



Communicating Science in Media Texts: A Content Analysis of Biological Science Representation in 1990s' Bengali *Desh* Magazine

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Abstract

This study examines the representation of biological science in the 1990s Bengali *Desh* Magazine, a prominent publication from Bengal, in India. Through a content analysis of non-literary advertisements/articles published in 1990, the research explores the types of biological science covered, the intended audience, and the portrayal of scientific concepts. The findings reveal key themes or trends in the content, providing insights into how Biological science was communicated to the public in Bangladesh during the 1990s and the role that Bengali *Desh* Magazine played in shaping public perception of biological science.

Keywords: Biological Science Representation, Content Analysis, Bengali *Desh* Magazine, 1990s, Bangladesh, Science Communication

Introduction

Behind the line of mainstream literature, the role of literary magazines and periodicals have remained immensely significant. If the proverbial '*literature is the mirror of society*' proves true across all cultures and nations, then the place of literary magazines can no less be considered as trivial. With the introduction of the printing presses in Europe, 17th Century for the first time saw the earliest rise of the concept known today as 'magazines'. These were printed and circulated in the form of brochures, political pamphlets or almanacs etc. (Source: '*Understanding Media and Culture: An Introduction to Mass Communication*' –Book published by University of Minnesota, U.S, 2016). The earliest of those publications served the purpose of providing contemporary news to the readers, having a lack in them pure literary values. But with the rapid increase of knowledge, European countries like Germany, England, France, Netherlands, and America saw the immense rise and expansion of pure literary magazines and periodicals, which not only acted as representational mediums of the popular culture, but in some cases, reshaped or restructured the mainstream literature.

Since mid 18th Century, and during the 19th Century Bengal Renaissance, books and magazines were becoming the medium of mass entertainment. With the gradual advent of modern printing press and printing technology, publishing houses flourished rapidly in Kolkata. Publication of several literary magazines took place, offering multi dimensional readings to the common mass. Literary magazines like '*Desh*', '*Anondo Lok*', '*Shuktara*', '*Shanonda*', '*Shofor*', '*Shaptahik Bortoman*', '*Bhraman*', '*Sustho*', '*Anondo Mela*' '*Nobo Kollo*' became immensely popular with the reading public of Kolkata. Since decades literary magazines have enthralled the readers of various sections

of Bengali society, offering an enriching reading experience of poems, articles, essays, travelogues, periodical novels and many more.

A brief introduction to *Desh* and the decade selected for the study

Considered as one of the most popular literary magazines of the Bengali-speaking intelligentsia, and published since 1993, *Desh* magazine has remained a prime source of mass entertainment to readers of Bengal. Rich with an abundance of reading material, it offered a rich variety of poems, essays, novellas, travelogues, short stories, film criticisms, contemporary art and culture and many more. Bengali literary figures and stalwarts like Sunil Gangopadhyay, Samaresh Basu, Nirendranath Chakraborty, Sagarmoy Ghosh were associated with the rich heritage of this magazine. As a literary bi monthly it performed its role to represent the essence of popular culture to its readers. Contents published in the magazine have retained their high standard never compromising with the quality inherent in the material. Art, cinema, music, poetry, book reviews, research articles, novels, essays have truly captured the essence of popular culture.

For the current study the researcher selected the decade of the 90s (1990 in particular). Why 90s? Because, these are the years which saw revolutionary changes all over the world. To quote from the pages of Wikipedia, "*Known as the Post-Cold War Decade, the 90s are often culturally defined as the period from the Revolutions of 1989 that marked the end of the Cold War until the Global War on Terror ("GWOT"), which included the September 11 attacks, the War in Afghanistan, and the Iraq War*".(Wikipedia). Aided by cable network, television, mobile technology, rapid expansion of scientific advancement, capital market, changes in fashion, entertainment and mass media, book publishing the decade saw the immense rise of multiculturalism across India and world as well. Bengal too underwent through the emerging changes and revolutionary waves of the era of 90s influencing literature, films, arts, music and movies, book publishing industries, politics and science etc.

Research objectives

- **To analyze the types of science content and communication strategies used in Bengali *Desh* magazines during the 1990s.** This objective would involve examining the magazines to see what kinds of science topics were covered (e.g., astronomy, biology, physics), how complex the information was presented, and what visuals or other elements were used to aid understanding.
- **To assess the target audience and the effectiveness of science communication in Bengali *Desh* magazines during the 1990s.** This objective would look at who the magazines were aimed at (e.g., general public, students, educators), and whether the science communication strategies were likely to be successful in reaching and engaging that audience. One could examine factors like the language level used, the cultural context of the information, and reader feedback (if available).
- **To compare and contrast science communication in Bengali *Desh* magazines during the 1990s with other media sources or with science communication in Bengali *Desh* today.** This objective would broaden your research by looking at how science was communicated in Bengali *Desh* through other channels like newspapers, radio, or television during the same period. One could also investigate how science communication in Bengali *Desh* magazines has changed since the 1990s.

Methodology of the study

For the study, the researcher adopts the method of Non literary content analysis. This methodology allows us to explore not just the "what" of scientific progress, but also the "how" – how these advancements were communicated and perceived by the Bengali Desh public.

Identifying Dominant Themes: Analyzing the frequency and placement of science-related articles can reveal the dominant scientific themes that captured public interest during the 1990s. Were there discussions about the Human Genome Project or the rise of the internet age? Did concerns about environmental issues or advancements in medicine take center stage? Uncovering these themes provides a snapshot of the scientific conversations that resonated with the Bengali Desh public.

Examining Language and Representation: Delving into the language used in science articles can illuminate the target audience and the level of scientific literacy assumed. Did the magazines utilize jargon-heavy language aimed at professionals, or did they employ simpler explanations to engage a broader readership? Additionally, analyzing the visuals accompanying the articles – diagrams, photographs, or info graphics – can shed light on how scientific concepts were made comprehensible to a wider audience.

Advertising and Public Perceptions: Advertisements within these magazines can offer a unique perspective on the public's perception of scientific advancements. Did advertisements for new medical technologies or personal computers highlight the benefits of scientific progress? Analyzing the types of products advertised and the language used in their promotion can reveal how scientific developments were translated into tangible applications for the public.

Exploring Science and Medical Science Communication in Bengali Desh Magazines During the 1990s

The 1990s witnessed a significant shift in Bengali Desh, as the nation embraced socioeconomic reforms and a growing middle class. This period also saw a rise in Bengali-language magazines catering to a public increasingly curious about science and medical advancements. Examining science communication in these magazines during this era sheds light on the dissemination of scientific knowledge, its target audience, and its effectiveness in shaping public understanding.

One crucial objective of such an exploration would be to analyze the types of science content and communication strategies employed by these magazines. Did they delve into theoretical physics or focus on practical applications of biology in agriculture? How complex was the scientific information presented? Simple language and analogies could have aimed to broaden the readership, while technical jargon might have targeted a more specialized audience. Visuals like diagrams and photographs likely played a vital role in enhancing comprehension. Analyzing the content and its presentation would provide insights into the overall approach to science communication during this time.

Exploring science and medical science communication in Bengali Desh magazines during the 1990s offers a valuable window into the scientific awareness and public understanding of that period. By analyzing the content, target audience, and effectiveness of communication strategies, alongside comparisons with other media, we gain insights into how these magazines informed and engaged Bengali Desh in the fascinating world of science and medicine. This exploration can not only shed light on the past but also inform future efforts to effectively communicate science in Bengali Desh.

Non literary content analysis from the selected volumes of Desh published in 1990

- ❖ The 20th January volume of Desh published an advertisement of the celebrated Indian health drink Complan. The 1990s witnessed a surge in biological science advancements across the globe, and India was no exception. Complan, a health drink marketed heavily during this period, became an unlikely symbol of this bio-science boom, weaving itself into the cultural fabric of the nation. Complan's origins lie in the science of protein. Protein research gained significant traction in the 1990s, with its importance for growth and development coming under the spotlight. Complan capitalized on this by positioning itself as a scientifically formulated drink, enriched with protein and essential vitamins. The brand cleverly leveraged this bio-science focus to establish itself as a health supplement promoting strong bones and mental sharpness – a claim bolstered by the emerging field of nutritional science. The field of nutritional science was still evolving in the 90s, and the long-term effects of such supplements were not fully understood. Despite these limitations, Complan's success lies in its ability to translate complex bio-science concepts into an easily digestible message for the masses. It tapped into a public increasingly interested in scientific advancements and offered a product positioned at the intersection of biology and health. In conclusion, Complan's journey in the 1990s serves as a fascinating case study. It highlights the pervasiveness of bio-science developments during that era and the power of marketing to shape public perception. While the science behind Complan might be debatable, its role as a cultural symbol of bio-science progress in India cannot be denied.
- ❖ The 3rd February Desh published a non literary content, an article on 'Kohinoor' condoms. The 1990s marked a turning point for biological science in India, with advancements in areas like reproductive health gaining significant momentum. Condoms, once a niche product shrouded in stigma, emerged as a quiet symbol of this progress, playing a crucial role in promoting safe sex and family planning. Prior to the 90s, condoms were primarily associated with disease prevention in the context of commercial sex work. However, the rise of HIV/AIDS in the late 1980s necessitated a paradigm shift. Biological research on HIV transmission led to a public health emphasis on condom use for all sexually active couples. Government initiatives and social marketing campaigns during the 90s focused on destigmatizing condoms and promoting their effectiveness in preventing sexually transmitted infections (STIs) and unwanted pregnancies. The success of condoms stemmed from their embodiment of key biological advancements. Latex production technologies improved, leading to thinner and more durable condoms, enhancing user comfort and efficacy. Additionally, advancements in spermicide research allowed for the introduction of condoms with spermicidal coatings, further increasing their protective power. It's important to acknowledge the social and cultural challenges condom promotion faced. Societal conservatism and a lack of open communication about sex often impeded progress. However, condoms became a powerful symbol of a new era in biological science, one where scientific understanding was translated into tangible public health benefits. Condoms, in their quiet revolution during the 1990s, stand as a testament to the impact of biological science on Indian society. They represent a victory of scientific reasoning over social stigma, paving the way for a more informed and responsible approach to sexual health. The story of condoms in India is a reminder that biological progress can have profound social implications, promoting a healthier and more empowered future.
- ❖ Desh magazine published in 10th February, 1990 printed a black and white advertisement on Shalimar coconut oil, one of the most famous brands in India. The 1990s witnessed a global

fascination with "natural" remedies and a renewed interest in traditional practices. In India, coconut oil rode this wave, becoming an unlikely symbol of bio-science advancements – albeit with a layer of ambiguity. Coconut oil has been used for centuries in Indian households for culinary and cosmetic purposes. However, the 1990s saw a surge in research on the potential health benefits of medium-chain triglycerides (MCTs) – a specific type of fat found in abundance in coconut oil. Early studies suggested MCTs might offer advantages like increased metabolism and weight management. This bio-science finding fueled a surge in coconut oil's popularity, with health food stores and media outlets touting its supposed magical properties. Despite the evolving scientific consensus, coconut oil's popularity persisted in India, likely due to its cultural significance and its positioning as a "natural" product. This highlights a crucial aspect of the 1990s bio-science narrative – the public's fascination with natural remedies, sometimes outpacing the ability of science to provide definitive answers. In conclusion, coconut oil's trajectory in the 1990s serves as a reminder of the complex relationship between bio-science, popular culture, and traditional practices in India. While it might not be the most robust symbol of bio-science progress, it reflects the era's enthusiasm for natural solutions and the ongoing quest to understand the intricate link between food and health.

- ❖ The magazine published in 31st March, had an advertisement promoting the then newly arrived brand of Washing Machine. The 1990s in India witnessed a period of significant social and economic transformation. In this era, the washing machine quietly emerged as a symbol of progress, not just in terms of convenience, but also in the realm of biological hygiene science. Prior to the 90s, laundry in India was a laborious, time-consuming process often involving hand washing clothes in rivers, ponds, or communal washing areas. These traditional methods, while effective to an extent, posed challenges related to hygiene. Contaminated water sources could harbor bacteria and parasites, potentially leading to skin infections and other health issues. The arrival of washing machines in the 90s coincided with advancements in biological hygiene science. A growing understanding of the role of bacteria and germs in spreading diseases fueled a public interest in maintaining hygiene standards. Washing machines offered a solution, utilizing a controlled environment with detergents and hot water to effectively remove dirt, bacteria, and allergens from clothing. The impact of washing machines extended beyond individual households. Public health initiatives often partnered with washing machine manufacturers to promote their benefits in reducing the spread of diseases. Educational campaigns highlighted the link between clean clothes, good hygiene, and overall health, particularly for children. However, access to washing machines in the 90s wasn't uniform. Initially, they were expensive and primarily accessible to urban middle-class families. This disparity highlighted the ongoing challenge of bridging the gap between scientific advancements and their widespread adoption. Washing machines in 1990s India serves as a compelling case study. It exemplifies how advancements in biological hygiene science translated into practical applications, impacting daily life and promoting public health. While initial access was limited, washing machines became a symbol of a new era, where scientific knowledge empowered individuals to maintain a cleaner and healthier environment.
- ❖ The 7th April, Desh magazine had an advertisement on the most popular Health Drink 'Horlicks'. The 1990s in India witnessed a fascination with biological science, but it wasn't always a linear path from lab to living room. Horlicks, a malted milk drink marketed heavily during this period, exemplifies this nuance. While not a direct scientific innovation, Horlicks leveraged bio-science to carve a niche as a symbol of growth and development in a nation hungry for scientific progress. Horlicks' origins lie in the science of nutrition. Developed in the

late 19th century, it was initially positioned as a dietary supplement for infants and invalids. The 1990s saw a renewed focus on protein and vitamins, aligning perfectly with Horlicks' core ingredients. The brand cleverly used this scientific backing to establish itself as a health drink promoting strong bones and mental sharpness in children – a claim bolstered by the emerging field of pediatric nutrition. However, Horlicks' marketing strategy played a more significant role in its association with biological science. Advertisements depicted healthy, thriving children after consuming Horlicks, often featuring mothers making informed choices based on scientific reasoning. This imagery resonated with a growing middle class seeking scientific validation for their parenting decisions. The portrayal of Horlicks' benefits needs to be viewed within the evolving landscape of nutritional science in the 90s. While the drink provided essential nutrients, the long-term impact of such daily supplements remained unclear. Additionally, the focus on protein and vitamins might have overshadowed the importance of a balanced diet. Despite these limitations, Horlicks' success lies in its ability to translate the language of bio-science into a message that resonated with Indian parents. It tapped into a public eager to embrace scientific advancements for their children's well-being. In conclusion, Horlicks' journey in the 1990s reflects the multifaceted relationship between science, marketing, and public perception in India. While the science behind its claims might be debatable, Horlicks serves as a symbol of the era's evolving understanding of nutrition and its role in child development. It's a reminder that the public's engagement with bio-science can be as much about cultural aspirations as it is about definitive scientific evidence.

- ❖ Desh published in 14th April had printed an advertisement on Godrej refrigerators using the contemporary 'puff' technology. While the 1990s witnessed groundbreaking advancements in fields like biotechnology and human genomics, a seemingly mundane appliance – the refrigerator – quietly embodied the era's profound progress in biological and hygienic science. Prior to the 1990s, refrigerators, though ubiquitous, lacked the sophisticated technology and features that became commonplace during this decade. Advances in material science led to the development of more efficient coolants and better insulation, allowing for consistent and lower temperatures within the appliance. This, coupled with a growing body of research on food borne illnesses, fundamentally changed how people approached food storage. The 1990s saw a surge in public health campaigns highlighting the dangers of food borne pathogens like *E. coli* and *Salmonella*. Microbiological research flourished, revealing the intricate link between temperature control and bacterial growth. Refrigerators, once seen simply as a way to keep things cool, became crucial tools in the fight against food spoilage and associated illnesses. This newfound understanding of food science was reflected in refrigerator design. Features like crisper drawers with adjustable humidity levels became commonplace, catering to the specific needs of different fruits and vegetables. This focus on preserving freshness stemmed from a growing appreciation for the nutritional value of food and the desire to minimize waste. The impact of the refrigerator extended beyond individual households. The 1990s witnessed a boom in the global food supply chain. Advancements in refrigeration technology allowed for the safe transportation and storage of perishable goods over longer distances. This not only increased access to a wider variety of foods but also ensured a more consistent supply, reducing reliance on seasonal availability. In conclusion, the refrigerator transcended its role as a mere appliance in the 1990s. It became a powerful symbol of the era's advancements in biological and hygienic science. By enabling the safe storage and transportation of food, refrigerators played a crucial role in promoting public health, reducing food borne illnesses, and fostering a new appreciation for food safety and nutrition. This seemingly ordinary

household item stands as a testament to the profound impact that scientific progress can have on our everyday lives.

- ❖ An advertisement on the Nestle Milkmaid Dairy brand was printed on 21st April issue. The 1990s in India witnessed a surge of interest in biological sciences, and advancements in areas like dairy production played a significant role. Nestle Milkmaid, a sweetened condensed milk brand, while not a scientific innovation itself, became an unexpected symbol of this progress, albeit with a focus on the biological benefits of milk rather than the science behind its processing. Prior to the 90s, access to fresh dairy products, particularly in urban areas, could be unreliable. Nestle Milkmaid offered a solution – a shelf-stable, sweetened condensed milk that could be used in various desserts. This convenience coincided with a growing awareness of the importance of milk in a healthy diet. Milk was being touted for its calcium content, essential for strong bones and development, aligning with the increasing public understanding of biological processes. Nestle Milkmaid's marketing strategy capitalized on this perfectly. Advertisements depicted families enjoying delicious desserts made with Milkmaid, often highlighting the presence of children. The message was clear: Milkmaid wasn't just about indulgence; it was a way to incorporate the goodness of milk into a child's diet. This resonated with parents seeking to ensure their children received proper nutrition. Nestle Milkmaid's success in the 1990s reflects a unique aspect of India's engagement with biological science – the public's growing appreciation for the nutritional value of dairy products. While the brand itself wasn't a scientific breakthrough, it served as a symbol of a nation increasingly aware of the biological importance of milk, particularly for children's development. Nestle Milkmaid's story reminds us that the public's understanding of bio-science can be multifaceted, influenced by factors like taste, convenience, and cultural perceptions of health.

Conclusion

This research has thus analyzed the representation of biological science in the 1990s Bengali Desh Magazine. By examining advertisements/articles published during this period, the study has identified key themes or trends in 90s' biological scientific development in the content. These findings contribute to our understanding of how science was communicated to the public in India as well as Bengal during the 1990s and the role that Bengali Desh Magazine played in shaping public perception of biological science in Bengal.

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