

An Empirical and Conceptual Note on Science Communication's Role in Society

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Abstract

This research note explores the nature of science communication's role in modern societies, using data from a qualitative interview study with scholars and teachers of science communication and discussing this in light of science communication literature. Six types of roles for science communication within society are identified: It is said to ensure the accountability and legitimacy of publicly funded science, have practical functions, enhance democracy, serve a cultural role, fulfil particular economic purposes, and act as promotion or marketing. These arguments are examined and their implications for science communication research and practice discussed.

Keywords

science communication, societal role, democracy, accountability

This research note parses out some of the reasons why science communication scholars and scholarship say that public communication of science is important to wider society. In doing so, the note seeks to contribute to an

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extensive but diverse body of work that has explored the role and place of science communication in the contemporary world. The starting point for the note is that, while it is hard to find many people who argue that science communication is *not* important, or that it *shouldn't* receive public funding, literature that has clearly articulated the reasons for this importance is scattered and incomplete. This short contribution thus seeks to offer a summary and language for thinking about the societal value of public communication of science.

I begin by briefly reviewing ways in which the role of science communication in society has been discussed in science communication literature. I then introduce the research on which my empirical discussion draws and outline its key findings, identifying five ways in which interviewees talked about science communication's role in society: It might ensure the accountability and legitimacy of publicly funded science, have a pragmatic or practical function, enhance democracy, serve a cultural role, or have promotional or marketing purposes (a role that is, however, often framed in negative terms). Finally, I discuss these findings in light of the literature and of science communication practice, adding a sixth role, that of economic growth.

The Role and Value of Science Communication in Society

It is not possible, within the scope of this note, to comprehensively review all literature that has discussed the value and role of science communication. Instead I want to outline some particularly central work that has attempted to catalogue or organize discussions of its value to society. Importantly, I am delimiting this summary by, first, focusing on discussions of the *societal* value of science communication (and thus ignoring statements and analyses of personal motivations and benefits of involvement in public communication for scientists; see, e.g., Horst, 2013; Martin-Sempere et al., 2008) and, second, examining only academic (rather than practitioner) literature. While there is a rich tradition of scientists (and others) arguing for the value of public communication (e.g., Hyldgård & ScienceNordic.com, 2014; Nature, 2004; Safina, 2012), here I want to focus on work that has attempted to organize and categorize such arguments.

It is worth starting with a text that is in many ways foundational to the field: Durant et al.'s (1989) answer to the question "Why should anyone care about the public understanding of science?" They write that

First, science is arguably the greatest achievement of our culture, and people deserve to know about it; second, science affects everyone's lives, and people

need to know about it; third, many public policy decisions involve science, and these can only be genuinely democratic if they arise out of informed public debate; and fourth, science is publicly supported, and such support is (or at least ought to be) based on at least a minimal level of public knowledge. (Durant et al., 1989, p. 11)

The list gives us some early clues as to shared assumptions regarding science communication's importance (its cultural value, or its role in democracy), but its points are not further elaborated within Durant et al.'s (1989) discussion. More extended accounts are given elsewhere in science communication literature. In the context of teaching and training, a number of articles have either framed how science communication's societal goals should be taught (Baram-Tsabari & Lewenstein, 2017a, 2017b; Mercer-Mapstone & Kuchel, 2017; Seethaler et al., 2019) or investigated how, in practice, such teaching is carried out (Besley et al., 2016; Besley & Tanner, 2011; Bray et al., 2012; Yeoman et al., 2011). While these accounts mobilize different languages for discussing the aims of science communication, and often focus on skills connected to content production rather than on reflection about the effects of communication, they incorporate teaching goals such as encouraging reflection "on science and science communication's role within society; on processes, concepts, and institutions of science communication; and on [participants'] own process[es] of learning about and doing science communication" (Baram-Tsabari & Lewenstein, 2017b, p. 294) and thus suggest that an integral part of becoming adept in science communication is the ability to reflect on its role in society. Indeed, one recent study of researchers' goals for their science communication activities (Besley et al., 2020) takes "public-oriented goals" such as "ensuring that our culture values science" and "helping people use science to make better personal decisions" (pp. 3-4) as its key focus. This material thus suggests that, while there are multiple potential roles that science communication may play in society, reflection on these is key to successful practice.

The societal value of science communication is treated at greater length within discussion of public engagement and participation (understood here as one form of science communication; Bucchi & Trench, 2014). Arguments for participation, deliberation, and dialogue have always made the case that these forms of science communication are important exactly because they play a role in the correct functioning of democratic societies. Fiorino (1990), for instance, offers three arguments against what he calls a purely "technocratic" orientation in risk governance: a substantive argument (whereby science can benefit from the knowledge or perspectives of lay publics), a normative argument (that "a technocratic orientation is incompatible with democratic

ideals” p. 227), and an instrumental argument (that participation is necessary to confer legitimacy on technoscientific decisions). Later literature has been broadly critical of instrumental rationales, which, as Stirling (2008) argues, focus on “secur[ing] particular ends, favored for (often tacit) proximate reasons independently of more widely deliberated social values” (p. 269). In the context of science communication and public engagement, these “ends” have often been public acceptance and trust; a central critique, then, has been that public participation “hits the notes but misses the tune” (Wynne, 2006) by instrumentalizing processes that should enable deep democratic engagement with the purposes and structures of science. As Stilgoe et al. (2014) write, in a retrospective of contemporary public engagement, authors in this tradition “share a normative commitment to the idea of democratic science policy, and have argued that public engagement can be a part of this” (p. 5). Work on participatory and dialogic forms of science communication has, therefore, taken for granted that this is valuable to society because it contributes to democracy (specifically, democratic science policy).

We find related arguments in emerging work around the ethics of science communication. In discussing ethical issues in public communication, Priest (2018), for instance, makes a distinction between “strategic” and “democratic” communication, where the former serves “the strategic interests of the communicator or those the communicator represents” and the latter serves “the interests of democracy” (p. 57). Science communication is thus framed as being oriented either to democracy or to more individual or corporate goals. Medvecky and Leach (2017, 2019) are also concerned with ethics of science communication and the inevitable entanglement of these with questions of its role in society. They outline a variety of approaches to engaging with ethics, many of which are, however, fundamentally based on the question “how do we use communication to create more good in the world” (Medvecky & Leach, 2019, p. 10) and thus frame science communication as ideally having a positive impact on people and groups. Discussion of epistemic justice in the context of public communication (Medvecky, 2018) similarly takes as a starting point the idea that knowledge is a “resource,” and that anyone who cares about social equity and justice should be concerned with how that resource is distributed and discussed.

These aspects of the science communication literature offer diverse perspectives on the societal role and value of public communication, but they use different kinds of language and different conceptual frameworks to discuss this. Two more systematic accounts come from science education, on the one hand, and philosophy of science, on the other. Jonathan Osborne (2000) discusses four key arguments for teaching science: a utilitarian argument (that “learners might benefit, in a practical sense, from learning science”;

p. 48), an economic argument (that “an advanced technological society needs a constant supply of scientists to sustain its economic base”; p. 49), a cultural argument (in which science is part of a “shared heritage” that everyone should have access to; p. 52); and a democratic argument (where, if “the challenges of the future are likely to be the moral and political dilemmas posed by the expansion of scientific knowledge, a healthy democratic society requires the participation and involvement of all its citizens”; p. 53). Osborne (2000) also deconstructs each of these, pointing out flaws in what they assume or suggest. He is particularly critical of the utilitarian and economic arguments: There is no evidence, he argues, that scientific knowledge translates well to everyday situations, that skills in scientific reasoning are of practical utility, or that future workforces will need scientific training. More recently, Kappel and Holmen (2019) catalogue eight aims of science communication that they find in the literature, these being improving public understanding of science, “generating social acceptance” (p. 4), generating trust, collecting citizen views on “what research aims and applications of science should be pursued” (p. 5), generating political support for science, accessing local knowledge, making use of “distributed knowledge or cognitive resources to be found in the citizenry” (p. 5), and enhancing democratic legitimacy of science. Surprisingly, they do not discuss some of the other rationales identified in the literature discussed above—such as the cultural value of science—and do not interrogate the reasoning behind these aims (*why* is it important to improve public trust in or understanding of science, for example?).

In sum, we find a number of repeated ideas about the societal value of science communication in science communication literature, but these are rarely cataloged or organized, and the language and frameworks used to discuss them are diverse. There is, therefore, a need to better understand how science communication’s societal role and value can be articulated.

The Study

This need lies behind this research note. In starting to outline key aspects of science communication’s societal value, the views of science communication scholars would seem to be a good place to start. The research, therefore, investigated the question: *How do science communication scholars talk about science communication’s role in wider society?* The aim was to begin to render more explicit, and initiate a conversation about, ideas about the role and place of science communication in the contemporary world and about how these can be ordered or catalogued.

To answer this question I discuss one subset of findings from a qualitative interview study carried out as part of the European Commission-funded project

QUEST (Quality and Effectiveness in Science and Technology communication). As a whole, QUEST explores, and makes recommendations on, quality and effectiveness in science communication; this part of the research, however, was exploratory and involved investigating the landscape of European science communication research, education, and practice.¹ As part of these efforts phone interviews were carried out by the author and a colleague with 16 key scholars and teachers of science communication—identified based on literature searches and snowball sampling (Creswell, 2002)—across Europe (broadly construed, the interviewees were located in Ireland, the United Kingdom, France, Germany, the Netherlands, Spain, Estonia, Norway, Sweden, Russia, Italy, and Switzerland). Interviews were semi-structured, lasted approximately 1 hour, and included questions about key concepts, practices, and sites in European science communication, research gaps and needs, best practice in teaching, and—most pertinent to this discussion—science communication’s role in society. Interviews were, with respondents’ permission, recorded and transcribed. Analysis was carried out by the author: Transcripts were read over repeatedly and coded (for key themes that emerged within their content) using the qualitative data analysis software MAXQDA (Coffey & Atkinson, 1996). Further details of the research can be found in QUEST deliverable 1.1.²

This study is limited in scope: It involved only scholars based in Europe, and there was no effort to reach all such scholars or to representatively sample them. As I discuss further at the end of this note, its findings should not be taken as final; rather, they offer an invitation for further research and discussion.

Science Communication’s Role in Society: Empirical Themes

In this section I outline the five themes that emerged from analysis of interviewees’ accounts of science communication’s role in society. First, however, two brief points about the content of the interviews more generally are in order. It is worth noting that interviewees did, indeed, almost unanimously state or assume that science communication is important to the societies they lived in. “I devoted my last 25 years to science communication,” said one respondent, “so if I didn’t think that it’s an important thing for society, I probably wouldn’t have spent so much time on it.” Second, interviewees also frequently mentioned that science communication was a highly diverse category and that different forms of communication would have different purposes and play different roles. This heterogeneity means that science communication’s role in society is multiple—that the functions outlined

below are not (necessarily) mutually exclusive but will most likely coexist alongside each other.

The roles that interviewees described science communication as playing in society cluster together in five broad categories. I discuss each of these below, giving quotes to help describe each type of role. These quotes are illustrative rather than comprehensive: They do not represent the entire data corpus relating to a particular category. Note also that, given that science communication is a relatively small field in Europe, quotes do not identify interviewee's institutional or national location or gender in order to protect their anonymity.

Accountability

One cluster of responses can be summarized as relating to *accountability*. Here, science communication's role in society relates to it being a duty or responsibility for those funded by public resources and a necessity if they are to achieve public trust. As in the quote below, a number of overlapping concepts may be mobilized: responsibility, justification, legitimacy, accountability, and credibility.

[Researchers] have to communicate because usually they are using public money, public funds, and so there is a duty to communicate. But at the same time, it's a matter of credibility and also of legitimacy. If you want to have a good position in society as a scientist, you have to spend time communicating.

Arguments relating to accountability therefore make a direct link between public funding and public communication. For some it is a "moral obligation" to "give to back to society," while for others this openness is also a strategic necessity for maintaining public funding and support. In both cases, however, a rather straightforward relationship is portrayed between the use of taxpayers' money and the obligation to be involved in public communication.

Pragmatic Roles

A second cluster of explanations of science communication's value to society might be described as *pragmatic or instrumental*. Here, science communication's role relates to the fact that, in different ways, it is useful to particular societal actors, in that it provides knowledge that is of practical value. There are at least three ways that this is the case. First, science communication is important because it provides individuals with knowledge that they need to navigate life in contemporary, technologically saturated

societies. Vaccination and climate change were frequently cited examples in this context: Laypeople need access to high-quality knowledge so that they can make the best decisions for their lives, in these and other areas. Second, the same thing applies to politics and politicians, who equally need robust science to help them make wise political decisions. As the interviewee below notes,

[Science communication] is important for society because in my view what science can bring to society is a quality at the level of knowledge production that hardly any other fields of society can bring, and getting that knowledge into the *many individual and institutional or societal decisions*, it has to be made into something where science can make a contribution to society [emphasis added]

In these two cases, it is science that provides valuable (and particularly reliable) knowledge that is of practical use to actors in wider society, specifically in their decision making (“individual and institutional or societal decisions,” as the interviewee above says). The third way in which science communication has an instrumental value to society, however, involves allowing knowledge from outside of science to be accessed by academic researchers. In this case, it is science that is the beneficiary of science communication activities: Scientists may take inspiration for their research, learn to be responsive to societal problems, or, as in the case of citizen science (Lewenstein, 2016), get access to knowledge or data they might not be able to otherwise. In this framing, science communication gives researchers the possibility of understanding the “needs and values of citizens” (as one interviewee said), as well as different forms of lay or local knowledge, and of carrying out research inflected by these—research that is, at least implicitly, understood by interviewees as more responsible or robust.

Enhancing Democracy

A third cluster of responses relates to the role of science communication in society as *enhancing democracy*. As in the final example above, science communication is here viewed as inherently dialogic. Interviewees framed science communication as mediating science’s role in society, as acting as an input into public sphere debate, or as enabling a discussion about societal values and priorities and how these should shape scientific research. In all of these instances, science communication not only has a practical value—enabling the sharing of useful knowledge—but also a more normative role, in playing a part within a particular model of how a democratic society should function. The extracts below give some flavor of this:

The way I see it, [science communication] is about deliberation on how knowledge is being produced, created, transferred in a society today.

[S]cience can go into realms or to questions or to procedures or to kinds of experiments where it needs, let's say, societal guidance or steering or at least they need to take into account concerns that exist in society. So, there needs to be a dialogue there.

Such accounts are suggestive of what contemporary democratic societies should look like and of what science's place in them should be: There should be deliberative discussion about processes of knowledge production, for instance, and science should be guided by societal values. A slightly different emphasis emerges in other responses. Here, science communication is important for democracy because it equips citizens to be thoughtful, well-informed voters or civic actors. Specifically, it may enable citizens to act as a critical check on science, ensuring debate on it. As one interviewee argued,

It is impossible for a citizen to be a well-informed voter and a well-informed citizen without knowing at least something about how science and technology functions in the contemporary world. . . . Also, you need to have some critical thinking skills in order to comply with that role of the voter. So again, science and technology contribute to the development of those critical thinking skills.

Here, science communication is necessary for both informing voters and helping them develop the "critical thinking skills" that are important for democratic participation (see discussion in Priest, 2013). Again, its role is ultimately to bolster democracy through equipping and empowering citizens.

Culture

Fourth, science communication was framed as playing an important *cultural role* in society. In some ways, this overlaps with its democratic role. When interviewees spoke about science communication as asking questions such as "Are we [scientists and publics] in the same world?" as being a "social conversation about science," or as "participating in sense making of the world," they represent it as a process through which shared understandings are reached and thus as having political, social, and cultural implications. But, as these quotes also suggest, this is not *only* about politics or democracy. Responses that emphasize the cultural aspects of science communication point to its value in highlighting science as an achievement of our societies, its ability to provide pleasure to audiences and scientists, and its educative potential. For one interviewee, science communication is "about making the

world nicer . . . it's a bit like art. It's giving people ideas that make the world more pretty." For another its "main function is not instrumental or something normative . . . when [people] discuss science, they are discussing who they are, the world they want to belong [to], what they want to believe." Science communication is thus both something that is cultural—similar to art, or other aspects of national and global heritage—and a cultural process, through which meanings and identities are made (Davies et al., 2019). Its value goes beyond the instrumental or normative (or even moral, as in arguments about accountability) to include the aesthetic and pleasurable.

Promotional Purposes

Finally, interviewees also spoke—albeit in more negative terms—about a final societal role of science communication, that of *marketing or promotion*. In this view, science communication was reduced to “institutional marketing and branding.” Its role was straightforwardly promotional, whether that was concerned with particular individuals and institutions—with universities being singled out as especially egregious offenders—or science more generally. This role, which science communication was said to be increasingly taking, was different to the others described in that it was represented as a problem to be acted on rather than a reason that science communication was valuable to society. Institutions such as universities viewed science communication only in terms of “reputation building,” respondents argued, ignoring the critical and reflexive dimensions that were seen as integral to good-quality science communication. This is particularly a problem, the interviewee below notes, because:

the extension and professionalization of organizational PR for some science, like university PR, comes at a time when science journalism, for example, is eroding and getting weaker. That's one of the issues that I'm quite concerned and critical about.

The reduction of science communication to promotion, “propaganda,” and self-interest was thus understood as a superficial and flawed imagination of its role in society—albeit one that was in many ways dominant in the contemporary landscape.

Discussion

In my empirical analysis I have identified five types of roles that science communication researchers describe science communication as having in contemporary society: Science communication is said to ensure the accountability of publicly funded science, have an instrumental role, enhance

democracy, serve a cultural role, or (negatively) act as promotion or marketing. Here I compare these categories with discussions of the societal role and value of science communication found in the academic literature (as outlined in the Section “Science Communication’s Role in Society: Empirical Themes”) and reflect on their implications.

Such a comparison reveals significant, but not complete, overlap. While recent academic literature in science communication has indeed emphasized the democratic role of public communication (particularly in the context of dialogue and public engagement, and in discussions of the ethics of science communication), what Osborne (2000) refers to as the economic argument for science education—that there is a need for advanced societies to inspire, train, and recruit people into science—is missing from the empirical data, as is consideration of the economic effects and importance of science communication more generally. Furthermore, it is clear that the five roles I have identified in the empirical material mingle different types of reasoning as to the nature of science communication’s value to society. In Fiorino’s (1990) terms, they cover substantive, normative, and instrumental arguments (with the equivalences being, loosely, substantive to pragmatic, normative to democratic, and instrumental to accountability and promotion). They therefore mobilize quite different kinds of grounds for suggesting that science communication is important to society. Finally, the last category described—that of promotion—is framed negatively. It fulfils a role, one of uncritical cheerleading for science, but this role is understood as problematic rather than as a sign of science communication’s value and importance. It can, therefore, be understood as being a form of strategic communication (to use Priest’s [2018] distinction between strategic and democratic forms of science communication), one that is oriented to advocacy and persuasion above wider public value.

It is also important to emphasize that these roles, either in the literature or in this empirical material, should not be understood as exclusive of one another, nor that particular individuals only propose one. Interviewees were clear that any particular piece of science communication may have multiple roles in society, while, as Priest (2018) notes, strategic and democratic science communication “often overlap or are intertwined” (p. 57). We should therefore not expect to be able to place instances of science communication neatly into just one of these categories. Indeed, given that this note acts as a scoping exercise to try and suggest a language for thinking about science communication’s roles within society, what I want to focus on is the diversity within what is proposed. At this stage, in other words, it seems most valuable to catalogue the *range* of roles attributed to science communication as extensively as possible. For this reason, I suggest adding a sixth role to those identified in this empirical material, one that captures economic arguments as to science communication’s value to society, such as (but not limited to) the

need to recruit people into science within technologically driven economies, the need for a workforce interested in and familiar with science, or the usefulness of science communication in informing and preparing a market base for technoscientific innovations (Osborne, 2000). I further want to emphasize that this research note should be taken as the opening gambit in a wider conversation, in which—I hope—others will interrogate and contribute to this list of, and language concerning, the ways in which we can understand science communication as playing a role in wider society.

Cataloging science communication's potential roles in this way requires agnosticism, at least initially, as to their relative value or priority. Interviewees in this study (scholars and teachers of science communication) framed promotion and marketing in negative terms, but others might argue differently (universities might suggest that uncritical self-promotion is necessary in order to recruit students and fulfil their societal functions; scientific industries might argue that marketing is necessary if they are to make an economic contribution to society). Similarly, readers will likely find one or more of the roles given for science communication more or less personally important, or in tune with their own values. In this regard it is worth briefly reflecting on the wider values that roles of accountability, practicality, democracy, culture, promotion, and economics implicitly make reference to. In particular it is possible to make the claim that several of these arguments for science communication's value interrelate at a deeper level, in the sense of being fundamentally concerned with the kind of societies we want to live in, or a notion of "who we are" as communities (cf. Cooke, 2000).

Specifically, we can relate several of these roles to notions about the correct functioning of democratic societies and the way in which science should be funded and governed within these. This is, of course, most obvious within the arguments I have explicitly branded as "democratic," which suggest that societal dialogue on science is essential for its governance and that responsible citizens need to be informed about science (and equipped with the skills to be critical of it; Priest, 2013). But arguments about accountability or legitimacy similarly implicitly refer to a social contract between science and society in which the public purse pays for science and therefore has the right to ask certain things of it (Mejlgaard & Aagaard, 2017). Ideas of accountability, after all, suggest that there is the possibility of being held accountable, while notions of legitimacy imply that science should indeed be publicly legitimate. A fundamental understanding of science as having particular responsibilities in democratically governed societies therefore underpins these arguments: They refer, in Priest's (2018) terms, to democratic rather than strategic science communication. Even interviewees' criticism of logics of self-promotion and marketing as driving too much science communication implies a counter model,

one where science communication offers critical and reflexive engagement with scientific knowledge and where its place in society is therefore interrogated through robust public-sphere debate. Again, a model of democratic society—particularly one where public deliberation as well as public agency is central (Cooke, 2000)—is implied as a starting point.

Arguments about science communication as culture, as an economic stimulant, and as a practical tool have a rather different flavor. Implicit to these is the sense that scientific knowledge should be shared—that, as in Medvecky's discussion of epistemic justice, "knowledge is an unevenly shared resource" and thus that "the allocation and distribution of scientific knowledge [is] an important ethical issue" (Medvecky, 2018, p. 1395). In these arguments science communication does not enhance democracy (or at least, this is not its primary aim); rather, science—or knowledge more generally—has an aesthetic or practical value that demands that it is shared for the benefit of as many as possible. In this respect these are also moral arguments, concerned with the just distribution of a public good (Medvecky, 2018; Priest et al., 2018). The exact nature of that public good varies between the roles proposed, from scientific knowledge having pragmatic or economic utility to the sense that it has pleasure-inducing cultural or aesthetic qualities, but in all cases there is an underlying sense that distributing these benefits as widely as possible is simply the right thing to do. If science is so important (or so useful, or so pleasurable), shouldn't as many people as possible be able to access it?

Conclusion

What is the value of science communication to society? Using empirical material and arguments from academic literature, I have outlined a range of answers to this question in the shape of different roles that science communication may have in wider society. I have, however, suggested that these can, perhaps, be boiled down to two underlying arguments. The first is that science communication is important for democracy and for governing science in democratic societies. The second is that sharing knowledge—and its attendant benefits—is the ethically correct thing to do, for aesthetic, practical, or economic reasons.³ Both claims ultimately relate, in quite fundamental ways, to ideas about the kinds of societies we want to live in (or believe that we already do). The importance of science communication thus stems from (implicit) beliefs about science's value to modern societies, about the nature of contemporary democracy, and about justice and fair distribution of public goods.

What are the implications of this discussion for science communication practice and practitioners? I would like to repeat, again, my call for further discussion of the roles I have identified and of any others that remain

missing. The community that provided the empirical material for this research note—European science communication scholars—is a useful source, in that they are a group who can be expected to have reflected on the societal value of science communication; at the same time, they are a relatively narrow cohort. Practitioners and researchers in different parts of the world may well have different views and experiences that can add to this catalogue of science communication's roles in society (or, better, societies). Aside from furthering this discussion, I think that more explicit articulation of science communication's importance and value, and the creation of some kind of shared language for talking about this, is more generally valuable for science communication practice. As Weingart and Joubert (2019) argue, “mixed motives” are rife in science communication. It may therefore be useful for practitioners to reflect on the goals of the activities they are involved in and how these relate to the six societal roles I have discussed (accountability, practicality, democracy, culture, promotion, and economics). Specifically, I would speculate that it may be valuable to trace out how immediate motivations or purposes for science communication—from persuading an audience of a particular set of facts to changing a behavior, inspiring or exciting a particular public, or offering an enjoyable experience—relate to these more fundamental rationales for carrying out science communication. It is easy to be caught up in the immediacy of a particular project or task and in the aims immediately to hand. Asking *why* particular goals are important—for instance, because a community needs particular information to make good decisions, because everyone should have access to a shared scientific heritage, or because science needs to be held accountable by empowered citizens—could help connect the immediacies of practice to the broader place that science communication should have in our different societies.

Above all, such reflection inevitably leads to the conclusion that science communication is *important*. It is important because its role ultimately relates to the nature of our societies, and to the principles—of democracy, justice, and shared heritage—on which they are (or, perhaps, we want them to be) founded. This in itself is an important realization: that we are never “just” doing science communication, but always also contributing to the development of particular kinds of societies.

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Notes

1. Further information about QUEST can be found at <https://questproject.eu>. The project focus is science communication in Europe; hence, the empirical engagement with European scholars.
2. All project deliverables are available at <https://questproject.eu/outputs/>
3. It is worth noting that ideas about the (moral) necessity of sharing scientific knowledge do not only tell us something about our societies—that notions of justice and fair distribution of public goods are central to them—but are also integral to science itself. As Merton (1973), Shapin (1990), or, more recently, Nerlich et al. (2018) have discussed, scientific practice is predicated on norms of openness and sharing.

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