

In memory of Mum

Copyright © Tom Forester 1987
Cartoons by David Austin copyright © Basil Blackwell Ltd 1987

First published 1987

Basil Blackwell Ltd
108 Cowley Road, Oxford, OX4 1JF, UK

All rights reserved. Except for the quotation of short passages for the purposes of criticism and review, no part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publisher.

Except in the United States of America, this book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form of binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

British Library Cataloguing in Publication Data

Forester, Tom

High-tech society.

1. Technology—Social aspects
2. Information storage and retrieval systems—Social aspects

I. Title

303.4'83 T14.5

ISBN 0-631-13651-7

Typeset in 10 on 12 pt Plantin by Columns of Reading
Printed in Great Britain by T. J. Press Ltd, Padstow



Contents

	Preface and Acknowledgments	vii
1	Introduction <i>The High-Tech Revolution – High-Tech Fever</i>	I
2	The Computer Revolution <i>Beginnings – How Chips are Made: the “Laws” of Microelectronics – New Types of Chip – New Ways of Making Chips – Supercomputers – The Fifth-Generation Project – Toward Artificial Intelligence (AI)</i>	17
3	Silicon Valley: Home of High-Tech Man <i>Origins – Secrets of Success – Semiconductor Industry Trends – The Japanese Chip Challenge – Problems in Paradise – Here Comes High-Tech Man</i>	50
4	The Telecommunications Explosion <i>Going Digital – Deregulation and After – The Global Marketing Battle – Fiber Optics – Cable TV – Satellite Communications – DBS – Cellular Radio – New Network Services: Electronic Mail, Videoconferencing – Videotex</i>	81
5	Personal Computing <i>Personal Computers – The Personal Computer Boom – The Software Revolution – Taking Computers Home – Consumer Electronics: the Video Age – Working From Home: the Electronic Cottage – Computers in the Classroom</i>	131

6	Factories of the Future <i>Here Comes the Automatic Factory – The Robots Have Arrived – Computer-Aided Design and Manufacturing – Flexible Manufacturing Systems – Japan’s Productivity Challenge to America and Europe – Factory Automation: Vision and Reality</i>	170
7	The Electronic Office <i>Now It’s the Office of the Future – Convergent Technologies – Dreams and Realities – Slow Progress with Productivity – The Changing Pattern of Office Work – The Automated Office: Prison or Paradise?</i>	195
8	Micros and Money <i>Keeping the Customer Satisfied – Electronic Banking: Fast Bucks – Financial Information Goes On-Line – Paying with Plastic – The Retail Revolution – Home Banking and Shopping</i>	218
9	Key Problems for High-Tech Society <i>High-Tech, Smokestacks or Services: Where Will the Jobs Come From? – What Kind of Work? – Managing Technological Change: Will Labor Be Left Out in the Cold? – High-Tech Crime: Are Hackers Heroes? – The Threat to Privacy</i>	241
10	Conclusion <i>America at the Crossroads – What Will Japan Do Next? – Can Europe Catch Up?</i>	273
	Selected Further Reading	290
	Index/Glossary	297