North-Holland

Computer Models and Technology in Media Research

Editors
Rolf A. Zwaan
and
Dietrich Meutsch

Computer Models and Technology in Media Research

Edited by

Rolf A. Zwaan

University of Utrecht, The Netherlands

and

Dietrich Meutsch

University of Siegen, FRG



1990 AMSTERDAM • NEW YORK • OXFORD • TOKYO

Published by: ELSEVIER SCIENCE PUBLISHERS B.V. Sara Burgerhartstraat 25 P.O. Box 1991, 1000 BZ Amsterdam, The Netherlands

Distributors for the United States and Canada:

ELSEVIER SCIENCE PUBLISHING COMPANY INC. 655 Avenue of the Americas New York, N.Y. 10010, U.S.A.

Library of Congress Cataloging-in-Publication Data

Computer models and technology in media research / edited by Rolf A. Zwaan and Dietrich Meutsch.

p. cm.

Includes indexes.

ISBN 0-444-88204-9

1. Computational linguistics. 2. Mass media--Data processing. 3. Artificial intelligence. I. Zwaan, Rolf A: II. Meutsch,

Dietrich. P98.C6127 1990

P98.C6127 1990 410'.28'5--dc20

90-3468

CIP

ISBN: 0 444 88204-9

Reprinted from the journal Poetics, Vol. 19, Nos. 1-2, 1990

© ELSEVIER SCIENCE PUBLISHERS B.V., 1990

All rights reserved. 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 written permission of the publisher, Elsevier Science Publishers B.V./ Physical Sciences and Engineering Division, P.O. Box 1991, 1000 BZ Amsterdam, The Netherlands.

Special regulations for readers in the U.S.A. - This publication has been registered with the Copyright Clearance Center Inc. (CCC), Salem, Massachusetts. Information can be obtained from the CCC about conditions under which photocopies of parts of this publication may be made in the U.S.A. All other copyright questions, including photocopying outside of the U.S.A., should be referred to the copyright owner, Elsevier Science Publishers B.V., unless otherwise specified.

No responsibility is assumed by the publisher for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein.

PRINTED IN THE NETHERLANDS

CONTENTS

Rolf A. Zwaan and Dietrich Meutsch, Preface	vii
Dietrich Meutsch and Rolf A. Zwaan, On the role of computer	
models and technology in literary and media studies	1
John Dinsmore and Christopher Moehle, Artificial Intelligence	
looks at natural language	13
Nancy M. Ide and Jean Véronis, Artificial Intelligence and the	
study of literary narrative	37
Marco C. Bettoni, Cognition, semantics and computers	65
Stefan Wermter and Wendy G. Lehnert, A survey of question	
answering in natural language processing	99
John B. Smith and Catherine F. Smith, Writing, thinking, computing	121
Kathy L. Lang, Arthur C. Graesser and Darold D. Hemphill, The	
role of questioning in knowledge engineering and the interface	
of expert systems	143
Gian Piero Zarri, A cognitive (Artificial Intelligence + computational	
linguistics) approach to the analysis of natural language messages	167
Gunnar Carlo Kunz, Ute Drewniak and Franz Schott, Analysis	
of self-regulation in learning from instructional text by means	
of 'computer-assisted videoreconstruction' (CaV)	191
Index of names	221
Subject index	227

PREFACE

In recent times, computers have rapidly changed scholarly culture, not only that of the sciences and social sciences, but perhaps even more significantly that of the humanities. Obviously, a discipline like artificial intelligence would never have evolved without the computer; and cognitive psychology would not stand where it stands today without the benefits of the computer. But the same goes for branches of literary studies: the empirical study of literature and literary computing. In these fields the computer has made itself indispensable both as a tool for the production, dissemination, and retrieval of scholarly texts and bibliographical information, and as a research instrument. And as literary studies is at least in part developing into a media science (studying not only literary texts, but many more aspects of human communication), the interest in the methods and concepts of cognitive science is likely to increase in the years to come.

However, up to now literary scholars have only begun to explore the world of cognitive science and its use of the computer. And it is not yet clear how researchers facing complex questions like literary comprehension and the aesthetic experience could benefit from a cognitive approach to language understanding; let alone how cognitive science could benefit from a 'literary' point of view. The contributions to this volume were solicited with these questions in mind. If anything, we, as editors, hope that the volume shows the possibilities for a cross-fertilization between literary studies and the cognitive sciences towards a media science.

We thank Siegfried J. Schmidt for inviting us to guest-edit the special issue of *Poetics*, which has led to this volume. We also thank Katinka Dijkstra for her support.

Rolf Zwaan and Dietrich Meutsch Utrecht/Siegen, May 1990