times for research communication and, rather than respond only to 'diktats' which may diminish research communication to a tick-box exercise, we would see it as a time to embrace opportunities for creative research communication approaches and to prove their worth. This is an era to channel creatively away from metrics or 'one size fits all', and to engage in ways that work for you as an individual researcher in the context of your own disciplinary potential and desires, and that embrace and recognise the ways that people beyond the context of an organisation or university may creatively add to your research process as well as experience benefits of their own. This book seeks to create a space for creativity as one way to encourage the integrity of research communication activity, and to see research communication as an art, a craft or a conversation, as much as a science, a method or an attainment.

What is creativity?

Novel, new and imaginative are words often associated with creativity, which might be defined as the act of generating something inventive. Boden (2004) defines creativity as ideas or artefacts that are new, surprising and valuable. The use of 'valuable' in her definition suggests that for something to be creative it needs to be recognised as having some worth (whether monetary or in another domain, such as usefulness or visual appeal to the creator). Csikszentmihalyi (1996) also highlights that creativity needs to have some value to society. He explored creativity by interviewing exceptional thinkers, those whose contributions to their field are widely recognised, such as Nobel laureates. It is therefore not surprising that his definition draws out the exceptional aspects of creativity, arguing that creative individuals are those whose work is recognised by their peers and whose ideas are widely adopted in their fields (or more generally in society). Thus, Csikszentmihalyi (1996: 25) defines creativity as being 'to bring into existence something genuinely new that is valued enough to be added to culture'.

Most definitions of creativity now include this notion of value, either to society as a whole or to the relevant field of activity. Simply being novel is

not sufficient: that novelty must be recognised by others, normally others with expertise in the field or domain. Amabile (1996) highlights the evaluative nature of this definition of creativity and its focus on the creative product or output, rather than on the processes by which such creative artefacts arise or on the people who create them. She also adds a condition to the definition of creativity that focuses on the process through which creative products arise: that they must be generated through heuristic rather than algorithmic processes. As Amabile (1996: 35) puts it, ‘heuristic tasks are those not having a clear and readily identifiable path to solution – tasks for which algorithms must be developed’.

Csikszentmihalyi and Amabile, through their focus on novelty and recognition by a peer group, set the expectations of what would be judged to be a creative contribution higher than most research communication projects are likely to aim, particularly as creativity is rarely the primary purpose of research communication. So, in this context it is worth considering other definitions of creativity which might also shed some light on the value of creative communication approaches both to the research communicator and to those participating in the communication projects.

David Gauntlett, in his book *Making is Connecting*, suggests that what he calls ‘everyday’ creativity is part of what it means to be human, that we as a species inherently find creative acts both interesting and satisfying. ‘Going through the thoughtful, physical process of making something – such as a video, a drawing, a decorated box, or a Lego model – an individual is given the opportunity to reflect, and to make their thoughts and feelings or experiences manifest and tangible’ (Gauntlett, 2011: 4). Maslow (1970), in his theory of motivation, suggests creativity is part of self-actualisation, and many others have argued for some type of ‘personal’ creativity (e.g. Richards, 2007; Craft, 2003; Runco, 1996). Boden (2004) argues that everyone is creative to a degree and suggests that what is important to creativity is that the idea is new to the individual (rather than new to society as a whole). Gauntlett terms this ‘everyday creativity’, which he defines as:

refer[ring] to a process which brings together at least one active human mind, and the material or digital world, in the activity of making something. The activity has not been done in this way by this person (or these people) before. The process may arouse various emotions, such as excitement and frustration, but most especially a feeling of joy. When witnessing and appreciating the output, people may sense the presence of the maker, and recognise those feelings. (Gauntlett, 2011: 70)

This level of everyday creativity is much more readily achieved, and one which we could aspire to in developing creative approaches to research communication. It focuses on the process of creating and the

impacts that this may have on the maker(s) or communicator(s) and allows for the development of communication approaches that are new in a given context. Although the ‘participants’ don’t feature in this definition beyond that they will recognise the feelings of the maker, it does allow for participants to become part of the project creation and to share in the satisfaction of participating in a creative experience.

We might, then, think of creativity as coming in different levels, from that which is widely acknowledged by society (the type of creativity discussed by Csikszentmihalyi) to that which is widely practised by individuals (as outlined by Gauntlett). These different levels can also be applied to research communications: some communication projects are recognised as truly innovative or ground breaking. These are the projects that ‘go viral’, with similar projects springing up elsewhere in the world or being adapted to new research contexts. Examples might be formats such as FameLab, which has spread widely throughout the world, or citizen science projects such as the Zooniverse projects that mobilise interested citizens to process data (and at the same time learn about the subject area). On a more individual level, there are many examples of creative approaches to communication, including blogs and websites run by individuals or research groups, outreach projects aimed at school children and research taken to unusual venues, such as music festivals. What makes these projects creative is the way that they combine elements of research communication in novel or unexpected ways and/or introduce new and unexpected aspects (such as creating open source instruments that allow communities to research local issues).

Why is creativity important in research communication?

Why would we want to invest the time and energy in coming up with a creative approach to communication rather than trundling out a tried and tested method? Such tried and tested approaches, by the simple fact that they’ve been done before and their bugs have been ironed out, are fairly low risk and can provide excellent opportunities for public communication and engagement. As research communication has increased it can be challenging to come up with something that is entirely original, and there is certainly nothing wrong with using communication approaches that have been shown to work in the past.

However, research itself is a creative act in the sense that it involves generating and exploring ideas. Most researchers, at times, enter what Csikszentmihalyi (1996) calls ‘flow’: a state of pleasure and passion associated with complete focus on a task; a sense of clarity that everything is clicking into place. He argues that we should seek ‘flow’ in more aspects of our everyday lives. Developing a new approach to research

communication can generate this same sense of focus and achievement. Put simply, thinking creatively about how to communicate new research can and should be fun. It also allows innovation; your innovative approach to communication could solve a particular problem in research communication (such as how to communicate a particularly difficult concept or how to reach a particular group of people). Moran (2010) suggests that one of the key roles of creativity is to enable society to innovate and change. As she points out, some innovations work well and are widely adopted, others may be less popular or judged less effective and fall by the wayside. Taking a creative approach is, therefore, not without risks.

It also need not be a lone exercise; though we may still think of the creative genius as a solitary individual, much creativity arises through collaborative endeavour (Sonnenburg, 2004). Sonnenburg defines a specific type of system which enables collaborative creativity to emerge, which he calls a 'creaplex' (from the Latin *creare in complex* – to create in collaboration). A creaplex requires a problem around which the collaboration forms. Successful collaborations produce a novel response to this problem – for example, a novel approach to communication. Galaxy Zoo is an example of just such a creative response to a problem – in this case the problem of how to process the one million images produced by the Sloan Digital Sky Survey.

Amabile (1996) identifies a number of factors which can promote or hinder creative processes. Learning techniques that promote heuristic thinking and strategies to play with ideas are seen to be enablers; as are organisational structures that promote independence and recognise creative thinking (but don't necessarily reward it directly), encouraging people to work creatively without feeling they are under surveillance. Barriers to creativity include stress, competition and lack of external support. Edwards (2008) argues that creativity arises when you think differently and he advocates combining approaches from both the arts and sciences to create what he calls 'artscience', a process whereby 'science mixes with art and art with science, and in the process neither merely serves the other' (Edwards, 2008: 41). In this milieu, where innovators move in an artistic and scientific culture, creativity is catalysed. Edwards defines this process of translation:

Idea translators (1) passionately espouse some idea that they aim to realise in the arts or sciences; (2) study deeply and open themselves to invigorating new experience in science (if trained in the arts) or the arts (if trained in the sciences); (3) struggle against stiff resistance from colleagues and sometimes even their intended audience; (4) repeatedly test and frequently see their original idea evolve in unexpected ways in this

new environment; and (5) throughout it all maintain a determination to arrive at an original artistic or scientific expression. (Edwards, 2008: 21)

Edwards suggests that creativity arises when individuals are passionate about their ideas, but also willing to explore different ways of thinking. This allows them to step out of the usual conceptualisations of the problem and draw on divergent thinking to look at the issue in a new way. It is this willingness to explore the problem from unusual angles, such as considering how artistic interpretations might help to resolve a scientific problem, or vice versa, that enables a truly creative or innovative response to the problem.

Creativity is like play, and like play it can be fun. Taking a creative approach to your research communication will allow you to play around with ideas, test potential approaches and, with practice, it should lead to creative outputs that not only give you pleasure but that allow your audience to recognise and enjoy your inventiveness. Furthermore, you can design projects which offer participants an opportunity to explore and be creative; this can enrich the experience for some participants and offer additional ways to think about the role and value of creativity in research communication. Ultimately, creativity may become a goal of research communication itself as you challenge yourself to try out new and novel approaches, evaluating each against your own criteria of success.

Creative research communication

This book is designed for a variety of readers: public engagement practitioners, policymakers, science communication students and those based in research settings who are seeking to communicate to and engage others with their research. We have tried to keep the writing engaging, straightforward and conversational, catering both for those who are novices to research communication and also for professionals and academics looking for direct, practical and timely advice from the creative contemporary critical international landscape. The book contains short, snappy chapters that are intended to be an easy but thought-provoking read. Each chapter includes key tips and advice, as well as further resources. Case studies provide tangible examples of the ideas in the book. We have attempted to include as many international examples as possible, and have chosen ones for which at least some materials are available in English, so that readers can find out more about them. We have also sought to provide examples across a range of disciplines, as well as drawing on examples from our own work at the University of the West of England, Bristol. In order to avoid the chapters becoming

cluttered we have included full web address details only where a website, project or activity would not be easily identifiable through a search engine.

In Part I we continue our introduction to the context of research communication. Chapter 2 explores the role of research communication over approximately four hundred years, taking in the relationship between public and professional communication, the role of museums, galleries, exhibitions and publishing. In Chapter 3, we consider how people can be involved in research communication as audience members or participants, as well as considering key concepts such as audience segmentation and behaviour change.

Part II moves on to consider more practical advice and critical reflection on the means for research communication. In Chapter 4 we examine face-to-face approaches, how the likes of museums, science centres, galleries, festivals and other venues, as well as the research process itself, can provide opportunities to communicate your research in person. The context of the arts is considered in Chapter 5, first exploring the relationship between science and the arts, then exploring audiences for the arts and how the arts can encourage participation and collaborative practice and finishing with some reflections on the specific consideration of impact where the arts are concerned. Chapters 6 and 7 move to online contexts, exploring digital communication and social media, respectively. In Chapter 6, the role of Web 2.0 sets the scene, before exploring how people engage digitally through activities like video, digital storytelling and gaming. Chapter 7 considers both traditional and social media. The chapter offers advice on writing for both types of media as well as examining how researchers can create a digital profile through approaches like blogging, visual communication and social networking. It is worth mentioning at this stage that traditional media are touched on only briefly in this book, largely because there is already a wealth of material available to facilitate researchers' contributions to these media. Chapter 7 does provide pointers to other resources designed to encourage and facilitate researchers' interactions with traditional media, but focuses only on those areas where we perceive that there is a gap in this information. Chapter 8 examines deliberative approaches to research communication, particularly unpicking the context of 'engagement'. As well as considering engagement with members of the public, the chapter includes content on how to engage policymakers with research. Chapter 9 finishes Part II and explores public contributions to research and how the research community can help to enable communities to tackle the social and scientific issues that they face using research methodologies and open source tools. This chapter covers researcher-instigated projects, under the heading citizen

science, before moving on to explore community-initiated research and, finally, do-it-yourself (DIY) approaches.

Part III reflects on broader issues that cross all the communication approaches discussed in earlier chapters. In Chapter 10 we examine how research communicators might think about the impact of their communication activities, both how these can be evaluated and what considering research communication as part of research impact may mean for the future. Chapter 11 looks at the issue of ethics, providing practical advice and guidance for research communicators seeking to create activities and projects in an ethical way, as well as debating the need for a greater consideration of ethics within the context of research communication as a field. Chapter 12 provides some final conclusions on how you might share and disseminate the outcomes of your research communication activities, before offering a series of concluding remarks on the book overall.