One of the definitions of physiology is that it is “the science of how the body works.” It may be that physiologists a century ago could rightly believe that they were familiar with what was then known about body function. But can modern physiologists make a similar claim? Do we really know how the body works? Or do we rather know only how a certain transporter in a tubule cell works, or how the endothelium senses shear stress, or how a certain growth factor may affect synaptic transmission, to say it a bit provocatively? Physiology has become highly subspecialized, which is a logical, necessary, and—by the way—quite successful development.

Moreover, in a field where there is often little time available to study current literature, highly sophisticated search programs and e-mail alerts now help physiologists keep up with the latest publications containing key words that are relevant to their own research areas. Gone are the times when a physiologist could be found leafing through the printed version of Current Contents in the few remaining quiet minutes of the day (in places hardly mentionable, such as the bathtub) and had his curiosity so piqued about a promising title in a journal he did not screen regularly that he simply had to find out what it might signify. Sometimes it meant a great deal even for his own work.

Even today, a broader view still seems to be necessary. For those who seek the role of the process they study in depth in the intact body, it remains essential to know at least a certain amount about other systems in the body. This also holds true for those who have to (or chose to) teach general physiology. Not to mention, many a good idea stems from a quick look over the neighbor’s fence and from an analogy between systems.

Sometimes mother nature herself shows us that such useful parallels exist. In this issue, an article by Serini and Bussolini reviews the role of factors like ephrins and semaphorins in guiding both axons and vessels in a very similar manner along their travels through the body during development, partly through their effects on cellular integrins. The mutual understanding of mechanisms observed in vessel and nerve growth has composed an impressive body of knowledge in this field, which is not only informative and possibly of importance for regeneration of tissues but is also fun for the interested reader and perhaps a challenge to test the factors in other systems.

Such common relevance for several groups of specialized physiologists is one of the criteria to be considered when it comes to the selection of potential topics for publication in Physiology. On the editorial board, a group of experienced and renowned scientists, each specializing in a relevant field of modern physiology, identifies in an interactive process the topics that they consider important and new in their own areas and that they also agree to be of interest to physiologists as a whole. This issue of Physiology is an example of the results of that process, offering a broad spectrum of information, from new methods to molecular mechanisms of cell function and organ development. Thus Physiology offers a unique opportunity to help physiologists keep up with recent developments in modern physiology outside their own specialized areas. No one could ever, in the final analysis, hope to be an expert in everything, but staying informed about developments across the field of physiology will certainly help us all to better understand how the body works.