Dietrich Lothar Meyer 1947–1999

Christopher von Bartheld

Department of Physiology and Cell Biology, University of Nevada School of Medicine, Reno, Nev., USA

Dietrich was a remarkable figure in comparative neurobiology. He will be remembered not so much for one particular observation or paper, although there are plenty, but rather for his unique style, approach to science, and his influence on his students and his friends. He made himself scarce at scientific meetings, but you could bet that while his peers were attending the scheduled program, Dietrich was around, probably in the bathroom of his motel room perfusing some rare fishy specimen he had been hunting for months. There must be more stories about Dietrich than any other person in comparative neurobiology. Who was this man?

Drawn into neuroscience after medical school and a thesis on the sensing of rhythms in schizophrenics, he studied mechanisms of vestibular compensation with Klaus-Peter Schaefer in Göttingen, Germany, and sense-organ-dependent mechanisms of posture with Ted Bullock in La Jolla, California. His curiosity led him to compare species and exploit biodiversity, first using experimental behavioral and electrophysiological techniques, then making use of the increasingly sophisticated neuroanatomical armamentarium, but always combining evolutionary, behavioral, physiological and anatomical perspectives.

For Dietrich, science was the thrill of traveling, hunting, adventure, socializing, partying. Ear nystagmus in deer? Tonus function in sense organs? The more exotic, dangerous, and difficult the specimen was to obtain – the better. His grant applications were notorious for including well-justified trips to Africa, the Amazon, Australia or Alaska. ‘Der Meyer und seine Reisen ...’ the reviewers of his grant applications moaned – with envy. Dietrich had a keen instinct for the species with an unusual behavior. Let mother

They who dance are thought mad by those who hear not the music.

KARGER

Fax +41 61 306 12 34
E-Mail karger@karger.ch
www.karger.com

© 1999 S. Karger AG, Basel
0006–8977/99/0543–0181\$17.50/0

Accessible online at:
<http://BioMedNet.com/karger>

Dr. Christopher von Bartheld
Department of Physiology and Cell Biology
Mailstop 352, University of Nevada School of Medicine, Reno, NV 89557 (USA)
Tel. (775)-784-6022, Fax (775)-784-6903
E-Mail chrisvb@physio.unr.edu

nature do the experiment, you just go and collect the data! Geckos in a Brazilian bar show a 180° vestibulo-ocular reflex when tied to be a beer coaster and tilted 360° – consternating other patrons. Flatfish could be manipulated to remain upright, fish with a ventral substrate response, upside-down catfish, one-eyed or four-eyed fish – whatever could tell us about underlying principles.

Dietrich's main scholarly contributions to science can roughly be divided into three phases. The first, as a postdoc in the 1970s was exploratory, broad and creative, and dealt with mechanisms of vestibular compensation after labyrinthine lesions as well as mechanisms of orientation and posture. The bulk of this work resulted from collaborations with Klaus-Peter Schaefer and culminated in several influential book chapters [e.g. Schaefer and Meyer, 1974; Meyer and Bullock, 1977].

In the second phase, the early 1980s, Dietrich shifted his attention to the visual system and focused on sources of retinopetal input in fishes. Seminal papers with Sven Ebbesson marked this highly productive period, including a publication in *Science* [Ebbesson and Meyer, 1981] and other important papers [reviewed in Meyer et al., 1994]. During this period Dietrich was closely involved with the development of Ebbesson's 'parcellation theory' of brain evolution.

The third period, from 1986–1996, was dominated by a series of influential papers on the nervus terminalis system. This work, with Chris von Bartheld, traced terminal nerve fibers distinct from conventional olfactory projections. The first studies focused on fishes, but also demonstrated that a terminal nerve exists in lampreys and birds [von Bartheld et al., 1987]. Another spin-off during this period was the investigation of lungfish brains, resulting in several papers on these living fossils. Later studies with Michael Hofmann showed the existence of extrabulbar projecting olfactory fibers in fishes and amphibians, thus complicating the functional and terminological interpretation of the two systems.

In the 1990s, Dietrich pursued numerous additional projects, notably visual circuits with Mario Wullimann, further

retinopetal studies with Cordula Malz, and the first demonstration of nitric oxide synthase in a teleost fish brain with Andreas Schober. Additional projects concerned the ontogeny and aging in salmon, and, with Earl Kicliter in Puerto Rico, the processing of airborne – versus water-borne odorants. Overall, Dietrich co-authored 97 full-length articles, with dozens of contributions in *Cell and Tissue Research*, *Brain Research*, *Neuroscience Letters*, and half a dozen each in *Brain*, *Behavior and Evolution*, the *Journal of Comparative Neurology*, and the *Journal of Comparative Physiology*.

Dietrich was a gifted teacher, loved by his medical students because he could make complicated neural circuits seem really easy. He attracted numerous students into science, especially comparative neuroscience, and 28 doctoral students graduated from his lab. His 'shuttle express' for students to visit Ted Bullock's and Glenn Northcutt's labs at Scripps in La Jolla was legendary.

Dietrich was appointed professor and head of the department of neuroanatomy in Göttingen at the age of 36. His students included Werner Graf, Eberhard Fiebig, Christopher von Bartheld, Mario Wullimann, Michael Hofmann, Cordula Malz, Andreas Schober, Carmen Piñuela, and Arun Jadhao. Dietrich collaborated with bigwigs in comparative neurobiology, Ted Bullock, Walter Heiligenberg, Henning Scheich, Sven Ebbesson, Glenn Northcutt, Jack Pettigrew. He also had significant influences on the careers of Bob Eaton, Albert Feng, Eric Knudsen, Bernd Fritsch, Jannon Fuchs, Mary-Claire Holst, Leo Veenman, and Michael Rickmann. Detailed scholarly work and formal presentations were not Dietrich's style. He preferred eye-to-eye discussions in the bar next door and brief publications – then off to the next expedition. There was no lack of ideas, only time ran out on this man whose life was burning like a candle lit at both ends. Dietrich died on June 8, 1999, at the age of 51 years. He is survived by his wife Sabine and his daughters Cora and Gesa.

References

- Ebbesson, S.O.E., and D.L. Meyer (1981) Efferents to the retina have multiple sources in teleost fish. *Science*, 214: 924–926.
- Meyer, D.L., and T.H. Bullock (1977) The hypothesis of sense-organ-dependent tonus mechanisms: history of a concept. *Ann. N.Y. Acad. Sci.*, 290: 3–17.
- Meyer, D.L., C.R. Malz, M.H. Hofmann, and C. Piñuela (1994) Centrifugal innervation of the retina in bony fishes: a review of a century of research. In *Advances in Fish Biology and Fisheries* (ed. by H.R. Singh), Vol. 1, Hindustan, Delhi, pp. 215–232.
- Schaefer, K.P., and D.L. Meyer (1974) Compensation of vestibular lesions. In *Handbook of Sensory Physiology* (ed. by H.H. Kornhuber), Vol. VI, Part 2, Springer, Berlin, pp. 463–490.
- von Bartheld, C.S., H.W. Lindörfer, and D.L. Meyer (1987) The nervus terminalis also exists in cyclostomes and birds. *Cell Tissue Res.*, 250: 431–434.

A complete list of Dietrich L. Meyer's publications is listed online at <http://www.zinema.com/graf/DLM/>