selfishness, which many of us would prefer did not feature in computer games for either gender. Take this excerpt, for example: 'I want to be King! ... I want all the best stuff and I want it all for me and I will knock the hell out of anyone who tries to take a piece of my action' (pp. 332–33). Admittedly, Game Grrlz are overstating the way they want women to be, in order to draw attention to their case that women do not have to be involved in social relations and caring, but this final piece in many respects belittles the skills of diplomacy, negotiation and compromise which, Subrahmanyan and Greenfield suggest in their chapter, are more central to girls' play (p. 54) but which have often been trivialized in the wider world.

The contributors of this last chapter also attempt to strengthen the argument for games' developers to move away from eroticized female characters, by claiming that boys would like different female models better. Surely that is not the issue. Female models should be developed to break stereotypes and to be representative of girls and empowering to them, not to succumb once more to thinking about how men and boys would like women and girls to be portrayed. Thus I found this final chapter, despite its provocativeness, disappointingly weak. The anthology would have been much better served by a crisp conclusion that drew together the many worthy themes dealt with over the three sections.

The final chapter may detract from the book but it does not negate its value as a rich and detailed exploration of the important questions surrounding girls and computer games.

Notes and References

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2. E. Provenzo, *Video Kids: Making Sense of Nintendo*, Harvard University Press, Cambridge, MA, 1991.
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The Growth Warriors: Creating Sustainable Global Advantage for America's Technology Industries

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Northbridge, CA, Technology Perspectives, 1999, 444 pp., US$34.95, ISBN 0-9662697-0-5

This is a perplexing, but well written, monograph which on the one hand argues that the globalization of world trade and industry competition is inevitably leading to some degree of convergence, and on the other preaches for the competitive advantage of American IT policy over all others. Whilst accepting that the cause of much economic change lies with the introduction of IT and globalization, Mascitelli accepts that the extent of real reform is less than the political rhetoric suggests. He argues that there are still 'significant barriers to trade and investment in many countries' (p. 47). It is the recognition of these realities that creates the great paradox of this book. On the one hand he is arguing that America's technology industries can create competitive advantage using an alternative set of strategies, whilst accepting that there are innumerable

problems and practices in the global economy which will, in themselves, inevitably restrict the impact of the strategies.

The book is divided into three parts which the author likens to a pyramid that builds from a base composed of the basic relationships and perspectives within the global business environment. Upon this Mascitelli describes and explains the operations of the major factors impacting competitiveness in technology industries. Finally, Mascitelli proposes practical strategies which, the author argues, will improve the competitive advantage of America's technology industries. In the first section Mascitelli explains the basis of the globalized world trade market. He uses figures and graphs to argue that a general tendency to convergence across the developing countries has not happened. The sophistication of R&D development in some European countries, Mascitelli argues, has not been reflected in the United States. He concludes that American MNCs 'have had a hard time coming to grips with the ramifications of globalization and national specialization' (p. 113). Indeed the basic thrust of the argument of the first section of the book suggests that those nations throughout the world that attract technology enterprise and remain 'good hosts' to those enterprises, will attract large scale R&D investment from all countries. These countries, the author also argues, will ultimately gain the economic advantages of the innovation that will result.

In the second section of the book, Mascitelli initially develops a simple conceptual model which he suggests provides insight into the sources of value for various product types. The three-dimensional model suggests that the analytical dimensions which will provide that insight are *explicit content* (the value of brand identity or intellectual property), *commodity content* (generic machinery, labour, capital, and raw materials) and *tacit content* (skills and experience need to make a superior product). He then uses Porter's competitive advantage model to build a framework of innovation which suggests four sources of advantage for nations which are adopters: advantages in industry and market structure; advantages in trade and competition policy; advantages through a national policy of innovation; and a regional advantage. Following a detailed description of each of these, Mascitelli concludes that to achieve these advantages 'the benefits of cooperation must be weighed against the risks of collusion and barriers to new entrants. To achieve this delicate balance, industry and government must work together in new and unprecedented ways' (p. 173). This is not a surprising conclusion considering the multitude of texts over the past decade on the need for change, on the strengths of innovation and the importance of redesign in making industries and nations more competitive. In the chapter that follows on 'The American System of Innovation', Matsicelli provides an excellent, detailed description and analysis of the state of US policy on R&D and innovation policy, and national competition policy. For a background to trade and for understanding the relative strength of the US economy, this analysis has few peers for the practitioner.

In part 3 of the book, Mascitelli uses a series of tools to suggest various strategies to enable American technology industries to improve their global competitive advantage. The analysis embraces a wide variety of tools from systems thinking, TQM, strategic management and decision-making, and bounded rationality. As an intellectual exercise it fails to integrate the seemingly paradoxical nature of many of these tools. Rational decision-making fails to embrace the accepted organization and social influences integral within systems thinking and TQM. Mascitelli uses these tools to advocate the creation of an 'Omniscient Enterprise' which he argues is a stronger response than the adoption of the learning organization. He builds the conceptual framework and suggests that the development of strategic organizational 'roadmaps' will enable sustainable change to a more competitive position for American technology enterprises. The final chapter

entitled 'An Economic Argument for Environmental Sustainability' promises an in-depth model of how the world's resources might be better managed. The chapter fails to deliver a real contribution to the reality of such a model. Throughout this analysis Matsicelli uses the full raft of recent research and economic argument. The footnotes are very thorough and comprehensive. However, the inconsistencies of a multi-methodological approach to problem resolution used by Mascitelli weakens the impact of the argument for the reader.

The text is realistically a text for practitioners. The economic analysis is necessarily simplistic in places. Hard core economic analysis is not used in an effort to get the message of alternative strategies clearly evident. Indeed the author accepts this, stating that 'it is not surprising that I have taken a reductionist approach, avoiding complex methodologies and detailed analyses in favour of revealing the underlying structures of technology enterprise' (p. 2). Whilst this spoils the impact of the argument, it makes the book a useful reflective tool for CEOs and CIOs creating and implementing policy in technology industries trying to compete in the international marketplace. The book's utility for the serious student in graduate school is limited in its own right. However, the book has worth as an introductory text or supplementary reading in business schools making the appropriate links between the demands of academic rigour and the reflective needs and practices of the real business world. The examples and cases used are clear and support the extent of the argument. This book reflects the recent trend in providing practitioners with practical texts which use some degree of academic analysis to support suggested strategies to implement improvement in organizational or industry effectiveness. Perhaps the number of these texts is suggestive of a stronger conceptual basis for such practitioner texts. If this book makes a contribution to that trend then it is worth the read. However, for the serious academic, there must be a sustenance of the rigour and strength of argument which poses analysis which supports the strategies suggested by this and similar texts.

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Govind Kelkar (Ed.)

Although the role of gender in technology and development is a vital issue, it often gets overlooked. Perhaps this is because the very notion of technological development is often assumed to be universal and, as such, unrelated to gender unless it's to do with 'women's work'. It was not until Ester Boserup published *Women's Role in Economic Development* in 1970 that women began to be seen as producers as well as reproducers.[1] The inclusion of women's roles gradually entered UN development plans, but it was not until the 1990s that empowering women was acknowledged as an economic (not just philanthropic) imperative. In 1980 Barbara Rogers claimed that it was 'not so much that women needed development, but that development needed women'.[2]

The journal *Gender, Technology and Development* is a valuable elaboration of the relevance of theory (ideologies of gender, race and class) to practice (the distribution and control