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Scale

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P e a c e

Scale can be likened to a beehive. On the outside, it is a wooden box standing in a meadow. Inside, however, it is bursting with life of complexity that is difficult to

diversity of perspectives. On the other hand, by following paths of inquiry and problem solving in other fields than one's own, one can be stimulated and inspired to find new approaches for problems in one's area of interest.

At the same time, while pursuing its main objective – to support a deeper understanding of scale and its role in our understanding of the environment – the book only briefly mentions some of the most often treaded paths. This is mainly the case for topics that are described at length in numerous books, including some intended for the undergraduate level. For instance, one may expect cartography to take up most of the book, and yet it does not. One can think of a monument sitting in the middle of a town's central square: as it is often visited and photographed by everyone, a monograph could be entirely dedicated to it. Alternatively, a monograph may only refer to some extent to the monument, while also exploring other landmarks and artifacts, near and far, which are related to that monument in terms of symbolic meanings, means of representation, historical developments, etc.: eventually, the amount of space dedicated to the monument may be unexpectedly low, given its prominent presence in the town square. And yet, the study of the monument's meaning and importance can be deepened and enhanced by this latter approach.

It is a well-known fact that in some cases it is harder to explain simple things than complicated things. Complicated subjects can usually be described in terms of simpler ones. However, basic concepts can be difficult to define. Moreover, especially in one's early stages of scholarly pursuits, after the first successful steps in a certain area, one may perceive the domain as being so clear that it becomes almost transparent. "As owls' eyes are at noonday, so is our mental vision blind to what in its own nature is the most evident of all," warns us Aristotle. There is not much one can do about this natural tendency. However, it might help to be aware of it. This is the reason why in this book we turn from time to time to the foundations. For example, when we talk about scale as ratio, we present the underlying framework: affine transformations. When we look at scale as rank, we open up the basics of the theory of categories.

After all, from an applicative point of view, much of what is needed about scale seems to be achievable in 10 minutes of theory and another 50 minutes of practice. In terms of the above metaphor, this is almost equivalent to merely noticing that a beehive is present. Learning about its richness and about its role in our lives is a different matter. If the book will open a window into the buzzing world of the hive, and offer some notions of a language we can use to interact with the hive and with the environment, it will have accomplished its goal.

Halifax, NS, Canada

Cristian Suteanu

Understanding is, after all, what science is all about.
Roger Penrose, *The Road to Reality*

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Abstract

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