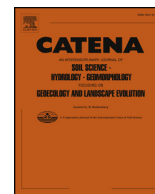




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## Preface

## A tribute to Ewart A. FitzPatrick (1926–2018), a life for Pedology and Morphology of Soils

## ARTICLE INFO

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Many of us were inspired and led in Pedology by the teaching and writings of Dr. E. A. FitzPatrick – the colossus of Soil Science. “Fitz” with his cordial personality and thought-provoking insights was the master in encouraging in-depth learning about soil. The concepts and context of “Pedology” has reached a summit via his unique synthesis of the relevant components of soil science, geology and geomorphology at all scales from global to microscopic.



His methods provided connections between field morphology and

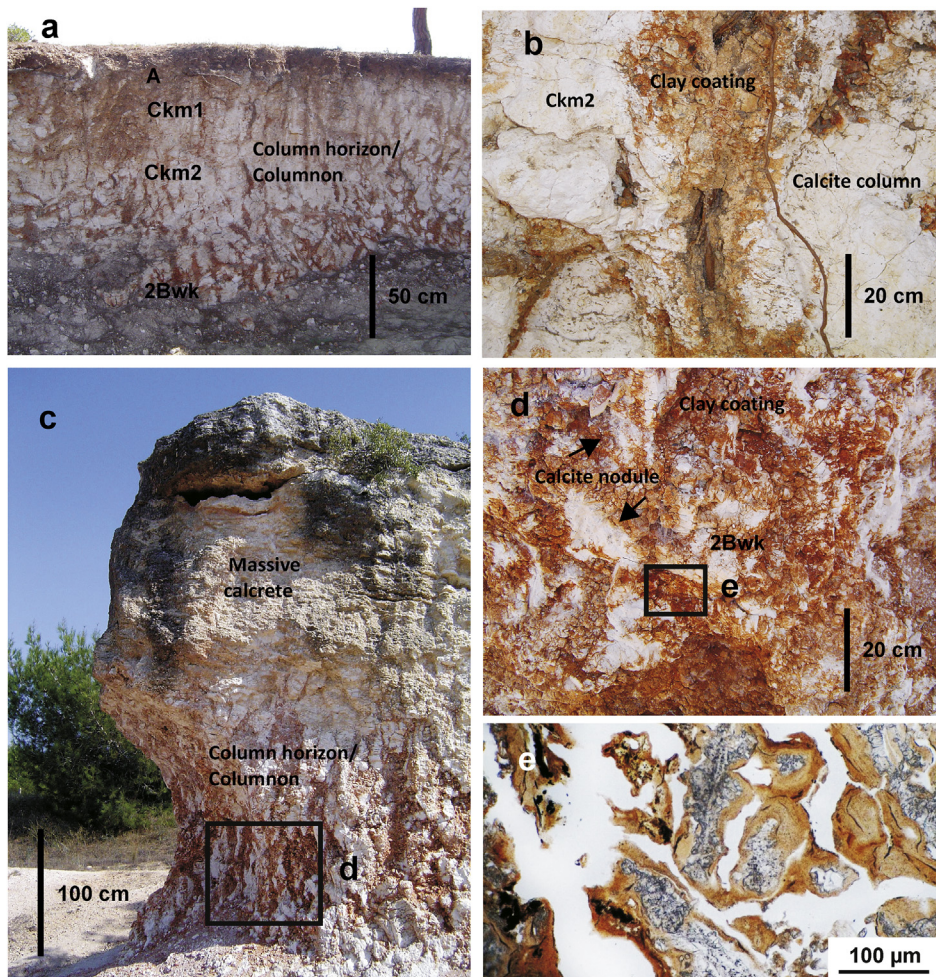
features observed under the microscope. Fitz’s process-oriented horizon designation i.e., the reference horizons and their composites have taught his scholars to recognise each soil feature in the context of soil formation in a systematic and straight forward way. His original system named the profile along with a profile formula showing the sequence of horizons with their thickness, which was highly inspiring and informative (Figs. 1 and 2). This is possibly still too advanced today to be taken on-board by current trends in soil classification. His soil classification system based on soil horizons was farsighted in highlighting the continuous nature of soil features at the different scales, from the microscope to the landscape. He achieved this by a deep understanding of soil micromorphological features and their connection with soil processes and geomorphological surfaces. He applied this approach to the 25 countries, where he performed soil investigations. Micromorphology gained a legendary character with Fitz via his - almost single-handed - fight against excessive scientific jargon thus providing plain-English descriptions and terms that were understandable for all levels of learners and scholars.

In this respect Fitz organised international courses on soil micromorphology (UK, Argentina and Italy) as well as widely disseminating his knowledge of soil micromorphology by numerous seminars and lectures, backed up by detailed research work in many countries. He will be especially highly respected and acknowledged for his great scientific contributions in Turkey concerning interdisciplinary Pedology, material sciences and ancient ceramics. His books that have been translated throughout the world and his innovative approaches will continue to serve all future scholars. Eventually, this means that Pedology is still alive and active as “Fitz” is in our minds.

Fitz’ achievements were rewarded by the Kubiëna Medal in 1996 and in 2006 the Philippe Duchaufour Medal (EGU), for his new and original insights in soil genesis, horizon designation and micromorphology, which have had a great impact on the development of soil science. His unique carefully prepared CD-ROMS: “Interactive Soils” (1999), “Horizon Identification” (2003), “Soil Microscopy and

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**Fig 1.** Composite horizons\* within calcrete soils: a composite horizon (Composite Reference Horizons: Column or Column/Calcon-Argillon/2Bwk – 75 cm thick) with shallow Rossol/A (reference horizon for Rossosol) at the surface (a), roots along clay coatings between calcite columns (Column/Calcon-Ckm2) (b), column horizon/Column/Calcon-Argillon (2Bwk horizon) underlying massive calcrete (c), abundant clay coatings and calcite columns/nodules of the 2Bwk horizon (d) (FitzPatrick, 1984, 2005), clay accumulation in composite horizon (e) (Figure modified from Akça et al., 2018).

\*Type of horizon in FitzPatrick's system for "Horizon Identification". The system is based on the properties of the horizons themselves. The composite horizon has discrete volumes of two or more horizons and comprises the properties of the Column, Calcon and Argillon in the calcrete soil of the Mediterranean context above (FitzPatrick, 2001).

Micromorphology" (2005) are invaluable sources to soil and earth scientists.

This special issue, the "Tribute to FitzPatrick", covers the selected papers from the EUROSOL Meeting held in Istanbul (16–21 Oct. 2016) which reflect Fitz' concepts in Pedology.

The paper authored by Bockheim et al.: *Diversity of diagnostic horizons in soils of the contiguous USA: A case study*, aims to reflect the effect of the vertical diverse distribution of diagnostic horizons to soil forming factors and processes and offering this as a measure of pedodiversity. There is a parallelism between Fitz' continuity of soil features along horizons with the pedodiversity Bockheim et al. state in their paper.

The Costantini et al. paper: *Loess in Italy: genesis, characteristics and occurrence*, concentrates on the introduction of the soils formed from loess all over Italy and contains unique information on their genesis and properties. However, further research is recommended, coupled with similar detailed field and laboratory analyses, in order to understand the loessial distribution along the lands of the Mediterranean basin. The authors also state, that it would also be highly rewarding to study the ecosystem functioning and resilience of these valuable widespread land surfaces in Italy, which can be beneficial to other similar sites within the Mediterranean environment.

The Eren et al. study entitled: *Biogenic ( $\beta$ -fabric) features in the hard*

*laminated crusts of the Mersin and Adana regions, southern Turkey and the role of the soil organisms in forming the calcrete profiles*, provides new information on the biogenesis of the calcretes of the region. The paper also reviews the calcrete-profile studies ever conducted in the southern Anatolian context comprising specific topographies and pedosedimentary environments.

The paper on the: *Genesis of palygorskite and calcretes in the Paleocene Eskişehir basin, west central Anatolia, Turkey* by Kadir et al. explains the formation of the calcretes of the Eskişehir province in a sedimentologic context. It also interpretes the development of palygorskite in an arid lacustrine environment via the weathering of amphibole and feldspars.

The Itkin et al. paper: *Pedology of archaeological soils in tells of the Judean foothills, Israel*, is a milestone contribution to the soils of archaeological sites-the Calcic Urbic Technosols (Archaic). The study revealed, that the anthropogenic soils, rocks and other materials (artefacts) of the tells are equally calcareous as the natural soils of the environment. Consequently, the slight mobilization of the carbonates most likely occurred during and/or after human activity in a dry climate along the tells. The information provided in this study adds to the pedological understanding of archaeological environments and specifically, to the study of site formation processes at man-made mounds.

The Panin's and co-authors study on the "*Morphology and*

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