

than work steadily through the book, but one desiring a light course only will need much guidance in deciding what portions to leave out.

Various points require some slight alteration. In the early pages the notation 2, 2 instead of (2, 2), for the co-ordinates of a point, is unfortunate, as a beginner will have to unlearn it later. The classification of curves given by real equations of the second degree (p. 114) is incomplete, no mention being made of  $m^2x^2 + n^2y^2 + 1 = 0$ . It should also be noted that  $ab = h^2$  is not a sufficient condition for a parabola, and, on p. 247, that the algebraic freedom-equations must be rational. A few results are stated incorrectly, e.g. No. 12 on p. 255. Neither is the distance of a point from a line in homogeneous co-ordinates found in the best way.

However, these matters are only minor blemishes which can easily be adjusted in a later edition. Scientifically the weakest feature is the treatment of complex geometrical elements. Although the author lays stress on the fact that he has written about geometry, and not about algebra with a geometrical interpretation, he is content to say that a quadratic equation with unreal roots defines two "imaginary points" on a real line and to assign to these points the qualities of real geometrical entities. But the treatment of complex geometrical elements is unsatisfactory in most English text-books, and the author of this one follows many precedents in the course he has adopted.

We cordially recommend Prof. Sommerville's book both as a work of reference for mature readers and as a text-book for students desiring to make a serious study of analytical conics. The numerous problems will be specially valuable to the latter. W. E. H. B.

*Cancer: How it is Caused, How it can be Prevented.*

By J. Ellis Barker. Pp. 432. (London: John Murray, 1924.) 7s. 6d. net.

WE cannot agree with Sir W. Arbuthnot Lane that this book "will prove a great boon to mankind" or "that it is easily the most important practical work on cancer existing in English or in any other language." These statements are extravagant or, at least, very doubtful. Mr. Barker's book is the work of a journalist and is from beginning to end uncritical in a scientific sense. He states (p. 110) that he is "fully acquainted with the latest discoveries," but if so he has not given them to us but has used his book to express his opinions that cancer is due to constipation and lack of vitamins, two views which in our opinion have little foundation in fact. Almost the only authorities he quotes are surgeons—notoriously the least fertile of our medical researchers—whom he describes by some appropriate adjective such as great, very great, able, eminent, famous, or celebrated. Their statements, mostly from the general press, are regarded by Mr. Barker as an authoritative canon. We are reminded with irritating frequency that Sir W. Arbuthnot Lane has said, "Cancer never affects a healthy organ or healthy tissue." Sir W. Arbuthnot Lane may believe this, but it is our duty to point out that there exists a very extensive scientific literature for and against this opinion.

The whole aim of Mr. Barker's book is to put forward the pious belief—it is nothing more—that cancer is a disease of civilisation and is associated with constipa-

tion, which can be alleviated by eating raw food and roots like the beasts in the field. A great deal is made of the catchword "auto-intoxication." If Mr. Barker would like to know how little is the knowledge which science possesses on intestinal auto-intoxication we can commend to him the article by Dr. W. C. Alvarez in *Physiological Reviews* (1924, vol. iv. pp. 352-393).

In our opinion the book will do much more harm than good, as it can only have a deleterious action and make people concern themselves with morbid symptoms in their abdomens. It may lead to a few intestinal "kinks" being unkinked, but it is very improbable that Mr. Barker's precepts will have any influence on the incidence of cancer of the abdomen or elsewhere.

*Evolution at the Crossways.* By H. Reinheimer. Pp. 191. (London: The C. W. Daniel Co., 1924.) 6s. net.

TWENTY-FIVE years of dietetic experiment have enabled the author to frame new theories of evolution. Like a disciple of M. Coué, he states that to be true which he wishes to be true, and produces a picture of the world which will be pleasant to many.

"Selectionists . . . impute a very low kind of morality to Nature—low enough to approximate the ruthlessness of elemental forces"; but for Mr. Reinheimer "the roots of morality go back to the mutual relations existing between the lowliest of organisms, the nitrifying bacteria." "Palæontology shows that those organisms which have aimed at a self-sufficient life, have received no encouragement from Nature." "Parasites are failing species." "An organism, in order to persist on the road of progress, must seek its provender amongst the spare products of another kingdom." "Habitual predacity invariably leads to protoplasmic impoverishment." For "the frugivorous animals, including man himself . . . their high prerogative was purchased by biologically righteous behaviour." "A carnivorous career necessitates an inordinate supply of blood to the large fangs, which is the cause of the brain being fatally under-supplied." (The relative brain-power of dogs and sheep is not discussed.) Righteous birds feed on grain and fruit, and righteous insects on leaves. (The debt of agriculture to unrighteousness is not discussed.)

Many will admire this book, whom we cannot remind that sharks are older than land-animals, and carnivorous echinoderms older than sharks; that most animals live in the sea, and of them nearly all larger than a rice-grain are carnivorous; that beautiful fish are not less predaceous than ugly fish; and that the production of thousands of eggs for one to survive is not "a form of disease and penalisation," but is repetition of an ancient marine habit still followed by most female animals, and by all males.

G. P. B.

*Animal Life in the Yosemite: an Account of the Mammals, Birds, Reptiles, and Amphibians in a Cross-section of the Sierra Nevada.* By J. Grinnell and T. I. Storer. Pp. xviii + 752 + 62 plates. (Berkeley, Cal.: University of California Press, 1924.) 7.50 dollars.

THE present volume describes a survey of the vertebrate natural history of the United States National Park of the Yosemite region, the geology and botany of which had previously been explored. It was under-