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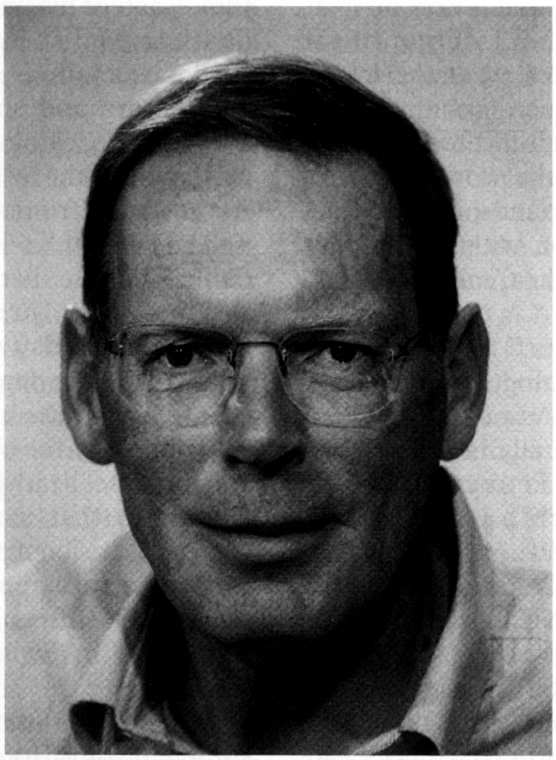
In Memoriam

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

List of Publications of Volkmar Trommsdorff (in chronological order)

Trommsdorff, V. (1961): Zur Kenntnis des Ehrwaldites. Dissertation Universität Innsbruck.

Trommsdorff, V. (1962): Über Lamprophyre aus den nördlichen Kalkalpen (Ehrwaldit). *Tschermaks Mineral. Petrogr. Mitt.*, **8**, 281–325.

Trommsdorff, V. (1962): Lamprophyre im Wetterstein- und Karwendelgebirge. *Die Naturwissenschaften*, **49**, 179–180.

Trommsdorff, V. (1962): Studien an Interngefügen in der unteren Schieferhülle der Hohen Tauern. I. Quarz in Albit in der Sengeser Kuppel des Tauern-Westendes. *Anz. math. natw. Kl. Oesterr. Akad. Wiss.*, **11**, 165–168.

Trommsdorff, V. (1963): Die photographische Auswertung von Gefügediagrammen. *N. Jb. Mineral. Mh.* **7**, 166–173.

Trommsdorff, V. und Wenk, E. (1963): Diskussion eines Zwillingsgefüges durch Achsenverteilungsanalyse an Quarz eines Tessinergneisses. *Schweiz. Mineral. Petrogr. Mitt.*, **43**, 687–698.

Trommsdorff, V. (1963): Photographische Gefügediagramme und Schnitteffektkorrektur. *Schweiz. Mineral. Petrogr. Mitt.*, **43**, 699–705.

Trommsdorff, V. (1964): Gefügestudien an Calcitmarmor aus Val Prato (Tessin). *Schweiz. Mineral. Petrogr. Mitt.*, **44**, 595–611.

Trommsdorff, V. (1964): Über ein Staurolithgefüge mit Internregelung. *N. Jb. Mineral. Mh.*, **9–11**, 336–346.

Trommsdorff, V. (1964): Untersuchungen an Interngefügen III, Beispiele aus der unteren Schieferhülle des Tauern-Westendes. *Sitzungsbericht der Oesterr. Akad. Wiss. math. natw. Kl, Abt. I*, **173**, 1–39.

Wenk, E. et Trommsdorff, V. (1964-65): Etude optique de quelques plagioclases dans les basaltes à olivine de la Caldeira de Graciosa. *Com. Serv. Geol. Portugal*, **48**, 1–11.

Trommsdorff, V. und Wenk, H.R. (1965): Die Regelung des Dolomites von Crevola (Simplongruppe). Ergebnisse und Probleme. *Schweiz. Mineral. Petrogr. Mitt.*, **45**, 551–569.

Wenk, E. und Trommsdorff, V. (1965): Parallelgefüge und Glimmerregelung im südöstlichen Teil der Simplongruppe. *Eclogae geol. Helv*, **58**, 417–422.

Wenk, H.R. und Trommsdorff, V. (1965): Koordinatentransformation, mittelbare Orientierung, Nachbarwinkelstatistik. Gefügekundliche Rechenprogramme mit Beispielen. *Beiträge zur Mineralogie und Petrographie*, **11**, 559–585.

Trommsdorff, V. (1966): Zur optischen Orientierung des Bytownites von Boenskaer (Schweden). *Schweiz. Mineral. Petrogr. Mitt.*, **46**, 55–59.

Trommsdorff, V. (1966): Beobachtungen zur Paragenese Forsterit (Klinohumit, Chondrodit)-Klinochlor in metamorphen Dolomitgesteinen des Lepontins. *Schweiz. Mineral. Petrogr. Mitt.*, **46**, 421–429.

Trommsdorff, V. (1966): Progressive Metamorphose kieseliger Karbonatgesteine in den Zentralalpen zwischen Bernina und Simplon. *Schweiz. Mineral. Petrogr. Mitt.*, **46**, 431–460.

Wenk, E. and Trommsdorff, V. (1967): The optical orientation of synthetic anorthite. *Schweiz. Mineral. Petrogr. Mitt.*, **47**, 213–218.

Wenk, E., Schwander, H. und Trommsdorff, V. (1967): Optische Orientierung zweier Anorthite aus metamorphen Gesteinen. *Schweiz. Mineral. Petrogr. Mitt.*, **47**, 219–224.

Trommsdorff, V. (1968): Mineralreaktionen mit Wollastonit und Vesuvian in einem Kalksilikatfels der alpinen Disthenzone (Claro, Tessin). *Schweiz. Mineral. Petrogr. Mitt.*, **48**, 655–666.

Trommsdorff, V. (1968): The wollastonite reaction in the western Bergell Alps. *Schweiz. Mineral. Petrogr. Mitt.*, **48**, 828–829.

Trommsdorff, V. and Wenk, H.R. (1968): Terrestrial metamorphic clinoenstatite in kinks of bronzite crystals. *Contrib. Mineral. Petrol.*, **19**, 158–168.

Metz, P. and Trommsdorff, V. (1968): On phase equilibria in metamorphosed siliceous dolomites. *Contrib. Mineral. Petrol.*, **18**, 305–309.

Wenk, H.R., Trommsdorff, V. and Baker, D.W. (1968): Inverse pole-figures of two carbonate fabrics. *Schweiz. Mineral. Petrogr. Mitt.*, **48**, 467–470.

Trommsdorff, V. and Evans, B.W. (1969): The stable association enstatite-forsterite-chlorite in amphibolite facies ultramafics of the Lepontine Alps. *Schweiz. Mineral. Petrogr. Mitt.*, **49**, 325–332.

Trommsdorff, V. and Schwander, H. (1969): Brucitmarmore in den Bergelleralpen. *Schweiz. Mineral. Petrogr. Mitt.*, **49**, 333–340.

Trommsdorff, V. (1970): Mineral Parageneses in Magnesian Rocks of the Progressive Metamorphic Series of the Central Alps. *Die Naturwissenschaften*, **6**, 304–305.

Trommsdorff, V., Schwander, H. und Peters, Tj. (1970): Mangansilikate der alpinen Metamorphose in Radiolariten des Julier-Bernina-Gebiets. Schweiz. *Mineral. Petrogr. Mitt.*, **50**, 539–545.

Evans, B.W. and Trommsdorff, V. (1970): Regional metamorphism of ultramafic rocks in the Central Alps: Parageneses in the system CaO-MgO-SiO_2-H_2O. *Schweiz. Mineral. Petrogr. Mitt.*, **50**, 481–492.

Trommsdorff, V. (1972): Change in T-X during metamorphism of siliceous dolomitic rocks of the Central Alps. *Schweiz. Mineral. Petrogr. Mitt.*, **52**, 567–571.

Trommsdorff, V. and Evans, B.W. (1972): Progressive metamorphism of antigorite schist in the Bergell Tonalite Aureole (Italy). *Amer. J. Sci.*, **272**, 423–437.

Evans, B.W. und Trommsdorff, V. (1972): Der Einfluss des Eisens auf die Hydratisierung von Duniten. *Schweiz. Mineral. Petrogr. Mitt.*, **52**, 251–256.

Wenk, E., Glauser, A., Schwander, H. and Trommsdorff, V. (1972): Twin laws, optical orientation, and composition of plagioclases from rocks 12051, 14053, and 14310. Supplement 3 to Geochimica et Cosmochimica Acta, *Proc. Third Lunar Sci. Conf.*, **1**, 581–589.

Evans, B.W. and Trommsdorff, V. (1973/74): On elongate olivine of metamorphic origin. *Geology*, **1**, 131–132.

Peters, Tj., Schwander, H. and Trommsdorff, V. (1973): Assemblages of tephroite, pyroxmangite, rhodochrosite, quartz: experimental data and occurences in the Rhetic Alps. *Contrib. Mineral. Petrol.*, **42**, 325–332.

Trommsdorff, V. and Evans, B.W. (1974): Alpine Metamorphism of peridotitic rocks. *Schweiz. Mineral. Petrogr. Mitt.*, **54**, 334–352.

Evans, B.W. and Trommsdorff, V. (1974): Stability of enstatite + talc and CO_2-metasomatism of metaperidotite, Val d'Efra, Lepontine. *Amer. J. Sci.*, **274**, 274–296.

Rice, J., Evans, B.W. and Trommsdorff, V. (1974): Widespread occurence of magnesiocummingtonite in ultramafic schists, Cima di Gagnone, Ticino, Switzerland. *Contrib. Mineral. Petrol.*, **43**, 245–251.

Trommsdorff, V., Peters, Tj. und Bucher, K. (1975): Bericht über die Exkursion der Schweiz. Mineral. Petrogr. Gesellschaft in das Gebiet Bernina-Malen-

co-Bergell Ostrand vom 5.–7. September 1975. *Schweiz. Mineral. Petrogr. Mitt.*, **55**, 59–600.

Trommsdorff, V., Evans, B.W. und Richter, W. (1975): Ekogit-Rodingit-Übergänge in Ultramafititen der Cima Lunga Serie. *Schweiz. Mineral. Petrogr. Mitt.*, **55**, 572–574.

Evans, B.W. and Trommsdorff, V. (1975): Der Einfluss von Kationenersatz auf die Hydratisierung von Duniten. Korrekturen und Kommentare. *Schweiz. Mineral. Petrogr. Mitt.*, **55**, 457–459.

Skippen, G. and Trommsdorff, V. (1975): Invariant phase relations among minerals on T-X fluid sections. *Amer. J. Sci.*, **275**, 561–572.

Evans, B.W., Johannes, W., Oterdoom, H. and Trommsdorff, V. (1976): Stability of chrysotile and antigorite in the serpentinite multisystem. *Schweiz. Mineral. Petrogr. Mitt.*, **56**, 79–93.

Trommsdorff, V. and Evans, B.W. (1977): Antigorite-Ophicarbonates: Phase relations in a part of the system CaO-MgO-SiO_2-H_2O-CO_2. *Contrib. Mineral. Petrol.*, **60**, 39–56.

Trommsdorff, V. and Evans, B.W. (1977): Antigorite-Ophicarbonates: Contact Metamorphism in Val Malenco, Italy. *Contrib. Mineral. Petrol.*, **62**, 301–312.

Frank, W., Gansser, A. and Trommsdorff, V. (1977): Geological observations in the Ladakh area (Himalayas) – A preliminary report. *Schweiz. Mineral. Petrogr. Mitt.*, **57**, 89–113.

Evans, B.W. and Trommsdorff, V. (1978): Petrogenesis of garnet lherzolite, Cima di Gagnone, Lepontine Alps. *Earth and Planetary Sci. Letters*, **40**, 333–348.

Peters, Tj., Trommsdorff, V. and Sommerauer, J. (1978): Manganese pyroxenoids and carbonates: critical phase relations in metamorphic assemblages from the Alps. *Contrib. Mineral. Petrol.*, **66**, 383–388.

Trommsdorff, V. (1979): Research on Metamorphism. *Schweiz. Mineral. Petrogr. Mitt.*, **59**, 16–163.

Evans, B.W., Trommsdorff, V. and Richter, W. (1979): Petrology of an eclogite-metarodingite suite at Cima di Gagnone, Ticino, Switzerland. *Amer. Mineral.*, **64**, 15–31.

Trommsdorff, V. and Evans, B.W. (1980): Titanian Hydroxyl-Clinohumite: Formation and Breakdown in Antigorite Rocks (Malenco, Italy). *Contrib. Mineral. Petrol.*, **72**, 229–242.

Trommsdorff, V. and Evans, B.W. (1980): High grade rodingites from the Central Alps: metamorphism and geochemistry. *Archives des Sciences, Genève*, **33**, 181–184.

Trommsdorff, V., Evans, B.W. and Pfeifer, H.R. (1980): Ophicarbonate rocks: metamorphic reactions and possible origin. *Archives des Sciences, Genève*, **33**, 361–364.

Trommsdorff, V. (1980): Alpine Metamorphism and Alpine Intrusions. In: Geology of Switzerland – a guide book. Part A. Edited by Schweiz. Geol. Kommission, Wepf & Co., Publ., Basel, New York, 82–87.

Trümpy, R. and Trommsdorff, V. (1980): Alps of Eastern Switzerland, Excursion No. IV. In: Geology of Switzerland – a guide book, Part B. Wepf & Co., Basel, New York, 211–260.

Frey, M., Trommsdorff, V. and Wenk, E. (1980): Alpine metamorphism of the Central Alps, Excursion No. VI. In: Geology of Switzerland – a guide book, Part B. Wepf & Co. Publ., Basel, New York, 295–316.

Trommsdorff, V. and Dietrich, V. (1980): Alpine metamorphism in a cross-section between the Rhine and Valtellina valleys, Switzerland – Italy. Excursion No. VII. In: Geology of Switzerland – a guide book, Part B. Wepf & Co. Basel, New York, 317–334.

Peters, Tj., Trommsdorff, V. and Sommerauer, J. (1980): Progressive metamorphism of manganese carbonates and cherts in the Alps. Geology and Geochemistry of Manganese, Akademiai Kiado, Budapest, 271–283.

Frey, M., von Raumer, J.F. und Trommsdorff, V. (1980): Nachruf auf Philip M. Orville (1930–1980). *Schweiz. Mineral. Petrogr. Mitt.*, **60**, 125–127.

Trommsdorff, V. and Dietrich, V. (1981): Grundzüge der Geologischen Wissenschaften. *Verlag der Fachvereine VdF, Zürich*, 159 pp.

Evans, B.W., Trommsdorff, V. and Goles, G. (1981): Geochemistry of high-grade eclogites and metarodingites from the Central Alps. *Contrib. Mineral. Petrol.*, **76**, 301–311.

Trommsdorff, V. (1982): Petrologic aspects of serpentinite metamorphism. *Rend. Soc. Ital. Min. Petr.*, **38**, 549–559.

Trommsdorff, V., Dietrich, V. and Honegger, K. (1982): The Indus Suture Zone: Paleotectonic and igneous evolution in the Ladakh-Himalayas. In: Mountain building Processes (K.J. Hsu, ed.). Academic Press, 214–228.

Finger, W., Mercolli, I., Kündig, R., Stäubli, A., de Capitani, Ch., Nievergelt, P., Peters, Tj. und Trommsdorff, V. (1982): Bericht über die Exkursion der Schweizerischen Geologischen Gesellschaft und der Schweizerischen Mineralogischen und Petrographischen Gesellschaft ins Oberengadin vom 21. bis 24. September 1981. *Eclogae geol. Helv.*, **75**, 199–222.

Honegger, K., Dietrich, V., Frank, W., Gansser, A., Thöni, M. and Trommsdorff, V. (1982): Magmatism and metamorphism in the Ladakh Himalayas (the Indus-Tsangpo suture zone). *Earth and Planetary Sci. Letters*, **60**, 253–292.

Trommsdorff, V. (1983): Metamorphose magnesiumreicher Gesteine: kritischer Vergleich von Natur, Experiment und thermodynamischer Datenbasis. *Fortschr. Mineral.*, **61**, 283–308.

Trommsdorff, V. and Nievergelt, P. (1983): The Bregaglia (Bergell)-Iorio intrusive and its field relations. *Mem. Soc. Geol. Ital.*, **26**, 55–68.

Evans, B.W. and Trommsdorff, V. (1983): Fluorine-Hydroxyl Titanian Clinohumite in Alpine recrystallized garnet Peridotite: Compositional Controls and Petrologic Significance. *Amer. J. Sci.*, **283**, 355–369.

Montrasio, A. and Trommsdorff, V. (1983): Guida all' escursione nel massiccio di Val Masino-Bregaglia, Val Malenco Occidentale-Sondrio. *Mem. Soc. Geol. Ital.*, **26**, 421–434.

Trommsdorff, V., Skippen, G.B. and Ulmer, P. (1985): Halite and sylvite as solid inclusions in high-grade metamorphic rocks. *Contrib. Mineral. Petrol.*, **89**, 24–29.

Skippen, G.B. and Trommsdorff, V. (1985): The influence of NaCl and KCl on phase relations in metamorphosed carbonate rocks. *Amer. J. Sci.*, **286**, 81–104.

Frank, W., Baud, A., Honegger, K. and Trommsdorff, V. (1985): Comparative studies on profiles across the Northwest Himalayas. In: Anatomy of Mountain Ranges. J.P. Schaer and J. Rodgers (eds.), 261–275, Princeton University Press.

Trommsdorff, V. and Skippen, G.B. (1986): Vapour loss ("Boiling") as a mechanism for fluid evolution in metamorphic rocks. *Contrib. Mineral. Petrol.*, **94**, 317–322.

Trommsdorff, V. and Skippen, G.B. (1987): Metasomatism involving fluids in CO_2-H_2O-NaCl. In: Chemical Transport in Metasomatic Processes. H.C. Helgeson (ed.), Reidel Publishing Company, 133–157.

Mellini, M., Trommsdorff, V. and Compagnoni, R. (1987): Antigorite polysomatism: Behaviour during progressive metamorphism. *Contrib. Mineral. Petrol.*, **97**, 147–155.

Mercolli, I., Skippen, G.B. and Trommsdorff, V. (1987): The tremolite veins of Campolungo and their genesis. *Schweiz. Mineral. Petrogr. Mitt.*, **67**, 75–84.

Trommsdorff, V. and Skippen, G.B. (1988): Brines and Metasomatism. *Rendiconti della Società italiana di Mineralogia e Petrologia*, **43**, 15–24.

Caironi, V. and Trommsdorff, V. (1988): Lezioni di petrologia delle rocce metamorfiche. Clup (Cooperativa libraria universitaria del politecnico, Milano), 187 pp.

Skippen, G.B. and Trommsdorff, V. (1988): Hans Peter Eugster, Nekrolog. *Schweiz. Mineral. Petrogr. Mitt.*, **68**, 283–287.

Trommsdorff, V. (1989): The natural laboratory: a key to understand petrogenesis. *Plinius, Suppl. ital. Eur. J. Mineral.*, **1**, 34–36.

Trommsdorff, V. (1990): Metamorphism and tectonics in the Central Alps: The alpine lithospheric mélange of Cima Lunga and Adula. *Mem. Soc. Geol. It.*, **45**, 39–49.

Trommsdorff, V. and Connolly, J. (1990): Constraints on phase diagram topology for the system CaO-MgO-SiO_2-CO_2-H_2O. *Contrib. Mineral. Petrol.*, **104**, 1–7.

Trommsdorff, V., Dietrich, V., Flisch M., Ulmer, P. and Stille, P. (1990): Mid-cretaceous, primitive alkaline magmatism in the Northern Calcareous Alps: Significance for austroalpine geodynamics. *Geol. Rundschau*, **79**, 85–97.

Connolly, J. and Trommsdorff, V. (1991): Petrogenetic grids for metacarbonate rocks: pressure-temperature phase diagram projection for mixed-volatile systems. *Contrib. Mineral. Petrol.*, **108**, 93–105.

Abart, R., Connolly, J. and Trommsdorff, V. (1992): Singular Point Analysis: Construction of Schreinemakers Projections for Systems with a Binary Solution. *Amer. J. Sci.*, **292**, 778–805.

Frey, M., Hunziker, J.C., Schmid, S.M., Thoenen, T. und Trommsdorff, V. (1992): Bericht über die Exkursion der Schweiz. Mineralogischen und Petrographischen Gesellschaft zum Thema „Hochdruck-Metamorphose in der Adula-Decke" (29. September – 5. Oktober 1991). *Schweiz. Mineral. Petrogr. Mitt.*, **72**, 271–279.

Gebauer, D., Grünenfelder, M., Tilton, G.R., Trommsdorff, V. and Schmid, S.M. (1992): The geodynamic evolution of garnet-peridotites, garnet-pyroxenites and eclogites of Alpe Arami and Cima di Gagnone (Central Alps) from Early Proterozoic to Oligocene. *Schweiz. Mineral. Petrogx. Mitt.*, **72**, 107–111.

Peretti, A., Dubessy, J., Mullis, J., Frost, B.R. and Trommsdorff, V. (1992): Highly reducing conditions during Alpine metamorphism of the Malenco peridotite (Sondrio, northern Italy) indicated by mineral paragenesis and H_2 in fluid inclusions. *Contrib. Mineral. Petrol.*, **112**, 329–340.

Trommsdorff, V., Picccardo, G.B. and Montrasio, A. (1993): From magmatism through metamorphism to sea floor emplacement of subcontinental Adria lithosphere during pre-Alpine rifting (Malenco, Italy). *Schweiz. Mineral. Petrogr. Mitt.*, **73**, 191–203.

Trommsdorff, V., Piccardo, G.B. and Montrasio, A. (1994): The Malenco-Margna lithosphere and its mantle sea floor emplacement during pre-Alpine rifting. Symposium Crop – Alpi Centrali, Sondrio. *Quaderni di Geodinamica Alpina e Quaternaria*, **2**, 289–291.

Ulmer, P., Trommsdorff, V. and Reusser, E. (1994): Experimental investigation of antigorite stability to 80 kbar. Goldschmidt Conference, Edinburgh, *Mineralogical Magazine*, **58A**, 918–919.

Connolly, J.A.D., Memmi, I., Trommsdorff, V., Franceschelli, M. and Ricci, C.A. (1994): Forward modeling of calc-silicate microinclusions and fluid evolution in a graphitic metapelite, northeast Sardinia. *Amer. Mineral.*, **79**, 960–972.

Scambelluri, M., Müntener, O., Hermann, J., Piccardo, G.B. and Trommsdorff, V. (1995): Subduction of water into the mantle: History of an Alpine peridotite. *Geology*, **23/5**, 459–462.

Ulmer, P. and Trommsdorff, V. (1995): Serpentine stability to mantle depths and subduction related magmatism. *Science*, **268**, 858–861.

Trommsdorff, V. (1996): Petrologic Laboratory Alps: A key for geodynamics, experimental investigations and theory. *Mitt. Österr. Mineral. Ges.*, **141**, 47–51.

Trommsdorff, V. and Connolly, J. (1996): The ultramafic contact aureole about the Bregaglia (Bergell) tonalite: isotherms and a thermal model. *Schweiz. Mineral. Petrogr. Mitt.*, **76**, 537–547.

Froitzheim, N., Müntener, O., Puschnig, A., Schmid, S.M. und Trommsdorff, V. (1996): Der penninisch-ostalpine Grenzbereich in Graubünden und in der Val Malenco. Bericht über die gemeinsame Exkursion der Schweiz. Geol. Gesell., Schweiz. Mineral. u. Petrogr. Gesell. und der Schweiz. Fachgruppe der Geophysiker vom 8.–10. Sept. 1995. *Eclogae geol. Helv.*, **89**, 617–634.

Trommsdorff, V. (1997): Wassertransport in die Tiefe der Erde erzeugt Vulkanausbrüche. *Uni/ETH Bulletin*, **267**, Dezember, p. 49.

Trommsdorff, V. (1997): Eklogite, Zeugen der Dynamik. *NZZ Forschung + Technik*, 19.11.97.

Hermann, J., Müntener, O., Trommsdorff, V. and Hansmann, W. (1997): Fossil crust-to-mantle transition, Val Malenco (Italian Alps). *J. Geophys. Res.*, Vol. **102**, (B9), 20123–20132, 10.1029/97B01510.

Trommsdorff, V., Lopez Sanchez-Vizcaino, V., Gomez-Pugnaire, M.T. and Müntener, O. (1998): High pressure breakdown of antigorite to spinifex-textured olivine and orthopyroxene, SE Spain. *Contrib. Mineral. Petrol.*, **132**, 139–148.

Pfiffner, M. and Trommsdorff, V. (1998): The high-pressure ultramafic-mafic-carbonate suite of Cima Lunga-Adula, Central Alps: Excursions to Cima di Gagnone and Alpe Arami. *Schweiz. Mineral. Petrogr. Mitt.*, **78**, 337–354.

Callegari, E., Dal Piaz, G.B., Gatto, G.O. and Trommsdorff, V. (1998): Carta Geologica del Gruppo Adamello-Presanella (1:50000). *Consiglio Nazionale delle Ricerche*.

Ulmer, P. and Trommsdorff, V. (1999): Phase relations of hydrous mantle subducting to 300 km. In: Mantle petrology: Field observations and high-pressure experimentation (eds.: Y. Fei, C.M. Bertka and B. Mysen). Special Publication in honor of Francis R. Boyd. *Geochemical Society Special Publ.*, **6**, 259–281.

Trommsdorff, V. (2000): Der plattentektonische Kreislauf des festen Erdmantels. *Jahrbuch 1999 der Deutschen Akademie der Naturforscher Leopoldina*, **45**, 455–469.

Trommsdorff, V., Hermann, J., Müntener, O., Pfiffner, M. and Risold, A.C. (2000): Geodynamic cycles of subcontinental lithosphere in the Central Alps and the Arami enigma. *J. Geodynamics*, **30**, 77–92.

Müntener, O., Hermann, J. and Trommsdorff, V. (2000): Cooling history and exhumation of lower-crustal granulite and upper mantle (Malenco, Eastern Central Alps). *J. Petrol.*, **41**, 175–200.

Villa, I., Hermann, J., Müntener, O. and Trommsdorff, V. (2000): ^{39}Ar –^{40}Ar dating of multiply zoned amphibole generations (Malenco, Italy). *Contrib. Mineral. Petrol.*, **140**, 363–381.

Lopez Sanchez-Vizcaino, V., Rubatto, D., Gomez-Pugnaire, M.T., Trommsdorff, V. and Müntener, O. (2001): Middle Miocene high-pressure metamorphism and fast exhumation of the Nevado-Filabride Complex, SE Spain. *Terra Nova*, **13/5**, 327–332.

Nimis, P. and Trommsdorff, V. (2001): Revised thermobarometry of Alpe Arami and other garnet peridotites from the Central Alps. *J. Petrol.*, **42**, 103–115.

Nimis, P. and Trommsdorff, V. (2001): Comment on 'New Constraints on the P-T Evolution of the Alpe Arami Garnet Peridotite Body (Central Alps, Switzerland)' by Paquin & Altherr (2001). *J. Petrol.*, **42**, 1773–1779.

Risold, A.-C., Trommsdorff, V. and Grobéty, B. (2001): Genesis of ilmenite rods and palisades along humite-type defects in olivine from Alpe Arami. *Contrib. Mineral. Petrol.*, **140**, 619–628.

Scambelluri, M., Bottazzi, P., Trommsdorff, V., Vannucci, R., Hermann, J., Gomez-Pugnaire, M.T. and Lopez Sanchez-Vizcaino, V. (2001): Incompatible element-rich fluids released by antigorite breakdown in deeply subducted mantle. *Earth Planetary Sci. Letters*, **192**, 457–470.

Stucki, A., Trommsdorff, V. and Günther, D. (2001): Zirconolite in metarodingites of Penninic Mesozoic ophiolites, Central Alps. *Schweiz. Mineral. Petrogr. Mitt.*, **81**, 257–265.

Wiesli, R.A., Taylor, L.A., Valley, J.W., Trommsdorff, V. and Kurosawa, M. (2001): Geochemistry of eclogites and metapelites from Trescolmen, Central Alps, as observed from major and trace elements and oxygen Isotopes. *International Geology Review*, **43**, 95–119.

Trommsdorff, V. (2002): In Memoriam – Eduard Wenk (1907–2001). *Schweiz. Mineral. Petrogr. Mitt.*, **82**, 131–136.

Trommsdorff, V. (2003): Eduard Jean Louis Wenk 1907–2001. Orbituary. *The Geological Society, Annual Report* 2002, p. 47.

Frese, K., Trommsdorff, V. and Kunze, K. (2003): Olivine [100] normal to foliation: lattice preferred orientation in prograde garnet peridotite formed at high H_2O activity, Cima di Gagnone (Central Alps). *Contrib. Mineral. Petrol.*, **145**, 75–86.

Morten, L. and Trommsdorff, V. (2003): Metamorphism and textures of dry and hydrous garnet peridotites. *Notes in Mineralogy. European Mineralogical Union*, **5**, 443–461.

Risold, A.C., Trommsdorff, V. and Grobéty, B. (2003): Morphology of oriented ilmenite inclusions in olivine from garnet peridotites (Central Alps, Switzerland). *Eur. J. Mineral.*, **15**, 289–294.

Stucki, A., Rubatto, D. and Trommsdorff, V. (2003): Mesozoic ophiolite relics in the Southern Steep Belt of the Alps. *Schweiz. Mineral. Petrogr. Mitt.*, **83**, 285–300.

Takla, M.A., Trommsdorff, V., Basta, F.F. and Surour, A.A. (2003): Margarite in ultramafic alteration zones (blackwall): A new occurrence in Barramiya Area, Egypt. *Eur. J. Mineral.*, **15**, 991–999.

Montrasio, A., Trommsdorff, V., Hermann, J., Müntener, O. and Spillmann, P. (2004): La nuova carta geologica della Valmalenco. *Atti del Convegno 'La Geologia e le risorse minerarie della Valmalenco', Chiesa, Valmalenco*, 11–12.

Trommsdorff, V., Montrasio, A., Hermann, J., Müntener, O., Spillmann, P. and Gieré, R. (2005): The Geological Map of Valmalenco. *Schweiz. Mineral. Petrogr. Mitt.*, **85**, 1–13.

Garrido, C.J., Lopez Sanchez-Vizcaino, V., Gomez-Pugnaire, M.T., Trommsdorff, V., Alard, O., Bodinier, J.L. and Godard, M. (2005): Enrichment of HFSE in chlorite-harzburgite produced by high-pressure dehydration of antigorite-serpentinite: Implications for subduction magmatism. *Geochemistry, Geophysics, Geosystems*, **6**, Q01J15, 10.1029/2004GC000791, 15 pp.

Lopez Sanchez-Vizcaino, V., Trommsdorff, V., Gomez-Pugnaire, M.T., Garrido, C.J., Müntener, O. and Connolly, J.A.D. (2005): Petrology of titanian clinohumite and olivine at the high-pressure breakdown of antigorite serpentinite to chlorite harzburgite (Almirez Massif, S. Spain). *Contrib. Mineral. Petrol.*, **149**, 627–646.

Hermann, J., Rubatto, D., and Trommsdorff, V. (2006): Sub-solidus Oligocene zircon formation in garnet peridotite during fast decompression and fluid infiltration (Duria, Central Alps). *Mineralogy and Petrology*, **88**, 181–206.

Summer School of the *Università degli Studi di Siena* and *Consiglio Nazionale delle Ricerche*

Trommsdorff, V., Ulmer, P., Gieré, R. and Baumgartner, L. (1989): Guide Book for the Excursion to the Central Alps, Bergell and Adamello. *III. Summer School di Geologia e Petrologia dei basamenti cristallini. Rock-Fluid Interaction in Crystalline Basements.* 121 pp.

Trommsdorff, V. (1991): Petrogenetic grids for mixed volatile rocks: new aspects of thermobarometry. *V. Summer School di Geologia e Petrologia dei basamenti cristallini. Pressure and Temperature Evolution of Orogenic Belts.* Siena, 1992, 111–118.

Trommsdorff, V. (1991): Guide book for the Excursion on High-Pressure Metamorphism in the Cima Lunga Unit (Central Alps). *V. Summer School di Geologia e Petrologia dei basamenti cristallini. Pressure and Temperature Evolution of Orogenic Belts.* 161 pp.

Trommsdorff, V. (1994): The link between field and theory: Phase diagram mapping and projecting. *VII. Summer School on Earth and Planetary Sciences. Quantitative Phase Diagram Applications in Earth Material Sciences.* Proceedings. Siena, 1994, 89–96.

Trommsdorff, V. (1995): Plate Tectonic Scenarios and Metamorphism. *VIII. Summer School on Earth and Planetary Sciences. Plate Tectonics: The First Twenty-Five Years.* Proceedings. Siena, 1995, 135–142.

Trommsdorff, V. (1996): High Pressure, High Temperature Metamorphism in the Central Alps. *International School on Earth and Planetary Sciences. High Pressure and High Temperature Research on Lithosphere and Mantle Materials.* Proceedings. Siena, 1996, 193–200.

Müntener, O., Hermann, J. and Trommsdorff, V. (1999): Excursion to the Malenco ultramafic rocks (Eastern Central Alps): From subcontinental lithosphere to Alpine ophiolite. *International School on Earth and Planetary Sciences. Crust-Mantle Interactions.* In: Guidebook for the Excursion to Val Malenco (eds.: O. Müntener, J. Hermann and V. Trommsdorff), Siena, 1999, 1–20.

Trommsdorff, V. and Ulmer, P. (2000): Metamorphism of hydrous and dry upper mantle. *International School on Earth and Planetary Sciences. Crust-Mantle Interactions.* Proceedings. Siena, 2000, 97–110.

Geological maps (scientific co-ordinator and co-author)

Geological Atlas of Switzerland 1:25 000:
Sheet Bellinzona (1974)
Sheet Bernina (2005)
Sheet Maggia (in print)

Geological map of Ladakh (1977).
Carta geologica del gruppo Adamello-Presanella 1:50 000, CNR Italia (1998).
Carta geologica della Valmalenco 1:25 000 (2004).