

## An antidote to *PNAS* or *Cell*: Venetian blondes or a nine-banded armadillo

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**Blondes in Venetian Paintings, the Nine-Banded Armadillo, and Other Essays in Biochemistry** by Konrad Bloch, Yale University Press, 1994, 261 pages. \$30.00 hardcover (ISBN 0-300-05881-0).

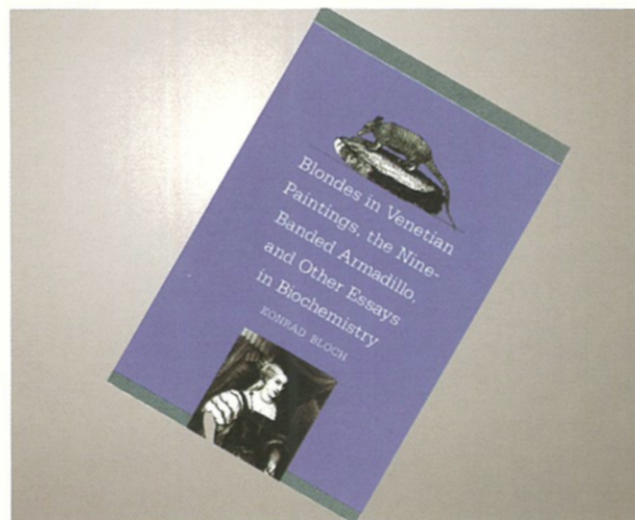
The thirteen short essays in this book provide a welcome antidote to an overdose of *PNAS* or *Cell*. They proceed at a leisurely pace; they can be read a little at a time, and they contain material interesting to a diverse group of scientists. Best of all, you can turn the pages without apprehension. You will not find your most recent insights into the significance of Arg297 of the UZ1 receptor set out all too lucidly by a competitor.

The advertising blurb on the dust-cover claims that the book will appeal to the general reader. It must be referring to a very special group of general readers. A few of the essays could be read with pleasure by a Professor of English Literature, say, but the majority of them will only appeal to those with some knowledge of chemistry and some interest in biochemistry. Anyone who can read related material in *Scientific American* without flinching will have no difficulty at all.

Several of the essays deal with oxygen and oxidation. The title essay, 'Blondes in Venetian Renaissance Paintings', is one of the most accessible to the non-chemist. It begins with the observation that 16th Century Venetian paintings feature many blonde women but few blond men. Where did peroxide blondes come from before the discovery of hydrogen peroxide? Konrad Bloch has many interesting ideas about the mode of action of the various concoctions used in Venice. However, experimental evidence is lacking and controls were not part of the Venetian scene. It's hard to say whether California surf is more or less efficient than Venetian herbal extracts.

I found the essay on cholesterol one of the most interesting. Oxidation, this time, is discussed in the context of the conversion of lanosterol into the 'perfect' membrane stabilizer, cholesterol. It is argued that the three oxidative demethylations that are required evolved sequentially as oxygen accumulated in the atmosphere. Perhaps protein clocks can be used with advantage to determine important aspects of the history of the earth's atmosphere.

A theme that runs through many of the essays is the danger of taking 'labels' too seriously. This is most obvious in the chapter on 'The importance of being contaminated'. A number of examples from the history of biochemistry illustrate the importance of tracking down the causes of



irreproducibility in what seem to be relatively straightforward experiments. Often, an impure substrate has turned out to be the cause of the difficulties, and the identification of the impurity has, in many cases, led to important discoveries. We are all aware of the possibility of contamination, but it tends to be overlooked for too long. This essay would make excellent reading for beginning graduate students.

Another common theme is the importance of working with the most appropriate biological system. This is made explicit in the chapter on 'Animal and Microbial Models', but there are numerous references throughout the book to research that has succeeded or failed because of the choice of the biological model. Sometimes insight has been crucial to success, but just as often some combination of luck and persistence has paid off.

Woven in with the biochemistry are interesting and always modest fragments of autobiography. In addition to his distinguished published contributions to biochemistry, Konrad Bloch has contributed to the discipline in diverse ways. Injecting extracts of tubercle bacilli from cows and humans into his arms to investigate species differences, catching sharks in the quest for the perfect liver preparation and isolating isotope-labeled pregnanediol from the urine of his then-pregnant wife are among the more unusual.

This is an instructive and entertaining book that blends facts, speculations and autobiography. It should appeal to anyone with an interest in the history of biochemistry.

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