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CODIB-D-98/2  
28 September 1962  
Limited Distribution

UNITED STATES INTELLIGENCE BOARD  
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Trip Report: CODIB Visit to Germany

Attached draft will be considered at the forthcoming 4 October meeting. Although it is already fairly lengthy, it does not reflect the content of those IFIP sessions not attended by the author. If significant or interesting additional comment is missing, it should be incorporated in the report.

  
Secretary

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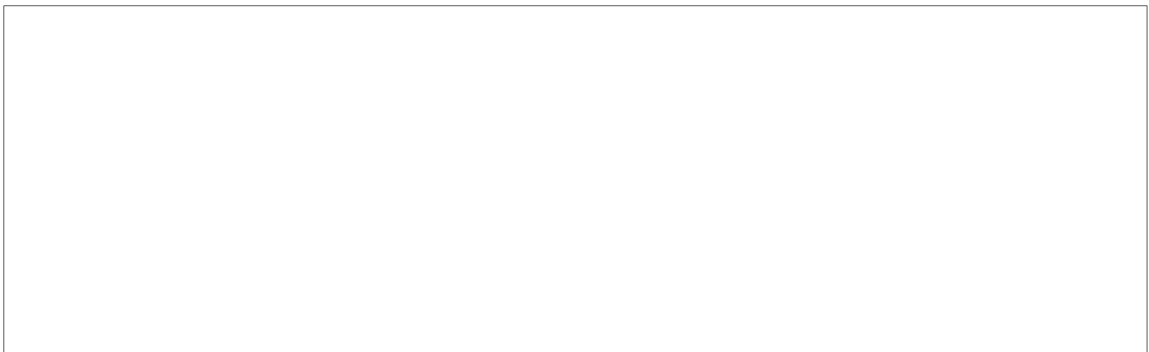
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25 September 1962

CODIB Visit to Germany  
27 Aug - 5 Sept 1962

I. IFIP Congress 62 (International Federation for Information Processing),  
Munich, Germany, 27 August - 1 September 1962.



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2. Congress attendees numbered 2600 from 41 countries, including the Soviet Bloc. Formal presentations (often in 4-6 parallel sessions), symposia, and panel discussions were held in the Technische Hochschule; opening and closing sessions and an equipment display (IFIP Interdata) were held at the Ausstellungspark. Social events included a party at the Löwenbräukeller; opera (The Abduction from the Seraglio-Mozart) at the Altes Residenztheater; banquet at the Hotel Bayerischer Hof; and excursion to Innsbruck via Lake Starnberg, Garmish-Partenkirchen, and Mittenwald, with return via Kufstein.

3. An exhibition of relevant books and periodicals was held in the Technische Hochschule. Preprints and abstracts of papers presented were

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obtained and, along with the Program, List of Participants, titles of books exhibited, list of manufacturers represented at Interdata, and other related literature, are available in the ADP Collection of the CIA Library. Conference Proceedings will be published by the North-Holland Publishing Company of Amsterdam early in 1963.

4. Languages of the Congress were English and French; simultaneous translation channel phones provided a choice of these two plus German and Russian. A fair amount of session-hopping was done by CODIB attendees to get as broad a view of the Congress as possible. Sessions attended in toto or in part included:

**Automata Theory; Fast Memory Technology; System Design;  
Coding Theory; Modern Techniques of Language Translation;  
Advanced Methods of Information Storage and Retrieval;  
Pattern Recognition; Semantics and Syntactics; Artificial  
Intelligence; Machine Learning; Programming Languages;  
Languages for Processor Construction; Biological and  
Psychological Aspects of Pattern Recognition; Pro-  
gramming Languages and Their Processing; Real-Time  
Information Processing; Information Retrieval; Linguistic  
Analysis and Mechanical Translation of Languages; Digital**

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**Communication; and Artificial Perception.**

5. No detailed summary of all the individual papers heard will be attempted here; the pre-prints and abstracts are available. Over-all impression was that of a preponderance of U.S. delegates and clear U.S. dominance in the field, but with a massive potential developing in many other countries and with a growing awareness of the need for education in the field, as reflected by the establishment of a Chair for Information Processing at the Technische Hochschule, and plans to encourage inclusion of this subject in the students' curricula, as well as the establishment of a new IFIP Technical Committee on Education. Nothing of startling consequence was noted, but several individual papers were of interest in their presentations of theory (automata, coding, artificial intelligence, switching, etc.) or of experimentation (pattern recognition, programming, etc.) directly related to Community problems. Perhaps most disappointing was the lack of challenging comment on information retrieval and on linguistic analysis. Most controversial, as expected, was Prof. Bar-Hillel of Israel on mechanical translation, and most phlegmatic, again as expected, was A.A. Dorodnitsyn of the USSR (although one source felt that he was more frank in the presentation of his own paper than might have been expected )

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6. The Automata Theory session was an extremely technical one, including discussion of idealized automata, Turing machines, multi-plexed

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and restored nan (not/and) (see paper by A. W. Barks, USA), relieved in part by a highly articulate presentation by L. J. Fogel, also of the U.S. His main point was to concentrate on information from the present and recent past and less on older material, for in the real world descriptors change with changing experience; such an approach, he feels, allows for predictability. Coding Theory was concerned mainly with error detection and correction in communications, with Van Duuren of the Netherlands scoffing somewhat at the younger authors, stressing as a first step the need for the mathematicians to translate theory to language understandable to engineers. The Artificial Intelligence session was quite good, the effusiveness of V. M. Glushkov of the Computer Center of the Ukrainian Academy of Sciences being one of the surprises N. B. His paper and subsequent comments, however, were translated by E. M. Zaitseff of the University of Michigan although Z. said Glushkov understood English very well.<sup>7</sup> Glushkov referred to another of his papers on self-organizing systems, published in the Journal of Computational Mathematics in 1962, and to published proceedings of a 1962 Kiev Symposium on Self-Organizing Theory. He stated that machine translation (MT) work was being done in his center and that a character-reading device using a photomultiplier had been developed; he did not

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elaborate on this device, saying it would more appropriately be covered in the session on pattern recognition.

7. The Programming Language session was disappointing, particularly since A. P. Yershov of the USSR, who was to have spoken on "Proposed Extension to ALGOL-60" did not show nor, in other sessions, did V.A. Kovelevskiy, I.A. Melchuk, O.P. Kuznetsov, O.F. Kulagina, A.A. Abramov, or A.A. Spirin;\* A.A. Timofeyev was the third Soviet present and read his paper in Russian without follow-up discussion, Dorodnitsyn likewise read Kulagina's paper and would not discuss it. The session on Biological and Psychological Aspects of Pattern Recognition was interesting in its reflection of experimental work being done on stimulus generalization and symbol recognition in animals. Papers by T. Sakai of Japan on phonetic type-writer and by L.D. Earnest of the U.S. on machine recognition of cursive writing were well received in the session on Artificial Perception.

8. In the equipment exhibit, the only really interesting items noted were a Siemens & Halske AG 1500 line/minute printer and a Compagnie des Machines Bull (Paris) analog-digital character recognition device.



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**9. As always at such gatherings, new contacts developed in the off-hours, particularly with U.S. company representatives who may be able to contribute to the solution of individual problems in the Community's various systems.**

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