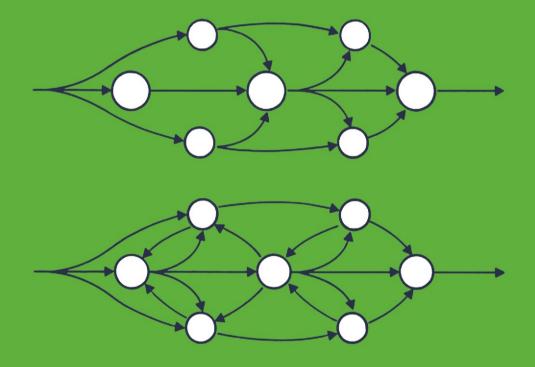


Edited by Günther Palm and Ad Aertsen



Springer-Verlag Berlin Heidelberg GmbH



Brain Theory

Proceedings of the First Trieste Meeting on Brain Theory, October 1–4, 1984

Edited by Günther Palm and Ad Aertsen

With 75 Figures

Springer-Verlag Berlin Heidelberg New York Tokyo Dr. Günther Palm Dr. Ad Aertsen

Max-Planck-Institut für Biologische Kybernetik Spemannstraße 38 7400 Tübingen, FRG

Cover illustration: Reactive and creative system differing in absence or presence of closed loops. From P. Johannesma, this Volume, page 34, Figure 6.

ISBN-13: 978-3-642-70913-5 e-ISBN-13: 978-3-642-70911-1 DOI: 10.1007/978-3-642-70911-1

Library of Congress Cataloging in Publication Data. Trieste Meeting on Brain Theory (1st : 1984) Brain theory. 1. Brain-Congresses. 2. Intellect-Congresses. 3. Neurology-Philosophy-Congresses. I. Palm, Günther, 1949- III. Aertsen, Adrianus, 1948- III. Title. IV. Title: Brain theory. QP376.T73 1984 153 85-27664

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically those of translation, reprinting, re-use of illustrations, broadcasting, reproduction by photocopying machine or similar means, and storage in data banks. Under § 54 of the German Copyright Law where copies are made for other than private use a fee is payable to 'Verwertungsgesellschaft Wort', Munich.

© by Springer-Verlag Berlin Heidelberg 1986

Softcover reprint of the hardcover 1st edition 1986

The use of registered names, trademarks etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

Offsetprinting: Beltz Offsetdruck, Hemsbach/Bergstraße.

2131/3130-543210

Preface

The present collection of papers forms the Proceedings of the First Meeting on Brain Theory, held October 1-4, 1984 at the International Centre for Theoretical Physics in Trieste, Italy.

The Meeting was organized with the aim of bringing together brain theorists who are willing to put their own research in the perspective of the general development of neuroscience. Such a meeting was considered necessary since the explosion of experimental work in neuroscience during the last decades has not been accompanied by an adequate development on the theoretical side.

The intensity of the discussions during the Meeting is probably reflected best in the report of the organizers, reprinted here following the Preface.

During the Meeting it was decided that a workshop of this kind should be repeated at regular intervals of approximately 2 years. The International Centre for Theoretical Physics in Trieste has kindly agreed to act as host for future meetings.

The present Meeting was supported by grants from the International Centre for Theoretical Physics and the International School for Advanced Studies in Trieste, IBM-Germany through the "Stifterverband für die Deutsche Wissenschaft" and the Max-Planck-Institute for Biological Cybernetics.

> G. PALM A. AERTSEN