In Memoriam Volkmar Trommsdorff (17.9.1936-17.6.2005)

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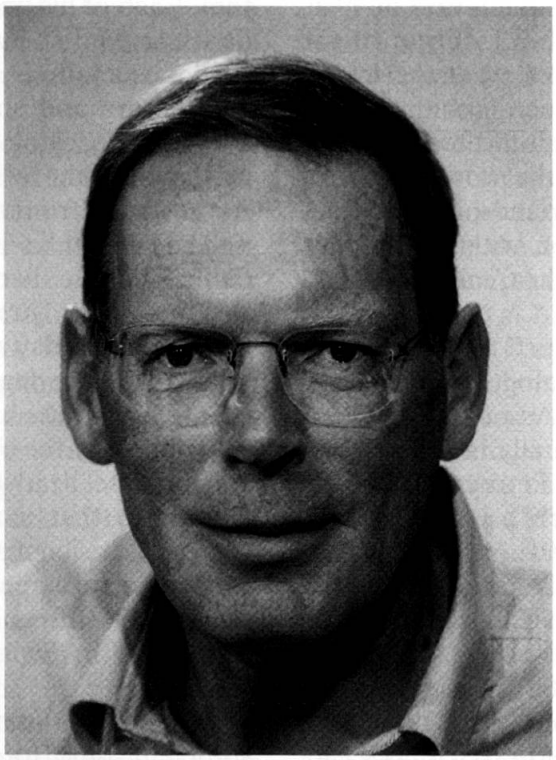
In Memoriam

Volkmar Trommsdorff
(17. 9. 1936 – 17. 6. 2005)



Volkmar Trommsdorff, for many years Professor of Petrography at the ETH Zurich and the University of Zurich, was an outstanding representative of a generation of earth scientists to whom we offer thanks for a consistent synthesis of field observations, experimental results and a theoretical basis in petrography. As petrographer, microstructuralist and alpine field geologist he leaves a significant body of work, accumulated over 45 years, on which future researchers of crystalline rocks can find their bearings.

As a didactically unusually gifted university teacher Volkmar Trommsdorff enthused generations of earth science students for the beauties of the rocks and for the scientific connections in regions both in the Alps and around the world. Always fighting for open research and cooperation he leaves behind a significant contribution to international scientific discussion in the earth sciences.

Volkmar Trommsdorff was born on 17th September in Darmstadt as the first child of a family in which natural science of the highest level had been pursued. During the war the family migrated to Niederthai in Oetztal, his declared homeland, where he already very early formed a deeply rooted relationship to the mountains, that remained with him throughout his entire life. After his schooldays in the Jesuit College in Feldkirch he studied Geology at Freiburg (Breisgau, Germany) and Mineralogy and Petrography at Innsbruck from 1956 to 1961. His PhD, under the direction of J. Ladurner and B. Sander led him into the Northern Calcareous Alps, where he investigated the lamprophyric ehrwaldite dykes. Above all the cooperation with Sander deeply impressed Volkmar Trommsdorff and made him into an exceptional microstructuralist.

After the award of his PhD in 1961 at the University of Innsbruck Volkmar Trommsdorff remained another year there, funded by the Deutsche Forschungsgemeinschaft (German Research Foundation), in which he studied the petrography and fabrics of the Schieferhülle (slate wrapping) of the Hohe Tauern, before he moved to Basel in 1962. As assistant to Eduard Wenk at the Minera-

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logic-Petrographic Institute of the University of Basel he came into contact with the Central Swiss Alps, which was to play a key role through his scientific career. During his time in Basel he investigated mainly the metamorphic development of silica bearing carbonate rocks together with a second interest in the fabrics of crystalline rocks. As a side line he made further developments in the methods of fabric determination together with H.R. Wenk. Volkmar Trommsdorff finished his time as an Assistant with a Habilitation in 1966. Next he spent two years with F.J. Turner at the University of California, Berkeley, at the invitation of the US National Science Foundation. At Berkeley he established multifaceted contacts with scientists from all over the world, many of which resulted in life-long friendships. Also his extremely fruitful cooperation with Bernard W. Evans on ultramafic rocks of the Central Alps had its roots in Berkeley.

In 1968 Volkmar Trommsdorff returned to Basel as Privatdozent for Mineralogy and Petrography, where he was appointed Associate Professor in the same subject in 1970. Finally, in 1972, he was chosen as Full Professor for Petrography at the ETH and University of Zurich, a position which he held until he retired in 2001. As well as innumerable additional posts, Volkmar Trommsdorff was a member of the Research Commission of the ETH (1974-1982), President of the Immanuel Friedlander Stiftung (1975-1988), President of the Swiss Geotechnical Committee (1977-1983), Co-dean of the Mathematical-Natural Sciences Faculty of the University of Zurich (1984-1985), Chairman of the Department of Earth Sciences of the ETH (1989-1991), representative of the ETH president for professorial appointments (1992-1997) and Chairman of the Scientific Steering Committee of Geo Research Centre Potsdam (1998-2005).

In spite of the numerous duties associated with the post of Full Professor Volkmar Trommsdorff always had plenty of time for excursions and fieldwork in addition to periods abroad. In the seventies he organised two expeditions to the Himalayas with Augusto Gansser on each of which twenty students were able to take part. As well as numerous excursions in the Alps he organised others to Liguria, Corsica, Calabria, Greece, Andalusia and Canada in all of which there was much room for fun and socialising. Again and again Volkmar Trommsdorff was invited as Visiting Professor to various universities: University of Washington (Seattle), Yale University (New Haven), Carleton University (Ottawa), and the University of Vienna. He was also always welcome as Visiting Lecturer in several Italian universities: Bologna, Cosenza, Milano, Padua, Parma, Pavia, Perugia and Turin. He was co-founder and for many years co-organiser of the Summer School of Earth Sciences in Siena.

As great nature lover Volkmar Trommsdorff and his numerous pupils roamed wide regions of the Central Alps and of Ladakh (India). His extraordinary physical fitness was remarkable and this peaked in him being always the first to reach the summit, and by descent into the valley bottom. Each of his undergraduate and doctoral students, as well as learning how to make accurate field observation, must learn the technique of hammering and shaping fresh hand specimens and their packing in newspaper following the methods taught by E. Wenk.

Volkmar Trommsdorff devoted his full attention to each of his 120 undergraduate project students, his more than 70 doctoral students and further numerous guest students from all over the world – the Friday afternoons at the petrographic microscope are legendary. It was always important to him to use his many sided contacts for visits overseas to the benefit of his doctoral students. As institute head he pursued an open style of leadership that motivated the rank and file to share in decision making. This spirit shows itself in the successful careers of his former students, from whom over fifteen are active as Earth Science Professors in Switzerland and the rest of the world.

Volkmar Trommsdorff always gave himself sufficient time for his family and his hobbies which all related to the mountains: at first rock-climbing, later mountaineering and, during his whole life, ski mountaineering. Also here Volkmar Trommsdorff set records: he climbed his home mountain in Niederthai over 400 times and the Schilt in Glarus over 360 times. In addition there were innumerable further conquests in the Alps and in the Sierra Nevada (Andalusia).

The scientific work of Volkmar Trommsdorff can be organised in a logical sequence to a cannon, from which various classical publications stand out. Stamped with the high Sanderian school of microstructure, he devoted himself continuously to this theme. Also the rigorous application of thermodynamic equilibrium theory to the phase relations in rocks, which he refined during his visits to Berkeley, runs like a red thread through all his works.

In the middle point of Trommsdorff's work are fundamental contributions to the geology and metamorphism of the Central Alps. The investigation of the metamorphism of the siliceous carbonate rocks between Simplon and the Bernina massif had its peak in the classic work of 1966. In the

following years (1969-1983) the investigations, in close collaboration with B.W. Evans (Seattle), of the metamorphism of the ultramafic rocks in the Central Alps resulted in a further sequence of classic papers. Of fundamental significance were the studies of the contact metamorphism of the Malenco-Serpentinite at the eastern margin of the Bergell intrusion. Not only were phase diagrams and thermodynamic data derived, for the first time, from field data, but also it could be proved that numerous ultramafic lenses of the Central Alps were metamorphosed former serpentinites and consequently relics of the former Tethys Ocean.

As well as works on the geology and metamorphism in the Himalayas in Ladakh, the collaboration with George B. Skippen (Ottawa) concerning the properties and phase relations of salty H_2O-CO_2-fluids formed a further focus of Volkmar Trommsdorff's contribution during the eighties. This theoretically based work has significantly contributed to the understanding of the role of fluids in rock metamorphism. In the middle of the nineties the work of Volkmar Trommsdorff in Valmalenco became more geological/tectonic in approach, as indicated in the work of 1993, which laid the basis of this new direction. The collaboration with Attilio Montrasio (Milano) and Giovanni Piccardo (Genova) as well as precise mapping by numerous undergraduate and doctoral students created the basis for the reconstruction of the geological history of the rock units of Valmalenco. According to this history, the Malenco-Serpentinites were, in the Permian, a part of the subcontinental mantle that was exhumed and serpentinised during the opening of the Tethys Ocean. These units were incorporated into the present-day nappe structure during the Alpine orogenesis. The works of this phase of Volkmar Trommsdorff's lifework made fundamental contributions to the geology of the Alps.

It is impossible to do justice in a few sentences to the width and depth of Volkmar Trommsdorff's geological contribution. His two last major works may be taken as representative: The geological map of Valmalenco (1:25000) printed in 2004, which is included in volume 85/1 of the Swiss Bulletin of Mineralogy and Petrology, and the geological map of the Bernina Massif (Geological Atlas of Switzerland, 1:25000, Bernina sheet), which was published in 2005.

Volkmar Trommsdorff received many honours for his services to Petrography and Alpine Geology. He was made a Fellow of the Mineralogical Society of America in 1981. The University of Siena bestowed the title of Honorary Doctor upon him for his services to the Summer School of Earth Sciences in 1990. In 1996 he was distinguished with the Friedrich Becke medal of the Austrian Mineralogical Society. Finally, in 1997, he was elected as Member of the German Academy of Natural Scientists "Leopoldina", in which his ancestor Johann Bartholomäus Trommsdorff had been a member.

The scientific work of Volkmar Trommsdorff is an indispensible basis for everyone who works in the Central Alps. With his work, Volkmar Trommsdorff takes a prominent and permanent place among the great Alpine geologists.

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Meilen, 29th December 2005

Eric Reusser

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