"I want to say a word for the study of comparative physiology also for its own sake. You will find in lower animals mechanisms and adaptations of exquisite beauty and the most surprising character ...."

August Krogh[1]

Aside from the major practical physiological insights that have derived from Bodil Schmidt-Nielsen's illustrious career, her work has also revealed the "exquisite beauty and surprising character" of diverse physiological systems. Many fundamental concepts in biology still seem obscure even with today's rapid production of new information. Bodil is one of those rare individuals who can bring clarity and intensity to otherwise fragmented, seemingly disconnected knowledge. A rich intellectual heritage and long experience are no doubt contributing factors to this ability, but an enduring, irrepressible enthusiasm has helped focus attention on questions that might otherwise go wanting.

Bodil has studied the osmoregulatory physiology of more than 30 animal species, revealing broad evolutionary strategies as well as specific structure-function relationships. For most of her career, her work has been strongly comparative, illuminating similarities and differences among groups thus extending the foundations that make the "Krogh Principle"[2] possible. This approach has not only provided new tools or model systems for addressing specific mechanistic questions, the comparisons have themselves generated new questions. This leads to the articulation of better, more informed hypotheses, which leads to better science, which speaks directly to the culture of MDIBL and her influence on it.

In addition to her leadership, beginning in 1955 as trustee and including the vice presidency and presidency of the laboratory, she has been a major factor in perpetuation of the "sympathetic and critical colleague"[3] ambiance of MDIBL. Her father, quoted above, articulated the importance of a sympathetic and critical colleague in reference to her mother, Marie. Bodil Schmidt-Nielsen has been part of a laboratory life that fosters criticism and debate of ideas by individuals who understand and share common goals. Many of us would argue that this is the essence of MDIBL, and certainly it derives from many outstanding individuals, but perhaps none have represented it better than Professor Schmidt-Nielsen. We are not alone in our appreciation. The American Physiological Society will honor members who have "made outstanding contribution to physiological research and demonstrated dedication and commitment to excellence in training of young physiologists"[4] by a new award – the Bodil Schmidt-Nielsen Distinguished Mentor and Scientist Award.

The following article is an excellent example of an idea stemming from comparative physiological insight and will likely spark considerable discussion. Thank you Bodil.

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[1]Schmidt-Nielsen, B.M. 1995. *August and Marie Krogh – Lives in Science.* Oxford: New York, 295 pp.
[2]Ibid., p. 167
[3]Ibid., p. 114
[4]http://www.the-aps.org/publications/journals/tphys/2003html/apsnews.htm