Cultivating Spheres: Agriculture, Technical Communication, and the Publics

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CULTIVATING SPHERES: AGRICULTURE, TECHNICAL COMMUNICATION, AND THE PUBLICS

Knowing Bass: Accounting for Information Environments in Designing Online Public Outreach

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Social media and online news sites have become common outlets through which publics encounter information that shape their knowledge, values, and opinions about food. This article extends scholarship at the intersections of user experience design and online public outreach by focusing on the role of social media and online news sites in information environments that impact public site users' knowledge about and practices of seafood production and consumption. First, we introduce an ongoing design project about North Carolina seafood production and consumption to provide an example of how and why site designers should account for how online information affects public understanding. Next, we contextualize the challenges of this project by introducing a conceptual framework that helps to explain why the values and practices of understanding seafood production are so complex. Finally, through this case and framework, we argue that designers of online public outreach projects should become more aware of designing in contexts shaped by social media. The potential for public learning is affected by how people search for, encounter, and discuss information about the issues that matter to their lives. We offer a classroom heuristic for identifying and addressing the role of information environments in rhetoric and/or technical communication courses.

Introduction

This article begins with the premise that technical communicators have important roles to play in facilitating public learning related to food production and consumption. We discuss the case of an ongoing design project about North Carolina seafood. With its focus on a rather complex technoscientific issue that is relevant to a range of local audiences, the project offers a useful demonstration of thinking about how agricultural (or aquacultural, in our specific case) public communication, learning, and engagement intersect with technical communication concerns when designing online platforms for engagement.

An important lineage of scholarship already exists at the intersection of technical communication and designing for public outreach. As Michele Simmons and Meredith Zoetewey (2012) have argued, community and civic websites often challenge conventional understandings about usability and user-centered design. Public uses of civic websites, and the knowledge and literacies that publics bring to online platforms, can vary significantly from those assumed in typical design conventions. Simmons and Zoetewey ground their argument for extending traditional usability concerns for public and civic websites on Barbara Mirel's (2004) work, which highlights the importance of designing not only for functionality but also for usefulness. This longstanding attention to contexts of use in technical communication reflects an underlying concern with the humanistic dimensions of public outreach projects.

We suggest that technical communicators should continue to extend the humanistic interests forwarded by Simmons and Zoetewey by conducting additional research and scholarship about how to best design science and technology outreach platforms for public audiences. Our project has suggested that there are good reasons for continuing to refine the methods technical communicators use when planning, designing, and facilitating projects that engage publics in learning about complex science- and technology-related topics. In particular, we address new exigences for user-centered research and design that arise due to the integration of social media and online news into people's everyday information practices. Presently, social media

and online news sites have become common outlets through which publics become acquainted with information that shapes their knowledge, values, and opinions about food. With the rise of social media and the abundance of online news, the avenues through which publics search for, encounter, and discuss information related to everyday issues such as what to eat have changed quickly and unpredictably.

The presence of these sites has shifted the nature of the online information ecologies that surround public outreach sites. When planning for public engagement projects, technical communicators can combine expertise in rhetoric and user experience to account for how, when, and through what language publics gain information and participate in conversations about issues of civic and community concern. These contextual considerations offer clues to whether and how public users are likely to become engaged in further dialogue around an issue of concern when we design online outreach platforms, whether they are likely to ignore these sites, or whether they are likely to reject information. Accounting for this ambient rhetorical context from which public engagement emerges can be an important step toward successful content and design decisions. We will continue our discussion here by introducing in more detail the online outreach project that prompted our thinking.

Knowing Bass: An Online Outreach Project

We have arrived at the ideas presented in this article while planning, participating in, and simultaneously observing a project related to North Carolina seafood production. Specifically, the authors of this article are faculty members from the Department of English and the Department of Applied Ecology at North Carolina State University, who have collaborated to establish a venue for students to champion public knowledge of agriculture practices and food animal production. Our long-term goal for this project, which we call 'Knowing Bass', is to create digital public outreach applications designed to be accessed on mobile devices. We aim to develop a digital public outreach program that provides timely, relevant information about local North Carolina food production, supports public conversations about local food production issues, and connects publics to local community venues where they can gain more direct access to both producers and researchers. There are no other

existing public outreach projects involved with the perceptions and misconceptions about seafood production in our region. We plan to launch the pilot public outreach program by focusing on a particular seafood product (hybrid striped bass) with the goal of expanding the impact of the program if our project receives other extramural or stakeholder funding support.

The project has begun with classroom applications, as we research the context for developing a public outreach program about this issue. Specifically, the project has built on four semesters of transdisciplinary classroom collaboration, which has involved students and faculty members researching the challenges of finding useful, usable online information about local seafood. Technical communication students enrolled in one of the author's Rhetoric of Science and Technology courses have participated in the planning stages as part of their rhetoric coursework. We will say more about the specifics of students' research at the end of this article. However, in order to understand how we have approached our planning phases, we will discuss some framing concepts that shape how we understand public science learning, as well as how we position the end users of our proposed project.

Embodied Rationality and the Complexity of Public Science Knowledge

Our thinking in the Knowing Bass project, and our discussion with students about online public outreach, has been shaped by theories of embodied rationality that have roots in feminist epistemologies. We find these ways of thinking to be useful for conceptually grounding an idea that also emerges from recent surveys about informal learning: that people tend to learn about science when doing so intersects with genuine interests in their lives, and in ways that are intertwined with their unique identities and bodies in relationship to communities (Bell, 2009). Feminist epistemologies have used various kinds of language to refer to the idea that knowledge is bound up with and connected to embodiment, including emotions, perspectives, and identities that shape connections to the world. To use the words of feminist standpoint theorist Sandra Harding, 'We experience science and technology in our everyday lives, in the struggles for dignity and survival that women engage

in daily' (1991: 8). The idea that people encounter science and technology in the context of their everyday movements through the world is true not only for those who identify as women.

These experiences and orientations to the world mean that it is not simple to separate 'cognitive' and 'non-cognitive' or rational and emotional dimensions of scientific knowledge. Helen Longino (1995) has demonstrated this complexity in her analysis of the values shaping traditional and feminist approaches to science. Furthermore, Donna Haraway's (1991) concept of 'situated knowledges' offers a term for describing how scientific understandings are always partial and impacted by the technologies of vision that mediate embodied contact with the world. This way of understanding knowledge positions it as continually shaped by communities that participate in forming it, and also by bodies that present both limitations and (technologically expanded) opportunities for perception and understanding.

When extending these ideas to the context of public understandings of science, then, it is important to recognize that publics encounter scientific and technological problems and understandings from an embodied state that may not draw clear lines among logical and rational dimensions of knowledge. Technical communication scholars Michelle Sidler and Natasha Jones (2009) have emphasized this point while describing how to approach interface design related to scientific outreach. They confirm the importance of a 'commitment to working individually with affected citizens, viewing those citizens as embodied' (43) where 'interfaces must be designed with responsibility and special awareness of issues of ethics, culture, and emotion' (46). This embodied perspective grounded in feminist epistemologies has shaped our assumptions in the Knowing Bass project. For example, to teach these concepts, students involved in the project read and discuss theoretical scholarship such as Donna Haraway's 'Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective', as well as case studies that employ an embodied feminist framework (e.g., May-Britt Öhman's 2016 'Embodied Vulnerability in Large-Scale Technical Systems: Vulnerable Dam Bodies, Water Bodies, and Human Bodies').

For our purposes, one additional aspect of embodiment is worth mentioning: human experiences of accessing online sites today take place in the context of larger information ecologies. In what Richard Lanham (2006) has called the 'attention economy' where attention is a scarce resource carefully managed and pursued, people are inundated with information as they navigate daily life. In this framework, incessant fragments of information are available for uptake, and the information that emerges as more present due to economic influences behind it may become persuasive. While online and social media information can be credible and useful in the moment in which it is broadcast, many of us experience a backdrop of online information in which we continually hear fragments or headlines that fail to articulate the big picture of the issues that we confront. Beyond this, the information shared on social media also can be commercially driven or in some cases outright pseudoscience (or 'fake news' as it has commonly been called of late). Much in the same vein as tabloids, as scholars like Andrea J. Basu and Elaine Hogard (2008) have proposed, information exchanged via social media can sensationalize issues and reduce complexity. Because there are more science and technology-related issues that inform our lives than we could ever actually address through sustained inquiry or direct access to experts, many of us find ourselves affected by the information circulation chains that we are describing. The specific context of situated knowledges that inform our project offers an explanation as to why this is so challenging with issues of food production and consumption, an idea we will now discuss in more detail.

Understanding the Knowledges that Shape Seafood Production and Consumption

While food is a human need, humans' food choices are shaped by want. Public food-related wants and desires increasingly develop in a cultural context in which food consumers exist at a remove from the science, technologies, and practices of food production. For instance, in the U.S., less than 1% of the employed population are farmers and most students that the authors encounter in their courses have been removed from direct involvement in agriculture practices by at least two to three generations and thus experience a disconnect from food support industries

(USDA, 2014a). In this context, although the science of food production is complex and changing rapidly, so too are the social scientific issues surrounding food choices. According to bioethicist David B. Resnik of the National Institute of Environmental Health Sciences, the wants and desires that fuel food choices develop at the intersection of a tangle of competing values and epistemologies, such as issues of personal autonomy and economics (Resnik, 2015: 124). We understand values to be central to the knowledge that shapes seafood choices and so we will proceed by discussing food-related values.

Value Clusters Affecting Seafood Knowledges

Across the diversity of seafood items publics encounter, understanding the often large-scale technoscientific systems that inform the journeys that fish and other seafood take from where they develop to consumers' plates means confronting several intertwined and recurrent values (see **Figure 1**), including economics,
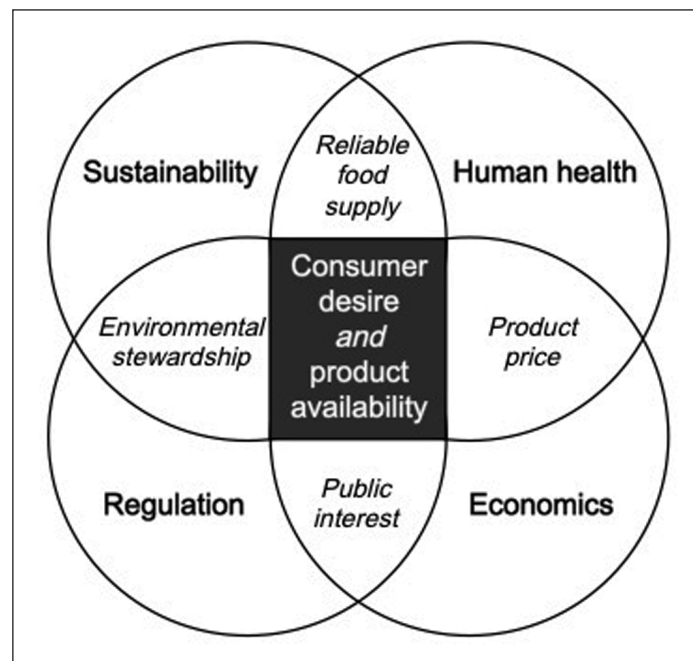

Figure 1: Four important knowledge topics for seafood production (economics, human health, sustainability, and regulation) and their intersections for consumer preference and product availability.

human health, sustainability, and regulation. For the case of seafood production and consumption, we focus on these four value clusters because they represent social and human dimensions of orienting to food sciences. Because publics often orient to the scientific issues through these social scientific pathways, they are also sites where ethics, cultures, emotions, and identities are invented and performed.

Of course, these issues also represent sites for developing situated knowledges related to seafood production. Both fisheries and aquaculture are industries: they are economic projects that are designed to benefit particular individual proprietors, stakeholders, corporations, or communities. All of these factors weigh on the health benefits and technical challenges associated with producing and marketing seafood commodities or related natural resources. Both fishing and aquaculture operations involve sustainability and environmental stewardship values via clear interventions into local ecosystems that can affect existing animal and plant populations, water and soil quality, and availability of a range of natural resources. For this reason, both aquaculture and fisheries products have long been subject to a range of regulatory policies and resource agencies in the U.S., importantly including the Lacey Act (1900, amended 1981), the Magnuson-Stevens Fishery Conservation and Management Act (1976), the U.S. Fish and Wildlife Service (1871, reorganized 1956), the National Oceanic and Atmospheric Administration (1807, reestablished 1970), the U.S. Department of Agriculture (1889), and various state agencies.

The complexities of how aquaculture intersects with economics, human health, sustainability, and regulation, then, are not only relevant to understanding the complex technoscientific context in which seafood is produced but also for understanding the social context through which publics orient to this science. Recent research indicates that public perception is mixed. For example, a recent survey conducted by the Center for Environment, Fisheries, and Aquaculture science in the U.K. indicates that participants prefer wild caught fish (43%) over farmed fish (8%) (49% expressed no preference). Most (77%) of participants did not realize that over half of available fish in the U.K. is the product of aquaculture (CEFAS, 2013). In the U.S., content analysis research by Shannon M. Amberg and Troy E. Hall (2008) indicates that mass media coverage of aquaculture (i.e., newsprint coverage)

has focused most extensively on human health risks (49% of articles), while rarely discussing aquaculture's benefits or more complex reasons why it is important for meeting a global food demand (10% of articles).

Kathrin Bacher (2015) suggests in a recent Food and Agriculture Organization of the United Nations report that often publics lack access to information that more carefully positions aquaculture against the world's growing food deficit. For example, Max Troell et al. (2014) contend that aquaculture offers promise for resilience to global food production; however, government policies must provide 'adequate incentives for resource efficiency, equity, and environmental protection' and these ideas can shape the attitudes of the public and policymakers. Troell et al., for instance, show that aquaculture provides opportunities for more efficient transformation of natural resources into animal protein for human consumption than do any of the terrestrial (or land-dwelling) food animal industries. Yet despite these advantages, public perception about aquaculture is generally negative in regard to environmental stewardship and consumers enigmatically prefer 'wild-caught' fish often without consideration of the environmental and economic impacts of that practice (Bacher, 2015: 3).

Additional Factors Contributing to Complexities

Beyond complexities posed by production methods and their attendant economic, health, environmental, and policy considerations, seafood is one of the most difficult areas in food production for the public to understand because the commercially available products and production methods are so diverse. Most studies of public perception of aquaculture have focused on the case of salmon, which has been in the media spotlight over recent decades, culminating in 2015 with the approval by the U.S. Food and Drug Administration of genetically modified (GMO) salmon for human consumption. However, the global aquaculture industry is 100 billion USD and hundreds of different fish or shellfish species are marketed in the U.S. in addition to salmon. The fish are raised or captured using a variety of different methods, which makes it difficult for a person not intimately associated with the industry to comprehend the differences. For example, hybrid striped bass (a less well known U.S. aquaculture species) is a premium seafood product that

is typically farm raised and represents the fourth largest U.S. finfish aquaculture industry (48 million USD per year), yet many consumers do not even know that it exists and is available as a choice (USDA, 2014b). In addition, most (90%) of the seafood consumed in the U.S. is of foreign import where production methods and government regulation differ dramatically across the national context. The U.S. contribution to the global aquaculture industry is very minor (only 1 to 2%), and so the imported fish that publics encounter is often subject to different forms of regulation than required in the U.S.

Implications for Public Outreach

Seafood, with its variety of different products, therefore presents an example quite different from the familiar and comparatively limited terrestrial or land-based food animal choices (beef, pork, and poultry), in which public choices at the marketplace are more related to particular cuts of meat than different animals originating from various countries, least likely of which is the U.S. Consumers may also avoid a product when they are faced with too many decisions on what to purchase, let alone how to prepare it, in what Barry Schwartz (2004) calls the 'paradox of choice'. People who are faced with too many options begin to consider hypothetical trade-offs and this exposes vulnerability in consumer confidence. Disconnected from food industry knowledge and confronted with the complexities associated particularly with seafood choices, people may be highly influenced by whatever information has been most accessible to them.

In the case of our local community in the Research Triangle of North Carolina, the proliferation of food clubs, farmers' markets, cooperatives such as the Produce Box, and food-related meetup groups suggests that community members are already motivated to care and know more about their food and food choices. In the best-case scenarios, we find that people in our area become involved in local groups like these in which they interact directly with people who research or grow (or, in our case, catch) their food and can answer direct questions that will help them navigate issues of economics, human health, sustainability, and regulation for themselves, their families, their communities, and beyond. However, based on our frameworks

in embodied rationality and the attention-based circulation of rhetoric, we also know that the social media and online news contexts that inform publics' situated knowledges about science and technology represent an emerging context that garners attention. As a result, we have found it necessary not only to better understand the community of potential users for our application in the Research Triangle and in North Carolina more broadly, but also to lend attention to the broader circulation of existing information about seafood production techniques that is readily available to them.

Fragments of online information, including dominant metaphors and sensationalized claims, form an ambient rhetorical context that informs the associations we make with particular issues even when we have not explicitly intended to be affected. These information contexts can generate what scholars have called 'social license', which refers to public acceptance of or consent for an industry presence, often in a designated area (Wilburn and Wilburn, 2011). Various stakeholders in the aquaculture industry recognize the importance and power of social license as a prerequisite for successful implementation of industry and a direct influence on the actions of policymakers who draft relevant and representative regulations. However, having a public informed about food production and consumption issues is key to the ability to successfully navigate these multiple pulls on time and attention. We believe it is imperative to work toward more functional and usable public outreach projects by extending traditional user-centered design frameworks to account for the information circulating about an issue of concern. By taking the temperature, so to speak, of the circulating discourse that surrounds publics as they develop knowledge and identities about an issue of concern, we have the potential to create better 'forums of reconstruction' that engage users in the places where they dwell (Gross, 1991: 17). Our next section focuses on the specific steps that technical communicators can take to address the impact of this broader context.

User-Centered Design Methods and Public Affectability

As a result of the issues we have described above, digital humanists concerned with creating strategies for reaching publics about issues of food production must expand beyond conventional design strategies that only attempt to transmit

scientific information. As we suggested drawing on Simmons and Zoetewey, public and civic websites always require attending to contexts of use and uptake that differ from conventional websites. Recognizing publics' affectability, we suggest, is a crucial step in creating more useful, and not just functional (meaning here that they function efficiently as technological artifacts), public outreach projects. Because this method intersects with and extends other kinds of useful user-centered design techniques that should also be a part of public engagement design projects, here we situate our focus among existing techniques for designing functional and useful online learning platforms.

Existing user-centered design principles regarding better understanding user experiences are important for creating public-facing information platforms that are as useful as possible for particular communities. By developing a keener understanding of users, the tasks for which they approach websites, and the environments that shape their needs, technical communicators can begin designing forums that more closely align with those needs and user experiences. As we describe in the following paragraphs, existing user experience design (UXD) techniques such as user and task analysis (Hackos and Redish, 1998), alignment diagrams (Kalbach, 2016), and mental map models (Young, 2015) offer potential for centering how 'human behaviors, feelings, and motivations' should affect information or product designs (Kalbach, 2016: 6). Our design approach, as we will discuss, further emphasizes information environments as rhetorical contexts that influence user values, beliefs, and attitudes.

User and Task Analysis

Hackos and Redish's user and task analysis techniques have long offered technical communicators avenues for creating useful and functional designs. As they explain, technical communicators often must go beyond simply asking potential users about their needs for a technical system. Instead, it is necessary to directly observe users performing tasks within contexts or environments in which they will integrate an eventual interface or design. User and task analysis, then, primes information designers to better understand user goals, processes that enable the achievement of those goals, user characteristics, users' relationships to physical environments, users'

prior knowledge and experience, and users' internalized values that are relevant to their eventual interactions with a technological system (1998: 8).

While user and task analysis procedures, then, are an invaluable first step in planning and predesign stages for situating a project to the particular needs of a given community, it is worth spending more time thinking about a particular strain of user analysis, 'mental models', in order to extend the traditional task-based focus on physical and social contexts for use to the domain of information circulation environments that affect how publics respond to information design projects.

Mental Models, Maps, and Alignment Diagrams

Hackos and Redish suggest using the cognitive psychology tool of 'mental models' to better understand how users make associations among information while interacting with interfaces. Mental models are useful techniques that provide ways of understanding the cognitive associations that influence users' movements across an interface. User advocates have already extended the concept of mental models into more expansive techniques for centering the role of human perception and positionality when designing technical systems. Indi Young, for instance, in *Mental Models: Aligning Design Strategy with Human Behavior*, offers a process that situates mental maps as one element of a fully-fledged scenario stage of user-centered design processes (2015: 30). Mental maps, as one form of alignment diagram that creates the potential for bringing design into line with human needs, emphasize one way that we can account for embodied knowledge during product designs (Young, 2015; see also Kalbach, 2016: 295–310).

Rather than limiting the idea of mental models to the interface, however, we can extend mental models to be one useful visualization of the previously described knowledges, expert and otherwise, that influence how we perceive and potentially act in reference to complex phenomena. Issues of ethics, culture, and emotion are embedded in the situated knowledges that publics develop about seafood production and consumption. These knowledges are culturally and socially informed; they arise from both direct social contact as well as ambient linguistic and rhetorical contexts. As such, technical communicators need strategies that attune them outward, to

ecologies beyond the particular technological interface being designed or the humans who will use it. It requires attention as well to the social, informational contexts that shape eventual wants and desires, and by extension the cultures and emotions that inform not only use and functionality but also usefulness. It requires techniques that focus on how publics come to situated understandings among the complex issues that intersect competing values, such as economics, human health, sustainability, and regulation, that overlap when publics make seafood choices. We extend this idea by discussing how what we call 'information environments' might be understood as useful research domains for technical communicators designing public outreach projects.

Extending UXD to Information Environments

While mental models and maps create ways of visualizing the human perception of phenomena, accounting for the environments in which perceptions are formed and circulated provides means for understanding how perceptions arise and are put to practice. When Hackos and Redish emphasize the importance of environment to user-centered design, they focus on the physical, social, and cultural environments that affect users' understandings and immediate tasks (1998: 93–97). While we agree that these aspects of environment remain important to design processes, we wish to build on the importance of mental models and maps in order to suggest a stronger attention to the 'information environments' that both shape and eventually surround how publics engage with science- and technology-related websites and interfaces. The term 'information environment' is imperfect here, but we use it to mean the context of information circulation that is likely to inform users' attitudes toward potentially controversial and/or complex science or technology issues.

Considering the earlier-described values embedded in and valences of situated knowledges needed to navigate food complexities (e.g., the 'paradox of choice' [Schwartz, 2004]) as they are communicated in fragmented online media, it is not surprising users may have been affected by information that makes them initially reluctant to engage with an issue, may have repeatedly encountered misinformation, or may find it difficult to understand the importance of a science-related issue.

Furthermore, information that circulates in these environments is often highly emotionally charged, relying on scare tactics and/or hype to communicate simplified understandings. In **Figure 2**, we have visualized some aspects of the information environment that surrounds our Knowing Bass project. By looking across commonly used social media formats and prevalent search engine returns in online spaces, it is possible to begin to map the sites from which information about aquaculture and fisheries emerges. These sites directly impact the narratives, tropes, and arguments that become the sound bites and fragments affecting decisions on this issue.

In order to account for the information environments that are relevant to complex issues such as those connected to seafood production, technical communicators need techniques for researching them. While these techniques can be important to any
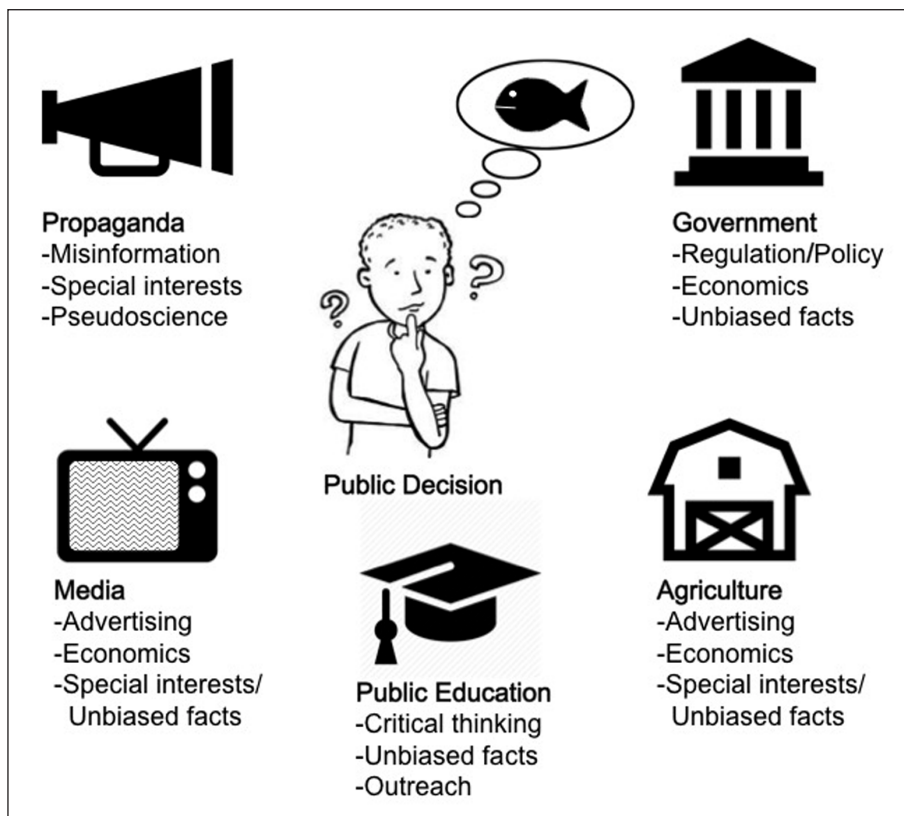
Figure 2: Food for thought—some influences of propaganda, government, agriculture and retail outlets, education, and media on seafood consumer choices.

design project, they are particularly useful for public outreach, in which the broader ambient rhetorical contexts surrounding an issue matter crucially to whether and how publics are likely to attend to that issue. To address the information environments in which publics form knowledge about intricate issues, technical communicators can analyze the current information environments in which publics understand and deliberate, focused on the rhetorical associations (including affective associations) that users are likely to encounter. Much the same way that we would attempt to understand the physical or social environment for the uptake of a site prior to its use, we can pay attention to similar issues associated with the information environment. Again, we note that while the focus of user-centered design processes has typically focused on a particular user group and on their choices in a singular interface, we are calling for an outward focus that places both the user and the online interface into the context of an information ecology that impacts upon both of them.

We offer the heuristic below as a place to begin in researching information environments that shape public outreach sites. Questions such as the following (inspired by similar kinds of questions Hackos and Redish pose for the influence of physical, social, and cultural environments on design) can be a useful starting place for understanding how information environments may impact a site design:

- How might we categorize the most available sources of information about the issue of concern?
- What vested interests (government, retail, education, and media) intersect with this issue? Where are the most available forms of information coming from? How are these sources positioned with respect to the issue?
- Is the issue 'saturated' with information in social media channels? How so and what kind?
- Have particular moments of controversy begun to stand in for the issue as a whole? Have particular subsets of the issue similarly been represented as its entirety?
- What key terms have become associated with the issue in online discourse? Do those terms have particular emotional or cultural resonance for particular audiences?

Of course, these questions represent just the beginning of how technical communicators might begin to better account for the information landscape as part of a more full-scale user-centered design process for public engagement projects. We hope to see more research and scholarship emerge on this topic, especially as information environments shift rapidly.

Conclusion: Tracing Experienced Information Environments in a Technical Communication Classroom Setting

Briefly, we see advantages to having technical communication students at advanced undergraduate and graduate levels trace information environments as a step during a design process. In other words, thinking through how information environments intersect with public affectability is not only potentially useful toward improving eventual public engagement websites but also as an explicit way to support technical communication learning. In addition to the typical benefits of having students practice experiential learning through real-world projects and issues, tracing the information environments surrounding contemporary science and technology issues offers real-world cases in which students can practice rhetorical analysis techniques in ways that have relevant and useful applications for design. In one author's experience in teaching rhetoric to technical communication students, she has often struggled to help them understand the relevance of rhetorical frameworks in immediately applicable ways. For four semesters, however, this project has created a hands-on experience for students to apply their developing knowledge of rhetorical tropes and metaphors, conceptual networks, and information circulation to a specific design context.

In her Rhetoric of Science and Technology course, students have conducted user and task analyses that have provided project stakeholders with lenses into when, where, why, and how people in our community seek out information about seafood production and have used sentiment analysis and mental modeling to map public responses to questions about aquaculture and fisheries knowledge and perceptions. However, they have also researched the context for information about aquaculture and fisheries that is available through social media, search engine returns, and popular TV and movies such as *Undercover Boss* and *Dirty Jobs*. Through this research,

they have traced the complex ways in which public knowledge about aquaculture becomes intertwined with public understandings and associations with issues such as genetically modified organisms (GMO), hybrid foods and human health, the farm-to-table and local food movements, and tropes about the relationship among wild-caught and farmed fish.

Overall, we hope that this example of an ongoing public outreach project about seafood production and consumption has enabled us to explain why technical communicators' projects might extend their user experience design processes to include a stronger focus on the role of information environments in shaping a public's affectability. If our goal is to help publics be best informed, we must care about how they are confronting ecologies of scientific and technology-related information, including the myths and inaccuracies that inevitably vie for their limited attention. For technical communication pedagogy, a focus on affectability in dialogue with accuracy can enable students not only to sharpen their ability to detect useful information but also to understand how potential end users are likely to interact with and process texts and interfaces that they design, in light of their emotional and value-based valences. The ultimate goal of this exercise is to prepare technical communicators to become more sensitive designers, prepared to help end users better understand the complex situations in which they make decisions. Our collaboration, which responds to the lack of available public information about these issues in our local context, has led us to the need for additional techniques for research. We hope these tools will contribute to an environmentally and economically sustainable U.S. aquaculture industry through informed public support.

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Competing Interests

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