

CHARLES MORRIS

ON THE HISTORY OF THE
INTERNATIONAL ENCYCLOPEDIA
OF UNIFIED SCIENCE

Rudolf Carnap accepted a professorship in philosophy at the University of Chicago in 1936. I had first met him during a stay in Prague in 1934. Otto Neurath made a visit to Chicago in October 1936, and the three of us met with Donald P. Bean of the University of Chicago Press to propose the publication of an *International Encyclopedia of Unified Science*. A contract with the Press to this end was signed in February 1937. Until Carnap left the University of Chicago in 1952 we worked closely together on the affairs of the *Encyclopedia*, and until Neurath's death in 1945 we each had a very voluminous correspondence with him, and exchanged copies of our own letters. On my desk as I write this is a pile of letters from those years well over a foot high. I have reread most of them for this occasion of paying homage to Carnap. Some historical facts which I salvaged – especially concerning the *Encyclopedia* – seem to me of sufficient interest to record briefly.

The original idea of the *Encyclopedia* was Otto Neurath's. In a letter of 1935 he wrote that he was at work on the project at least as early as 1920. He wrote that he first talked it over with Einstein and Hans Hahn, and had early discussions about it with Carnap and Philipp Frank. In the 1930's Neurath was with the Mundaneum Institute of the Hague. He had set up 'The Unity of Science Institute' in 1936 as a department of this Institute, and in 1937 this was renamed 'The International Institute for the Unity of Science', with Neurath, Frank, and Morris forming the executive committee. There was also set up an 'Organization Committee of the International Encyclopedia of Unified Science', composed of Neurath, Carnap, Frank, Jørgen Jørgensen, Morris, and Louis Rougier. (Also formed was an 'Organization Committee of the International Congresses for the Unity of Science', composed of the same persons plus L. Susan Stebbing.) The general project of the *Encyclopedia* was discussed at length at the First International Congress for the Unity of Science, Paris, September 1935, and the Congress voted approval of the

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project. As the preceding details make clear, the idea of the *Encyclopedia* long preceded this Congress.

My correspondence contains three extensive statements of Neurath's ideas about the *Encyclopedia*: a five page outline in May 1936, a four page statement in February 1937, and another four page discussion in June 1938. There were many letters back and forth concerning these proposals. As will be seen, Neurath's ideas ranged very far.

In addition to the two introductory volumes (each to contain ten monographs) with the section title of *Foundations of the Unity of Science*, Neurath thought of two (and at times of three) other, and larger, sections. The three of us came to no agreement as to the proper title for these sections, but the general plan was clear. Section 2 was to deal with *methodological* problems involved in the special sciences and in the systematization of science, with particular stress to be laid upon the confrontation and discussion of divergent points of view. Section 3 was to concern itself with the *actual state of systematization* within the special sciences and the connections which obtained between them, with the hope that this might help toward further systematization. Neurath in 1938 was thinking of six volumes (60 monographs) for Section 2 and eight volumes (80 monographs) for Section 3. But there was even more in his bag of ideas than this.

Neurath had long planned a comprehensive *Visual Thesaurus* (sometimes he called it the Pictorial and sometimes the Isotype Thesaurus) which would be 'eine Weltübersicht in Bildern'. At times he thought that this might be an adjunct of the *Encyclopedia*, in which case he proposed an additional Section 4 for the *Encyclopedia* which would exemplify and apply the methods and results of the preceding three Sections to such fields as education, engineering, law, and medicine. Neurath proposed ten volumes for this Section, each of which would have a pictorial companion in the *Visual Thesaurus*. So at the most elaborate range of his proposals Neurath was thinking of a 26 volume (260 monograph) *Encyclopedia* supplemented by a ten volume *Visual Thesaurus*.

At one time Neurath had contemplated English, French, and German editions of the work. He conceived of it as genuinely international in scope, with writers from Asiatic contries as well as from the West. It is clear from a number of his letters that he had the great French *Encyclopedia* often in mind, both with respect to the historical importance

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which he envisaged for the work he planned, and with respect to the difficulties the two enterprises encountered. A letter of November 18, 1944, gives a long nine page discussion of Neurath's post-War plans for the various agencies of the unity of science movement (the *Encyclopedia*, the *Journal*, the *Library*, and the Congresses). My last letter from him was dated November 7, 1945. He died in London on December 22, 1945, at the age of 63.

Carnap and I did not correspond at any length with Neurath concerning his proposed fourth section for the *Encyclopedia*, though both of us had doubts about it. Section 3 was discussed only in very general terms. Nor was any agreement reached on the details of Section 2, the methodology section. However, a general statement concerning this Section was agreed upon in 1939; it was to be used to obtain advance subscriptions, though because of the War it was never so used. It may be of historical interest to quote some paragraphs from this statement.

'Volumes III-VIII of the *International Encyclopedia of Unified Science*. The second unit will be composed of 6 volumes of 10 monographs each. This unit will stress the problems and procedures involved in the progressive systematization of science.

Differences of opinion exist among those interested in the analysis and integration of the language of science, and it is part of the purpose of the *Encyclopedia* to present such differences. It becomes necessary at the present stage of development to stress the problems encountered and the techniques relevant to their solution, - to take stock, as it were, of the contemporary situation in the analysis and the unification of scientific knowledge. This is the task of the second unit of the *Encyclopedia*. It thus exhibits in a new perspective the problems and procedures somewhat vaguely indicated in such phrases as 'the logic of science' and 'the methodology of science.' Its six volumes of ten monographs each offer the opportunity for treatment of the subject with a comprehensiveness not found elsewhere.

Many persons will be interested in knowing the various results and opinions which exist in this field. Hence Volumes III-VIII will especially stress the controversial differences in regard to special sciences (physics, psychology, etc.), in regard to the possibilities and limitations of scientific unification, and in regard to the methods involved in scientific progress

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and systematization . . . Representatives of controversial opinions will be given a chance to present their views. A special Editorial Committee will plan each of the volumes.

The content of the separate volumes will be roughly as follows:

- Volume III: the most general problems and procedures which an ever-expanding unification of science encounters (construction and confirmation of theories, induction, historical attempts at scientific integration, probability, etc.).
- Volume IV: the nature of logic and mathematics, and their role and place in the structure of science.
- Volume V: physics.
- Volume VI: biology and psychology.
- Volume VII: the social and humanistic sciences.
- Volume VIII: history of the scientific attitude.'

We had hoped in 1939 to complete Section 2 by 1944. And here it is 1960, and the first Section, *Foundations of the Unity of Science*, is still not quite complete!

All of the authors of volume 1 as originally announced in the first monograph completed their monographs. But the second volume ran into many difficulties, and for one reason or another the studies proposed by Federigo Enriques, Jan Lukasiewicz, Arne Ness, Louis Rougier, and Louis Wirth never appeared. The monographs came in slowly, and at one time the Press even suggested suspension of the series until after the War.

The detailed work on the *Encyclopedia* (after the stage of planning) fell largely on Carnap and me. Carnap gave himself without stint to the reading of early drafts of the monographs and to the making of detailed suggestions for their revision. During a number of my long absences from the University Carnap handled all relevant matters with the Press. He remained, with Hans Reichenbach, editor of *Erkenntnis* from its beginning in 1930 to its lapse in 1939 due to the War (then under the title of *Journal of Unified Science* which had been adopted in 1939). Volume IX was to have contained the abstracts of the papers presented at the Fifth International Congress for the Unity of Science, held at Harvard University, September 5–10, 1939, but the composition of this volume was destroyed by the Nazi invasion of Holland. Carnap was

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among those who endeavored to continue the *Journal* in the United States, but failure to find financial support made this continuance impossible. In all these ways Carnap was a faithful collaborator through years of hard but rewarding work.

The *Encyclopedia of Unified Science*, though now only a fragment of what had been planned, has had historical significance. The monographs are still very much alive. The movement of which the *Encyclopedia* was a part continues to develop vigorously in its own way. The Institute for the Unity of Science continues its activity in the United States under the leadership of Philipp Frank. Whether the larger plans for the *Encyclopedia* are ever to be resumed is a problem for another generation. But the years of the Congresses and the *Encyclopedia* were memorable years. It is a privilege to have worked with such men as Otto Neurath, Hans Reichenbach, Philipp Frank, and Rudolf Carnap on our common enterprises.

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