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Preface

The sixteenth German AI Conference, traditionally called GWAI (German Workshop on Artificial Intelligence), was held from 13 August to 3 September 1992 in the Gustav Stresemann Institute in Bonn. In previous years the proceedings appeared in the Springer Series 'Informatik Fachberichte' and contributions were predominantly in German. Following a general trend, this year we decided to publish the proceedings in an international series. Accordingly, we asked authors to submit their work in English.

This volume contains 24 papers presented in the technical sessions, eight papers selected from the workshop contributions and one invited talk.

Our invited speakers were Harald Ganzinger, who spoke of 'New Concepts for Refutational Theorem Proving', Dov Gabbay, who discussed the problem of 'How to Build a Logic' (the paper is the first one in this volume), Steven Feiner, who talked about 'Knowledge-Based Graphics and Virtual Worlds', and Jörg Siekmann, who gave an overview of the history of AI research in Germany in his talk 'Quo Vadis, Unde Venis AI' (originally intended to be an after dinner talk).

Through the early years the format of the annual GWAI gradually changed from that of a workshop on AI research in Germany to a full-fledged AI conference. In recent years, however, the trend went back towards something similar to the original format giving workshops much greater prominance. Apart from the usual technical sessions nine special workshops were held. They were (the organizers are given in parenthesis): Control of Problem Solving Procedures (Karl Hans Bläsius, Jutta Eusterbrock, Manfred Kerber), Criteria for the Selection of Alternatives in Natural Language Generation (Helmut Horacek, Wolfgang Hoeppner), Terminological Logics (Jochen Heinsohn, Bernhard Hollunder, Albrecht Schmiedel), Distributed AI (Birgit Burmeister, Kurt Sundermeyer), Logic & Change (Bertram Fronhöfer, Alexander Herold, Remo Pareschi), Experiences from Early Phases of Expert System Development Projects (Brigitte Bartsch-Spörl, Heinz Marburger), Supporting Collaborative Work Between Human Experts and Intelligent Cooperative Information Systems (Stefan Kirn, Donald Steiner), Rule Based and Case Based Legal Reasoning (Thomas F. Gordon and Lothar Philipps), Impacts of AI—Analysis of a Discussion (Lena Bonsiepen, Wolfgang Coy). In fact, the workshops constituted a mini conference by themselves. Participants were invited on the basis of submitted abstracts. Some of the participants were invited to submit full paper versions of which the workshop organizers selected eight for inclusion in this volume. Proceedings of some of the workshops will be published separately.

It has become customary to start the conference with a day or two of 2–3 hour tutorials and introductory lectures. This year's topics included (the lecturers are given in parenthesis): Natural Language Processing (Martin Schröder), Coordination of Distributed AI Systems (Stefan Kirn), Inference Systems for Equationally Defined Structures (Rolf Socher-Ambrosius), Terminological Knowledge Representation (Franz Baader), Application of Machine Learning in Robotics (Rüdiger Dillmann, Hans-Werner Hein and Jürgen Kreuziger), Qualitative and Model Based Reasoning (Sabine Kockskämper and Klaus Nökel), and Constraint

Logic Programming (Alexander Herold).

As usual the major German AI Centers used the opportunity and presented themselves with talks and demonstrations. Present were: the Bavarian Research Centre for Knowledge-Based Systems (FORWISS), the German Research Centre for Artificial Intelligence (DFKI), Kaiserslautern and Saarbrücken, AI-Labs from Hamburg, the European Computer Industry Research Centre (ECRC), the research co-operation 'Artificial Intelligence Applications in Nordrhein-Westphalen' (KI-NRW), the 'Gesellschaft für Mathematik und Datenverarbeitung' (GMD) and the Research Institute for Application Oriented Knowledge Processing (FAW). I would like to thank the colleagues from these organizations who spent considerable time in preparing their presentation and who deserved a larger audience than they sometimes had.

I am indebted to the program committee for their effort and thought in organizing the program, to the invited speakers, to the workshop organizers and to the presenters of the tutorials. My special thanks go to the local organizers Thomas Christaller and, in particular, Christine Harms who has been an invaluable help ensuring that the event ran smoothly.

March 1993 Hans Jürgen Ohlbach

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