



The Nature Institute

Dear Friends,

Ours has been called an “age of abstraction.” We learn, early in our education, to *ab-stract* (“pull out”) from every rich, phenomenal context particular parts or aspects—especially those parts or aspects that lend themselves to mathematical treatment. The almost inevitable temptation is then to allow our abstractions to stand in the place of the original phenomena, which then may be easily forgotten. And so, atoms and molecules substitute for mountains and rainbows, wavelengths substitute for color, and genes substitute for organisms. It is not surprising that distorted understandings and policies result when we ignore a many-sided reality in favor of one-dimensional abstractions serving the purposes of mathematical theory and technological manipulation.

In this issue of *In Context*, we present three articles that deal in one way or another with the limitations of abstraction and how to overcome them. To begin with, George Russell asks how we can restore to children an essential and healthy relation to the natural world—this at a time when, for many children, their primary exposure to nature is mediated by that most severe tool of abstraction, the electronic screen. As a veteran of forty-eight years of biology teaching at the university level, George has watched as the students passing through his classroom have brought with them the effects of ever-increasing screen time—and ever less awareness of the simplest features of the natural world. The experience has prompted him to think long and hard about how to reintroduce children and young people to nature in our own time. Here he shares some of the fruits of that thinking with us.

A primary invitation to abstraction in biology lies in the strong compulsion to ask of every feature of every organism, “What is its survival value?” The assumption is that if only we can identify the “survival strategy” represented by the feature, we have adequately explained it. Any further understanding—for example, seeing the feature as an expression of the distinctive way of being of a particular kind of organism—is not something biologists are trained to seek. In this issue Craig looks at the puzzle of the zebra’s stripes, and finds that the search for a survival strategy is not particularly straightforward. And perhaps, in any case, the more important place to start is with the pleasure of acquainting ourselves in the fullest possible way with the phenomena immediately before us. We may find that these speak to us in their own right.

Finally, in “What Is Life—Let’s Take Living Things on Their Own Terms!”, Steve looks at the frequent and hotly debated question whether all biology can be understood as ultimately “nothing but” physics. The question, he thinks, is strangely formulated. It might be more promising to ask whether we can ultimately understand physics only with the help of biology. Through our intimate connection with our own bodies and their expressive potentials, we have an “insider’s knowledge” of material phenomena that we can scarcely hope for in relation to an “inanimate” world that is more mystery to us than anything else.

We hope that this issue of *In Context* will inspire every reader to take a further step past abstraction and into a rewarding engagement with the natural world that is our home.

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