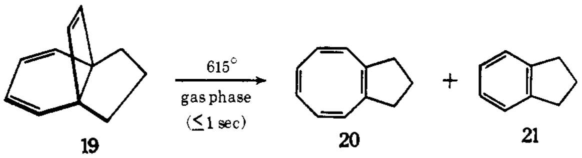
octene intermediate (*e.g.*, **9**) will depend upon the capability of the trigonal cyclobutene carbons to bend in the direction of the neighboring diene unit (or *vice versa*). Molecular models indicate that a trimethylene bridge substantially restricts this requisite motion. Not unexpectedly, therefore, the pyrolysis of **19**[18] required enhanced temperatures and gave only low yields of **20** and **21** in which the fragmentation product **21** predominated by a factor of 2.



This work also raises the intriguing possibility that cyclooctatetraene and certain of its derivatives may be capable of skeletal rearrangement in their own right. We are currently exploring this question.

Acknowledgment. Appreciation is expressed to the National Cancer Institute for partial support of this research. The sample of **19** was kindly supplied by Mr. Ronald K. Russell whom we thank.

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[18] L. A. Paquette, R. E. Wingard, Jr., and R. K. Russell, *J. Amer. Chem. Soc.*, in press.

[19] National Institutes of Health Predoctoral Fellow, 1969–1971.

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Additions and Corrections

A Study of the Decay Processes in the Triplet Sulfur Dioxide Molecule Excited at 3828.8 Å [*J. Amer. Chem. Soc.*, **93,** 2587 (1971)]. By Howard W. Sidebottom, Charles C. Badcock, Jack G. Calvert,* George W. Reinhardt, Blaine R. Rabe, and Edward K. Damon, Department of Chemistry and the ElectroScience Laboratory, The Ohio State University, Columbus, Ohio 43210.

On page 2588, column 2, line 15, the length of the tube should read 88 cm. Also, on page 2592, column 1, line 8 and in the caption to Figure 6, the pathlength should read 88 cm.

On page 2592, the sentence beginning on line 20 should read: The slopes give: $\epsilon_{SO_2} = 0.11 \pm 0.02$ and $\epsilon_{Ac_2} = 8.3 \pm 0.8$ l./(mol cm) at 3828.8 Å.

An Equilibrium Centrifugation Study of the Self-Association of *N*-Methylacetamide in Carbon Tetrachloride Solutions at 25° [*J. Amer. Chem. Soc.*, **93,** 7075 (1971)]. By Robert J. Albers, Anne B. Swanson, and Gordon C. Kresheck,* Department of Chemistry, Northern Illinois University, DeKalb, Illinois 60115.

The values given in line 5 of the abstract should read 73 g/mol, $2.68 \pm 0.15 \times 10^4$ ml/g, 0.00312 ± 0.00036 mol-ml/g^2, and 0.00970 ± 0.00201 mol-ml^2/g^3, respectively.

In the column headings of Table I, the units of BM_1 should read (g/ml)$^{-1}$ and those of CM_1 should read (g/ml)$^{-2}$.

Photolysis of Ortho-Substituted Aryl Azides in Diethylamine. Formation and Autoxidation of 2-Diethylamino-1*H*-azepine Intermediates [*J. Amer. Chem. Soc.*, **94,** 513 (1972)]. By Richard J. Sundberg,* Stuart R. Suter, and Martin Brenner, Department of Chemistry, University of Virginia, Charlottesville, Virginia 22901.

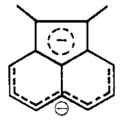
On page 518, column 1, the final sentence is in error. The structure under discussion, 2,7-dimethyl-4*H*-azepin-4-one, was later retracted: E. Bullock, B. Gregory, and A. W. Johnson, *J. Chem. Soc.*, 1632 (1964).

Structure and Reactivity of Organic Ions in Gas-Phase Radiolysis. V. The Structure and Formation Process of the $C_7H_7^+$ Ions from Toluene [*J. Amer. Chem. Soc.*, **94,** 661 (1972)]. By Yukio Yamamoto,* Setsuo Takamuku, and Hiroshi Sakurai, The Institute of Scientific and Industrial Research, Osaka University, Suita, Osaka, Japan.

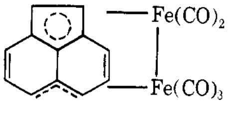
In footnote 13, the feature of the nmr spectrum is incorrect and should be H_{Ph}, τ 2.9∼3.1; H_{CH_2}, τ 6.1; and H_{CH_3}, τ 7.8.

Deprotonation of Acenaphthene. The Acenaphthylene Dianion [*J. Amer. Chem. Soc.*, **94,** 985 (1972)]. By L. D. Kershner, J. M. Gaidis, and H. H. Freedman,* The Dow Chemical Company, Eastern Research Laboratory, Wayland, Massachusetts 01778.

Structures Ia and VII should be



IA



VII

Photoisomerization about the Carbon–Nitrogen Double Bond of an Oxime Ether [*J. Amer. Chem. Soc.*, **94,** 1000 (1972)]. By Albert Padwa* and Fred Albrecht, Department of Chemistry, State University of New York at Buffalo, Buffalo, New York 14214.

Due to a mathematical error in the determination of the light intensity, the quantum yield reported in the last two lines of page 1000 should be $\Phi = 0.30$ and $\Phi = 0.36$ at 0.036 *M*.

On the Mechanism of Intermolecular Aromatic Substitution by Arylnitrenes [*J. Amer. Chem. Soc.*, **94,**

1374 (1972)]. By R. A. Abramovitch,* S. R. Challand, and E. F. V. Scriven, Department of Chemistry, University of Alabama, University, Alabama 35486.

On page 1375, column 1, the chemical name at the end of fifth line of text below the structures in the middle of the page should read *N*-pentafluorophenyl-1*H*-.

Synthetic Spectroscopic Models Related to Coenzymes and Base Pairs. An "Abbreviated" Nicotinamide Adenine Dinucleotide [*J. Amer. Chem. Soc.* **94,** 1702 (1972)]. By John A. Secrist III and Nelson J. Leonard,* School of Chemical Sciences, University of Illinois, Urbana, Illinois 61801.

Both "abbreviated" NAD^+ derivatives show hypochromism. The legend to figure 1 should read: (Left) Ultraviolet spectra of 5′-(3-carbamoylpyridin-1-ylium)-5′-deoxy-2′,3′-*O*-isopropylideneadenosine chloride (**1**) (----) *vs.* the sum of 2′,3′-*O*-isopropylideneadenosine (**5**) and methyl 5′-(3-carbamoylpyridin-1-ylium)-5′-deoxy-2′,3′-*O*-isopropylidine-β-D-ribofuranoside chloride (**3**) (———). (Right) Ultraviolet spectra of 5′-(3-carbamoylpyridin-1-ylium)-5′-deoxyadenosine chloride (**2**) (······) *vs.* the sum of adenosine (**6**) and methyl 5′-(3-carbamoylpyridin-1-ylium)-5′-deoxy-D-ribofuranoside chloride (**4**) (-×-×-).

Hydrogen Bond Interactions with Sulfur Donors [*J. Amer. Chem. Soc.*, **94,** 1848 (1972)]. By A. D. Sherry and K. F. Purcell,* Department of Chemistry, Kansas State University, Manhattan, Kansas 66502.

In the sixth line of footnote 15, the word "less" should be "greater."

Mercury(II)- and Thallium(III)-Catalyzed Hydrolysis of Isopropenyl Acetate [*J. Amer. Chem. Soc.*, **94,** 1985 (1972)]. By Peter Abley, James E. Byrd, and Jack Halpern,* Department of Chemistry, The University of Chicago, Chicago, Illinois 60637

Reference 10 should read: L. L. Schaleger and Z. Garcia, *J. Chem. Soc. D*, 373 (1971).

Book Reviews

Surface and Colloid Science. Volume 4. Edited by Egon Matijevic. John Wiley and Sons, New York, N. Y. 1971. vii + 495 pp. $24.95.

Matijevic's series, now in its fourth volume, is a very valuable contribution to the physical chemistry of surface and colloidal systems. The series gives somewhat more emphasis to theoretical than to experimental discussions. This is probably a reflection of the fact that the field has reached the stage where intensive theoretical treatments are worth the effort.

The first chapter, on "Computer Simulation of Colloidal Systems," by A. I. Medalia, is a review of recent work using a method that was initated by students of polymer solutions. The method is currently being employed to explain the important phenomenon of stabilization of a colloidal dispersion by extended adsorbed polymer molecules, or "entropic repulsion." The same mathematical techniques are applicable to flocs and sediments; and questions of the size, shape, and porosity of such aggregates are shown to be tractable by a kinetic, probablistic method. These problems (entropic repulsion and aggregate configuration) are well beyond the powers of physical chemistry's "classical" methods.

Pierotti and Thomas have written a chapter on "Physical Adsorption: The Interaction of Gases with Solids." Though fairly long, nearly 170 pages, it is particularly intensive in its treatment of a set of topics which are now moderately clearly understood: the interactions of fairly simple molecules with several well-defined solids. They open with a review of classical and statistical thermodynamics of physical adsorption, and follow with a discussion of intermolecular forces. In the latter subject, they review both pairwise-additive treatments, and the treatments in which the solid is treated as a single system, and also the work of Pitzer and Sinanoglŭ in which the interaction of adsorbed molecules is treated. (I have not, as yet, seen a discussion in which the Lifshitz method is used successfully for interactions between semiinfinite solids with slab–slab separations that are of molecular dimensions.) Next they give a short but excellent review of the pertinent experimental methods. The balance of the chapter is an extensive discussion of the theory of the low-coverage region, a slightly shorter discussion of the region up to monolayer coverage, and a brief review of multilayer theory.

Gill, Derzansky, and Doshi have written a 100-page chapter, "Convective Diffusion in Laminar and Turbulent Hyperfiltration (Reverse Osmosis) Systems." This is a much-needed engineering analysis, which signals a certain state of maturity of the subject. That is to say, on a molecular level the process is fairly well understood, and reasonable satisfactory membranes are available. The next step is engineering scale-up of reverse osmosis, as technological process. Such scale-up requires that mathematical models be proposed and analyzed. Gill and his coworkers have done just this; and their contribution is original, and not a mere review, though it contains a very adequate review of the subject right up to the manuscript date. The treatment will be of great value for the advancement of reverse osmosis as a practical process.

H. Ti Tien writes authoritatively on "Bimolecular Lipid Membranes." This paper is an amplification and up-dating of a review which was written in 1968, in a publication that does not commonly come to the attention of workers in surfaces and colloids. Techniques of forming the membranes are discussed, together with optical and mechanical methods and some results on electrical properties. Diffusion is discussed, and results as to water permeability are reported. Thinning of the film and stability are also covered. A bibliography is given with 321 entries, through 1970.

Robert J. Good, *State University of New York, Buffalo*

Analytical Photochemistry and Photochemical Analysis. Solids, Solutions, and Polymers. Edited by J. M. Fitzgerald (University of Houston). Marcel Dekker, New York, N. Y. 1971. xiv + 360 pp. $23.50.

This book reviews with a practical emphasis applications of photochemistry to a variety of chemical analysis problems. It is written at a level such that anyone who is familiar with elementary analytical and physical chemistry should be able to follow the text. Involved mathematical developments are relatively infrequent. Numerous references and practical hints and evaluations are included for the benefit of those who are seeking to evaluate the suitability of the methods included for the solving of particular problems. A number of typical graphs, illustrations, and diagrams are included. This book should be of interest to chemists and students who are seeking to gain an overall view of modern photochemical analysis techniques. Areas suggested as needing further development could be the basis of research problems. Polymer chemists should be interested in the detailed treatment of photodegradation of polymers. Analytical chemists who are responsible for the selection or development of new analytical procedures will especially appreciate the practical treatment of the topics.