



Print Media and Contestations over Knowledge

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Analysing the historical role of print media and journalism in shaping public engagement with science, technology, and medicine in the Indian context is commonly anchored on the theoretical foundations of technological modernity, a national or subnational imagined community, and a print media-generated public sphere. In this brief discussion, let us examine how these methodological premises create hurdles for our theorisation of print media's relationship with science, technology and medicine. This paper endeavours to go beyond these much-exercised theoretical presuppositions so that the relationship can be understood in more nuanced and complex ways. This is inevitable in the current context of digital convergence of all media forms including print media that altered journalistic practices and science reporting. Such an attempt is performed here by taking cues from the essays in the current section to identify blockages in media theory, and for further extending the fresh and exciting insights offered by the authors.

It seems important to defy the reductionist assumption of technological modernity that informs our engagement with print media as bringing forth social and political transformation through reconfiguring language, community, and knowledge, three domains central to the socio-political life.



That is, print technology in the Indian context is often understood as bringing in radical political and social changes. The foundational thinking of technology as shaping society (technological determinism) or society as shaping technology (social determinism) has a long history of debate in Technology Studies. Recent scholarship moves away from both these determinisms to explore the complex web of relations between the technical and the social. If that is the stance we adopt to examine print media as a technological form and to investigate its relationships with the socio-political, then our understanding about language, community and knowledge requires radical revision.

The advent of print technology and its impact on these three domains therefore demands a more careful treatment. As Robin Jeffrey (2000) suggests, contemporary journalistic practices in the regional press are deeply influenced by the offset printing technology of the 1980s and 1990s, a phenomenon he prefers to call as 'the newspaper revolution'. From this point of view, a vibrant public sphere generated by the regional press in India is basically indebted to the availability of new printing technology and the emergence of new journalism practices and media strategies that attended to the demands and aptitudes of a massive readership. Nonetheless, there are studies which demonstrate that the adoption of new technologies itself was a contested terrain (see for example, Bonea 2016).

The material culture in which the technology was embedded in thus becomes important for analysis; which technology being finally adopted was dependent on specific local conditions, social process, and cultural imaginations. Furthermore, any newly introduced technology was a part of a wide range of technologies, artefacts, technical skills, labour and market. This plural context of technology adoption becomes important for any non-reductionist analysis. Therefore, it is methodologically indispensable to reconceptualise the technical and the social as existing in a complex web of relations, inseparably as "techno-social". Any attempt to split the techno-social into two distinct entities and then force them into any linear, cause-effect model is hence nullified. From the theoretical vantage point of the techno-social it is important to ask how the imperatives of language and community made possible the proliferation of print technology in colonial India. The relationship media has with changing practices of journalism as well as the public's engagement with these new media hence deserves a more nuanced analytical treatment.

This also cautions us to look beyond the methodological trends which place the nation as their key concern. Even the regional dynamics is



understood within the frame of nation, where the region appears invariably as a sub-national entity. A more nuanced and open attentiveness to the geography in which the print media is embedded in might offer better possibilities to understand the wide, global network that sustains it in any local/ regional context. As I have suggested elsewhere, 'the region has to be understood as a complex "middle" of various geographies, both physical/ material and mental/ideational' (Bose & Varughese 2015: 10), which indicates the possibility to follow the complexities in the development of media forms, technologies and journalistic practices as shaping the region itself. It should also be noted that rather than boasting the "fluidity" of the context in which the print media and journalism practices exists, it is more rewarding to trace the specific channels and connections that form the regional assemblage.

Dense and complex web of connections that constituted the regional practice of knowledge communication made possible the circulation of ideas, texts and materials across the world. National processes were of course a part of this web, but the network itself was not limited to the national or regional boundaries. The global dimension of the network shapes local journalistic practices and readership dynamics in the neoliberal context. The availability of a wide range of technological gadgets such as computers, smart phones, fax machines, internet, and digital forms of media such as e-paper and websites along with the spread of readership to a global scale through diaspora communities indicate the presence of a global network of relations through which new practices of news journalism in regional languages have manifested. That is to say, the region or nation appear as a geographical "scale" that is produced by the global web of ideas, practices, materials and technologies.¹ From this vantage point, while being attentive to categories of nation, language, community etc., more emphasis will have to be given to the global network that produces them.

Moving away from a fixation on the centrality of nation as an imagined community while analysing news media and journalism in India also helps us see processes and formations which are new. The changes the script underwent in the context of the typographic and technological negotiations in the late nineteenth and the early twentieth centuries had a direct influence on the way languages were shaped. This also must have influenced the way newspapers and magazines selected their fonts and fashioned their language of news presentation. As Singh in his essay puts it, '[t]he networks of individuals and institutions involved in typographic



design in India had a crucial role in shaping and prioritising the possibilities of print journalism in the country's many languages', and their political agenda influenced technological choices and developments in the field. This theoretical cue has to be developed further to see the complementary shaping of print technology, journalistic practices and the regional linguistic communities in India.

The role of the print media in the early twentieth century in shaping knowledge seems to be twofold. Magazines which discussed science or indigenous medical traditions first painstakingly built a hitherto invisible and mostly non-existent network of experts, who belonged to a wide and diffused spectrum of local knowledge traditions. Print media offered an epistemological ground which was soft enough to include a multitude of these "minor traditions", eventually ordering and homogenising them into a grand tradition. A demarcation between rational and irrational, scientific and non-scientific, western and indigenous, modern and traditional, and authentic and quack was absent in this churning ground. At the same, it does not mean that there was no filtering mechanism within the deliberative space for validation of knowledge; still there seems to be "civic epistemological frames" emerging within to select what is worthy as "knowledge", though this validation process differed from the standards set by any particular tradition of knowledge, including modern medical science (Varughese 2017: 243). What were the characteristics of these frames employed by newspapers and magazines? How did these frames evolve and change in course of time? These questions are also deeply linked to the specific forms of media which hosted the deliberations and the historically evolved and culturally unique "civic epistemology"—"collective knowledge ways" through which the public evaluates knowledge claims—of the region (Jasanoff 2005: 255).

Journalistic attempts to develop print media as a differentiated space to cater to diverse and niche audiences by specialisations such as science journalism thus open up new possibilities for the researcher to address issues beyond given categories of analysis. Such possibilities demand the extension of or radical revision of the conceptualisation of public sphere, tuning it down from its Habermasian timbre. As several scholars suggest, public sphere as an analytical concept may be decoupled from the historiographical preoccupations of Habermas to suit our theoretical moorings and cultural contexts of analysis.² This is a valid strategy especially while studying media-generated public spheres.



Thinking about media as catalysing public sphere(s) often slips into the Habermasian narrative about its gradual transformation into a "hollow shell" without the imperative of "true", "political" deliberation. Thus, while old forms of media appear as an effective site of political deliberation that leads to political consensus which in turn deepens democracy, scholars hesitate to grant such a role to newer forms of media, especially in the contexts of vested interests generated by market forces and the rise of populism in actually existing democracies. Even print media in the neo-liberal era re-feudalises into a hollow shell, according to this perspective.

"Rational critical discourse" that forms public opinion is the core of the public sphere for Habermas (1989). However, what is rational and critical itself is a question negotiated in specific cultural contexts, as we have seen earlier. Attention to the civic epistemological context(s) of the rational critical discourse is hence quintessential to understanding how the public sphere operates variedly in particular historical and political contexts. Secondly, the existence of several parallel public spheres in a democracy, as suggested by Nancy Fraser (2003), and the ties between them are also important for the scholar.³ There could also be public spheres deliberating specific themes and issues (ibid.).⁴ Hence it is difficult to make any sweeping generalisation about the passivity of the public sphere; there are many public spheres activated through media and therefore the analysis needs to be more attentive to the intricacies of the media and its audiences.

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A densely mediatised environment of our private/public life demands new theorisations on how specific public spheres operate and the way media itself generate multiple public spheres, based on its technological forms. We live in a context where Facebook or Twitter-generated public sphere has a certain dynamic deeply moulded by its form, its users in a specific region, its globality and so on. Such a public sphere is radically different from the one constituted by television channels and their news economy. Contemporary print media is another case in point. All forms of media, including print, today are subjected to "digital convergence". That is, even print media cannot function without the digital interphase. Digitality, in this sense, is a significant foundation of contemporary media forms and journalistic practices and hence, central to our thinking about public spheres.

Media convergence adds a new context to think about networked public spheres, deeply influencing each other, and constituting new public(s). It also necessitates fresh ways of approaching the new media ecosystem that is rapidly evolving. The debate is still on about the nature of the digital



public(s) and the new media forms which co-evolve with them. The Habermasian anxiety about re-feudalisation of the public sphere is mooted in the context of internet and digital technologies. Does the digital public sphere hold a politically progressive, communicative function? Or is it a fragmented one that often serves the post-truth politics of right-wing populism?⁵ In other words, does the media convergence compliment a political convergence in favour of right-wing populism, as many scholars have pointed out? These questions are of utmost importance in the contemporary political context of India. At the same time, there are interesting developments too: while the Indian television channels generally are not credible sources of truth due to their political allegiance to the right-wing state, it is the small online news portals and newspapers which defy the "epistemic crisis" to uphold the truth value of news. However, the massive network of online content developers who constantly circulate fake news should not escape our analysis. What we need is a better conceptual understanding of the complexity of the emergent media ecology, which is yet to be researched in detail.

The bug of technological determinism can enter through the backdoor into this debate. Do digital technologies unilaterally define the media practices and thereby shape the political culture? An important theoretical insight in this regard may be taken from the debate on "technological affordances". In conformity to our initial discussion on the complex web of the techno-social, proponents of the theory of technological affordances argue that any technology has an "action potential" but no "causal agency". It is in the interaction of actors with the technology that new possibilities are created and developed. From this vantage point new media 'afford political actors' expanded opportunities to act' (Bimber & de Zúñiga 2020: 702). Nonetheless, 'these expanded opportunities do not compel action and indeed are acted upon differently across actors and political contexts' (ibid.: 702). This opens up possibilities to understand the characteristics of the new media platforms and Social Networking Sites (SNS) and their role in shaping the political culture.

Like the contestations on machines and typographic designs in colonial India, media technology continues to be a heavily contested terrain. Digital technologies appear and vanish more ephemerally nowadays. The pressure digital technology exerts on journalism is therefore worth studying. As we have seen, print media adapts itself to the digital mode, not only in terms of its digital versions such as e-papers and web portals, but also in the way news is organised and presented to the contemporary reader whose mode



of "reading" itself has been radically altered by the digital interphase. The transformations brought forth into the reading culture by digitality and the emergence of digital public spheres demand revisions in our conventional theorisations of print media's engagement with diverse forms of knowledge, and hence its role in contemporary democracies.

An important problem that deserves our attention at this juncture is the method of analysis. Techniques of content analysis of news need to be fine-tuned to capture the deliberative potential of the public sphere. In place of analysing select news reports, a more rewarding procedure could be to present a thick description of the development of events and deliberations through newspaper ethnography, wherein all the news reports related to the theme under analysis are accounted for as closely as possible. Print media here corresponds to the ethnographer's "field", and the actors who appear in the news reports, to her "subjects". She thus follows them closely to interpret their actions as well as the emergent networks and alliances (see for example, Varughese 2017). In contemporary contexts of print media, this can be complemented with a newsroom ethnography that would provide insights into the journalistic production of news. Also, research on how the users of SNS perceive their participation is quintessential to understand the new media ecology. Such a method of data analysis will help the researcher to observe the dynamism of the media-generated public spheres without sliding into lamenting their vacuity.

Print media does not simply provide a deliberative space for citizens to negotiate politics; rather the deliberations in the public sphere constitute the public itself. What kind of public(s) manifests through the print media at a historical moment? What are their characteristics? How do they exist in constitutive tension with practices of journalism, thereby shaping the characteristics and the course of evolution of print media? Such methodological queries which go beyond a linear understanding of media as generating a public sphere that activates politics will help us focus more on the multidimensionality of the media's relationships with politics. It goes without saying that this approach is significant for any analysis of media debates on science, technology, and medicine and the "knowledgeable publics" thereby being constituted. The arrival of SNS, particularly Facebook and Twitter in India, provide a new context to analyse public engagement with scientific knowledge.

The state is a strong presence in any debate on print media's engagement with science, technology, and medicine. Two state-initiated programmes with heavy ideological underpinnings—literacy mission and



science popularisation—have been deeply connected with the growth of print media and journalism in the country since the colonial period. Growing literacy rates rapidly expanded newspaper readership, a phenomenon that has occurred across regional languages in the country. Furthermore, typographical and technological choices in vernacular print scenario evolved in response to the growing literacy rates. Science popularisation, similarly, was promoted by the Indian state after independence. For the progress narrative of the developmentalist state in the post-colony, a scientifically tempered population that can appreciate its techno-scientific projects and programmes was important. Literacy campaigns and science popularisation efforts thus became part of the state agenda. The statist promotion of science popularisation programmes and literacy campaigns gave impetus to the rapid expansion of print media for they nurtured 'rational public discourse' from which the developmentalist state benefitted. These public spheres thus expected to produce a knowledgeable and disciplined public of liberal democracy. Thus, the print media became an ally of the state in managing the population. Those publications which went against such a statist agenda faced moral and legal censorship, such as porn magazines and underground political literature. Hence the coupling (or dissociation in the latter case) between media, state, and the publics is a theme which deserves scholarly attention. It seems that in the post-1990s their mutual alignment has been changing in the mainstream media. What role does media (especially print media) play in the neo-liberal India? What is the changing relationship between (print) media and the neoliberal state?

The changing relationship between print media, science, and politics in the neoliberal era is astonishing. Due to the emergence of a wide range of risks in our everyday life, from those initiated by the complexity and uncertainties of the world economy to environmental and technological risks, we need media to arbitrate between state regulatory mechanisms for collective risk management, experts who provide technical explanations of risks, and a citizen-public who bears the burden of negotiating risks in personal and collective life (see Varughese 2017). The presence of different forms of media (from FM radio, television channels and newspapers to online news portals and social media) in this emergent context, and their highly varying roles and functions in everyday life further complicates the problem. What role does print media play in this changed scenario? How does the new context alter the conventional, often boasted role of media as the "Fourth Estate"? Do contemporary media speak truth to power? How should we understand the loss of trust experienced by both science and



media in the post-truth era? The ways in which these radical transformations in our understanding of and engagement with media and science shape politics today need to be addressed.

The emergence of digital public spheres and the corresponding constitution of publics exert strong pressure on the positive notion of public sphere as the prime catalyst of deliberative democracy. Although we may not let ourselves slip into the Habermasian pessimism on the re-feudalisation of public sphere in the era of internet, it is almost sure that we have either to extend the concept of public sphere to capture the complexity of today's public engagement with science mediated by SNS or to think about radically new conceptual frameworks. Three major problems invite our attention. Firstly, the collapse of public trust on science, which was seen positively by several scholars (including my own work) in the context of print media as making room for a wider set of experts (scientific and lay expertise) to come together and democratically negotiate the problem at hand outside the technocratic risk governance paradigm, is inadequate to understand an outright denial of science as in the case of climate crisis. This new context is epistemologically different from the publics' critical engagement with science. Secondly, since the right-wing onslaught on science is diametrically opposite to democratic culture of engagement (whether dialogical or agonistic), what are its implications for politics? What is the nature of this 'anti-publics' (Davis 2020) or 'post-publics' (Schlesinger 2020)? The third problem is information explosion; as the World Health Organisation observed in the context of the COVID 19, the Pandemic was also an 'infodemic' (WHO 2020). The collapse of the conventional peer review system of science during the early months of the Pandemic and a consequent hike in the publication of non-peer reviewed pre-prints of research papers in internet repositories led to an information explosion regarding COVID-19, which created a condition of epistemic crisis, for there was no means available to discern right and wrong information, scientific explanations and postulations. The problem worsened when journalists amplified the information. How do we theoretically capture this changed scenario of science communication? How does the epistemic crisis created by a global medical emergency radically challenge the relationship between media and science? These are crucial issues to be explored.

Analysing the impact of technological developments on print journalism, and the print media's engagement with modern science and medicine thus opens up fresh possibilities before media researchers. This also demands more interdisciplinary investment from the analyst; attentiveness to devel-



opments in the fields of Science, Technology and Society (STS) Studies and History and Philosophy of Science (HPS) is inevitable for the media studies scholar to address the complexities of media engagement with science, technology and medicine. Beyond conventional questions related to print media's role in developing modernity, the new contexts of analysis inspire the media scholar to venture into the uncharted waters.

Endnotes

¹ For the debate on social construction of spatial scales, see Marston 2000; Brenner 2001; Marston and Smith 2001.

² See the debates on public sphere in Calhoun (1992) and Crossely & Roberts (2004).

³ Also see Warner 2005.

⁴ See Varughese 2017 for a study on the 'scientific public sphere' in Kerala.

⁵ For recent debates on this question, see Bimber & de Zúñiga 2020, Davis 2020, Schlesinger 2020.

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