

REFLECTIVE ESSAYS

Engagement and Uncertainty: Emerging Technologies Challenge the Work of Engagement

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Abstract

Universities' increasing applications of science and technology to address a wide array of societal problems may serve to thwart democratic engagement strategies. For emerging technologies, such challenges are particularly salient, as knowledge is incomplete and application and impact are uncertain or contested. Insights from science and technology studies (STS) are incorporated to examine the challenges that emerging technologies present to public engagement. Four distinct case summaries of public engagement in the emerging fields of nanotechnology and bioenergy are presented to demonstrate how the emergent character of the technology can stifle engagement. Specifically, the article explores issues related to emerging technologies and (1) defining and engaging with publics, (2) experiential variability among publics, and (3) frame contests. The goal is to sensitize engagement scholars and practitioners to these challenges as a way to minimize obstacles or tensions that may do harm rather than bolster meaningful and democratic engagement processes.

Introduction

Over the past two decades, American universities have demonstrated increasing commitment to advancing a civic mission in higher education. Across the disciplines, students are experiencing opportunities to cultivate civic skills through coursework and practicums; faculty are encouraged to design civic curricula and facilitate external initiatives with various publics; and academy doors are opening to citizens to foster collaborative, symbiotic relations, all for the stated purpose of “connecting the rich resources of the university to our most pressing social, civic, and ethical problems” (*Boyer, 1996, p. 32*). In the 21st century, however, the “rich resources of the university” are frequently touted as those linked to the university science and technology infrastructure.

During the same time, American universities have also demonstrated a commitment to partnering with industry to foster technological innovation and entrepreneurialism, creating a cen-

tral role for universities in “fostering societal development and national economic prosperity” (Tuunainen & Knuuttila, 2009, p. 687). Commercial development of scientific knowledge is facilitated by university technology transfer offices (Carlsson & Fridh, 2002), research sponsored by industry (Lee, 2000), and incubator and start-up business development (Gregorio & Shane, 2003). The alignment of scientific research and industry has numerous consequences identified in a well-regarded body of scholarship (Busch, 2000; Gibbons et al., 1994; Guston, 1999; Kleinman & Vallas, 2006), yet we know little about how to engage publics on issues pertaining to science and technology. In this article, we argue that science and technology present often overlooked challenges that can stifle effective public engagement. Unsuccessful engagement may fracture citizens’ bond with their university, furthering an erosion of trust in science or the university itself.

Such challenges are particularly salient in the case of emerging technologies. O’Doherty and Einsiedel (2013) wrote that

the development of new technologies has been increasing at a rate that is difficult to fathom. Not only do these new technologies and the science that they are based on have inherent complexities, but they also raise novel and often unanticipated challenges related to their integration into society. (p. 1)

For the purposes of this article, emerging technology refers to a developmental stage in which scientific and technical knowledge is uncertain, ill-defined, and in its infancy. Such technologies may be innovations where science is partial or incomplete, or where scientists’ or the publics’ understanding of scientific innovations and their impacts is not yet fully formed. Because of their emergent nature, such innovations are often characterized more by promise than by expedience. As a function of their embryonic stage, their practical contributions to society may be vague, in flux, or contested by scientists and publics (Bijker, Hughes, & Pinch, 1987; Latour, 1991). Is biofuel carbon neutral or does it generate the same amount of greenhouse gases as fossil fuels per unit of energy? Should stem cells extracted from embryonic tissue be used to treat such conditions as Alzheimer’s or Parkinson’s disease? How will a community change when a biorefinery moves into town? Such questions linger as a result of the unsettled nature of scientific knowledge and present opportunities for tension and struggle as both producers and users of emerging technologies grapple with the unknown.

Such tensions are common to emerging technologies, but it is less clear how engaged scholars are to respond to these unknowns in our efforts to connect the university's "rich resources to our most pressing problems" (Boyer, 1996, p. 32). The scholarship on public engagement does not explicitly consider problems associated with engaging publics around scientific issues (Kleinman, Delborne, & Anderson, 2011). We use this opportunity to reflect on our own experiences with engaging publics on emerging technologies to consider implications of this developmental stage of science and its potential impediments to successful public engagement. We define successful public engagement as that which brings together a diverse set of actors—such as natural and social scientists, engineers, development officials, policy makers, interest groups, artists, educators, and citizens—for the purpose of planning and decision making intended to foster meaningful and equitable exchange, serving the common good in a just and ethical manner without doing harm to others or the environment.

Incorporating insights from science and technology studies (STS), we examine the challenges that emerging technologies present to public engagement. We present four distinct case summaries informed by our own scholarship on emerging technologies in the fields of nanotechnology and bioenergy. These case summaries are offered not as "best practices" to emulate but as sketches illustrating some of the most nettlesome areas or opportunities for improvement. These cases demonstrate how the nature of emerging technologies themselves incorporates into engagement difficulties that we were unable to effectively remedy. We specifically explore issues that emerging technologies present related to (1) defining and engaging with publics, (2) experiential variability among publics, and (3) the contested framings of technologies around perceived benefits and risks. Drawing upon our own professional engagement experiences, we hope to sensitize scholars and practitioners to these challenges so that their journey when working with publics around the theme of emerging technologies is not fraught with unnecessary obstacles or tensions that may serve to do harm rather than to enhance engagement processes. Although some of these challenges have no clear corrective, we offer possibilities for reducing such limitations where possible.

An Engaged Scholarship of Science and Technology

Barker (2004) argued "that the scholarship of engagement constitutes a distinct, important, and growing movement in American

higher education that serves to broaden and deepen the connection between scholars and the public realm” (p. 124). Both scholars and practitioners now increasingly advocate that the university return from seclusion to Main Street for the purpose of collaborative problem solving (Barker, 2004; Boyer, 1990; Fear, Rosaen, Bawden, & Foster-Fishman, 2006; Peters, Jordan, Adamek, & Alter, 2005; Stanton, 2008; Wright, 2009). If we are to follow Boyer’s (1990) advice to broaden scholarly work from augmenting a solely academic canon to advancing public engagement that involves faculty and citizens in a mutually beneficial partnership, we must reflexively interrogate the potential impediments to this process.

Van de Ven (2007) identifies three challenges to the development of effective public engagement. First, engagement is fundamentally a relationship between humans that should be mutually beneficial. Achieving mutual benefit through engagement activities may require aligning disparate interests and visions. A second challenge is overcoming the assumption of value-neutrality in scientific work. Despite the widespread tendency to approach uncertain and complex matters objectively, values and power differentials are constants in scientific decision making. Drawing on feminist perspectives, Van de Ven suggests that engaged scholars reflexively assess their viewpoints and those of others, as well as the economic and political interests being served by particular agendas. A third challenge is establishing and building direct and personal relationships. Doing so requires that all partners be physically present to aid in the development of trust and mutual benefit.

The involvement of science and technology in public engagement raises other issues that complicate the process. First, it is worthwhile to note that the shift toward public engagement in science is contemporaneous with shifting societal perceptions that no longer uncritically associate science and technology with the public good (Callon, 1999). Publics are increasingly aware that much investment in science and technology does not align with their values and interests (Jasanoff, 2003), that work in these fields may be structured to advantage some at the disadvantage of others (Berry, 1977), and that contemporary democracies may not be equipped to handle technical controversies (Bucchi & Neresini, 2008). All of the above issues have led publics to advocate for a more democratically informed scientific agenda (Busch, 2000; Callon, Lascoumes, & Barthe, 2011; Sclove, 1995; Winner, 1986). Limited space prohibits a more developed overview of the social context in which efforts at public engagement in science and technology take place. Our

aim is to consider how emerging technologies complicate quality engagement. We begin with science itself.

The production of scientific knowledge complicates efforts at engagement due in part to the technical subject matter, which is characterized by high degrees of complexity, huge capital investments, and unknown consequences with potential to impact large numbers of people. Scientists involved in such topics erect boundaries to distinguish themselves, their subject matter, and their methods from “some less authoritative, residual non-science” (Gieryn, 1983, p. 781). Gieryn (1999) refers to this process as boundary-work and argues that it functions as “strategic political action” (p. 23) by denying challengers access to science and social legitimation. In other words, “real scientists” are set apart from charlatans, and epistemic authority is conferred on the former. Boundary construction is particularly problematic in public engagement because its function is antithetical to the pluralism and cooperation that engagement demands. Boundary-work separates and excludes, stratifying knowledge and privileging some actors and their knowledge over others. As a result of this boundary-work, science and its technological innovations are often scrutinized, contested, and politicized, resulting in uncertainty and dynamism.

Such uncertainty creates opportunities for more diverse forms of knowledge that publics can contribute. Examples include knowledge of a nontechnical nature, knowledge of social and political considerations such as social and ecological impacts, ownership arrangements, distribution and access, social acceptability, human and environmental risks, and other social and ethical concerns that exist in the realm of society rather than science (van Est, 2011). Public engagement in decision making or policy on the development of science and technology may also enhance citizenship and instill new bonds of trust while reducing risks (Callon, 1999; Fischhoff, 1995; Renn, 2008) and encourage a more socially responsive scientific and technological agenda (Collins, 1986; Haraway, 1988; Harding, 1991).

At the same time, uncertainty creates challenges for effective public engagement. It may obscure the identification of publics, especially in the case of emerging technologies. Kleinman et al. (2011) have written on the challenges of motivating public engagement around science and technology issues, but they confine their analysis to motivation for participation. They do not consider the absence of participants, or how the very subject matter may structure participation limitations. In the case of unsettled emerging technologies, van Est (2011) has argued that publics may

be unknown or unorganized, or multiple publics may be variously implicated with the emerging technology.

Effective engagement is also predicated on publics' experience with the subject matter under consideration. STS scholars use the plural form publics intentionally as a reminder that civil society is not homogeneous but is composed of diverse and dynamic social groups with variable interests, values, and economic and political resources. Various groups may also be in different cognitive stages of awareness of the technology. For instance, publics may be users or nonusers of the technology, consumers of technological products, or residents of communities located where new technological developments are proposed. More generally, publics may be altogether unaware of the ways scientific and technological innovations impinge on their lives (*Einsiedel, 2008*). Publics may articulate views and advocate positions relative to their evaluation of the acceptability of and potential for benefits or risks they associate with science and technology, or they may remain mute on such issues (*Frewer, 1999; Frickel et al., 2010; Hess, 2007; Slove, 1995*). Moreover, publics are engaged not only as groups with identifiable interests, but also as "imagined groups" (*Einsiedel, 2008, p. 174*). The overall insight is that we should not "flatten" publics into the categories of expert and nonexpert but rather find ways to accommodate the dynamism of publics and their interests and experiences (*Bucchi & Neresini, 2008, p. 463*).

A challenge for public engagement is negotiating these diverse interests and experiences and ultimately bringing together this plurality without undue tension and struggle that divides and segregates. This requires understanding and incorporating the multiple ways that publics experience these technologies. Experience also happens in both direct and intimate ways through the media and interaction with others (*Renn, 2008*). For instance, publics may have direct experience with technology development such as a bioenergy facility located in their neighborhood, or they may experience the same technology only indirectly, such as through interactions with friends, environmental activist campaigns, or via the local media. A common assumption is that increased exposure brings public acceptance or that people warm up to technologies over time. Publics residing near nuclear power plants have been shown to be more supportive of this technology than the general U.S. population (*Freudenburg & Pastor, 1992*). However, other research challenges this assumption, charging that previous experience may also heighten anxiety about new technologies (*Cutter, 1993*). *Stoffle et al. (1991)*, for instance, find that previous experience with nuclear

power can cast a “risk shadow” over new technology proposals. Increasingly, direct personal experience with technologies that are relevant to people’s daily lives is being replaced by interaction with expert sources of information on technologies. As a result, the search for trustworthy and credible sources of expertise has replaced the search for personal control (Renn, 2008).

Experiences vary because the meanings we attribute to technologies are themselves variable (Benford, 1993). Whether or not emerging technologies become relevant in ways that motivate a desire to engage with others is critical. Therefore, the processes by which knowledge is constructed and technologies are made meaningful constitute the third challenge we must consider for effective public engagement with emerging technologies. How individuals—scientists, citizens, and other actors—“know” the issue at hand can be understood in part by how they frame the issue. Framing is the discursive act of making meaning about the world. Goffman (1974) refers to it as the process of locating, perceiving, labeling, and categorizing reality. Frames are filtering devices that are designed by emphasizing some aspects of reality over others (Jasanoff, 2000; Snow & Benford, 1988). In this way, frames help publics clarify what is important about emerging technologies and what ought to be done.

Framing processes contribute to differing interpretations of a technology, its uses, and its impacts. Differences in frames become the battle lines over which technological futures are fought. Questions such as “How might this technology help or threaten my community, my business, my family?” are responded to differently by groups who feel they have more or less control, decision-making capacity, or influence over the outcomes of technological innovations (Wildavsky & Dake, 1990). Moreover, emerging technologies are projects in which industry and government elites have made investments of time, money, and other institutional resources. Publics encounter technologies not as open-ended artifacts and processes but framed by elites as providing social goods (Tierney, 1999). In other words, “the struggle is thus not just technological, but also political (who has the power to decide?) and discursive (how is ‘benefit’ and ‘progress’ defined?)” (Freudenburg & Pastor, 1992, p. 391).

Collaborations between publics, universities, and scientists, however, have historically been plagued by power inequities (Tierney, 1999). These power inequities reflect a tension between the goals of public engagement with emerging technologies and dominant cultural scientific norms. For instance, the boundary-work of excluding laypersons from science is often framed in a

way that portrays citizens as lacking the scientific literacy to engage in meaningful deliberation and decision making. Citizens cannot be trusted because they are not sufficiently informed, goes the common exclusionary refrain. Using the same logic, however, it is conversely argued that citizens are not incapable but simply ignorant. Once enlightened, therefore, they are able to understand science and will share favorable attitudes toward science and technological innovation. In both cases, it is the public, not science, that is framed as problematic (*Bucchi & Neresini, 2008; Einsiedel, 2008; Wynne, 1992*).

Public or “lay” knowledge, however, is not inferior to scientific knowledge, but is instead qualitatively different in that publics often make decisions by weighing facts, values, experience, trust in scientific institutions, and the perception of capacities to use scientific information (*Bucchi & Neresini, 2008*). Moreover, the historical exclusion of certain groups such as women or people of color is of high value to science precisely because of these groups’ traditional disconnect from mainstream science. Marginalized publics, through their cultural embodiment of alternative experiences and knowledge, occupy a privileged position for knowing and experiencing inequalities firsthand (*Harding, 1991*).

Human interaction often involves uncertainty. We regularly confront the unknown and must adapt our behavior accordingly. The uncertainty that arises for engagement in emerging technologies involves incomplete information that results in power differentials whereby all publics are not equally equipped to appreciate the risks of the undertaking. Cook and Emerson (1978) found that when participants in an exchange were unable to compare risks and rewards, the use of power was magnified. Savage and Bergstrand (2013) came to the same conclusion, stating, “Having complete information about the distribution of benefits evokes equity norms that depress the use of structural power in exchange networks” (p. 318). This potential inequality is particularly salient in the case of publicly funded research and development as taxpayer support underlies not only the engagement process but also the science and technology under consideration. In short, when university resources are used to structure uncertainty, they simultaneously structure power inequality and stifle democratic engagement.

Taken together, the identification of publics and their variable experiences with technologies, along with the diversity of frames they construct and dispute, provides a framework to reflexively interrogate the challenges that emerging technologies pose for public engagement. In the next section, we present four case sum-

maries that animate these challenges. Drawing on our own efforts at engaging publics in the emerging fields of nanotechnology and bioenergy, we illustrate how the messiness of identifying publics, their variable experiences, and the frame contests to which they are exposed can complicate progress toward the successful public engagement that can enable problem solving for university–public partnerships.

Engaging Nanotechnologies

Each of the following case summaries was developed by the authors of this article. The summaries were reflexively developed based on our personal observations and interactions with participants during four distinct engagement processes. It is important to note that although the degree of engagement varied in each instance, each author sought to directly engage publics on the topic of emerging technologies to ensure that public concerns and aspirations were consistently understood, disseminated or, where appropriate, integrated into decision making. We view engagement as a generic form of human interaction, ranging from citizen and expert forums to face-to-face interviews and community deliberations. Moreover, following van Est (2011), we see engagement as a broad, inclusive concept that may embrace initiatives ranging from research into the societal impacts of technological development to scholar-initiated formal citizen engagement to citizen grassroots organizing or protest. The diversity of engagement strategies represented in this article reinforces the validity of our conclusions.

Our first two case summaries deal with nanotechnologies. “Nano” refers to nanometers, 10^9 meters, or one billionth of a meter. In principle, nanotechnology refers to the ability of new techniques in the sciences “to control and restructure the matter at the atomic and molecular levels in the range of approximately one nanometer to 100 nanometers, [thereby] exploiting the distinct properties and phenomena at that scale” (Roco, 2010, p. xxxvii). At this scale, materials not only take on unique physical and chemical properties, but can be manipulated to adopt new or enhanced properties such as greater conductivity, durability, flexibility, reactivity, insulation, or catalysis, depending on the shape, size, and other characteristics scientists attribute to the particles. Such abilities are particularly attractive in a number of industries, from sunscreen and sporting equipment to fuel cells and artificial intelligence.

Engaging Experts on Nanobiosensors

Whyte's case summary is based on an expert forum that he coorganized during a 2010 workshop on nanotechnology. The expert forum method is modeled on scientific committee processes in which scientists and industry and government representatives with complementary domains of specialization convene to develop an integrated statement of what is known about a given issue, identify key areas for further research, and disseminate authoritative knowledge to publics. The forum was specifically designed to engage experts in the early stages of development of an emerging technology around the ethical implications of the technology. In this case, nanotechnology has been integrated into biosensors to enable real-time tracking of the identity, location, and properties of livestock in the U.S. agrifood system. The experts in this forum were engineers, technology designers, industry officials, and other nanobiosensor developers. Experts contend that these innovations will improve national food traceability, which in turn will lead to economic and public health benefits. Developers of nanobiosensors see the tracking capabilities as holding the potential to empower a number of actors in agrifood supply chains to exert more control, such as ranchers being able to monitor animal temperatures more effectively and health officials being able to quickly determine the origin of a disease outbreak.

Given the historical impacts of agricultural technologies on social equality (*Friedland, Barton, & Thomas, 1981*), we expected to see challenges for meaningful public engagement regarding the adoption of nanobiosensors. These insights yield two pertinent considerations for engaging with emerging technologies. First, for publics that may eventually become users of the technology, these arguments raise important ethical questions on such topics as privacy, exploitation, marginalization, environmental injustice, and distributional inequities to data access. Whyte and colleagues organized the forum precisely because these issues are rarely part of the expert discourse, the purpose being to engage experts on these technical/ethical issues as early as possible in the hopes that such problems could be reduced when and if the technology is more broadly adopted.

Second, this case illustrates that emerging technologies are linked with emergent publics. As technologies move from secluded laboratories to public spaces, they enroll future publics that are targeted as consumers, end users, adopters, or subjects of new innovations. It is difficult to achieve public engagement at early phases of technological innovation as potential user publics of a given tech-

nology are largely unformed and, therefore, have not yet articulated which risks or rewards they perceive. The groups most commonly aware of these technologies are those whose interests and occupations are tightly linked with the success of a technological application (e.g., early adopting livestock producers, engineers, and government and industry representatives) and the specialists to whom they have access. Groups with access to inside information initially develop knowledge and make claims concerning the range of risks and benefits of the new applications. Such knowledge, however, is itself emergent as long as specifics of applying the technology or its effects on the lives and work of other publics remains unknown.

To address this issue for nanobiosensors, Whyte and colleagues aim to engage in a long-term effort to extend the inclusiveness of participatory decision making by bringing in more publics. This intention demonstrates that, in the present, the range of application possibilities for nanobiosensors is open. Promoters and decision makers are in the process of framing and marketing the technology's potential applicability, yet how this will play out within the supply chain remains unknown. Moreover, it remains unknown whether or how the initial forum shaped subsequent activities.

Organic Engagement with Nanotechnologies

Gehrke's case summary on the public understanding of nanotechnologies uses a method he terms "organic engagement," which is meant to reflect the ways groups initiate their own engagement around emergent technology issues. From 2009 to 2011, Gehrke and colleagues set out to study as well as help facilitate publics' self-initiated engagement with nanotechnologies and nanosciences in order to better understand not only current knowledge of nanotechnologies but also how citizens gather information on developments in nanoscale technologies and make judgments about those developments. They asked, how do groups of people, who are not experts in the sense that they do not have privileged access to information or professional experience with nanotechnologies, make sense of technologies? The technology issues here are similar to those in Whyte's case in that publics have limited access to knowledge and information about, as well as influence over, nanotechnologies. However, whereas Whyte's goal was to engage with experts in order to introduce the ethical concerns of potentially emergent publics, Gehrke's project intentionally sought out preexisting publics who had begun to familiarize themselves with the subject.

Eleven groups from across the United States, including a local church group, civic associations, advocacy groups, and more informal networks, agreed to let scholars observe their learning process. In each case, the cooperating group built its own event on a topic in nanotechnology that appealed to members and related to the group's self-defined purposes. In most cases the group chose a topic, found one or more speakers, and selected a format and venue. In all but one event, speakers external to the group were chosen as guests or experts. In two cases, panels of multiple speakers were assembled; in eight cases a single speaker was brought in; and in one case the members of the organization educated themselves and held their own informational meeting and discussion.

This case reveals three insights about public-initiated engagement with emerging technologies. First, despite barriers to information, few if any social ties with nanotechnology specialists or experts, and a lack of tactile or "hands on" experience with nanotechnology, publics can construct new knowledge and understandings of emerging technologies. Second, when publics develop an interest in nanotechnology, they seek out and rely on information from familiar, trusted sources, which implies that prior relationships are essential in the development of public opinion. Third, even while participants interpreted technologies as removed from their daily lives, they could see potential for detrimental effects from their use. For instance, the collective group discussion reflected an overwhelmingly negative disposition toward nanomaterials in cosmetics and sunscreens, particularly motivated by the lack of labeling for nanoscale ingredients. The absence of labeling heightened the perception of risk by increasing uncertainty around incorporating unfamiliar technologies in items that are not only commonplace but intimate in that they are applied directly to the body. Even those advocating for free market solutions tended to support labeling regulations to enhance consumer information and democratic choice (*Gehrke, 2013*).

For scholars, participation with these public groups sheds light on the ways groups of people construct understandings of new everyday technologies over which they may have little direct control. The aim of participation for engagement scholars, therefore, can be to support publics who self-select as opposed to acting as sponsors who initiate public engagement. For publics, engagement with emerging technologies proceeds first and foremost along familiar, trusted lines.

Engaging Bioenergy Technologies

Bioenergy technology refers to a group of distributed energy technologies that use renewable sources of biomass, such as trees or agricultural crops, to produce heat, electricity, or liquid fuels. Using methods similar to those in coal-fired power plants, bioenergy electricity and heat are produced when biomass is combusted, providing steam used to turn a turbine, which creates electricity for the electrical grid (Tabak, 2009). In recent years, attention to bioenergy technologies has increased as new energy and environmental policies are enacted to support alternatives to conventional fossil fuels. One result has been numerous proposals to site new bioenergy facilities in communities located near biomass resources. However, as the two following case summaries illustrate, at the local community level, bioenergy means different things to different groups of people. For some community members, bioenergy is a renewable energy technology through which communities can develop their struggling economies. For others, however, bioenergy technologies may raise political, health, and environmental concerns or, despite agendas promoting its implementation regionally, be of low importance.

Bioenergy Community Voices

Eaton and Gasteyer's case summary on the community experience of proposals to site new bioenergy facilities follows a project intended to uncover, document, and share attitudes and perceptions of community residents regarding the uncertainties that accompany new technology development. During 2010–2011, Eaton and Gasteyer identified four northern Michigan communities where bioenergy facilities were proposed. Thirty-seven interviews with citizens, activists, and local elites were conducted while the communities were debating the appropriateness of bioenergy technologies. The goal of the engagement project was to better understand the ways communities make sense of and act on possibilities for local renewable energy development (cf. Devine-Wright, 2007). This goal was premised on the notion that a better understanding of these processes might help empower communities to more democratically chart their energy future. Achieving such a comprehensive understanding required that scholars give explicit attention to the claims of marginalized groups whose voices easily become lost under the discourse of economic development articulated by local elites and their partners in government and industry.

Interviews revealed that bioenergy siting can evoke acrimonious responses, dividing those for and against bioenergy (*Eaton, Gasteyer, & Busch, 2013*). At least two pertinent issues in regard to engaged scholarship around such technology disputes became evident. First, frame disputes demonstrate that there is little agreement over what is at stake with emerging technologies. In this case, mobilized residents framed local elites as biased, claiming that they were apologists of industry, able only to toe the pro-industry line and incapable of seeing potential shortcomings. Moreover, residents accused local elites of viewing bioenergy as offering the only path to job creation, industrial development, or renewable energy, and exhibiting no willingness to consider alternatives. At the same time, some residents reported that their pleas to participate in the decision making process were ignored. When citizens pressed decision makers to pursue alternative means to achieve the benefits advocates argued bioenergy would supply, decision makers responded that experts had already vetted alternatives. Local elites argued that the possible paths forward were clear: continued reliance on out-of-state coal or developing a new bioenergy system that would make use of local resources and labor. Clearly, they claimed, bioenergy provided the only reasonable solution. Some questioned this conclusion. Although bioenergy was seen by some as supplying much needed employment and local tax revenue, others argued that the potential collective goods actually benefited those outside the community at the expense of local residents and resources. When questions were raised about the potential for negative environmental, health, and economic consequences, local elites responded by diverting attention away from questions related to the technology and toward the credibility of residents (*cf. Freudenburg & Alario, 2007*). In this way, attention was turned from a discussion of potential impacts on the community to the way refusal to accept the local siting itself would lead to higher energy prices, continued reliance on coal, and a loss of much needed jobs.

Second, interviews also pointed to the importance of trust in technological disputes. Nearly everyone in the community expressed some level of concern for the uncertainties of bioenergy technologies. However, concerns were linked with the level of trust actors expressed for institutional authorities responsible for mitigating technological risks. Trust was evaluated in terms of previous experiences with more familiar technological projects, such as coal-fired power plants and waste incinerators. Overall, engaging with residents and elites by asking them to discuss the ways bioenergy is meaningful to them is empowering in the sense that the

dominant framings of bioenergy can more actively be interrogated and in the process, more localized and contextualized understandings can emerge.

Deliberative Dialogue on Bioenergy

Wright's case summary is based on efforts to engage publics via deliberative dialogue in order to catalyze community discussions on bioenergy development. As illustrated in Eaton and Gasteyer's research, proposals to site new bioenergy facilities can be highly contentious. The purpose of deliberative dialogue is to find ways to bridge such framing disputes and ultimately move toward the collective production of new ways of thinking about and responding to contentious issues. In this case, deliberative dialogue was intended to create a context where citizens could become informed on the technical aspects of bioenergy and also uncover and more broadly share their values and aspirations about energy development within their community. The intent was less about moving toward consensus on some pressing issue, such as bioenergy adoption in the community, than it was to learn how others viewed the issue and develop an appreciation for the diversity of perspectives. In other words, this exercise aimed to allow participants to develop the capacity to understand others' framings and link them to broader social values such as health, economic development, community well-being, and environmental risk. This deliberative process allows communities to eschew expert-driven knowledge and weigh possible lines of action against what the community considers most valuable, then move forward to make collective decisions that honor the geographic and normative values of the place and people who reside there (*Mathews, 2009*).

This engagement initiative had three steps. First, engagement scholars invited key actors in the bioenergy sector—foresters, loggers, nongovernmental organization representatives, environmentalists, community leaders, and renewable energy industry representatives—to a workshop aimed at identifying the salient opportunities, costs, risks, and challenges associated with bioenergy development in the region. Scholars amassed all points presented during the workshop and organized this information into an issue guide illustrating the various challenges and opportunities facing bioenergy and the various claims residents were making about the trade-offs involved in this project. The issue guide presented three scenarios or worldviews commonly offered by participants in the bioenergy debate. A brief video was also produced that showcased the range of views on this issue. These materials became tools to

help publics engage in informed and meaningful deliberation about bioenergy issues and their tensions and trade-offs. Second, Extension educators and others were trained in facilitating deliberative dialogue on bioenergy issues. For the final step, Extension educators held a deliberative forum using relevant materials and their new facilitation skills. Deliberative forums are intended to help community members engage through respectful dialogue, weigh complex and divisive issues, and find context-appropriate responses in a democratic fashion.

The deliberative forum points to the role experiential knowledge plays when engaged scholarship involves emerging technologies. Whereas residents of the communities in Eaton and Gasteyer's project encountered strong positive framings of bioenergy technology, this forum was held in a community where bioenergy issues were removed from the everyday experience of residents. There were no campaigns to champion bioenergy technologies or active proposals to site bioenergy facilities locally nor were there plans to do so in the near future. In this context, the perspectives raised in the issue guide were interpreted by participants as hypothetical and abstract, not as immediate possibilities demanding their attention. Bioenergy had yet to become a personal issue, unlike nanotechnologies in skin care products or the bioenergy proposals in process in other communities. Overall, the challenge was to make the issue less abstract and more relevant and significant to the community.

Discussion

These case summaries provide an empirical basis for identifying and understanding the ways emerging technologies present unique challenges for the successful navigation of engagement collaborations. Below we discuss three issues. First, the context of emerging technologies requires engaged scholars to take into consideration the emergent status of publics. Second, understanding how publics experience technologies requires attention to experiential variability among publics. And third, we discuss how framing disputes over emerging technologies call attention to power inequities. Our hope is that these tensions provide a valuable starting point for analysis of the potential pitfalls to successful engagement around emerging technologies.

Defining and Engaging With Publics

As discussed earlier, emerging technologies are in a state of flux and open to a myriad of possible paths forward. Our cases

demonstrate that the same is true for the publics whose lives are or will be shaped by new technologies. In other words, in the open and at times contested processes of designing, researching, developing, and implementing new technologies, relevant publics, such as users, citizens, farmers, and consumers, are also in various stages of emergence. This perspective contrasts with seeing publics as static groups that have already undergone the social processes of identifying, negotiating, and communicating their interests regarding the design or implementation of new technologies. Instead, these are ongoing processes. We see this in our first case summaries where engagement between scholars and experts on nanobiosensors raises questions concerning publics. When and how will publics encounter nanobiosensors? What will they identify as salient issues? Moreover, how can future interests best be taken into account now during the emergent state of the technology? This case suggests that publics fall along a continuum of emergence, which implies that important collaboration partners may have yet to emerge and therefore cannot assert their values and interests. Such is the central problem plaguing sustainability scholars who struggle to articulate a voice for unknown future generations. The insight for public engagement is that interests and responses of emergent publics may be unknown in much the same way that the future application of these technologies remains undetermined. Emergent publics and technologies therefore raise ethical complications for increasing public engagement as engagement is predicated on an ethic of mutual exchange, collaboration, and the weighing of various interests of publics (*Van de Ven, 2007*), all of which require publics to articulate developed interests.

Additionally, these ethical complications suggest that rather than engaging directly with publics, scientists and scholars can only imagine who these citizens, users, and consumers might be and what interests they might have in the technology. The case of nanobiosensors shows that one way to grapple with this uncertainty is to engage with the technology development supporters in a manner that elicits explicit deliberation not on the specific concerns of future users—which are unknowns—but on historically informed ethical principles (e.g., privacy issues) that can be anticipated to reemerge in the context of new technological applications. This includes recognition that because the totality of ethical principles cannot be fully known or deliberated a priori, leaving room for adaptation is critical, as is commitment to an iterative, long-term engagement process.

Experiential Variability Among Publics

Publics experience technologies both directly, through such means as personal interaction, as well as indirectly, as in media coverage or public relations campaigns. Whether direct or indirect, experience is a precursor to a range of public responses, from support for technological development to motivation to learn more to heightened attention to both risks and resistance. Yet in order for publics to initiate or willingly participate in engagement collaborations, experience alone is not sufficient. Rather, people need to see technologies as relevant to and affecting their personal lives in some significant way. Sociologists use the term experiential commensurability in reference to the active construction of meaningful interest due to the perception of relevance and importance for one's life (*Benford & Snow, 2000*). The cases presented in this article, however, demonstrate that experiential commensurability as well as experience are not inevitable accomplishments. Instead, these cases indicate the need for an examination of the ways engagement around emerging technologies takes place across a continuum of magnitudes of experience and relevance. Most importantly, engagement around emerging technologies calls attention to various degrees of non-knowing or ignorance, terms we invoke in reference to an absence of certain types of knowledge, information, or experience as well as a sense of relevance for emerging technologies (*cf. Frickel et al., 2010*).

The case summaries of nanotechnology engagement illustrate this in two different ways. In Whyte's case we see that engagement between scholars and nanotechnology experts takes place at a point in time when publics have not yet experienced the technology because the technology itself is embryonic. This results in a complete lack of experience and awareness on the part of publics who, as discussed above, have yet to emerge in relation to potential applications.

In Gerhke's case, we can assume that nanotechnologies are indeed relevant as evidenced by the efforts of these publics to come together on their own to learn more about ways these technologies may affect their lives. The character of nanotechnologies, however, raises important hurdles for experiencing the technology. On the one hand, nanotechnologies are remote from everyday experience in the sense that they are invisible and intangible. Moreover, these publics, unlike the experts and specialists in Whyte's case, are excluded from industry and policy decisions about design, research, and application. Experience then is wrapped up with notions of potential risks and benefits to consumers and framings

that are manufactured by industry and scientific elites who decide nanotechnology applications. Despite the abstracted experience of nanotechnologies, these technologies are indeed deemed relevant by these publics. However, the lack of transparency in labeling heightened the sense of risk that these publics expressed regarding nanotechnologies that were introduced in unknown ways into everyday personal consumer products.

Experience and relevance are also important in another way. Irrelevance not only can stem from a lack of experience, as the nanotechnology cases underscore, but can also be a strategic response to technologies. This may include intentionally ignoring or distancing oneself from the technology. In other words, ignorance can function as its own way of understanding technical information. For instance, when sources of information are distrusted, seen as irrelevant, or considered beneficial only to others, publics may intentionally ignore scientific and technological information and projects (*Wynne, 1996*). This is illustrated in the deliberative dialogue bioenergy case, which occurred in communities that perceived bioenergy as distant rather than imminent. Without such factors as a proposed new bioenergy facility in the area, there was little incentive to begin the process of constructing meaningful understandings that would underscore the relevance of public engagement with others on the issue. The goal of facilitating a meaningful deliberation over the ways bioenergy might impact the community was thwarted by intentional ignorance when publics framed bioenergy development as something that happened elsewhere and to other people. Overall, the issue failed to resonate with participants because the problem lacked a sense of immediacy. Absent a grounded context in which to understand and interact with the technology, discussions of risks and benefits remained nebulous and remote. The implication is that encouraging dialogue on the subject will not bring about public engagement with emerging technologies in the absence of experiential commensurability.

This final case in particular suggests that successful engagement around emerging technologies may require looking beyond the role of experience and relevance and into the realm of ignorance. Engagement practitioners need to recognize the perception of irrelevance as providing its own distinct barriers to successful engagement. This includes not only a lack of awareness or challenges to direct or indirect experiences but also the intentional neglect of scientific information. In response, historically informed and relevant analogies can be marshaled to enhance the relevance of the technology.

Framing Contests Over Emerging Technologies

If emergent publics and the lack of a sense of immediacy point to a deficit of meaningful engagement opportunities, framing disputes reveal the opposite extreme. Framing, as demonstrated in the above cases, refers to established perspectives on emerging technologies. Moreover, framing contests point to attempts to impose one set of understandings at the expense of others. In this context, engagement is complicated by distrust, fear, or ambivalence toward authorities, experts, and others who seek to introduce new technologies and inform and educate publics on their applications (Wynne, 1996).

The controversy over bioenergy in Eaton and Gasteyer's case demonstrates the ways publics, experts, and other relevant actor groups develop competing frames to make sense of and describe the positive and negative prospects of bioenergy. However, the frames of publics and of scientists do not rest on an equal footing. They reveal challenges over the credibility and authority of scientific and technological knowledge. Although the frames of scientists and of industry and regulatory spokespersons often have the upper hand in terms of credibility and authority, publics such as community residents where new bioenergy facilities are proposed for siting often see reality differently. For instance, environmentalists and community organizers marshal counter-frames and competing science to challenge overly enthusiastic interpretations. Universities have often aligned themselves with science and industry, leaving publics deemed disparaging or critical, such as oppositional social movements, outside the engagement process. This has resulted only in increased resentment, distrust, and alienation—not the sort of social relations necessary for democratic problem solving. Promotional frames are constructed by actors privy to select information who may have personal or professional (or economic) stakes in a positive framing of new technologies and applications (Frickel *et al.*, 2010). In Whyte's case of nanobiosensors, experts claim that introducing these technologies into agricultural systems will enhance food traceability and therefore consumer welfare. At later points in time, when publics arrive on the scene, they will encounter nanobiosensors as technologies that provide widespread social benefits, a frame carrying the full weight of scientific and regulatory authority and credibility. In this context, introducing critical assessment will be difficult. The insight for successful engagement is that technologies cannot be divorced from the range of interpretations of them, nor can they be framed

in alternative ways without contesting the credibility of dominant frames and frame makers.

Engagement practices therefore must recognize the diversity of competing framings of technologies. This illustrates the ethical bind scholars must negotiate within the context of emerging technologies. On the one hand, engaged scholars need to be open to alternative framings and a broad range of understandings while remaining sensitive to the influence and inevitability of their own framings. Taking such a position could be seen as a positive attempt to remain objective and act as an honest broker of scientific knowledge (Pielke, 2007). On the other hand, in the absence of defining their own position on technology issues, scholars who attempt to remain neutral increase their susceptibility to being framed negatively by those with whom they engage. It is the uncertainty associated with emergent publics, the diverse experiences of publics, and the competing frames of emerging technologies that create this bind. Engaged scholars can respond to this impasse through the design and intent of their engaged work that foregrounds inclusivity of participation as well as the credibility of all frames. This includes placing scientific frames on an equal footing with non-scientific frames. As our cases demonstrate, different approaches embody assumptions about the best approach for different contexts, such as who to engage when publics are emergent; interests are obfuscated by issues of public ignorance or public perceptions of relevance; and frames and technologies are difficult if not impossible to separate.

Conclusion: Implications of Emerging Technologies for Engaged Scholarship

In this article, our objective has been to begin a discussion of the unique ways emerging technologies complicate the already difficult task of reenvisioning and shifting university resources toward public engagement practices. Our own experiences demonstrate that emerging technologies complicate the already difficult task of university–public collaborations in at least three distinct ways. Publics, like technologies, are emergent and fluid. Engagement may take place at different phases of the evolution of publics, including their cognitive awareness of a given technology. The experience of emerging technologies is also varied, and particular attention needs to be given to publics' views of technologies in their daily lives, which may include both relevance and ignorance. Diverse frames remind us that technologies are often contested and meanings varied. It is necessary to embrace multiple interpretations of

technologies and their implications for publics to achieve socially inclusive engagement.

Our findings have implications not only for engaged scholars but also more broadly for a scholarship of engagement. The issues raised by emerging technologies can be read as contributing new implications and insights into the challenge of encouraging civic responsibilities such as taking an active, participatory role in science and technology decision making and policy. There has been increased attention to shifting from a “rights”-based citizenship toward one that emphasizes civic responsibilities. However, the ways that emerging technologies may enroll emergent, unsettled publics; the difficulties of relying on experience for social evaluation of technological possibilities; and the ways that frames of emerging technologies are built on power and inequities present unique hurdles to increasing democratic public participation. Commonly assumed hurdles such as limited access to resources of time and money on the part of publics seem inadequate to explain publics’ varied approaches to emerging technologies. In this context, barriers to engagement are less matters of individual action than they are structural elements that stem from the emergent nature of the technology.

A second implication is the need for engagement scholars to pay closer attention to the growing diversity of perspectives on science, technology, and their associated frames within the modern university, especially within research universities. As universities devote ever-increasing attention to the economic potential of science and technology, the scholarship of engagement cannot continue to turn a blind eye to the associated political, social, and ethical issues hidden behind a cloak of objectivity. As we have argued above, a growing scholarship on public participation in science and technology takes a critical look at the way power, inequality, and privilege are woven into these fields. This scholarship is therefore well suited to address these important social issues. It is our contention that the scholarship of engagement should draw on this body of scholarship and, in doing so, develop a more nuanced critique of the role of university science and technology in society.

Because we have painted emerging technologies with a broad brush in this article, we have not attempted to discuss the nuances of various types of technologies. Surely all technologies are not the same and thus bring disparate challenges for engagement. We might expect more challenges when the technological stakes are higher, for instance. Publics may prove more easily engaged in medical decision making than in issues of energy or agriculture.

The theoretical implications of this study must be undergirded with empirical support. Future research should test the propositions put forth in this article with different types of emerging technologies.

A second fertile area of research is the way the modern university enables public engagement around emerging technologies. In a time of budget constrictions, the role of the university as economic actor is growing. How does this role contour public engagement? If we are to connect “the rich resources of the university to our most pressing social, civic, and ethical” (Boyer, 1996, p. 32) scientific and technological problems, we must begin by recognizing that the act of problem solving via public engagement is complicated by the emergent and unsettled state of the technology and the associated publics as well as by the discursive contests surrounding the technology that vie for our support. The role of the university in framing these contests and supporting some publics while obscuring others is a critical topic for investigation. More research is needed to examine the processes by which the university structures engagement opportunities in ways that may facilitate or inhibit democratic processes.

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Knowledge as Responsibility: Universities and Society

Irit Keynan

Abstract

This essay proposes three principles that defined genuine social responsibility, and suggests that while universities claimed to be committed to this idea, many adopted social responsibility only superficially. Consequently, universities indirectly exacerbated socioeconomic inequalities and overlooked their obligation to search for truth.

Introduction

Individuals are responsible for society, but society is also responsible for the individuals, lest they live in the world as merely biological or physical creations, lest they translate this world into the language of the elementary levels of their existence. —Nathan Rotenstreich, philosopher (1914–1993)

Pondering the third millennium, Gerhard Casper, Stanford University's president at the time, predicted that universities would have to justify their existence in the face of new alternative trends (Casper, 1996). His statement echoed growing concerns regarding the status and future of universities that were shared by many scholars around the world at the turn of the new millennium, albeit for diverse reasons (Watson, Hollister, Stroud, & Babcock, 2011). The academic communities of the United States and Europe shared a sense of confusion and anxiety in view of new trends that were shifting intellectual centers of gravity beyond the borders of academic institutions (Lock & Lorenz, 2007). In Israel, amid serious cutbacks in resources (government spending per student was slashed by 20% between 2001 and 2007; Shohat Committee, 2007) and persistent brain drain (Ben-David, 2008), unease about the declining status of universities prompted Israeli scholars to engage in soul searching regarding the public role of universities (e.g., Forum for Defending Public Education, <http://www.publiceducation.org.il>) and triggered a public debate over who should bear the responsibility for reducing the growing socioeconomic inequality in Israeli society (Keynan, 2005).

Concerns about universities' status and roles in society have resurfaced since the eruption of the 2008 economic crisis, espe-

cially in the United States. In the analyses of the roots of this crisis, several fingers were pointed at academic economists, who were blamed for their excessive focus on theoretical modeling that masked social and economic reality (Lawson, 2009). Moreover, deep involvement of many academics as consultants to the U.S. financial industry triggered concerns about potential conflicts of interest between these scholars' research and other activities and the extent to which their theories were influenced by their economic interests (Posner, 2009). At the same time, U.S. universities' financial vulnerability was heightened by the postcrisis erosion of funds that caused many states to slash their support for higher education (Bordwin, 2012). These developments added to the sense of crisis, which was shared by universities throughout the Western world despite differences in the nature of the crisis in various countries. Among several strategies to overcome the crisis, universities made efforts to increase their legitimacy in the community and gain greater public support by projecting an image as socially committed institutions that make valuable contributions to society and are also intensively engaged in the community.

Focusing on both Israel and the United States, this paper's main argument is that although universities claim to be engaged and involved with society, committed to diversity and to serving the public, many of them are in fact distanced from these missions and from social responsibility in its broad and comprehensive meaning. In a way, universities exist for society—they educate, they invent new ideas, develop medications, engineer solutions—yet they fail to understand and adopt the full meaning of social responsibility. This essay contends that social responsibility as an all-inclusive concept is an integral part of the universities' public role and of the foundation on which many universities were established. Many universities today, however, are typically isolated and detached from profound social issues; they offer limited accessibility and diversity; and they typically avoid addressing highly controversial issues altogether. In practice, many universities pay lip service to social responsibility to allay growing public concerns about social issues, and they confuse it with community service, which in itself is regarded as a marginal, add-on activity (Keynan, 2005, 2009). At the same time, they circumvent policies that would make social responsibility an integral part of academic life and work. I contend that such conduct by universities leads to academia's denial of the responsibilities of knowledge, and possibly to its neglect of the search for truth, the foremost undertaking on which the entire idea of academic freedom is based (Rubinstein, 2010). Moreover, by

failing to implement a broad view of social responsibility, universities have become indirect contributors to growing socioeconomic inequalities.

In this essay I first propose a definition for valid social responsibility based on three principles that are necessary components of a bona fide socially responsible policy, thus extending the debate about the idea of engaged scholarship and civic engagement. I then describe the public roles of universities and analyze the extent to which universities' behavior conforms to the principles of genuine social responsibility. In what follows, I explore whether universities satisfy these requirements in terms of providing equal access to educational opportunities and faculty participation. The next section questions the view that universities are engaged mainly in the "search for truth" and explores the relationship between those endeavors and social responsibility. Conclusions are presented in the last section.

What Is Social Responsibility?

Despite worldwide growing engagement with social responsibility, an accepted definition of the term has yet to be established (Schwartz, 2011). This is true for social responsibility in general, social responsibility of public organizations, and corporate social responsibility in the private sector. Of the three concepts, the last is the most commonly used and is well accepted in the business sector; nonetheless, ambiguous language and widely varying definitions for corporate social responsibility (Argandona, 2009) reflect diverse theoretical approaches (Garriga & Mele, 2004) that fail to offer clear definitions or guidelines for socially responsible behavior of business organizations. Most discussions on corporate social responsibility focus on the responsibility of businesses to "give back" to society, which is usually interpreted as philanthropy (Carroll, 1991; Carroll & Shabana, 2010). Other discussions focus on corporate social responsibility as a managerial tool to gain increased legitimacy for businesses and deflect outside criticism (Karnani, 2010) or to give the business a competitive advantage (Porter & Kramer, 2002). Ambiguity surrounding the meaning and demands of social responsibility also exists in civil society and social service organizations that embrace the concept either by providing health and welfare services or through advocacy and social change. In theory as well as in practice, social responsibility in public organizations is still in its infancy.

The debate over the definition of social responsibility has sharpened in the wake of the economic crisis of 2008 (Argandona, 2009; Kemper & Martin, 2010) as clashes between free market and neoliberal perceptions, on the one hand, and supporters of a more moderate capitalism, on the other hand, have intensified (Posner, 2009). In Israel, this debate has been going on for over a decade, side by side with increasing privatization (Gotwin, 2000; Hanin, 2000; Keynan, 2006), and has been recently rekindled by the massive middle-class protest of summer 2011 (Spivak & Wolfson, 2011).

As for universities, although universities in most Western countries emphasize their commitment to social responsibility and even boast of their diversity, social consciousness, and involvement in the surrounding community, too little attention has been devoted to a genuine discussion of the duties that social responsibility entails; the social responsibility of universities as a subject of academic study has attracted even less attention (Geary-Schneider, 2000). This may explain why universities that are extensively involved in community service confuse this activity with social responsibility and are bewildered about the significance of what they are doing in this area (Bok, 2001).

Based on philosophical writings (Nussbaum, 2003; Rawls, 1985; Rotenstreich, 1964; Sen, 1980), as well as on the United Nations' Universal Declaration of Human Rights (1948) (which includes social rights), I argue that any vision of social responsibility, for either a single institution or an entire sector of society, should be grounded in the following principles.

- **Principle A. Equal Rights:** A democratic society must be committed to ensuring equal opportunities for all its members; protecting minority rights, human rights, and civil rights (obviously including the right to equal education); and enabling all citizens to participate in social, economic, cultural, and political life, regardless of their ethnicity, socioeconomic status, gender, race, or religion.
- **Principle B. Capability:** Rights are considered secured to people only when they possess the capabilities to realize them.
- **Principle C. Mutual Responsibility:** Individuals are responsible for society, but society is also responsible for the individual. Similar to equal rights, this criterion is also a fundamental principle of all democratic societies, albeit in different levels of commitment.

I have chosen these three criteria for theoretical as well as practical reasons. As will later be discussed in this essay, both in North America and in Israel most universities consider their role in preparing the younger generation for democratic life part of their contribution to the public good and claim this as an important justification for public support for their activities. Therefore, the theoretical framework of social responsibility criteria in this essay is based on fundamental democratic values—equal rights and mutual responsibility between the collective and the individual. The capability principle connects the theoretical reason to the practical one. It is a part of the theoretical framework that also provides a concrete way of examining the other two criteria. Since capability means that rights are considered secured to people only when they possess the abilities to realize them, this criterion allows universities to examine their own social responsibility through various dimensions such as accessibility for students and diversity of faculty—dimensions which will be discussed and examined in further detail.

These principles are amalgamated with the view that the responsibility for the nature of a democratic society rests on all individuals and on all private, public, and governmental organizations and entities in that society. Furthermore, these principles necessitate a combination of avoidance and activity (*Keynan, 2009*): avoidance of actions that contradict the stated principles and a proactive pursuit to implement them, including action to correct social situations deviating from these principles, even when such actions constitute a challenge to the existing social order. Thus, I suggest defining social responsibility as institutional or individual action to apply the principles of equal rights, capability, and mutual responsibility to all members of society. The requirements of this definition are all the more relevant and should be even stricter for universities, which, as educational institutions that train future leaders, have the greatest formative influence on the future.

Many scholars and universities take part in a variety of activities to generate knowledge and practices that make a difference in communities, addressing a myriad of social problems. Significant efforts to conceptualize these activities have been made over the last decade, but despite these efforts, a “definitional anarchy,” as Sandmann (2008, p. 91) puts it, still exists. This essay contributes to this debate and to the conceptualization process by extending it to a broader view of engaged scholarship and by posing the question of engaged scholarship for what? Whereas the four punctuations (phases of change) presented by Sandmann (2008) mostly reflect

the actual activities and benefits of partnerships between academia and the community and the different ways and tools to exercise them, this essay combines the substance of outreach and engagement with the duties that adopting these concepts imposes on the inner life of universities. This is accomplished by proposing a broader argument that posits engaged scholarship as social responsibility defined by the three criteria of equal rights, capability, and mutual responsibility.

The Public Role of Universities

Before proceeding to assess universities' current commitment to social responsibility as measured by the application of principles of equal rights, capability, and mutual responsibility, it is important to acknowledge that the public role of universities is a subject of disagreement among academicians, policy makers, and educators. Although there is a growing movement to encourage outreach, civic engagement, and social responsibility in higher education (*Hollister et al., 2012; Sandmann, 2008*), many scholars object to the very notion that universities bear any civic or social responsibility, and insist that the duties of universities and scholars are limited to research, curricular development, and "meeting classes, keeping up in the discipline, assigning and correcting papers, opening up new areas of scholarship and so on" (*Fish, 2004, para. 6*). Others may hold a broader view, but many faculty members do not consider social responsibility to be part of the university's functions (*Checkoway, 2001; Fish, 2004; Silberscheid, 2004; Stanton & Wagner, 2006; Tsui, 2000; Ziv, 1990*). They see themselves primarily as researchers who have a second career as teachers, and their commitment to their academic disciplines does not typically translate into a commitment to social responsibility or involvement in community engagement. Such commitment is even considered a potential threat to their professional advancement within an academic organizational culture that typically instructs faculty to focus exclusively on research, publication, and teaching and offers no rewards for social engagement. This same organizational culture prevents most faculty members from fighting for social causes inside the university (such as living wage payments for janitors and guards, diversity in all ranks and categories of university personnel, and greater access for students), either because they are too busy with their own work and publishing race or because they prefer not to be marked as "troublemakers."

Consequently, even in institutions that consider themselves committed to what they see as social responsibility, faculty members are trapped in the publish-or-perish race, graduate students are

expected “to abandon anything not connected to progress toward the degree” (*Salazar, interview, cited in Stanton & Wagner, 2006, p. 2*), and social responsibility is channeled mainly to undergraduate students’ volunteer work in the community. Indeed, despite ongoing efforts by scholars who are involved in the movement to renew universities’ civic responsibility, most faculty members continue to believe that the social mission of their university is solely the responsibility of university administrators, either as part of undergraduates’ obligations or as part of community relations (*Stanton & Wagner, 2006*).

This attitude, combined with lack of relevant curricula, clearly conveys to the same students who volunteer in the community that civic engagement is a less important work, limited to undergraduate students: This subtext is communicated when social responsibility is relegated to the status of an elective, extracurricular activity that is excluded from the university’s criteria of outstanding performance. Although community service experience occasionally confers an advantage to students who compete for admission to graduate programs, the civic passion that students possess as talented and engaged undergraduates quickly dissipates in graduate school in the absence of institutional nurturing and support (*Stanton & Wagner, 2006*). Consequently, despite the increasing number of students who are active in U.S. university-run community programs, studies report a sharp decline in involvement immediately after graduation (*Thornton & Jaeger, 2006*). These studies associate this phenomenon with the general campus culture which, explicitly and implicitly, conveys a clear list of priorities that students should adopt in the pursuit of their career; social responsibility is not high on this list. It seems then that a genuine acceptance of civic responsibility as part of the university’s mission is possible only when organizational structures are established to encourage faculty members to see such work as central to their academic work (*Harkavy & Hartley, 2012*).

Many scholars argue that universities should focus on the search for truth; for example, Harvard University’s motto is *Veritas*, the Latin word for truth (*Harvard University, 2012*). This idea can be interpreted reductively as striving to explain rather than change the world: that is, to focus on research and teaching, disassociated from political, social, and financial concerns and to assign to other institutions the obligation to teach democratic skills, provide experiences in democratic practices, and pursue implementation of democratic principles (*Fish, 2004*). The search for truth can, however, be interpreted expansively and viewed as one of the central anchors of

academia, entailing active involvement in social and even political issues (Zimmerman, 2005) through education directed toward the pursuit of meaning, justice, and knowledge (Gur-Zeev, 1997). Such an interpretation seems to align with the idea of genuine academic freedom which is aimed at giving scholars the freedom and security they need to express new, nonconformist views that may challenge the existing social order without fear of losing their job or status (Rubinstein, 2010).

Notwithstanding this debate, within the framework of the nation-state, since its establishment the modern university has been perceived, by both its founders and itself, as having some public role. The essence of this role has changed from place to place and from period to period, but it has existed since von Humboldt, in the wake of the defeat at the hands of Napoleon's army, assigned to the University of Berlin the task of strengthening Prussian national culture (Guri-Rosenblit, 2005). In North America, many research universities were founded as land-grant universities with social-civic aims, to prepare the younger generation for active participation in a democratic society and for the development of knowledge and improvement of the community (Checkoway, 2001; Vogelgesang, Gilliam, O'Byrne, & Leal-Sotelo, 2006). The role of universities in preparing the younger generation for democratic life was declared by a national U.S. commission on higher education in the 1950s (Bok, 2001), and its vital significance was emphasized in 1957 by Judge Earl Warren, 14th Chief Justice of the United States, in a ruling that stressed and reinforced the importance of academic freedom (*Sweezy vs. New Hampshire*, cited in Rubinstein, 2010).

Paradoxically, it is this public/national role that may have planted the seed of universities' current conformity and loyalty to the nation-state, resulting in their avoidance of controversial social issues or challenges to the existing social order. Indeed, American universities gradually assumed an obligation to promote various national interests, especially following the Second World War, with the implementation of the policy proposed by Dr. Vannevar Bush, scientific adviser to President Roosevelt, in a report titled *Science: The Endless Frontier* (Bush, 1945). American universities were enlisted to serve the needs of the cold war and to maintain U.S. competitive capability in the global economy. By the mid-1950s, Massachusetts Institute of Technology (MIT) and Johns Hopkins were placed on the list of the nation's top 100 federal contractors, and in 1968 more than a third of the \$3 billion that American universities spent on research and development came from federal defense-related agencies. Enlistment, however, had its price. State

universities' increasing dependency on these funds strongly influenced institutions' educational mission (*Heineman, 1994*). As higher education expanded dramatically in the 20th century, increased demands to support technical scholarship and to prepare professional practitioners also diverted attention from the university's civic mission (for a detailed analysis of the civic mission of universities, see *Stanton & Wagner, 2006*).

The 1960s produced important critical schools of thought, and many students and faculty became deeply involved in a non-conformist wave and in the antiwar movement (*Heineman, 1994*). However, the post-civil rights era saw a powerful backlash, marked by growing advocacy for market interests over social needs, and universities—like other institutions of public life—came under attack by proponents of neoliberalism and corporate values (*Giroux & Giroux, 2004*). The effect of the 1960s thus dissipated and have been replaced by policies of the Milton Friedman school.

Several prominent universities, led by the University of Chicago's Department of Economics, played a leading role in the triumph of the free market economy, which somehow fit the American myth of unlimited possibilities and guaranteed success to all, depending exclusively on personal effort. Hence, utilitarian and neoliberal beliefs came to dominate society, overriding the values of the social contract and of sharing the common good among all members of society. This shift of perspective was, however, a Pyrrhic victory that created a social reality in which tens of millions of Americans lack health insurance, and the number of Americans who live in poverty rises steadily. In 2011, 46.2 million Americans (about 14% of the population) lived below official poverty level (*Tabernise, 2011*), and twice as many Americans lived in families with incomes below the minimum standard of living (*Lin & Bernstein, 2008*).

The encroachment of corporate values had its impact on universities, too, and especially on their budget allocation decisions. One consequence of the infiltration of a corporate ethos is soaring tuition levels that increasingly distance the American dream of unlimited possibilities from those segments of society who need it most. The 47% increase in tuition at 4-year public colleges and universities since the 1990s (*Giroux, 2005*) had a profound impact on lower income families, whose share of income for tuition rose sky high. In 2000, covering tuition called for 25% of the income of families in the lowest quintile but only 7% and 2.5% of the income of third and first quintile families, respectively. Despite financial aid programs and scholarships, family wealth and income remain

the best predictors, better even than academic preparation, of who will attend a university and of that institution's prestigiousness (*National Center for Public Policy and Higher Education, 2000*). In other words, through this indirect means universities have become an ever larger part of the engines that exacerbate social inequalities.

At the same time and perhaps partially because of the social consequences of their recent neoliberal orientation, universities, including highly renowned research-oriented universities, have increasingly been called to adopt civic engagement activities as an essential part of their mission and to integrate social responsibility and education into academic work and life on campus in ways that do not limit these pursuits to students' service in the community (*Bok, 2001*). This refreshing yet still modest trend is based on the view that the very survival of democracy depends on increasing citizen participation in democratic processes, and therefore universities should prepare students in all fields of study for lifetimes of active citizenship (*Hollister, Mead, & Wilson, 2006*). These demands echoed public commentary in numerous communities such as Los Angeles, which began to seriously question its universities' commitment to contributing to the public good (*Vogelgesang et al., 2006*). Similar appeals were expressed all across the United States, sometimes by university scholars themselves who called for reinstating the civic role of universities and censured universities' disengagement from their civic role and from society's needs. According to *Checkoway (2001)*, "The dilemma is that these universities have increased in resources, diversified their activities, and exceeded their expectations. But they also have become, like Kafka's castle, 'vast, remote, inaccessible'" (p. 129). It would be safe to conclude that American higher education is currently oriented toward a policy that promotes the development of profitable, privatized programs and avoids involvement in controversial social issues. Despite scholarships and financial aid to students in need, resulting tuition and admission standards benefit those with a better socio-economic starting point. As a result, insufficient attention has been given to critical thinking about the roots of the current social order or discussions of alternatives.

In Israel, similar trends can be traced. During the first decades after independence, the universities considered themselves part of the Israeli establishment, whose role was to lay the foundations of the state and shape national culture (*Ram, 1993*). Today, Israeli universities continue to perceive themselves as having a public role in diverse areas: universities conduct basic research that supports the development of competitive products, they invest efforts into

preserving national cultural treasures, and they claim to reduce inequalities between social groups and between the center and the periphery (*Shohat Committee, 2007*). Although most universities in Israel seem to recognize their public social role, similarly to their American counterparts, they unfortunately follow corporate organizations and entities and narrow their interpretation of social responsibility to limited community service which is usually performed by students in return for scholarships or as part of their practicum, disconnected from broader understanding of societal issues.

Objections mentioned above to the very notion that universities bear any civic or social responsibility resemble Milton Friedman's view that the firm's sole social responsibility is to maximize its profits (*Friedman, 1970*) and the claim that corporations are accountable only to their stockholders, arguments that currently seem dated. In effect, regarding universities' community service as a bona fide substitute for a comprehensive ethical policy of social responsibility resembles the typical corporate adoption of the restricted and erroneous interpretation of corporate social responsibility as merely "doing good" or "giving back" to society, activities they interpret as elective, add-on philanthropic projects rather than comprehensive social responsibility principles that should be integrated into all dimensions of corporate life and conduct. Like many businesses, universities are confusing responsibility with community service. Although undergraduate volunteering in the community is important and should not be discounted, it is no substitute for comprehensive social responsibility and civic education and the overall obligations imposed by genuine social responsibility.

The concept of social responsibility as defined above, I argue, should be the anchor of universities' public role. Social responsibility complements the nature and essence of universities and should be cultivated as an integral part of academic life. The principles of social responsibility should be the backbone of universities' ethical behavior. Furthermore, as mentioned above, as social and intellectual elite institutions, universities should assume a greater obligation to promote the notion and principles of social responsibility.

In order to advance the discussion toward an adoption of these ideas by universities, it is necessary first to examine the distance between their current policies and the suggested definition of social responsibility. Below, I show how universities today fail to meet these principles in three important dimensions: accessibility for students, representativeness of faculty, and the search for truth as

the cornerstone of academic endeavor. These essential pillars of higher education, which encompass the educators, the educated, and the most fundamental ethos of academic learning, reflect three main aspects of the responsibilities of knowledge and of the relationship between universities and society.

Access to Higher Education

What role, if any, do universities in the United States and Israel currently play in guaranteeing equal access to educational opportunities? Both in Israel and in the United States, higher education has remained stratified despite increasing enrollment of students from low-income families. In Israel, the expansion of the higher education system, which began in the 1990s, led to significant growth in the number of students, although, as illustrated below, it did not reduce inequality in access to higher education. The establishment of many new public and private colleges reduced cultural filtering to some degree by reducing academic admission barriers yet at the same time created a different type of hierarchical pyramidal system (*Dagan-Buzaglo, 2007*): At the peak are the research universities, which are the sole institutions certified to award Ph.D. degrees. In the middle are private colleges, which offer undergraduate, MA, and MBA (but not Ph.D.) programs in sought-after disciplines such as business management, psychology, and law. At the bottom are the public colleges, which primarily offer undergraduate programs in less lucrative career options such as humanities and the social sciences, which generate lower incomes for graduates. Because public funding is based on criteria that include research achievements, public colleges receive limited funding compared to the universities. Although 22% of all students were enrolled in public colleges in 2005, these colleges were allocated only 14% of the entire government budget for higher education.

This situation reinforces the link between financial ability and access to higher education. Students who have financial means but do not meet the higher academic standards of the research universities tend to choose private over public colleges. Although tuition is higher (up to four times higher than public university tuition), private colleges offer prestigious specialization programs with good market prospects (*Tamir, 2002*). Tuition in public colleges is lower and similar to the tuition of research universities (which in Israel are all public), but public colleges offer limited programs. Since students from lower socioeconomic sectors face greater difficulties in meeting research university admission requirements (due to the lower educational standards of elementary and high schools in

low-income neighborhoods), many apply to public colleges. In the 2003–2004 academic year, 55.5% of public college students came from low socioeconomic status localities, as opposed to only 26.5% of private college students (*Central Bureau of Statistics, Israel, 2006*). The pyramid structure of higher education in Israel thus preserves stratification in higher education even though the overall number of students is on the rise.

Distributive injustice is closely intertwined with cultural injustice (injustice of recognition), and the two types of injustice feed and strengthen each other (*Fraser, 1999*). This is clearly reflected in Israeli data that show a growing correlation between representation in higher education and stratification by income and ethnicity (*Bolotin, Shavit, & Ayalon, 2002*). Despite fluctuations over time, enrollment rates of students of Sephardi origin (one of two major Jewish ethnic groups, constituting almost 50% of the Jewish population yet overrepresented in low socioeconomic localities) have not changed significantly since the 1970s, and their representation in universities remains far lower than their proportion in the general population (*Shavit, Cohen, Steier, & Bolotin, 2000; Yogev, 2000*). In 2010, only one quarter of all Jewish undergraduate students were of Sephardi origin, a low percentage relative to their 50% share of the Jewish population (*Central Bureau of Statistics, Israel, 2011*). Arabs account for almost 20% of the country's population, yet Arab students are similarly underrepresented. Despite an improvement in their representation (from 7.9% of all undergraduates in 1985 to 12.2% in 2009), underrepresentation is growing with regard to graduate and doctoral students (*Shetol-Trauring, 2011*). In view of Israel's expanding knowledge economy, which reduces the earning capability of individuals who lack higher education, unequal access to higher education has become a significant cause of the widening socioeconomic gaps over the past three decades (*Ben-David, 2003*).

In the United States, the statistics are even more striking. According to *Lost Opportunity*, a national report prepared by the Schott Foundation for Public Education (2009), Native American, Black, Hispanic, and Latino students, taken together, have just over half of the probability of studying in the nation's best-supported, best-performing schools compared to the nation's White, non-Latino students. Moreover, a low-income student of any race or ethnicity similarly has just over half the probability of studying in top-tier schools compared to the average White, non-Latino student. Another report indicates that the median income of entering freshmen at the 297 colleges participating in the American

Freshmen Survey rose from 46% in 1971 to 60% above the national average in 2005 (Pryor, Hurtado, Saenz, Santos, & Korn, 2007).

Moreover, a recent study found that although low-income U.S. students have made substantial gains in academic achievements since the 1970s, wealthier students made even stronger gains over the same period in both course grades and test scores, ensuring a competitive advantage in the market for selective college admissions. One example of phenomena underlying the continuity of educational gaps is reflected in research on the new digital divide (Jackson *et al.*, 2008). The research shows that parent sociodemographic characteristics predict the intensity and nature of the child's use of information technology, which itself predicts academic performance. Thus, even if low-income students satisfy academic admission requirements of selective, top-tier schools, stratification largely remains unchanged (Bastedo & Jaquette, 2011). Consequently, only around 2% of the students in the 146 most selective colleges and universities in the United States come from the bottom socioeconomic quarter of the American population (Michaels, 2011).

Because of the strong connection between recognition and distributive injustice (Fraser, 1999), Black individuals, for example, have a greater probability of being poor than do White individuals. This is clearly reflected by the lower percentage of Black individuals in high-ranking universities compared with their overall enrollment in higher education. In 2011, Blacks accounted for about 12.6% of the general population (U.S. Census Bureau, 2011) and 11% of all enrollees in 4-year colleges but only about 5% of all enrollees in elite universities (Michaels, 2011). In other words, although most universities proudly tout their diversity, the access they offer to different ethnic and income groups is far from equal.

Representativeness Among the Faculty

Disparities in ethnic representativeness are even greater among faculty members of higher education institutions. In Israel, Ashkenazi Jews comprise 90.12% of all faculty in the higher education system. Of these, men have a clear majority, accounting for 72.98% of all faculty members. Sephardi men and women account for only 7.23% and 1.7% of all faculty members, respectively (Blachman, 2006), despite accounting for about half of the Jewish population. As for Arab faculty members, although their numbers increased by over 2 percentage points from 1999 to June 2011 (from 0.5% to 2.7%; Association for Civil Rights in Israel, 1999; Shetol-

Trauring, 2011), their representation still is extremely low compared with their 20% share of the country's population.

In the United States, ethnic minorities are also seriously under-represented among faculty: 5.5% of faculty members are African Americans, 7.5% are Asian Americans, and only 3.5% are Hispanic or Latino Americans (Latino Americans alone account for 17% of the total population). Non-White groups together make up a mere 17% of all faculty members in American universities and colleges (*Turner, González, & Wood, 2008*), although they account for 27.6% of the general population (*U.S. Census Bureau, 2011*). Diversity among faculty is even more limited at select, high-ranking universities. For example, according to UCLA (University of California, Los Angeles) statistics of 2011 (*UCLA, n.d.*), Hispanics and Latinos constitute 38% of California's population and African Americans constitute 6%, yet these groups make up only 6.2% and 3.5% of UCLA faculty, respectively. Non-White ethnic groups in total account for 26.3% of faculty, due mainly to the faculty's makeup of 16% Asian Americans, mostly men.

Adequate diversity of faculty has implications that extend beyond mitigating the risk of academia becoming a kind of "exclusive club." Underrepresentation of minority groups impacts the academic discourse, which consequently remains controlled by the homogeneous elite group. Dominant groups, albeit possibly unconsciously, tend to marginalize and even deny the existence of issues such as inequality, racism, and other outcomes of the power relations between the majority and minority groups. In this manner, minority underrepresentation in academia also perpetuates the unequal relationship outside academia, and preserves the cultural domination of the majority group. The marginalized groups remain mostly research topics, their voices unheard in the knowledge creation process (e.g., *Zaken, n.d.*). By playing an important role in training elite groups, academia, the gateway to socially prestigious and high-income careers, reproduces these unequal relationships between the dominant and the marginalized groups and re-injects them into society.

Naturally, the perpetuation of these disparities in higher education and their rectification are not the responsibility of universities alone. Since rights are not secured unless people possess the capabilities to realize them (Principle B, above), increasing access to higher education should be addressed through cooperation between the primary and secondary education system and universities and led by the state. Nonetheless, since universities are responsible for higher education and thus for their institutional

policies of accessibility and diversity, it is not enough that universities provide financial aid to the few who, against all odds, meet their selective admission requirements. Socially responsible universities should reach out to underprivileged communities and create programs for increasing access, combined with financial aid and academic support programs to facilitate admission of students who might have achieved a suitable or above average standard had they been educated in a better learning environment. These methods have been proven in pilot programs successfully implemented in several universities in Israel (*Dagan-Buzaglo, 2007*). The idea is not to lower the standards of university admissions requirements but to enable groups from underprivileged backgrounds to close the gaps and meet both academic and financial requirements.

The Search for Truth

Because they are knowledge-building institutions, universities bear responsibility for linking social responsibility and the search for truth. This responsibility calls for research priorities that focus not only on scientists' personal areas of interest but also on pressing social and humanistic issues, a commitment to the perpetual search for innovative ideas, and the transformation of knowledge into universal principles. Such an orientation toward universal truth is, as von Humboldt implied (*Biesta, 2007*), the latent "potential of enlightenment" of higher education and should concern the entire human race: the individual, society, and the state. In other words, the search for truth is not meant to create an ivory tower detached from the issues that trouble society or the state because then the universal principles would exist in a vacuum. The search for truth should extend from the circle of faculty and students to the community outside the academic world and promote self-edification and the study of principles that transcend and challenge the reality of a specific (or existing) social order.

The "potential of enlightenment" in research is embodied in scholars' courage and willingness to challenge dominant knowledge structures, myths, and beliefs and to reexamine the axioms of what is conveniently well accepted. Therefore, the responsibility of universities also demands that educating students to social responsibility extend beyond the realm of theory to include teaching students to become politically involved citizens who are willing to participate in correcting what is wrong in society. As former Harvard University president Derek Bok (*2001*) stated, it is not enough to encourage undergraduates to volunteer in soup kitchens; educators must also motivate students to explore the reasons for such

grave poverty and what should be done on the national level to solve this problem. Students should be encouraged to examine different socioeconomic, sociopolitical, and sociophilosophical theories; understand what social responsibility and civic responsibility mean; and acquire the thinking tools that citizens need to form their own judgments about the policies that politicians propose and implement. For faculty members to give students such guidance, they must apply these ideas themselves. Naturally, faculty members come up against serious dilemmas in this context, and they have to decide when and how to share their knowledge and expertise (Peters, Alter, & Schwartzbach, 2008). However, it is important to realize that refraining from involvement in social issues does not lead to objectivity or neutrality. Instead, such avoidance is often a deliberate choice to not involve science in this arena and is equivalent to de facto support of the status quo, which strengthens academic institutions' conformity, supports the ruling powers, and prevents change.

Chief among obstacles to realizing the "potential of enlightenment" is that the evaluation and promotions of academic faculty are not based on their accomplishments in the search for truth or on their successful preparation of students for socially responsible citizenship. Advancement in academic ranking and tenure is based mainly on the number of publications in high-ranking academic journals that target an exclusive community of researchers or on the size of research grants, some of which are awarded by corporate, political, and religious interest groups. Such an evaluation procedure intensifies academia's alienation from the concerns of society at large (Rice & Sorcinelli, 2002) and focuses faculty members on learning the shortest, most efficient way to obtain funding for and publish their research. Such evaluation criteria do not inspire exploration of new or controversial ideas or encourage rigorous ethical thinking concerning the interests of the grant givers. On the contrary, these publish-or-perish criteria encourage conformism, idea recycling (Checkoway, 2001), and disregard of conflicts of interests.

Scholars are often aware of the problematic aspects of academic criteria for success. However, only few publicly criticize academia's tendency to prefer mainstream views (Hopwood, 2007) and its ivory tower-like isolationism, which create a "careerist rather than curiosity-oriented" approach to "an increasing amount of research" (Hopwood, 2008, p. 4). This observation is true not only for professional areas such as accounting and engineering but also for

disciplines that are more socially critical in their nature (Nowotny, Scott, & Gibbons, 2005; Ram, 2005; Rice & Sorcinelli, 2002).

In this context, a reexamination of the 2008 economic crisis is unavoidable. It is essential to revisit the public role played by university scholars, especially economics and finance professors, before and during the crisis and wonder why so many of them failed to reconsider their theories in the face of the growing housing bubble, uncontrolled rise in the volume of mortgage-backed securities, and flood of risky subprime loans to millions of low-income borrowers. These scholars' (mis)conduct is especially glaring since these were the same scholars who allegedly participated in community affairs through their intensive involvement in the "real world" of financial markets (Posner, 2009). Their involvement was not, however, based on a standpoint of critical thinking and social responsibility but was rather motivated by profit making from consulting for such entities as monetary funds and investment banks and therefore was strongly tainted by conflicts of interest. As Posner (2009) stated, "If they criticize the industry and suggest tighter regulation, they may become black sheep and lose lucrative consultantships" (p. 259).

Moreover, the involvement of so many university economists in the precrisis economy suggests that so-called scholarly neutrality is an illusion. Universities became captives of corporate values and methods that had been permeating them in recent decades (Giroux, 2007), and scholars were frequently blind to the broader impact of their ideas, especially on the communities from which they became increasingly detached. Such involvement in the finance industry is in total contradiction both to scholarly neutrality and to the search for truth and in fact represents the triumph of corporate values over the potential of enlightenment.

To inspire critical and fruitful thinking in the spirit of the search for truth, a totally different dialogue with the community is required. This dialogue should embrace diverse perspectives that challenge scientific thinking and examine the impact of the issues at hand on all segments of society while recognizing the value of knowledge created through shared learning and incorporating additional voices as "new chairs" at the research table (Nyden, Figert, Shibely, & Burrows, 1997).

Not all researchers would agree with this approach. The debate is related to a dispute between conservative positivistic approaches that separate objective scientific research from its subjective social context versus other, mainly critical, approaches that reject the existence of scientific neutrality. Without delving deeply into the

argument, I concur with Ram's (2005) analysis of the intermediate approach of critical modernism, which concludes that the "internal" and "external" social can no longer be separated by a bubble of objectivity, fundamentally because science is influenced by its writers who are living in and are influenced by the same social exterior. Drawing on Bruno Latour (1993, cited in Ram, 2005), Ram suggests an approach that blurs the subject-object dichotomy, so that the empirical is neither disconnected nor derived from the sociocultural existence but is intertwined with it. This approach replaces the epistemological ideal of a single, putatively neutral point of view with a multiviewpoint, nonneutral perspective. Applying this approach to the relationship between academic scholars and the surrounding communities, the research process should assume the form of a constant dialogue between researcher and research "subjects," who are not merely subjects but active participants in the research process (Nowotny et al., 2005).

Much of the objection to a challenge to the existing order, which is the natural outcome of the search for truth, stems from the common interpretation of such challenges as political action, in the sense of either support for or opposition to the actions and policies of political-party agents. Almost 100 years ago, French essayist Julien Benda (1927/2009) censured the growing number of intellectuals who abandoned their attachment to the traditional panoply of philosophical and scholarly ideals, referring to their abandonment of the universal in favor of the various particularisms in order to support current social and political trends (Kimball, 1992). In other words, Benda condemned scholars for aligning with transient trends and relinquishing their obligation to challenge the existing order and elevate intellectual thought into universal ideals.

The search for truth is essential to overcome mediocre conformist thinking that cannot support the pursuit of alternative solutions to existing structures. Only the search for truth can encourage bold, honest, and innovative thinking that considers the universal good and the interests and needs of all segments of society in the spirit of the social responsibility principles defined above. Paraphrasing the goals set by the U.S.-Based Center for a Public Anthropology (2012), the search for truth must be realized through a number of underlying aims: to engage academia in issues and audiences beyond today's self-imposed disciplinary boundaries, to focus on conversations with broad audiences about comprehensive concerns, and to address general critical concerns in ways that can reframe and alleviate—if not necessarily always

resolve—present-day dilemmas, while at the same time reinvigorating academic disciplines.

Conclusion

In this essay, I outline three required principles, derived from the writings of prominent theoreticians and philosophers in the area of democracy and social justice and from the United Nations' *Universal Declaration of Human Rights* (1948), which genuine social responsibility programs should adopt. These principles include the concept of equal rights, the requisite that rights are secured only if they can be exercised (capability), and the notion of mutual responsibility between the collective and the individual. I argue that universities should actively strive to implement these principles in their policies and programs throughout campus life and work as some universities already do (*Harkavy & Hartley, 2012*) and in the spirit of the emerging civic engagement and responsibility movement in American higher education (*Hollister et al., 2012; Peters et al., 2008*). However, many universities today embrace a narrower notion of social responsibility, one that avoids the more profound commitment to the concept of social responsibility suggested here, confusing it with community service. They pay lip service to the equal rights principle while effectively ignoring the principles of capability and mutual responsibility. By doing so, universities avoid the responsibility that knowledge entails and become further removed from their potential to challenge reality with critical thinking. Consciously or subconsciously, their values are becoming alarmingly close to those of various interest groups such as corporations and political parties (mainly those in power). By failing to adopt a comprehensive view of social responsibility, universities have also become direct and indirect accomplices in the exclusion of large groups from higher education and in the marginalization of issues of socioeconomic significance. This failure is especially disappointing vis-à-vis the proven success of pilot programs for increasing accessibility combined with financial aid and academic support in which the participants closed the achievement gaps and met the required academic standards.

The purpose of this essay is not to chastise universities for the shortcomings in their social responsibility programs but rather to point to some necessary remedies. Those academic institutions that believe they are doing everything necessary in the social responsibility arena must be alerted to the need for a major change in their approach to social responsibility. This essay suggests a new concept that directs attention to the remedies for lack of social responsi-

bility in many universities and for the confusion in others between community service and genuine social responsibility. So far there are only a few universities that choose to adopt this concept, and hopefully they show first signs of the beginning of a new phase (*a punctuation, in [Sandmann's, 2008], terminology*) in the development of the conceptualization of engaged scholarship.

Important buds of change in this direction have emerged over the last decade. The Talloires Network, which was initiated by Tufts University and founded in 2005 by 29 university presidents, vice chancellors, and rectors from 23 countries, had grown by 2012 to over 240 universities in 62 countries (*Hollister et al., 2012*). The network works to raise the profile of university civic engagement and social responsibility based on its members' belief that universities "do not exist in isolation from society, nor from the communities in which we are located" and that they carry "a unique obligation to listen, understand, and contribute to social transformation and development" (*Bacow, 2011, p. xxi*). The network is based on a previous model adopted by Tufts University which brings together students, faculty, alumni, and the broader community in pursuing active citizenship to support the democratic ideal (*Hollister et al., 2006*). As Vuyisa Tanga, vice-chancellor of Cape Peninsula University of Technology, said "we (the member universities) share the belief that we should change the academic paradigm from the notion of ivory tower to an open space for learning and development." (cited in *Hollister et al., 2012*)

The member universities of the Talloires Network provide evidence of success in applying the concept of social responsibility. For example, at the University of Haifa in Israel, the president created an advisor for social responsibility position to strengthen and coordinate the university's activities in this realm. For several years, the university expanded and deepened its social responsibility programming in multiple dimensions. The work and successes of the University of Haifa, which has a diverse student body (Arab students account for more than 20% of the student population) and makes conspicuous efforts to keep it that way, are extensively described in Watson et al. (2011). The university adopted a comprehensive concept of social responsibility which included multiple dimensions such as academic work, community involvement, and campus life. Applying this concept led the university to emphasize academic work as the driving force for social responsibility, and to involve faculty members both in outreach and engagement in the community and in internal remedies for injustice (living wage, multiculturalism issues, accessibility, and representativeness).

Faculty members were encouraged to research the most crucial issues on the Israeli social agenda, and their work was presented in national and broadly publicized conferences on social responsibility. Faculty members were also encouraged to extend and apply their research to public decision-making in order to increase the impact of their scholarship (Watson *et al.*, 2011). One unique illustration for the accomplishments of this social responsibility concept is the establishment of Kav-Mashve, an employers' coalition for employment equality for Arab university graduates. The coalition, now independent, was born in 2007 as one of the products of Haifa University's social responsibility annual conference and task forces, initiated and led by the advisor for social responsibility to the university's president at that time. The coalition, a direct product of academic work and social responsibility, has developed into an NGO, one of the most successful in Israel both in practical terms and in terms of changing the public discourse on this issue (see <http://www.kavmashve.org.il/en/home/page/12>).

Another significant sprout of change and strong evidence for the success of the concept has recently emerged in Israel in response to the huge student-led middle-class protest against the neoliberal economy in the summer of 2011. Faculty members from different disciplines undertook the task of rethinking fundamental socio-economic issues, disseminating the new knowledge inside and outside the universities, and even participating in national-level negotiations on an overall change in the government's socioeconomic policies (Yonah & Spivak, 2012). The impact of these scholars on the Israeli idea for the desired social order has been widely seen during the last election campaign.

Hopefully this essay will attract the attention of universities and inspire academicians to fully embrace their social mission. This requires a profound change in universities' conduct including more active involvement in education and in social and economic systems as well as significant monetary and intellectual investments. Such a transformation will not only benefit society but will also bring with it a new vitality and blossoming of academia itself.

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