than $^3Ph_2CO^*$, exactly paralleling the situation at 77°K, leading to precisely the opposite conclusion, namely that $^3MK^*$ has an $^3n,\pi^*$ configuration in cyclohexane. In fact, in CCl_4, τ_0 for MK is even less than for Ph_2CO! Thus, no firm conclusion about the electronic configuration of $^3MK^*$ in nonpolar solvents can be made on the basis of the available evidence, and we must await further investigation into the individual decay modes (radiative, nonradiative, reversible, and irreversible reaction) which determine τ_0.

The fact that self-quenching of MK is observed is not in itself inconsistent with an n,π^* configuration of the triplet, since recent studies indicate that self-quenching is a general process for ketone triplets and is not restricted to π,π^* triplets.[9-11] Self-quenching is particularly significant kinetically in solvents such as benzene, CCl_4, and water where ketone triplet lifetimes tend to be long at room temperature, compared with lifetimes in solvents such as 2-propanol and cyclohexane. Comparison of reactivities (*e.g.*, quantum yields) of ketones in different solvents must take into account such concentration dependencies. Consequently, it is necessary to reevaluate such data[2-4] already in the literature.

In any event, these results indicate that one must be wary about making extrapolations concerning the relationship of triplet lifetimes and electronic configurations of substituted benzophenones and presumably other ketones in fluid solution at room temperature, on the basis of experimental observations in glasses at 77°K. In addition, it would appear that τ_0 may not be sensitive to changes in electronic configuration at room temperature and thus may not be suitable as a probe for determining electronic configuration.

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[9] D. R. Kemp and P. de Mayo, *J. Chem. Soc., Chem. Commun.*, 233 (1972).

[10] D. I. Schuster and T. M. Weil, unpublished results.

[11] O. L. Chapman and G. Wampfler, *J. Amer. Chem. Soc.*, **91**, 5390 (1969); see also P. S. Engel and B. M. Monroe, *Advan. Photochem.*, **8**, 245 (1971).

Additions and Corrections

The Mechanism of the Reaction of Silver Nitrite with Alkyl Halides. The Contrasting Reactions of Silver and Alkali Metal Salts with Alkyl Halides. The Alkylation of Ambident Anions [*J. Amer. Chem. Soc.*, **77**, 6269 (1955)]. By NATHAN KORNBLUM,* ROBERT A. SMILEY, ROBERT K. BLACKWOOD, and DON C. IFFLAND, Department of Chemistry, Purdue University, Lafayette, Indiana 47907.

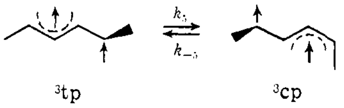
In column 1, line 38, of page 6278, "20 g of silver nitrite" read "120 g of silver nitrite."

On the Kinetics and Mechanism of the Perkow Reaction [*J. Amer. Chem. Soc.*, **94**, 1623 (1973)]. By IRVING J. BOROWITZ,* STEVEN FIRSTENBERG, GRACE B. BOROWITZ, and DAVID SCHUESSLER, Department of Chemistry, Belfer Graduate School of Science, Yeshiva University, New York, New York 10033, and Upsala College, East Orange, New Jersey 07019.

The fourth sentence of the abstract read: "ρ values for the two series are 2.37 and 1.89, respectively."

Temperature and Viscosity Effects on the Decay Characteristics of *s-trans*-1,3-Diene Triplets [*J. Amer. Chem. Soc.*, **94**, 5903 (1972)]. By JACK SALTIEL,* ALAN D. ROUSSEAU, and ALAN SYKES, Department of Chemistry, Florida State University, Tallahassee, Florida 32306.

Equation 5 is incorrect and should read



^{3}tp ^{3}cp (5)

On page 5905, line 9, read "10^{-8}" instead of "10^8." On the same page, line 14 read "faster" instead of "slower."

An Electron Spin Resonance Study of the Reaction of *tert*-Butoxy Radicals with Triphenylarsine [*J. Amer. Chem. Soc.*, **94**, 5932 (1972)]. By E. FURIMSKY, J. A. HOWARD,* and J. R. MORTON, Division of Chemistry, National Research Council of Canada, Ottawa, Canada K1A 0R9.

The second line of the ninth paragraph on page 5932 should read. "The rates were first-order in the radical concentration and independent of the triphenylarsine concentration and steady-state radical concentrations were proportional to the intensity of the initiating light."

Oxidation of Cobalt(I) Carbonyl Complexes and Cobalt(I)-Catalyzed Oxidation of Carbon Monoxide [*J. Amer. Chem. Soc.*, **94**, 6534 (1972)]. By JOHN E. BERCAW, LAI-YOONG GOH, and JACK HALPERN,* Department of Chemistry, The University of Chicago, Chicago, Illinois 60637.

The formula of **5** in Scheme 1 should read $[YCo(CN)_2(PEt_3)_2(CO_2)]^{5-}$. *Formally*, this corresponds to a CO_2 complex of cobalt(I).

Degenerate Thermal Rearrangement of Bicyclo[5.3.0^{4,8}]deca-2,5,9-triene (Lumibullvalene) [*J. Amer. Chem. Soc.*,

94, 6874 (1972)]. By Leo A. Paquette* and Michael J. Kukla, Department of Chemistry, The Ohio State University, Columbus, Ohio 43210.

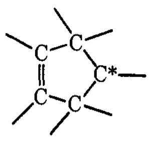
The correct name of the title compound is tricyclo-$[5.3.0^{4,8}]$deca-2,5,9-triene.

Dimerization of Nortropane-*N*-oxyl [*J. Amer. Chem. Soc.,* **94,** 7166 (1972)]. By G. D. Mendenhall* and K. U. Ingold, National Research Council of Canada, Ottawa, Canada K1A OR9.

The epr splitting parameters for **1** are a_N 17 G, a_H (2 H) 4 G and for **3** a_N 19.3 G, a_H (1 H) 7 G. The bridgehead protons cause the secondary splitting in each case.

7-Norbornenyl Anions. Evidence for a Bishomoantiaromatic System [*J. Amer. Chem. Soc.,* **94,** 8489 (1972)]. By J. K. Stille* and K. N. Sannes, Department of Chemistry, University of Iowa, Iowa City, Iowa 52240

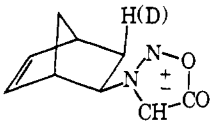
Structure **1** should be



1

Allylcarbinyl–Cyclopropylcarbinyl Norbornenyl–Nortricyclyl Anion Rearrangement. Evidence for a Symmetrical Intermediate [*J. Amer. Chem. Soc.,* **94,** 8494 (1972)]. By J. K. Stille* and K. N. Sannes, Department of Chemistry, University of Iowa, Iowa City, Iowa 52240.

Strucure **14 (15)** should be



14 (15)

Book Reviews*

Inorganic Chemistry. By G. C. Demitras (La Salle College), C. R. Russ (University of Maine), J. F. Salmon (Loyola College), J. H. Weber (University of New Hampshire), and G. S. Weiss (Millersville State College). Prentice-Hall, Inc., Englewood Cliffs, N. J. 1972. x + 556 pp. $15.95.

This textbook is designed for an upperclass undergraduate course. In organization, it has some points of merit; there is unusually complete coverage of the solid state and of electrochemistry, and there are selected topics in "descriptive chemistry" (hydrides, oxides, halides, and organometallics) to go with the more theoretical material. However, much of the material (atomic structure, covalent bonding, stereochemistry, and kinetics) is presented at a level in between the usual general and physical chemistry course treatments and is probably of little value in an upperclass inorganic course.

The student would find in this text a number of models now considered outmoded by most inorganic chemists, such as the calculation of the per cent ionic character of the hydrogen halides from their dipole moments (neglecting lone pairs) and Pauling's old valence bond magnetic criteria of bonding and structure in transition metal complexes. The text's presentation of more modern topics, especially ligand field theory and the spectra, paramagnetism, and structure of complexes, seems weak. Also, this book will have little value to the student as a future reference volume, in contrast to Cotton and Wilkinson, for example.

A major problem with this book is that there are repeated errors of fact throughout. For example, serious mistakes occur in the discussions of magnetism, nonaqueous solvent systems, the use of coordination chemistry nomenclature, structures, and synthesis.

Although the instructor of an upperclass inorganic course needs to have a greater choice than is now available in the selection of textbooks, this one cannot be recommended.

John T. Yoke, *Oregon State University*

Detergency: Theory and Test Methods. Part I. (Volume 5. Surfactant Science Series). Edited by W. G. Cutler and R. C. Davis (Whirlpool Corp.). Marcel Dekker, Inc., New York, N. Y. 1972. ix + 451 pp. $28.50.

Appropriate to its title, the book under review offers an excellent state-of-the-art report on the theory of detergency along with a compilation of test methods commonly in use today to evaluate detergency.

The book appears at a time when need for such a volume is being well felt and when, more than ever before, both industrial and academic researchers are deeply involved in studies for finding efficient nonphosphate detergent systems. As is well known, detergency is a very complex process and any approach in the design and evaluation of novel detergent systems has got to be benefited by a clear understanding of such basic aspects of detergency as nature of laundry soils, the mechanism of adherence of particulate/oily soil to and their removal from fibrous substrate, soil redeposition, role of mechanical action in soil removal, etc. Chapters 3–8 of this book have given an excellent theoretical discussion on these topics. In spite of the easy-to-understand style of the presentations, some of these chapters have been dealt with in surprising depth. The subsequent chapters have dealt with the various test procedures for evaluating detergency.

The major deficiency of the book lies in the definition of terms in Chapter 2, and in the choice of exemplary illustrations therein. In more than one instance, the definitions have been inaccurate or the examples to illustrate them have been poorly chosen. However, in spite of these deficiencies, the book as a whole will be useful to the majority of readers.

This part does not have an index; the complete index of this part and that of Part II will appear at the end of Part II.

In general, this book can be highly recommended.

P. M. Chakrabarti, *GAF Corporation*

Group Theory and the Coulomb Problem. By M. J. Englefield (Monash University, Australia). John Wiley and Sons, Inc., New York, N. Y. 1972. viii + 120 pp. $11.95.

The remarkable degeneracies of different angular momentum states in the nonrelativistic hydrogen atom (*e.g.*, 2s, 2p) are not accidental but a consequence of higher symmetry in the Coulombic Hamiltonian. (This was discovered by V. Fock in 1935.) Englefields's monograph presents a systematic account of some applications of Lie algebras and groups to fundamental problems in quantum mechanics. Also dealt with, in addition to the Coulomb problem, are the one-, two-, and three-dimensional harmonic oscillators and the theory of angular momentum. The compressed style of presentation requires some fair degree of mathematical sophistication on the part of the reader. This is perhaps in contradiction to the author's stated intention of reaching "more general readers." But for those with the requisite background and inclination, this is a very interesting little book.

S. M. Blinder, *University of Michigan*