

Media Construction of Environment and Sustainability in India. Prithi Nambiar. Sage Publications India Pvt Ltd, B1/1-1 Mohan Cooperative Industrial Area, Mathura Road, New Delhi 110 044. 2014. xix +288 pp. Price: Rs 995.

This book was borne out of a doctoral research, prefaces the author. So here is a case study of a Ph D thesis from Australia published as a hardcover, to motivate Indian universities that are still hesitant about making their theses accessible online to the public. And, more significantly, the introductory chapter clarifies the intention to influence public opinion and thus policy making.

The language and presentation of the contents of the book are obviously influenced by the structures that govern universities and Ph D degrees. So, in chapters 2, 3 and 4 there are extensive literature reviews on the notions of sustainability, on theories of development, notions of sustainable development and theories of communication to the framing of sustainability messages in the media. More than one-third of the book is thus consumed in briefly describing the background knowledge that is necessary to take up an analysis of this kind, and in the process, establishes the academic credibility of the author.

Chapter 5 is on Indian environment and sustainability discourse. Earlier, in chapter 2, we see the meaning of the word discourse – institutional use of language to actively construct a reality with words – and there is a discussion of the notion that runs to one and a half pages. So now the author goes into the dynamics of political economic pressures for development mediated by the elite on the one hand and a

brief summary of popular environmental movements that emerged in the recent decades in India. Again, a compact review in 10 pages.

Now, in the 6th chapter, we see the research done by the author: a collage of interviews with 30 opinion leaders from the academia, bureaucracy, media, corporate and NGO sectors. In about 60 pages we see a wide range of opinions on sustainability, development, environment and the way in which media presents these issues. The underlying assumption that the elite influence media and public opinion is defended by the concept of two-step diffusion in communication theory. What emerges ultimately is that there is no consensus amongst the English-speaking elite on the meanings of sustainability, sustainable development or sustainable environment.

The chapter also extracts the perceptions of interviewees on the frames and themes used by media in treating sustainability or environmental issues and the problems in sustainability discourse. Issues such as the relative impact of media, government, academia, NGOs and the corporate sector on formation of public opinion, influence of public opinion on policy and recommendations on enriching the public discourse on environment and sustainability are discussed using the interviews as the primary data. Except for the fact that all these are extracted from interviews, the subject matter in these 60 pages could well have been split into separate chapters to create a clearer demarcation of ideas.

The next chapter, again a long one, delves into media construction of reality in India. Guided by the interviews, the researcher homes in on one magazine, *Frontline* as the media outlet that has greater coverage of environment and sustainability issues. She identifies 118 articles relating to environment and sustainability that appeared in the magazine from December 2008 to January 2009. The chapter tries to bring the focus back to the previous exploration of the ‘framing of messages’ in the media. The list of frames identified is much longer than those extracted from the interviews. Though at times the reports examined are not really related to the issue of environment or sustainability, the author does a reasonably good content analysis from this perspective, including comments on the use of photographs, headers, titles, placing, etc.

The author recognizes that it is difficult to make any valid generalizations about Indian media since the sample examined is too small, considering the large number and diversity of media outlets in India. Yet she is bold enough to come up with suggestions of ‘frames’ that the media could use to report issues related to sustainable environment and recommendations for policy makers in the final chapter.

In general, this is a book that is indeed useful to scholars and students of media studies in universities, as the blurb in the inside cover of the hardbound volume suggests. The reviewer did not find the contents of the book relevant and important enough for media practitioners and policy makers – the other targets intended by the author.

There are several reasons for this:

1. The notion of sustainable development has been sufficiently hijacked by ‘discourses’ strategically intended to serve institutional self-interests. Just as the listing of deliverables in the Millennium Development Goals impoverished the intentions behind the Millennium Declaration, the political, economic, and cultural aspects of sustainable development have been largely sidelined in the ‘Education for Sustainable Development’ that focuses primarily on environment, a safer area for discourse. Education is more powerful in forming the public opinion, in general. And opinion leaders are usually educated.

2. A mid-term review of the ‘Education for Sustainable Development’ focuses on issues in education and those in development when considering the Asia-Pacific region. It misses out on the issue of sustainability when considering the challenges¹. Given the trajectories of course correction identified, when the Decade of Education for Sustainable Development ends in 2014, it will only sustain the confusions created by institutionally constructed discourses.

3. Even when we consider media, the media kit that is used for training journalists for the Decade of Education for Sustainable Development² again side-steps political, economic and socio-cultural issues to focus on the global warming, pollution, etc. In other words, sustainability is presented as only an environmental issue.

This obfuscation by discourses (institutional construction of reality using words) in a way explains why the author

finds, at the very end of the book, that 'While sustainability can mean different things to different people, it is clear that the process of defining and understanding the concept is a critical starting point to developing and implementing an agenda for sustainability in every country'.

The media practitioners are not overtly fond of hairsplitting in the academic discourses. Moreover, they – especially in the news and current affairs section – are wary of taking sides even with the agendas of international bodies. So they would stop short of reporting events organized to popularize the internationally declared Days or Weeks or even Decades devoted to sustainable development or water or environment or forests. But they would hesitate to be seen as campaigners or crusaders for the international community.

Though the book tries to link sustainability to Indian traditions and Gandhian ideals, it also reports that the concept of sustainability is seen as 'Western' by the English-speaking elite in India and as a 'Western ploy' by the magazine analysed by the study. These are, of course, causes of grave concern to the policy makers, especially in today's political and economic context. For evidence-based decision-making, policymakers need clearer understanding and scientifically up-to-date information.

This is where the author is on a weak wicket. The book does not take into consideration the scientific studies on the evolution of ecological niches and succession. Dealing with the concept only in the linear range of 'sustainability' is an inherent limitation in the understanding of not only the environment, but also of media and communication.

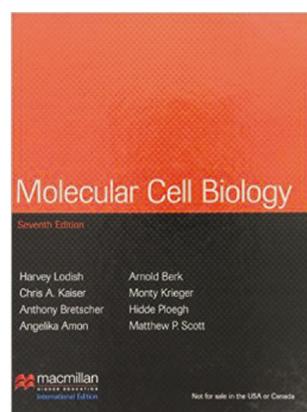
There is, indeed, a mention of non-linear dynamic interrelationships of new media in chapter 4, which reviews the existing communication theories. But the two pages devoted to the topic are a clear indication that the author is not aware of scientific studies in the recent decades on complex systems and networks.

This weakness in the book is not surprising because the university system separates science, humanities and arts. And media is usually clubbed with arts. The closest link is to humanities. Science is a distant cousin. It is this context which helps us understand the limitations of a Ph D thesis, where magazine reports with any statistics are considered as scientific framing of messages.

1. Review of Contexts and Structures for Education for Sustainable Development 2009, UNESCO; unesdoc.unesco.org/images/0018/001849/184944e.pdf
2. Media as partners in education for sustainable development: a training and resource kit; <http://unesdoc.unesco.org/images/0015/001587/158787E.pdf> (accessed during December 2014).

K. P. MADHU

*Science Media Centre,
Indian Institute of Science Education and
Research,
Dr Homi Bhabha Road, Pashan,
Pune 411 008, India
e-mail: kp.madhu2000@gmail.com*



Molecular Cell Biology. Harvey Lodish *et al.* W. H. Freeman and Company, New York. 2014. 1154 pp. 7th edn. ISBN-13:978-1-4641-0981-2.

This is a well written textbook for advanced graduate-level studies in molecular biology, cell biology and biochemistry. It represents the fundamental concepts as well as current information on cell and molecular biology. The authors, who are all world-class researchers and teachers, have incorporated medically relevant examples which connect cell biology and human health. They have also done a good job in covering molecular cell biology in depth.

The full range of molecular cell biology is covered in over 1154 pages under 24 chapters divided into four parts. In this edition, the authors have revised several chapters and have incorporated advanced experimental technologies like DNA and RNA sequencing which revolutionized biomedical sciences. New and improved chapters like 'Molecules, cells

and evolution' (chapter 1) provide considerable insight into the evolution of genes and organisms. The chapter 1 has also incorporated particular unicellular and multicellular model organisms to study specific genes and proteins that are important for cellular function. Chapter 2 describes how life of a cell depends on thousands of chemical interactions and reactions that are influenced by genetic instruction and environment of the cell. Chapter 3 describes structural and functional aspects of proteins at the molecular level and discusses the commonly used techniques for identifying, isolating and characterizing proteins in the advanced field of proteomics. Chapter 4 describes structural and functional aspects of nucleic acids, DNA repair mechanism and viral genome. The authors emphasize the role of HPV (human papilloma virus) in the development of cervical cancer. Chapter 5 describes various molecular genetics techniques for isolation, sequencing and manipulating specific regions of the DNA of an organism. Application of *in situ* hybridization using non-radioactive probes, quantitative RT-PCR and high-throughput DNA sequencing are also highlighted in this chapter. The authors have included a variety of techniques for analysing the location of proteins in the cell and localization of gene expression pattern. A variety of molecular techniques are well presented to study the expression and function of individual genes. Chapter 6 gives an overview of characteristics of eukaryotic nuclear and organellar genomes, the features of genes and other DNA sequences that comprise the genome, and how this DNA is structured and organized by proteins within the cell. Application of DNA fingerprinting using microsatellite markers and PCR is also mentioned in this chapter. Chapter 7 gives a good overview of regulation of gene expression at transcriptional level in bacteria and eukaryotes. Epigenetic mechanisms of transcriptional regulation and transcriptional regulation by non-coding RNAs (e.g. Xist in X-chromosome inactivation) are incorporated in this chapter. Chapter 8 gives a detailed overview of post-transcriptional control of gene. Chapters 10 and 11 present the structural and functional aspects of cell membrane. Structure and functional mechanism of Na⁺ K⁺ ATPase, multidrug transporter (MDR1), and cystic fibrosis transmembrane regulator (CFTR) are introduced in this edition in