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Contemplating a "Public Service Navigator":
In Search of New- (and Better-)
Functioning Public Service Media

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"It's not information overload. It's filter failure."
~ Shirky, 2010

The article is set against the backdrop of the reform of public-service broadcasting (PSB) institutions and results from the wide spread of digital technologies. It seeks to answer whether, in a transformed information and communication environment, it would be apt for new PSBs, regardless of their precise organizational design, to assume the role of a "public-service navigator" (PSN). This article shows that there is a need for this new type of editorial intelligence that links users with content in a way that advances conventional media objectives, particularly exposure diversity. The paper clarifies what a PSN project may look like given the practical reality of searching for and consuming content in the digital space.

Keywords: public service broadcasting, public service media, digital technologies, Internet, exposure diversity

Introductory Remarks

There seems to be broad agreement in policy and academic circles that public-service broadcasting (PSB) institutions must be reformed. However, accord wanes and controversy arises when it comes to the ways to implement reform. There is already a substantial body of literature (e.g., Ferrell Lowe & Bardoel, 2007; Goodman & Chen, 2010, 2011) that discusses the various paths that PSBs should take into the digital present in order to remain true to their underlying public-interest objectives, which, in Western Europe, equal nothing less than sustaining the public sphere with diverse ideas and viewpoints (Collins, 2002; Garnham, 1983). These discussions map onto a great number of policy briefs and independent reports (e.g., Ofcom, 2004a, 2004b, 2005) and onto actual reform initiatives of varying scope and depth.

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In this article, we greatly benefit from the existing inquiries on reinventing PSBs as large, multifaceted media projects but focus on one discrete question, which might be part of this reinvention process. We ask specifically whether, in a transformed information and communication environment, it would be apt for new PSBs, regardless of their precise organizational design, to assume the role of "public-service navigator" (PSN). We show that there is a need for this new type of editorial intelligence that links users with content in a way that advances conventional media objectives, particularly exposure diversity. We clarify what a PSN project may look like given the practical reality of searching for and consuming content.

Overall, we seek to contribute to the ongoing debates on transforming PSBs in the digital age by taking a less travelled and somewhat narrower path to change. As PSB-related debates are rarely neutral, it is only fair to state from the outset that we prefer a project of public-service media (PSM) that proactively but effectively uses the capabilities of digital media (Donders, 2011, pp. 25–48). The PSN model could also reflect broader changes in media governance (Donges, 2007; Puppis, 2010), which point to a move away from conventional command-and-control regulation and toward a more diverse and distributed toolkit of promotion and subsidies for certain policy goals, including exposure diversity (Helberger, 2011a; Valcke, 2011).

Linking PSN with the Objective of Exposure Diversity

Most of the existing media policy toolkits have presumed a causal link between source diversity— that is, the availability of multiple and diverse content providers and diversity of content, leading to the common assumption that diversity of content naturally leads to exposure diversity—"[a]s audiences have a greater array of sources and content options to choose from, they presumably take advantage of this greater selection and expand their horizons" (Napoli, 2011, p. 248). In contrast to source and content diversity, however, exposure diversity has never been explicitly defined as a media policy objective in the United States (Napoli, 2011), Europe (Valcke, 2011), or internationally (Burri, 2010). And there may be good reasons for this. As Napoli (2011) explains, the marginalization of exposure diversity as a valid policy goal is due to the very nature of any action that would be targeted to achieve it, as it would strongly interfere with consumer choice and sovereignty (p. 250). Valcke (2011) also points out the precarious balance between regulating for exposure diversity and safeguarding citizens' individual rights, especially freedom of expression (p. 302).

A second argument that Napoli (2011) puts forward for the lack of endorsement for exposure diversity as a major media policy objective is that audience attention is clustered in the middle ground on few sources, genres, and topics, which is not new and possibly represents homogenous content preferences (p. 250). This argument, Napoli maintains further, can be potentially strengthened in the new media ecology.

> In an environment of so much choice, control, and user empowerment, should exposure diversity remain low, or perhaps even diminish further, then this can be interpreted as evidence that audiences have access to a far greater diversity of sources and content than they either need or want. Essentially, the explanation for these patterns lies not with

any structural or marketplace imbalances that policymakers can correct, but with the basic realities of audiences' tastes and preferences. (Napoli, 2011, p. 251)

In the following section, we disagree with some parts of this hypothesis and engage in more nuanced analysis to show that the dynamics of new media may promote less rather than more diversity of exposure and, above all, to reveal that the overall picture is extremely complex.

We argue, then, that although the balance between state intervention and non-intervention in the media certainly is precarious and that individual rights are to be safeguarded (Keller, 2011, pp. 261–401; Sunstein, 2000, pp. 499–563), there may be subtler ways of intervening and promoting exposure diversity. In terms of goal definition, it should be clear that we do not single out exposure diversity to the detriment of either source or content diversity, as there is broad agreement that these two endure as key media policy objectives, although, perhaps, with somewhat diminished demand for action because of conditions of the digital environment (Napoli, 2011, 2012; Valcke, 2011).

What Is Different in the New Media Space and Where Can PSN Help?

The transformations in the digital, networked environment epitomized by the wide spread of the Internet are multifaceted and multidirectional, and they have been well documented by a host of disciplines. Critical to PSM projects are that the ways cultural content is produced, distributed, accessed, consumed, and reused have changed and that social patterns of participation, engagement, community building, and cohesion have also been modified (Benkler, 2006; Sunstein, 2007). "Old" companies and markets have responded to these developments (albeit clumsily at times, as PSB institutions themselves illustrate), and many new ones have emerged (Anderson, 2006; Travis, 2009). For the narrow focus of our inquiry here, we highlight only a few of these transformations and then look at a few specific developments that may be important when contemplating a PSN.

The Macro-Picture

Starting with broader changes, the following are features of the new media space:

Unlimited "shelf-space," abundance of content, and content's different organization. In the digital space, the notion of scarcity has been modified and virtually rendered obsolete. Blogs, social networking sites, virtual worlds, and many other forms of information and communication available over the Internet have proliferated and turned into viable media outlets, coexisting with traditional ones and offering new ways of accessing information or offering entirely new information. The sheer amount of information that is available at all times from any device connected to the Internet is mind-blowing. There is, indeed, scarcity of attention.

What is also worth noting and is often forgotten when describing the new digital media space is the different way in which information is organized in it. The fact that any type of data can be expressed in digital format has completely changed the rules for organizing information (Weinberger, 2007). Whereas the Dewey decimal system was used for organizing libraries, alphabetical order used for name registers, and genre categories used for CDs, the digital environment enables an all-encompassing, global,

miscellaneous, dynamic, and interlinked information archive that can be searched through a single entry point using unlimited criteria. We will pay particular attention to this cluster of changes in the context of PSN.

New ways of distributing, accessing, and consuming content. Because of the use of multiple devices over the almost ubiquitous Internet, the patterns of handling information have changed. Instantaneous distribution to millions of people, active pulling of content instead of passive receipt of it, and simultaneous consumption from many sources are but few of the (TV-unlike) features of contemporary online communication. These have had serious repercussions for users, businesses, and for the entire market for information goods and services. They have also changed the transparency of cultural symbols and the ways they circulate in global and local contexts (Benkler, 2006). These factors are certainly also critical for designing a PSN, particularly the conditions of access.

New modes of content production, with the user not merely a consumer but also an active creator. Reduced thresholds to participation and the (ever greater) capacity of digital technologies have allowed individuals and groups to create new content and to play around and remix existing content (Benkler, 2006; Jenkins, 2008). This type of creativity, interactivity, and cooperation is unique to digital media and is a radical departure from the conventional image of massive and passive audiences, only slightly empowered by their TV remote controls. PSN is not directly linked to this type of transformation but may enable practices that foster creativity, and PSN's appeal to users may be enhanced if such enabling functions are embedded in its design.

The Micro-Picture

In this section, we seek to gain a more granular idea of media access and consumption in the practical reality of new and old media, and of technological complexity and change. This is not easy. We do not purport to be able to cover the whole of it and instead look at particular patches, such as the changed role of intermediaries, in depth. Overall, our goal is to reveal the complexity of the picture, the uncertainty of it, and the presence of practices so radically different from one another that, if taken in isolation, can easily fuel either utopian and dystopian theories of the digital media present and future.

We often talk of *abundance* of digital content as a matter of fact, but accessing that content in practice is by no means easy (e.g., Burri, 2012a; Helberger, 2012). Indeed, legal and practical limitations abound, especially as the digital space matures, and they appear "at all levels of the information environment: the physical infrastructure layer—wires, cable, radio frequency spectrum—the logical infrastructure layer—software—and the content layer" (Benkler, 2000, p. 562). These limitations range from technical standards and other barriers to interoperability (Palfrey & Gasser, 2012), intellectual property rights enforced through digital rights management systems (DRM), or other forms of control through code (Lessig, 1999) that fall outside of the conventional checks and balances of the legislative and judicial processes (Lessig, 1999; Zittrain, 2008). As Verhulst (2007) points out and as we expound later on, new technologies have introduced new types of scarcity as the control over information changes from old to new intermediaries, who may control the flow of and access to information.

Next to abundance, we also typically stress the *diversity* of the content online. Two widespread theories, both grounded in traits of the new media environment, underpin such statements. The first, the "long tail" theory, preaches naturally generated diversity as the reduced barriers to entry allow new market players to position themselves in and make use of niche markets, which are economically viable in the digital ecosystem due to the dramatically reduced costs of storage, distribution, and search (Anderson, 2006). Thus, supply and demand meet not only for mainstream products available in the head of the snake but also for many other products now available in the snake's ever lengthening tail. Even greater has been the promise of user-created content (UCC) as a powerful tool for democratization of content production and distribution. UCC, generated through the new "commons-based peer production" (Benkler, 2006), bears the key media-policy components of diversity, localism, and non-commercialism (Goodman, 2004), and in this sense could readily fulfill key public-interest objectives without additional intervention. Further, it is argued that Internet-facilitated communication without intermediaries or other substantial access barriers has already created the always aspired-to, vibrant "marketplace of ideas" (Lessig, 2006, p. 245) that, in European thinking, would correspond to the Habermasian notion of an animated public sphere (Habermas, 1989).

Yet, despite the appeal of these transformative theories, evidence of current practices is much more nuanced. As for the long-tail theory, it is so far unclear whether unprecedented choice and sophisticated tools for identifying and accessing relevant content genuinely help or hurt the prospects for content that has not traditionally resided in the head (Napoli, 2012). One of the inherent characteristics of the new "attention economy" is the granular competition for audiences such that as online platforms offer the possibility to track the popularity of individual pieces of information and entertainment, editorial decisions may be distorted in favor of topics and genres that have mass appeal (Miel & Farris, 2008, p. 33). Also, as global legacy-media and Internet corporations merge both horizontally and vertically in the pursuit of better utilization of all available channels and platforms, diversity may, in fact, be lost. The question of real consumption is also vexed, as it appears that it remains limited to a handful of mainstream online sources that are, as a rule, professionally produced by white, educated men (Hindman, 2007, 2009). Skeptical voices (Pariser, 2011; Sunstein, 2001, 2007) stress the dangers of balkanization and fragmentation of the public discourse.

Cammaerts (2008) has exemplified this complexity by looking at the blogosphere as the very expression of individual freedom of speech online. He contends that the

> radical plurality of the blogosphere, its fragmentation into micro-publics, its semi-deterritorialized nature, its focus on the intimate and on authenticity rather than on the rational and the common good, as well as hierarchization of blogs, is not very compatible with a reference to Habermas' public sphere theory. (p. 359)

Rather, it corresponds to Mouffe's (2007) concept of agonistic public space, as it encompasses all expressions and voices present online, and Cammaerts associates it with a number of "perils" at different levels (pp. 363–371). At the structural and organizational level, these are (a) colonization by the market, expressed in increased commodification of content and by trends of concentration; (b) censorship by states, organizations, and industries epitomized by filtering but also practiced as intimidation by states

and employers; and (c) appropriation by political and cultural elite who are naturally more capable of and have more resources for speedy and forceful mobilization. At the individual level, such negative processes unfold due to (d) social control by citizens, including intimidation by other bloggers and communities, and (e) concentrated antipublic and strong antidemocratic voices that question fundamental societal values. These perils are reflected in the context of intermediaries, too.

To conclude for the purposes of this section, in this space of in fact restricted freedom and contested relationships between commercial and non-commercial, commodified and not commodified, many voices and oppressed voices and plenty of "noise," it is fair to say that we do not yet truly know how people locate, select and consume online information (Miel & Farris, 2008, p. 3).

In addition,

> [w]e know far too little about how changes in the delivery and consumption of news [and other content] are affecting public awareness, opinion, and civic engagement. The ability to quantitatively measure activity and content available on the Internet may obscure both the importance of how audiences combine offline and online media sources and the examination of what information may be absent from the online space. It is also crucial to consider how the information needs of the millions [. . .] who will begin or increase their use of online media in the coming years may differ from those of early adopters. (Miel & Farris, 2008, p. 2)

The early adopters themselves are an unclear variable. It could be, for instance, that those who have grown up with the Internet will nonetheless revert to more traditional linear-TV-viewing habits as they grow older (Ofcom, 2008a, para. 5.52). It could also be that both the pessimistic and optimistic views of digital media transformations are right (Miel & Farris, 2008, p. 4). To be sure, policy design is rendered very difficult.

Intermediaries

Conventionally, in the offline and analog world, editorial roles were concentrated under the roof of a single institution; editorial choices were based on a limited pool of materials that were, in a way, the property of the news institution; editorial products were finite, bounded by the limitations of each medium, such as the pages of printed newspapers or the length of a broadcast; editorial products addressed target audiences in a certain rhythm that had an influence on the breadth and depth of the content (e.g., daily newspapers, weekly editions, or one-off reports); editorial decisions about the content and the format of any publication or program reached the entire audience in the same way—each newspaper subscriber saw the same front page and each radio listener heard the same stories (Miel & Farris, 2008).

These conditions were, one could argue, PSN action under the conditions of legacy media, and they have also had substantial consequences for the production and distribution of knowledge—indeed, for the very notion of knowledge (Weinberger, 2012). The picture is decidedly different now, as "[d]igital media forms are removing these [analog] limitations and provoking fundamental shifts in the composition

and consumption of media products" (Miel & Farris, 2008, p. 27). The new editors are multiple, disintegrated, and distributed, and they seem to be both enhancing and limiting diverse consumption.

Miel and Farris (2008) offer a helpful taxonomy of the new editorial institutions. Three key features are aggregation, search, and social bookmarking (pp. 28–30).

Aggregation is the process of assembling various types of content in a tailored fashion and constantly updating it. An aggregator, a sort of personalized editor, is offered on different platforms for different types of content, be it news, entertainment, or gossip. It automatically presents information tailored to a particular user profile in a seemingly seamless and incessant manner. The information presented is commonly produced elsewhere. The big three news aggregators (Yahoo!, AOL, and Google) all rely on legacy media, such as the Associated Press, for the bulk of their content. Legacy media have responded to technologically enabled aggregation by offering more content online than in print or broadcasts.

Search is absolutely essential nowadays. It is presently the starting point for most online experiences, and it is the most significant driver of traffic to most websites (Ofcom, 2008a). The search business is also highly concentrated with very few providers, and Google has clearly distanced itself from its competitors. Generally speaking, search providers' long-term interest is to meet the needs of their users, both as consumers and as citizens. Research conducted by the UK Office of Communications (Ofcom) (2008a) suggests that demand for public-service content remains very strong, and therefore, it should continue to be in the interest of search providers to ensure that their results give due prominence to public-service content (para. 5.60). This said, it should be acknowledged that search results are generated algorithmically and are prone to manipulation using a range of search engine optimization (SEO) techniques, which are typically employed by strong commercial players (Ofcom, 2008a, para. 5.61).

Social bookmarking is an increasingly important mechanism of giving prominence to content. Here, the crowd acts as an editor through ranking and bookmarking systems such as Reddit, Technorati, and Del.icio.us. As part of the social media phenomenon, these mechanisms succeed in commanding the attention of large groups. Naturally, the marketing industry has swiftly learned to incorporate these tools and use them to capture consumer attention (Miel & Farris, 2008, p. 30).

Through all these mechanisms, the network functions as a multichannel editor. On the positive side, it may be justified to view "the networked media environment as a virtual social mind that produces something richer, more representative, and more open to ideas than the top-down mass media model of the past" (Miel & Farris, 2008, p. 30). On the other hand, this positivity may be deeply flawed. At least so far, there is a great deal of uncertainty about "the ability of this self-organizing mechanism to reliably identify salient information, especially on topics [that] don't get the intense scrutiny of popular issues like politics" (Miel & Farris, 2008, p. 30). Often, the workings of the system are also somewhat haphazard—the trajectory from online obscurity to prominence remains poorly understood, even by people privy to the process, as there are simply too many variables.

One cannot help but see the changing roles of intermediaries, the sheer complexity of online "editorial" processes, and the difficulty individuals face in navigating this rich but distributed content landscape. Accessing information becomes not only a matter of choosing from different sources but also a matter of choosing from different editors.

In the following section, we look at the availability of public-service content and the need for and the possible design of a public-service navigator.

What is Public Service Content?

A question one needs to ask when contemplating a "navigator" as a means of connecting user to content is what content is available to be connected to. In this section, we briefly address this question, naturally with regard to public-service content.

It is clear that content provided by incumbent PSB institutions is not the only public-service content. As a result of increased Internet penetration, many people are beginning to meet needs for public-service content in ways that broadcast media are not, although this trend differs according to age group (Ofcom, 2008a). A range of initiatives on different platforms also create and distribute content that it is often non-commercial and serving the public interest—for instance, New America Media (Goodman & Chen, 2011). What is interesting and useful for our discussion, Ofcom (2008a, para. 4.40) has tried to pinpoint how users of online media interpret PSB characteristics—that is, what the perceptions for public-service content outside the TV conduit are. The study identified the following matches:

1. *high-quality* offerings equal usability, breadth, depth, freshness, and functionality of content;

2. *original* offerings equal an experience or service not readily available elsewhere;

3. *innovative* offerings equal groundbreaking new ideas or reinvention of existing approaches;

4. *challenging* offerings equal making users think;

5. *engaging* offerings equal experiences that are attractive to users and that encourage interaction and participation; and

6. *discoverable and accessible* offerings equal appropriately signposted and easily searchable offerings for the user base.

It is important to stress that "discoverable and accessible" are noted as intrinsic characteristics of public-service content. As we argue later on, this criterion may be critical when designing the next generation of PSM.

Another study of pertinence looked in particular at the extent and discoverability of online public-service content across a range of categories. It concluded that there is a substantial volume of public-service content currently available in many genres; however, the content is unevenly spread. Provision

tends to be best in competitive markets with a strong mix of well-funded, committed providers pursuing sustainable operating models (such as drama, factual entertainment, and sports). At the same time, the report found that there is only a limited amount of public-service content in other genres where the commercial business models are currently less clear and have yet to prove themselves effective (Ofcom, 2008a, paras. 4.42–4.43). Some types of programming that meet public-service purposes, such as national and regional news, children's programming, and current-affairs programming, appear to be unprofitable whether on public-service channels or on digital channels (paras. 5.29–5.31, 6.7–6.10).

Although the data we use may be country specific and may only capture a snapshot of the market and of consumer preferences, they do provide solid proof for our case of initiating a PSN project. First, it is clear that the contemporary media environment is extremely complex to navigate. This may lead to reduction in the diversity of consumption and affect the possibilities of finding types of content. On the other hand, it is clear that users consider discoverability and accessibility vital features of public-service content. It seems also that there may be reason to approach different genres and types of content differently.

Against this backdrop, it appears beneficial and, indeed, necessary to endorse new forms of "editorial intelligence" to "help bring useful information to publics who need it" (Miel & Farris, 2008, p. 3; also Webster, 2010).

PSN: Function and Design

We conceive of a PSN as a mechanism for influencing the conditions of access to content, particularly its visibility, discoverability, and usability. To be sure, policies in this context can, in part, be framed as media literacy, focusing on the capabilities of the end user rather than on the supply side and the intermediaries. As we highlighted above, the ever more complex digital space demands ever more sophisticated digital literacy such that the problem is no longer so much about access to technology and connectivity (Burri, 2012b) as it is about acquiring multifaceted capabilities to efficiently and effectively navigate cyberspace, to contribute and distribute content, to cope with speed and fluidity (Hargittai, 2003; also Hobbs, 2010; Warschauer & Matuchniak, 2010). In the specific context of exposure-diversity policies, Helberger (2011a) has suggested newly targeted media literacy actions that, next to educating users, should incentivize them to actively engage with media, ensuring a functioning public sphere.

In the following sections, we do not address such policies, however. In the context of contemplating a PSN, we focus more narrowly on the intermediary level, on the ways of linking available content with users. The idea behind a PSN is, in fact, simple and intuitive, as it reflects the reality of digital abundance and disorder and the fragmentation of audiences, all of which create "an important new barrier to public service content achieving reach and impact" (Ofcom, 2008a, para. 5.58). We address the question, "how will people become aware of, or discover, interactive public service content which meets their needs as citizens?" (ibid.). We also think of a PSN specifically as a tool of advancing exposure diversity, as described earlier.

We discuss three different possible scenarios of the PSN project, which are not necessarily mutually exclusive.

PSN as an Add-on to PSB

One could think of adding a PSN function to the existing tasks of PSB. As discussed earlier, this will not be an entirely new task, as PSB already acts as a PSN in many important ways, including that it guides and incentivizes users to consume the content that is available on public-service channels.

The first issue naturally relates to finding public-service content, which, as noted above, is available not only on PSB platforms. To help consumers find this content and make more informed choices, better highlighting public-service content would be beneficial.

Given the importance of search, one option would be to work with providers of search and navigation to boost the reach and impact of online public-service content. This does not entail the creation of a new public-service search engine or portal, which is unlikely to deliver value for money given the high level of commercial investment and innovation in existing search tools. Instead, "partnerships with existing search and navigation providers could help them ensure they are able to give the prominence desired by their users to online public service content, whatever its source" (Ofcom, 2008a, para. 6.19).

With relatively little effort, highlighting public-service content could also be done through providing more "information about information" that will assist users in comparing and finding content that is relevant and valuable to them, while differentiating it from other "noise" (Helberger, 2011a). "Informing consumers about their choices (in the hope that they will make the right ones) has been repeatedly advanced as a preferable route to the traditional, paternalistic approach in media regulation—which regulates the offering and pre-defines choices" (Helberger, 2011a, pp. 343–344; Sunstein & Thaler, 2003).

Labeling is the most obvious and conventional transparency-enhancing tool, known from consumer-protection policies, that can be employed to meet these ends. Helberger (2011a) has proposed the "diversity" label in this regard. We are rather in favor of simply extending the brand of public-service broadcaster to more online spaces or of creating an additional "public-service content" label that would also mark content other than that produced and distributed by the PSB. Indeed, such a general-purpose label can spare us the demanding task of deciding which content is diverse and in comparison to what (considering that we are unaware of the type of content already consumed).

A similar idea was endorsed during the second PSB review in the UK, when the launch of the "public-service publisher" (PSP) was contemplated (Ofcom, 2007). The PSP was not conceived as a replacement of existing PSB institutions but rather as an add-on that used digital media to provide public-service content and that reflected the changed patterns of use, reuse, creation, and communication. The PSP was also to act as a commissioner of participative content for newer platforms such as games and social networks and to adopt a new rights model that would be more "share aware," allowing content to be reused and modified by others. The PSP was supposed to work with other organizations with established distribution arrangements. Most relevantly for our discussion of a PSN and labeling, the PSP was not expected to invest significantly in developing a discrete consumer brand. "Rather, it could establish itself as a 'facilitation brand', subordinate to other brands in consumers' eyes, but having an

important impact in the decision process—providing a potential mark of quality, much like the 'Intel Inside' brand for PCs" (Ofcom, 2007, p. 8). The hope was that this would also generate positive feedback and boost the value of the PSB label.

Beyond informing through labeling is the separate question of whether a PSN should effectively aim at ensuring diversity in consumption. This, as we highlighted in the beginning of this article, involves a deeper intervention and is somewhat controversial from the viewpoints of policy implications and interference with other rights. Still, Helberger (2011a) has argued that there could be important positive effects of such an intervention, which she aptly refers to as a "principled consumption" target. Tools aiming to achieve this target include some sort of guidance for users to the "relevant" and the "quality" content, making sure that they then consume the "right mix" (p. 346). In this form, a PSN will function as an institution of "asymmetrical paternalism" (Helberger, 2011a; Sunstein, 2000).

Critical questions of awareness and serendipity arise in this context—that is, "do people know about the full range of content opportunities available to them online, and how often do they stumble across content which they like but which they did not know existed?" (Ofcom, 2008b, para. 3.95).

While findability of public-service content seems to be less of an issue, barriers to awareness and serendipity may be more significant, "in particular for introducing viewers to content they would not otherwise look for or challenging users' views and expanding their knowledge 'by chance'" (Ofcom, 2008b, paras 3.99–3.101). In this context, a host of scholars have stressed that "[s]erendipitous encounters might alleviate some concerns about restrictive coping strategies and a tendency in users to hide in their 'information cocoons,' and 'promote understanding' and open-mindedness, and thereby also advance democratic goals" (Helberger, 2011b, p. 454).

The digital space does allow for the random aggregation of different types of content displayed next to the content chosen by the viewer or in dedicated lists, including "less searched," "less viewed," and other categories of less popular content. Another idea stemming from the data presented above that there is a great difference in the availability and discoverability of discrete genres of public-service content would be to make cross-genre linkages to both highlight this type of content and to increase the chances of more diverse consumption.

However, there should be caution in providing these random offerings, as they can simply be ignored. Research has shown that there must be more to serendipitous encounters than just chance. Schönbach (2007) explains that in order to work and incentivize users, surprises must be "embedded in the familiar" (pp. 344–353). Or, as Helberger (2011b) puts it, "[i]n order to be able to make sense out of chance information exposure, the information must resonate with some prior knowledge, interest, or experience for the user" (p. 462). In the age of "Big Data" (Mayer-Schönberger & Cukier, 2013), this certainly is doable; however, the question of balancing the virtue of the intervention and its possible side effects, which is intrinsic to such paternalistic actions, remains.

PSN as a (Discrete) Service

As Lemley (2001) has argued

[T]here are revenue models to be had that spring from this explosion of content [associated with the Internet]. Because the explosion of content comes with a wide array of quality from very good to very bad, there are business models to be had in enabling people to figure out what is desirable and what is not, what is trustworthy and what is not. The role of the media may become, in part, a credentialing role, one that says this is, in fact, information that you can trust; this is, in fact, a video you will like. And that's a service for which people will pay even though the underlying content is free. (pp. 134–135)

In the same line, Ofcom (2008a) has pointed out in predicting future media consumption that

[O]ur research suggests that many people already find it hard to discern whether or not to trust a website that is new to them, and many are also frustrated by the narrowness of range of online content they consume. The latter frustration is more pronounced amongst those who have grown up with the Internet. (para. 5.59)

In this sense, we could envision that a PSN can be endorsed as a discrete service of a PSB or, indeed, of another organization that would provide high-quality, trustworthy content across a wide range of topics and formats. The experience with some legacy media has been positive in this regard, against the odds in a world where digital content is mostly available for free (Anderson, 2010). Leading newspapers such as *The New York Times, The Times*, *The Wall Street Journal,* and the *Financial Times* have adopted paywalls, requiring payment for access to digital content, current and archived, to compensate for falling revenues from print subscriptions and advertising.

As this will be a service driven by demand, there is a likelihood that it will be tailored to the interests and preferences of each individual user, so it may contribute to less true variety in consumption and, thus, not to the goal of exposure diversity. On the positive side, the concerns voiced in the context of paternalism and policy interventions that go too far are cast aside, as it is the user herself who actively makes the choice and subscribes to the offered service, and exit remains easy and within the control of the user. In general, as the digital media landscape is profoundly fluid, the value attached to media may be changing. Trust may become absolutely critical, and we refer here not only to the trustworthiness of content derived from its high quality, accuracy, and authenticity but also to trust in the platform that provides the content derived from its commitment to privacy, to the transparency of terms of use and their subsequent changes, and to overall user-friendliness.

PSN as a Broader Media Policy Initiative

In a third scenario, we think of a PSN not as a concrete service, a bundle of services, or an institution but as a broader, distributed media-policy initiative—as a new mission of public-service media.

The basic rationale of a PSN, that of linking public-service content with users, remains, but it happens on a larger scale.

At the core of this project is *curation* of existing content, processes, and institutions to cultivate a culture of consumption diversity.

> Whereas the world of content constraint allowed aggregators to determine consumer choice, the world of content abundance allows them merely to guide consumer choice. Guidance of this kind is growing in value. As information comes at us faster, in greater quantities, and in smaller bits, we experience information overload. The role of the curator in this environment is to serve as a trusted intermediary to filter and accredit information, thereby assisting in the increasingly difficult task of making information consumption choices. (Goodman & Chen, 2010, p. 153)

Goodman and Chen (2010) have aptly elaborated on this curation function of PSM and given excellent examples of already existing projects that show the possible dimensions and impact of such curation functions. In many senses, the vision of a PSN as a broad media initiative coincides with the key elements of curation and connection of the model of digital PSM that Goodman and Chen so powerfully endorse. We need to note, however, that one distinct feature of this model is non-commercialism, and this may be irreconcilable with European-style PSM, which has followed a different evolutionary path than its transatlantic counterpart of smaller, distributed, community-based public-service stations (Van Cuilenburg & McQuail, 2003). We also want to mobilize a different concept of a PSN as part of the broader range of public institutions embedded in societies, which may be useful in describing the PSN's new and more ambitious mission. In this sense, we would like to talk of a PSN as a function of modern *memory institutions*, as Pessach (2008) defines them.

We highlighted at the outset a few characteristics of digital media spaces, particularly (a) the unlimited "shelf-space" for content, the abundance of content, and its different organization; (b) the new ways of distributing, accessing, and consuming content; and (c) the new modes of content production in which the user is not merely a consumer but also an active creator. We also noted that these features of digital media create incredible possibilities and can be mobilized in variety of ways for future-oriented PSM design. Indeed, we think that we are still at the beginning of this process. In the following paragraphs, we focus on the PSN as a way of connecting information across time, generations, and cultures.

As it is well known, digitization allows all sorts of data—be it audio, video, text, or still images—to be expressed in binary digits, in zeroes and ones, and we have the unprecedented opportunity to digitize all cultural content, making it available and connected to present cultural processes as well as retrievable for future generations. Many nations have seized this opportunity, although developing and poorer countries are clearly lagging behind because of the resource-intensive character of digitization projects. The EU is among the leading actors. It has emphasized the political objective of making Europe's cultural heritage and scientific records accessible to all while at the same time bringing out its full cultural and economic potential. Various initiatives have followed up this objective and led to the creation of Europeana: the European Digital Library, as a multilingual common access point to Europe's distributed

cultural heritage (European Commission, 2005, 2009. Europeana was launched in November 2008 and allows Internet users to search and get direct access to digitized books, maps, paintings, newspapers, film fragments, and photographs from Europe's cultural institutions. Presently some 30 million objects from more than 2,300 institutions from 36 countries are made available on Europeana, with offerings constantly added. The content is also socially connected through various sites and platforms, available through an iPad app, downloadable, and malleable under different copyright licenses (such as the Creative Commons license). In this sense, Europeana not only aggregates content but builds an open, trusted source of cultural heritage that is also meant to engage users in participating in their cultural heritage in new ways and to facilitate knowledge transfer, innovation, and advocacy in the cultural sector. The user-friendly format often also teaches basic digital literacy skills so that users can make the most of both the digital platform and the content available on it.

While such projects are to be encouraged, they may remain somewhat isolated from everyday media consumption and experience. There is a genuine need to better embed and contextualize available data so that it enhances and possibly diversifies media experience. We think that a PSN, as a function of PSM but also of other organizations, may be in a position to do so.

A PSN can help not only to highlight valuable public-service content but also to link it to materials of the near and more distant past and to platforms that allow users to react to this content and to rework it. This could happen in various ways, through a full-fledged campaign of the PSM or by smaller, more experimental, and potentially user-driven projects that are well interlinked and accessible through a single point of entry. One may ask, of course, why such a tool is needed. The reasons are many, but few are salient. The most pertinent is that this could be a unique way to make content available and relevant across the timeline of past, present and future, offering also possibilities for additional filtering and contextualization. The second relates to the need to react to the ongoing privatization and commercialization of contemporary memory institutions.

One can conceive of memory institutions as "social entities that select, document, contextualize, preserve, index, and thus canonize elements of humanity's culture, historical narratives, individual, and collective memories" (Pessach, 2008, p. 73). Archives, museums, and libraries are well-known examples of traditional memory institutions that have become important hubs of cultural information and curators of contemporary cultural processes. However, they have rarely functioned in interlinked ways, as analog technology did not allow this, and they were instead single initiatives that fought for the gains of network effects in attracting audiences. In recent years, we have seen the emergence of new "networked memory institutions," such as online platforms, social networks, peer-to-peer file-sharing sites, digital images agencies, online music stores, and search engine utilities, all of which have important derivative functions. "The preservation of digital artefacts covers now much more than the scope of tangible preservation by traditional memory institutions (museums, archives, libraries, and private collectors)" (Pessach, 2008, p. 82), and it has become decentralized and dynamic, involving also many projects by private individuals and communities. Pessach (2008) highlights, among others, two important trends in the remaking of our institutions of cultural memory. The first is that most of them are for-profit initiatives, such as Google Books or the online music store iTunes. Even if these presently provide free access, they can change their

business models and make access and use conditional upon payment (as in the earlier example of leading newspapers). Second, the

> fact that digitized cultural retrieval deals with intangible goods that are governed by copyright law stimulates the privatization of networked memory institutions through two accumulative tracks: (1) the commodification of digital cultural artefacts, including buyouts of copyright portfolios with cultural significance by commercial enterprises; [and] (2) copyright law's pressure on traditional public-oriented memory institutions (e.g., museums and libraries) to change their policies toward third parties who wish to access and use copyrighted, cultural works that such institutions possess and manage. (Pessach, 2008, p. 92)

Against this backdrop, a PSN may have a role to play in making content searchable and available on reasonable terms and also in preserving the public-service character of key social memory functions.

Concluding Remarks

This article sought to conceptualize a public-service navigator (PSN) as one possible way of reforming public-service media and making them fitter for the digital, networked environment. It also tried to link this project to the goal of exposure diversity, which appears particularly pertinent as a measure of media-policy performance in times of content abundance. We highlighted some of the features of the new digital space but, above all, wanted to reveal the complexity of the societal processes and the related danger of making sweeping conclusions about the impact of the Internet on diverse media consumption. In this sense, our first conclusion is that it is absolutely essential to develop a more nuanced understanding of the evolution of the contemporary media environment and to better trace how patterns in the delivery and consumption of content change and how they are affecting public awareness and engagement, both online and offline.

Many of the answers to the hard questions on the future of PSM will depend on these inquiries. Despite current uncertainties, we suggested that it is worth contemplating a PSN as a new type of editorial intelligence that can allow for a better link between the user and public-service content and potentially also diversify the content on offer. A PSN could not only highlight and enhance the value of existing and archived public-service programming by making it available and interlinked on different platforms but could also "capitaliz[e] on the wide range of providers—private, public, voluntary sector and individuals— who are already producing an unheralded diversity of digital and interactive content which in many respects meet public purposes and characteristics already" (Ofcom, 2008a, paras. 6.14–6.17). We elaborated different scenarios for the design and function of a PSN. These ranged from mere labeling to a far-reaching PSN function that tries to embed huge amounts of cultural information into the contemporary media experience and serves social memory. The common thread for all these PSN suggestions was the need for curation as the new strategy of filtering for public purposes.

To be sure, many questions remain unanswered. The PSN project as a possible evolutionary path for PSM has so far generated neither sufficient scholarly nor policy attention, despite growing awareness of the fragmentation of the digital public space and the dangers of automated selection and awareness of the critical importance of citizens' abilities to navigate cyberspace. We hope that this article will stimulate thinking about the future of PSM as essential drivers of societal information flow, cultural and civil conversations, and engagement and that an element of a PSN will be seriously considered in the ultimate design of PSM.

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