

FOREWORD

Number 21 of the journal "Zbornik radova" of the Faculty of Organization and Informatics introduces articles written by five authors. Two of them are written in Croatian and three in English.

Mario Radovan, a professor at the Faculty of Economics and Tourism continues with his topic *Mind and Computation* previously started in No. 19 of the journal. In his first article on this topic he analyses the basic position concerning the computational model of the mind, and the background assumptions on which this position is based. It has been ascertained that the question of the relation between human mind and computational machines does not concern so much the observer independent phenomena in the world as it concerns our attitude towards these phenomena. Taken literally, mind is not a programmable machine, but there are some pragmatical reasons why assign a computational interpretation to it. However, it has been shown that the paradigm established by such interpretation has also its limitations.

His article *MIND AND COMPUTATION II*, published in this issue of the journal, deals with the fundamental problems of cognitive science, starting from the epistemic and ontological limitations which are immanent to the very attempt to describe mental phenomena in terms of objective (scientific) language, up to the problems of the formal representation of common sense knowledge. A many-level model of the cognitive system has been proposed; in that context, the Classical and Connectionist approach to the description of the cognitive system are analysed, arguing that: (1) these two approaches should be conceived as two different levels of speech about the same phenomena, and that (2) they face essentially the same basic problems. The second part of the article discusses various positions concerning the range and limits of artificial intelligence; in that context the Background and Care hypotheses are put forward, both of which call into question the very possibility of the existence of machines with (any) real cognitive abilities. The author concludes that the requirements which are put before AI should be more realistic (than they usually are) if we are to deal with reasonable research projects in this field.

Danijel Radošević wrote an article *PROCEDURES AND PROBLEMS IN OPTICAL CHARACTER RECOGNITION*. By increasing the data processing power of modern computers it becomes possible to process large amounts of data in a very short time. However, most data is still on standard media like paper and thus not being suitable for computer processing. For this reason the problem of data entry should be solved. OCR being one way of doing this. OCR is a method of entering a written document into computer by means of optical scanner and then with the help of an appropriate programme transforming it into a text suitable for word processing. Basic algorithms and main problems in OCR are described in the text.

THE N-DIMENSIONAL SIMPLY ISOTROPIC space is the article written by Blaženka Divjak. This paper deals with one of n -dimensional Cayley-Klein's geometry defined as simply isotropic space. After the general group of motion has been determined its absolute invariants are studied. Invariants of a pair of points are: isotropic distance between nonparallel points and the range between parallel points.

Hyperplanes, as objects dual to points, are divided into nonisotropic and isotropic and analogous to invariants of points, their invariants are defined. Isotropic distance between a point and a nonisotropic hyperplane is defined naturally.

THE PAPER APPROXIMATE SYSTEMS OF HYPERSPACES written by Ivan Lončar deals with approximate inverse systems at which the hyperspace of each system P space is embedded in the hyperspace of Stone-Tychonoff's compactification. In that case we say that the inverse system of hyperspace P is embedded in inverse system of hyperspace of Stone-Tychonoff's compactifications. The main theorem of the work claims that such embedding is possible and possible only when Stone-Tychonoff's compactification of hyperspace is homeomorphic to hyperspace of Stone-Tychonoff's compactifications. The theorems that give the necessary and sufficient elements for P -embedded system to be approximate resolution, are proved.

Miroslav Žugaj writes about *THE THEORY OF CHAOS AND ORGANISATION*. The theory of chaos is considered to be a new revolution in science. The use of computers has made its development possible. The theory of chaos tends to a gradual transition towards universal theory, this being the reason for giving it full attention. It has been discovered that chaos is all around us being present in organisations as well. It seems logical that we should consider the theory of chaos in the area of organisation, and that we should try to use it when exploring organisation, with the purpose of finding order i.e. organisation in it. As an answer to chaos, today some authors mention autopoietic organisation.

From 1977 onwards, the journal "Zbornik radova" has been published once a year. Now for the first time we can present its second issue in a single year.

The Editorial Board is indebted to all those who have contributed in any way to make publishing this number of the journal possible. Our very special thanks go to the referees.

EDITOR:

Miroslav Žugaj