

relation to auxin, gibberellins, and anti-metabolites; and cell division and differentiation related to induction and the morphology of transformation.

There is a short, selected bibliography, and three indexes—author, organism, and subject. The type, illustrations, and format are good.

The physiologist may feel that more time and emphasis should have been placed on the time relations in which light and darkness succeed each other than on such secondary considerations as the duration of the light and dark period, or to such modifying factors as temperature. Emphasis on modifying factors tends to stress the differences between various plants with respect to flowering, whereas an understanding of the fundamentals of flowering physiology must come from recognizing similarities. The author freely admits that the cocklebur is somewhat atypical, but uses this classical example to unify his presentation. Others may prefer a more critical survey of the literature and reference to already published work, rather than to unpublished data of experiments by the author and his students. Despite these inevitable exceptions, the author has accomplished exactly what he set out to do, in a most effective manner. The book should be well received, particularly by ecologists.

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## Latin American Politics

**The Military and Society in Latin America.** John J. Johnson. Stanford University Press, Stanford, Calif., 1964. xii + 308 pp. \$7.

This is the second important book published in English on the role of the military in Latin American politics. Its point of view differs substantially from that of the earlier work by Edwin Lieuwen. Both are essential reading if one wishes to understand the importance of the armed forces in the contemporary Latin American scene.

Johnson takes a substantially less-dismal view of the activities of the military in politics than did Lieuwen. In some countries, notably Brazil, he thinks that, on balance, their behavior has been positive and constructive. In general, he seems to think that the military are no less subject (albeit there

is some time lag involved) than the civilians to the forces of change which are prevalent today in Latin American society. He sees the fact that the service academies are reaching further and further down the social scale for their students as indicating that, in the future, there is likely to be more and more sympathy among the officers for drastic social change.

On another point, too, Johnson differs from the earlier writing on the subject. He is a good deal less sanguine than Lieuwen about the effect that the so-called "professionalization" of the armed forces has on their tendency to engage in politics. He indicates that it may well induce them to intervene more rather than less. This is particularly true in the less well developed nations, where the technology possessed by the officer class is of greater relative importance and leads the officers to feel that they have capacity for dealing with technical problems which the civilians lack. He buttresses this argument with information on the number of government dependencies which are headed by military men, even in civilian-controlled administrations.

Fundamentally, Johnson starts with the proposition that, whatever the civilians might like, the military are not going to disappear and they are not going to cease being active politically. Therefore, the basic problem, as he sees it, is what direction this political activity is going to take. He says of the Latin American civilians that "... faced with such a situation, they could throw up their hands in despair and say to the officers, 'Do what you will not let us do.' That would be dramatic, and conceivably effective in certain instances. Or, knowing that they are moving rapidly into an era of profound social disorder and that Western representative democracy no longer has a monopoly in this Hemisphere, the public can maintain their armies as deterrents against extremist-provoked violence but at the same time work to convert them into more socially constructive institutions. That would not be so heroic but it would certainly be realistic, and Latin Americans will probably have to be more realistic than they ordinarily have been if they are to survive the onslaught of extremists from both the right and the left."

Several sections of this book are worthy of particular mention. One is that devoted to a historical account of the evolution of the military and its political role in Latin America, from

the heroes of independence, to the ruffian armies of the "caudillos" of the later 19th century, to the comparatively well educated and technically capable officers of most present-day Latin American military forces.

Another particularly interesting aspect of the book is its more or less sociological analysis of the officer class. Johnson insists that in most countries there has been a shift in recent decades from the upper middle class of the smaller towns and cities to the lower middle and even the working classes of the cities as the principal source of officer candidates.

Finally, Johnson's analysis of the behavior of the Brazilian military as a special case is worthy of particular attention, especially in the light of Brazilian events since this book was published. Johnson's prediction that the Brazilian officers might be on the verge of changing their role from that of a grey eminence behind the political scenes to chief actors on the governmental stage seems to have been borne out by the revolution of 1 April and its aftermath.

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## Computer Technology

**Automatic Data Processing.** Frederick P. Brooks, Jr., and Kenneth E. Iverson. Wiley, New York, 1963. xxvi + 494 pp. Illus. \$10.75.

This book evolved from and with the lecture notes used in a two-semester graduate course given at Harvard University from 1954 to the present. It has been written in a form that is intended to be suitable for a two-semester course for college seniors, and, in addition, the authors have taken particular pains to make the book suitable for self-study. A set of exercises, usually well chosen, is given at the end of each chapter, as well as an extensive list of references to sources where a more detailed discussion of various topics treated in the chapter may be found. Twenty-two of the exercises are considered exceptionally difficult and their solutions are given in an appendix. The authors assert that the mathematical maturity attained from a course in college algebra should enable the reader to deal with the only occasional use of elementary mathematical concepts. However, the authors do use