

Foreword

Soil micromorphology is a relatively young science domain. Hardly 35 years have passed since its founder Professor Prof. h.c. Dr. Dr. h.c. Walter L. Kubiëna has introduced microscopic research methods for soils in undisturbed conditions, substantiating their suitability and respective theoretical and practical principles. So far the micromorphological methods of soil investigation have been considerably perfected as to their apparatuses and the interpretation of the results obtained. For, it turned out to us pedologists that micromorphology offers a promising and rewarding field of studies on opening a new, and yet unfamiliar world of soils — this beautiful environment wherein life is being constantly born and where living organisms gradually die, only to give birth to new forms of life. Becoming more familiar with soils of different bio-ecological environment by means of micromorphological methods, we can get a better insight into the essence of all bio-physico-chemical soil and soil-forming processes whose dynamic development is being constantly intensified by the anthropogenic invasion into the realm of the geographic environment.

The application of micromorphological and micromorphometrical methods in soil studies makes it possible to know better the media where farmer and forester toil, and consequently, to change these media consciously, according to the laws of natural order in mankind's interest. So, it is our common task to banish hunger and to provide satisfactory and abundant food for all people in the world. That humanitarian aspect makes the domain of micromorphological studies more and more stimulating and attractive, since soil science is, before all, to combine both the theoretic and utilitarian approach.

Sure enough, in the last two decades micromorphological soil research has considerably developed. At the same time the interest in micromorphological investigation has grown, too, and that not only among soil scientists but among relative branches of science as well. That is proved by conferences on soil micromorphology organized in different countries from time to time.

Till now there took place three International Working-Meetings on Soil Micromorphology, namely:

— The First in Braunschweig-Völkenrode (G.F.R.), 1958, November 11-14, organized by Professor Dr. H. Frese and Dr. H.-J. Altemüller;

— The Second in Arnhem (The Netherlands), 1964, September 22-25, organized by Dr. F.W.S. Pijls, Dr. J. Schelling and Dr. A. Jongerius;

— The Third, which I have had the honour to organize, was held in Wrocław (Poland), 1969, September 22-28 and comprised a 4-day Conference and a 3-day scientific field excursion. Professor Kubiëna acting everywhere as general chairman.

On comparing these three Working-Meetings one sees a steady progress in soil micromorphologic research development and a great growth of interest taken in that science domain in numerous countries.

Having been the organizer of that aforesaid Third International Working-Meeting on Soil Micromorphology in Poland, I am not going to evaluate it in detail. This has already been done by its participants, but I feel that this Working-Meeting has been a memorable and experience-worthy as well as an enjoyable one. Those pleasant remembrances that have become my share are mainly due to the international character of the Working-Meeting, where different countries and nations were widely represented by scientists from both East and West. I consider this a major success since I have always believed that science and its achievements belong to mankind and that they should be utilized in order to bring happiness to all people in the world. It has been my personal impression that the exchange of scientific views and immediate contacts between scientists representing different countries are most likely to produce a lasting contribution to a further development of soil micromorphology.

During the Conference (22-25 of September, 1969) a series of scientific sessions presided by representatives of various countries took place. There the participants have presented their recent original achievements in micromorphology and micromorphometry of soils, and had an opportunity to exchange their opinions and to get into personal touch with one another.

Then, too, a special Working-Group on Soil Micromorphology have been appointed comprising: Professor Dr. G. K. Rutherford (Canada) as chairman, Dr. A. Jongerius (The Netherlands) as secretary, Dr. H.-J. Altemüller (G.F.R.), Dr. R. Brewer (Australia), Dr P. Bullock (Great Britain), Dr. N. Fedoroff (France), Profesor Dr. St. Kowaliński (Poland), Dr. G. Panque (Spain), Dr. G. Stoops (Belgium), and Dr. E. A. Yarilova (U.S.S.R.) as members. The main task of that Group, affiliated to the International Society of Soil Science is, among others, to work out a new classification and terminology of soil micromorphological features and units, as well as compiling a glossary of all existing terms in English, French, German, Russian and Spanish.

The Conference was combined with a richly illustrated exhibition showing soil monoliths, micromorphological soil properties in form of black/white and colour-pictures, dias, and publications on soil micromorphology from the last time.



Fig. 1. Participants of the Third International Working-Meeting on Soil Micro-morphology.



Fig. 2. Honorary Chairman Prof. Dr. W. L. Kubiëna starting his introductory lecture.



Fig. 3. Partial view of the Conference in the lecture room.



Fig. 4. Partial view of the Conference in the lecture room.

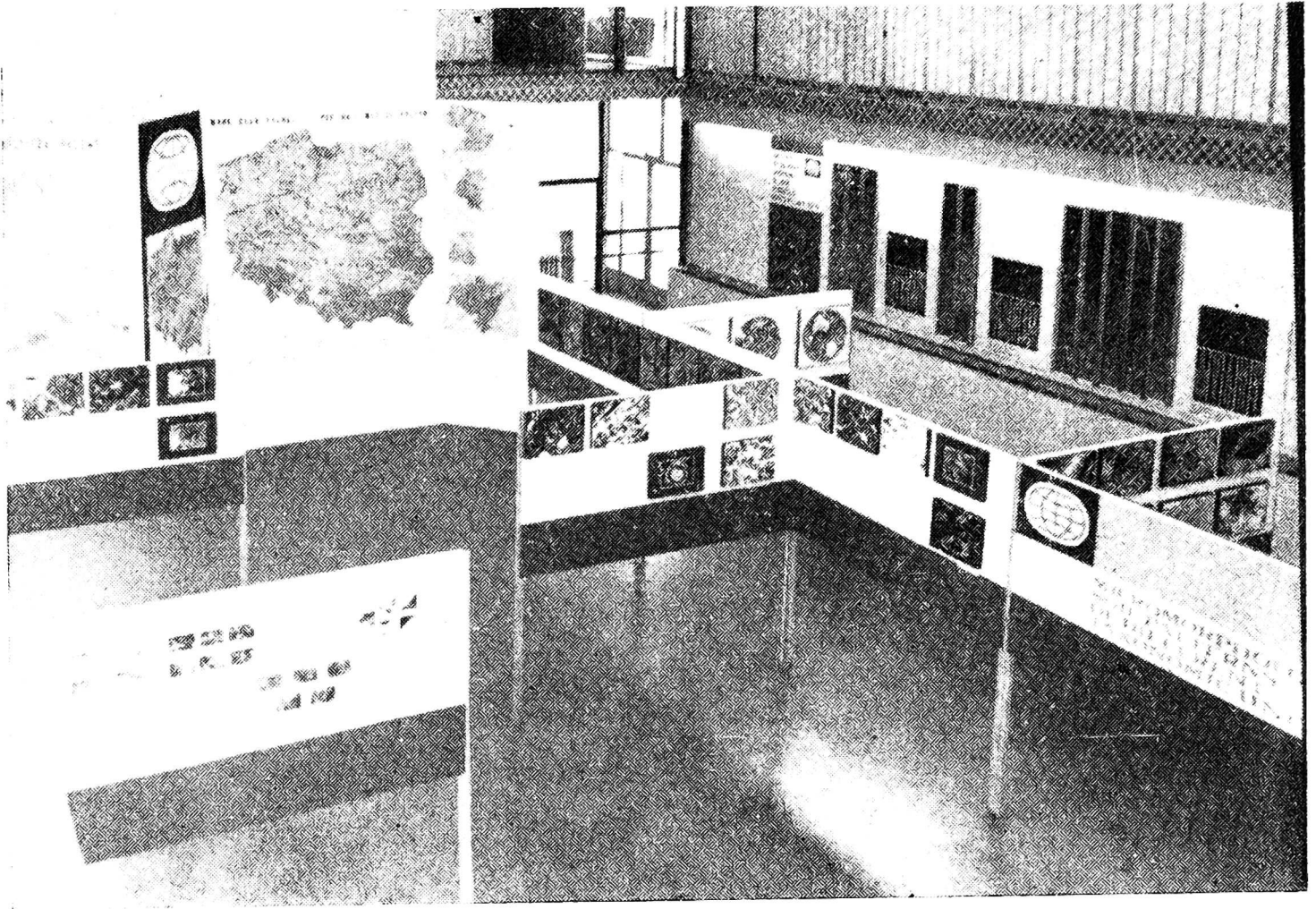


Fig. 5. Partial view of the exhibition hall.

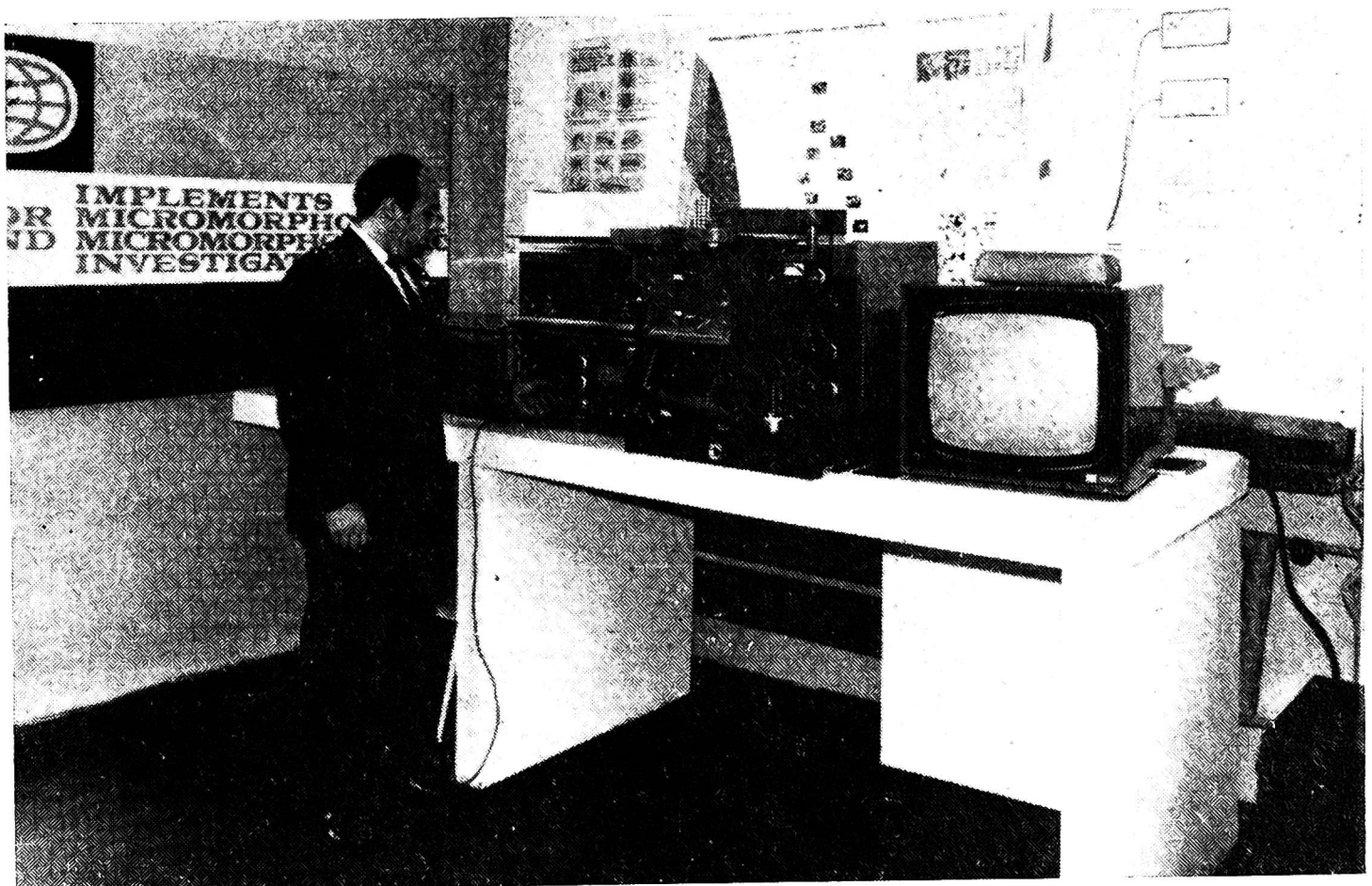


Fig. 6. Mr. E. S. Robertson from Metals Research Ltd., Melbourn, U.K., demonstrates the application of the electro-optical Quantimet-B equipment to micromorphological soil investigation.



Fig. 7. Participants of the excursion discussing in field.

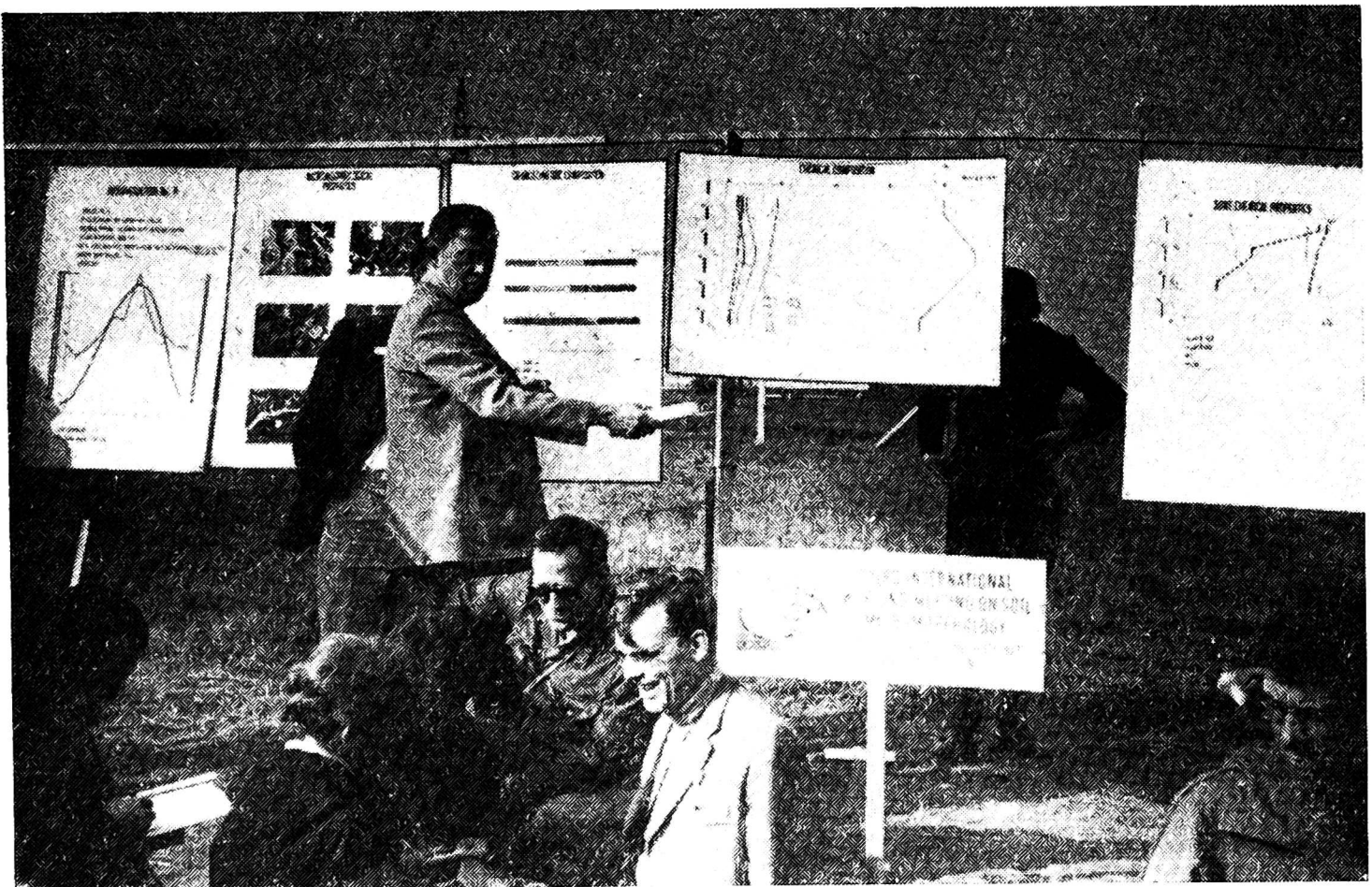


Fig. 8. Participants studying analytic datas of soil profile.



Fig. 9. Studying and discussing soil profile in field.

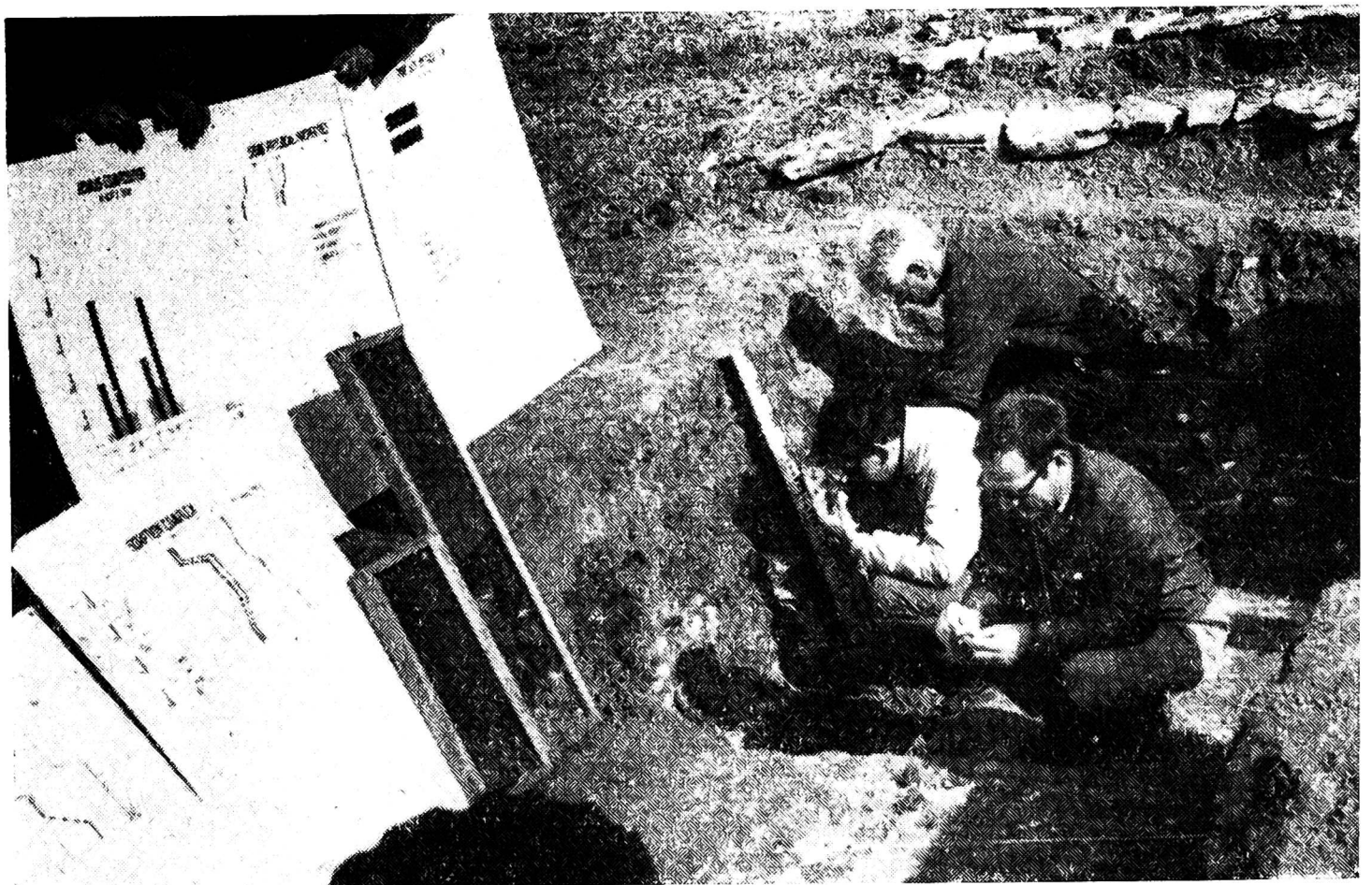


Fig. 10. The excursion participants interested in Polish rendzina soils.



Fig. 11. Discussion on some morphological features of rendzina soil.



Fig. 12. Polish black earths especially interested the participants.

The principal object of the above-said excursion (26-28 of September, 1969) was to become familiar with some essential morphological (macro- and micromorphological), physical and chemical properties of the soils found in South-Western Poland on the route Wrocław—Trzebnica—Wrocław—Strzelin—Opole—Racibórz—Katowice—Ojców—Kraków. The main soil types to be presented against the background of their natural geographic environment in this region were:

- (1) brown soils and leached (lessivé) soils derived from loess;
- (2) black earths derived from different parent materials;
- (3) degraded chernozems derived from loess and loesslike forms;
- (4) rendzinas derived from calcareous rocks of various geologic formations.

Detailed information on the excursion is to be found in the publication issued for the Third International Working-Meeting on Soil Micromorphology entitled: "Soils of South-Western Poland", Wrocław, 1969, pp. 130, Państwowe Wydawnictwo Naukowe.

Now, it is a great pleasure to me, to be able to present to the readers the "Proceedings of the Third International Working-Meeting on Soil Micromorphology" containing all papers sent in for that Conference. A few of them, because of unexpected absence of their authors, were not read out, though their summaries have been printed in the Working-Meeting's publications. We decided to publish all papers received in order to enable the readers to get a fuller picture on the achievements and progress in soil micromorphology in different countries between the second and third Working-Meeting. However, it is a pity that the Third Working-Meeting Publication does not comprise Dr. H.-J. Altemüller's, Ir. I. Bal's, Prof. Dr. M. Delgado's, Dr. A. Jongerius', and others' papers on methodical character as those had been formerly printed in other periodicals.

In this issue we have tried to grade the papers according to the topics of the respective sessions, but we are to admit not to have succeeded in doing so consequently enough. The reason was that several papers concerned more than one topic, so their grading was rather difficult. Moreover, some papers beside of micromorphological research contained results obtained with other methods. All that caused difficulties in adequate classification of the papers' topics. Notwithstanding, I do hope that the publication will contribute not only to a favorable propagation of our knowledge of soils and their properties, but also to bring about and deepen a broader international co-operation in micromorphological soil investigating, precisising terminology and consolidating the scientific bases of that young domain of soil micromorphology in general.

Finally, I beg to stress once more, that such intensive growth of soil micromorphology is due to its founder Professor Prof. h.c., Dr. Dr. h.c.

Walter L. Kubiëna who with his scientific passion and real enthusiasm, as well as by his valuable publications and restless researching incited the scientific workers of different countries to work in that new domain. Therefore, with thankfulness and deep respect, I dedicate this book to his lasting memory.

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