**Handbook of Inclusive Education for Educators, Administrators and Planners – Within Walls, Without Boundaries.** Madhumitha Puri and George Abraham (eds). Sage Publications India Pvt Ltd, Post Box 4109, B-42 Panchsheel Enclave, New Delhi 110 017. 2004. 309 pp. Price: Rs 450.

India has a large number of physically and mentally challenged children whose educational requirements are often not met. The book under review is the first of its kind in India to engage with several issues of inclusive education. The book is divided into three sections, viz. Inclusive education – An overview, Innovations in implementations, and The way forward.

The first section gives an overview of 'inclusive education', the second gives a detailed account of the actual practices and success stories, while the third by Madhumitha Puri and George Abraham further explores many ideas/strategies to enable inclusive education.

The collection of papers in the first section answers many questions often asked by parents, educators and administrators who are engaged with the complex task of educating the *differently abled* (this term is preferable to that of learning disabled, mentally retarded and such other terms) children.

Shruthi Pandey's paper on current provisions of law and policy draws attention towards the lacunae in several Acts related to inclusive education. One of them is Section 28 of the Persons with Disabilities Act, for giving equal opportunities in education for all children with disability. Right now, equal opportunity is available in curriculum and academics, but does not include clear statements on total interactive (inclusive) learning process. Several such examples throw light on the need for amendments in various Acts.

Sushil Goel and Indumathi Rao provide a broad overview of the inclusive educational practices in India. They give due recognition to the work of NGOs. However, the fact that the Integrated Child Development Services is not yet being fully utilized suggests the urgent need for people to access this project.

Renu Singh's debate on the meaning of an ideal inclusive world convinces us about the fact that 'inclusion' is an agenda to stop schools from being mere teaching shops. Instead, they need to become centers to promote equality in difference, i.e. to recognize and provide for the diverse needs of all children.

The second section offers multiple cases of success stories. The several innovative ideas, field tested by practitioners, would serve as a useful tip for new practitioners and parents. This section has six subsections for six different kinds of impairments; on hearing impairment by Sandhya Limaye, vision impairment by George Abraham; orthopedic impairment by Anjilee Agarwal; learning disability by Mallika Ganapathy and Lakshmi Krishnakumar; autism by Mythily Chari, and lastly on intellectual impairment by Madhumitha Puri.

All the sections give a comprehensive picture of the characteristic and the actual need of the children with such disabilities. The ideas and suggestions for handling and helping these children will be of great help for those involved with special inclusive education for these children.

Agarwal's paper on orthopedic impairment gives guidelines with more than 40 illustrations, on preparing the kind of environment to support these children. Chari's discourse on autism spectrum contains exhaustive and useful guidelines on the design of textbooks, curriculum, classroom environment, etc. Indumathi Rao, in her paper on schools in rural areas, has detailed guidelines for school administrators, especially for inclusion of disabled children in rural schools. This, along with cases of two teachers, who have actually implemented the technique in their schools, and the success story narrated by a mother of a hearing-impaired child, is a good beginning to motivate teachers and parents towards inclusion of (impaired) differently abled children in regular schools.

Space permits only a brief mention of the seminal contribution of Puri and Abraham to the introduction and concluding parts of the book. In the introduction, they give a clear picture of national and international initiatives in inclusive education, the challenges they pose both to the individuals and administrators.

In the conclusion, suggestions for a few ways forward towards inclusive education are made. A picture of how such 'real schools' would look like directs the reader towards further exploration of innovations in the field.

The appendices section answers a few frequently asked questions. This section is useful with information of the state-level directors and a directory of the state disability commissioners and the addresses of some of the recognized inclusive schools in all the states and union territories of India. The glossary will be of help to readers who are new to this field.

While this book is a welcome addition to academic work in education for the *differently abled* children, its high level of language and complexities may not be comprehensible to all. Readers from rural India, especially, may need simpler and more illustrative guidelines as a number of such children are in need of quality and inclusive education. However, this handbook can be a resource for developing more innovations in the area of inclusive education. Overall, the entire collection is a modest reflection of thoughts and practices with wide scope for further research and innovations.

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**The Big Fish Bang.** H. I. Browman and A. B. Skiftesvik. Institute of Marine Research, N-5817 Bergen, Norway. 2003. 476 pp. Price not mentioned.

Many fishes are prolific breeders, but are known for poor larval survival. For instance, the annual egg production by the Japanese sardine, *Sardinops melanostictus*, inhabiting a 260,000 km$^2$ area of the Pacific Ocean is about 5130 trillion; of these, hardly 0.001% survives and is successfully recruited into the population. Hence a contribution to larval development, survival and recruitment is welcome to enrich our knowledge of fishery science.

This book includes selected papers presented at the 26th Annual Larval Fish Conference hosted by the Norwegian Institute of Marine Research and the University of Bergen during July 2002. It contains a series of 31 presentations. Though not classified, the presentations may be grouped into the following: the first five are on the effects of temperature–salinity on different aspects of larval energetics; the next three deal with larval bahaviour of the cod; this is followed by a series of six presentations concerning the deve-

lopment of selected organs and immune system; the subsequent four papers describe the ability of the fish larvae to synthesize and use fatty acids for development. This is followed by two papers on the consequences of pollutants while the last few deal with larval recruitment. Apparently, the selected topics are rather a mosaic than being focused on a specific theme.

Tunas are among the most important fish species, but are among the least known in terms of early life history. In a simple but elegant contribution, G. Kawamura and his colleagues have described the sequence of development of sensory system and the attendant behavioural changes of the bluefin tuna, which have far-reaching implications to larval ecology and to hatchery operation. R. G. Northcutt's description of the embryonic development of electro-receptive ampullary organs on the lateral line is a fascinating evolutionary story.

Most teleosts undergo strong or gradual metamorphosis on changing their body configuration from larval to juvenile form so as to adapt to the new habitat; a striking example is the flatfish larva, whose body structure undergoes a dramatic translocation of the eye from the right to the left; inhibition of pigmentation on the left; development of anal fin and so on. Such metamorphic processes are in general promoted by the thyroid hormone (TH). In an interesting contribution, N. Okada and his collaborators have focused on the response of individual tissues to the hormone. Treatment of the Japanese flounder larvae with an inhibitor of TH synthesis, thiourea (TU), resulted in the inhibition of translocation of the right eye, shortening of dorsal fin rays and body pigmentation. To examine the hormone responsiveness, the TU-treated larvae were given thyroxine (T4) two and four weeks after treatment. Among the T4-treated larvae, the two-week post-TU-treated larvae underwent the usual changes, but those receiving T4 after four weeks of TU treatment failed to do so.

Among other impressive presentations are those on preservation of unfertilized rainbow trout eggs; the use of trace elements in otoliths to track fish movement, and mass rearing technique of live feed copepods. Trace elements signature in otolith growth bands provides a powerful tool for fish biologists to track the movement of fishes. In their presentations, C. M. Jones and Z. Chen have described how the laser-operating properties can be constrained to manipulate crater dimensions of otoliths and can reliably be used to determine the trace elements in larval otoliths that are less than 1000 μm in size.

In view of their importance for genetic selection and manipulation, preservation of sperm, eggs and embryos of fishes has become important. There are established techniques for preservation of fish sperm. Interestingly, M. Y. Komrakova and W. Holtz have developed a new technique for storing unfertilized eggs. For this, they have stored the freshly stripped unfertilized rainbow trout eggs of 3–5-year-old females in 2–4 layers in vials either uncapped or capped with Biofolie at 2°C under moisture-saturated atmosphere; 125 IU penicillin, 125 μg streptomycin and coelomic fluid were also added to avoid infection. More than 50% of the stored eggs remained fertilizable for longer than 25 days.

Development of techniques for live feed culture remains a major problem in larval rearing of economically important fishes. A cost-effective, high-yielding commercial technique is yet to be developed. Admirably, A. Rhodes has developed a continuous culture, in which the harpacticoid copepod, *Nitokra lacustris* reached a density of 1000 per litre; understandably, the copepod has shortest (10 days) generation time at 20°C and produces 7–18 nauplii per female per day. While summarizing the available information, Rhodes has also cited one of the most successful recent trials, which lasted for longer than a year, and produced daily 440,000 nauplii of the calanoid copepod, *Gladioferens imperipes*.

However, presentations on cod larvae, though some of them have used sophisticated Silhouette Video Photography technique, have failed to realize the objective. For instance, one of them intended to know whether the presence of microalgae in the culture environment affects the behaviour of larvae of Atlantic cod, but ended stating that microalgae might enhance nutritive quality.

The book also contains a large number of avoidable editorial corrections. Abbreviations for scientific journals have neither been followed nor is there uniformity. For instance, *Aquaculture* (p. 61) is cited *Aquacult.*, *J. Fish. Biol.* as *Jour. Fish. Biol.* (p. 93) or *Jour. of Fish. Biol.* (p. 64), *Trans. Am. Fish Sci.* (p. 120) as *Trans. Amer. Fisher. Soc.* (p. 95), *Am. Nat.* in p. 121, but *Amer. Natur.* in p. 94, *Can. J. Fish. Aquat. Sci.* in p. 121, but *Can. Jour. Fish. Aquat. Sci.* in p. 94 and so on.

Despite these, the book is a timely contribution to the larval biology of fishes.

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**Microbial Diversity and Bioprospecting.** Alan T. Bull (ed.). American Society for Microbiology, ASM Press, Washington DC. 2004. 496 pp. Price not mentioned.

Microorganisms are suddenly in the eye of the storm, literally. This can be attributed to two recent realizations – their astounding diversity (only 1–5% of the microbes extant in nature have been discovered), and their all-pervading existence. Microbes have been shown to be present in rivers under the arctic snow frozen for millions of years, thermal vents where no other life form possibly exists and inside the body of each living being. The book under review is an outcome of perceiving this astonishing diversity as the microbial resource, and sustainable use of this resource for the betterment of the human society using state-of-the-art tools. The book has been divided into nine sections, each comprising several chapters with contributions from the desks of the best minds in the world on microbial diversity and bioprospecting. An introductory chapter (section I) by the editor explores the art of exploiting biology, reinforcing his arguments with case studies as to how microbial prospecting can lead to process improvement, process substitution, energy saving, waste minimization and pollution control. The editor also systematically dispels the notion that exploitable microbiology may have ex-