is inclined to lay too much to what he calls our "populistic tradition." In my judgment there is at least one other factor of critical importance.

An obsessive fear of both privacy and secrecy may develop in a society whose population is composed of heterogeneous and mutually hostile racial, nationality, ethnic, religious, or political elements. The English can afford to be indulgent of those who differ or dissent, or who insist that their private affairs are no concern of the state or public opinion. As Shils observes, "Mutual trust (in Britain) reduces the fear of secretiveness and the need for publicity." In America, however, the same influences that operate to create attitudes of freedom and toleration toward differences—that is, a heterogeneous population in an extensive land, operate also to produce fear of diversity, especially when these differences take, or appear to take, a political turn. The American knows well that in a nation composed of men and women of nearly every conceivable national, racial, or religious heritage, toleration of religious and cultural differences is a condition of survival. Otherwise we might quickly revert to that state of nature of which Hobbes spoke. But the limits of this toleration, although vague and variable, are nevertheless real, particularly when political values are involved.

Without a common culture, with historical, religious, and literary traditions as diverse as the groups entering into the so-called "melting pot," and to a large extent lacking even a common language, the nascent Americans looked for a common bond of unity in the political and economic institutions of their adopted land.

The very differences that produced a tradition of toleration on the cultural level produced an equally fanatical belief in the necessity for conformity in political and economic ideas. Hence, the passion for Americanization, for loud and repeated affirmation of devotion to the Constitution, the Declaration of Independence, Free Enterprise, and other signs and symbols of a common political and economic loyalty. It is a loyalty, be it noted, not to any omnipotent state of Hegelian or Marxist hue, but rather to a set of political ideas that give meaning to our kind of heterogeneous, pluralistic society. Among these is the notion that publicity is a safeguard if not a cure for most political ills. Hence, state secrets too are anathema.

Yet when state secrets are associated with national security and the defense of other democratic values they join the Constitution, the Declaration of Independence, and other symbols of our common political heritage as part of the "ceremonial of solidarity" so important to a heterogeneous, pluralistic people.

No brief review can summarize this searching and stimulating volume. Nowhere have I seen so impressive an analysis of one of the major problems of our time. Shils is no zealot, either of the right or left. He recognizes that in the context of polarized political power a security problem of considerable dimensions confronts all the free nations. His quarrel is with those methods that not only are ineffective in promoting security but actually impair national security by undermining those features of our pluralistic society upon which our national security most depends. His concern is not with security or even with secrecy as such, but with *The Torment of Secrecy.*

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Protoplasmatologia. Handbuch der Protoplasmaforschung. vol. II. *The pH of Plant Cells.* James Small. *The pH of Animal Cells.* Floyd J. Wiercinski. Springer, Vienna, 1955. 116 pp; 56 pp. $8.10.

As introduction to the *p*H in plant cells, a brief history is given of early estimations of *p*H values in plant cells as well as an outline of Small's Range Indicator Method. This method (R.I.M.) was largely used to obtain the data on which the monograph is based. Tables of indicators and of color changes for rough practical estimations and an outline of new notation for R.I.M. follow. The present-day outlook on *p*H and the R.I.M. is discussed, and significant precautions, advantages, and limitations of the method are pointed out. In the succeeding section the relationships between *p*H and natural indicators are reviewed.

The following major chapter comprises methods and data on the *p*H of plant cell sap. Significant results and *p*H ranges are assembled here according to taxonomic groups, together with a detailed listing of varied tissue locations in angiosperms and of cell and tissue distribution within the plant. Varied conditions are also taken into account, such as flowering and vegetative state, maturation, seasonal changes, gradients, diurnal variations in succulents, nonsucculents, and stomatal guard cells, effects of plant hormones and chlorosis on *p*H. One chapter deals with the plant cell wall, buffers in plant cells, and the protoplast including nucleus, chromosomes, chloroplasts, granules, and limiting layer. These sections are relatively short, since considerably less is known here. The bibliography contains 230 full citations.

The purpose of Wiercinski's review is to evaluate all the existing literature and data on *p*H in the protoplasm of animal cells. In his presentation of modern problems, methods, and results, the author is mindful of the fact that in the past faulty methods and techniques have been common sources of error. Both the methods and the assumptions on which their procedures are based are therefore carefully examined.

Detailed discussions are given in three sections on the methods used for the determination of intracellular and tissue *p*H: namely (i) potentiometric methods (hydrogen, platinum, and antimony electrodes; capillary glass electrode; glass electrode); (ii) indicator method (general considerations; vital dyes; acid-base indicators; natural indicators in living cells); and (iii) methods of calculation (Henderson-Hasselbalch equation; zeta potential; buffering power). The actual data are subsequently given in tables systematically from the Protozoa through the Chordata.

In lieu of a summary the author presents a critical discussion of data for *p*H obtained by different workers, in nucleus, cytoplasm, and vacuole. He concludes that only a few investigators have in the past entirely excluded possible errors involved in the methods used, although it would certainly be incorrect to assume that all cells have the same *p*H at all times.

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Advances in Carbohydrate Chemistry. vol. 10. Melville L. Wolfrom and R. Stuart Tipson, Eds. Academic Press, New York, 1955. xx + 437 pp. Illus. $10.50.

The technical stature of this series of *Advances* is outstanding, and volume 10 is one of the best. Determination of the true value of these volumes is hardly possible, but it is obviously very great. If the present apparently high editorial standards are maintained, carbohydrate chemists can be assured that developments pertinent to their major scientific interests will be continuously reorganized in the light of current needs.

Contributions from 11 well-qualified scientists (one each from Australia, Canada, and Scotland in addition to four each from England and the United States) treat nine subject headings. Because of the detailed exactitude with which each section is handled, perhaps several reviewers rather than a single one would have been more in keeping with the tenor of the work.

"The stereochemistry of cyclic derivatives of carbohydrates" is discussed (J. A. Mills) from a fresh point of view which ultimately should be helpful in