

## Preface

As those who have followed the work of the undersigned will know, electronic spectroscopy has been a constant aspect of my professional life since my post-doctoral days so long ago. Certainly over the years there have been many articles published in *Coordination Chemistry Reviews* covering aspects of electronic spectroscopy, photochemistry and photophysics. The several issues devoted to contributions from the International Symposia on the Photochemistry and Photophysics of Coordination Compounds, have been an especially rich source of such articles. However, we have never previously published an entire issue specifically devoted to electronic spectroscopy—so here it is!

Clearly, the application of electronic spectroscopy to problem solving in inorganic chemistry has grown dramatically from its early beginnings in the 1950s and early 1960s. In that period the major articles and reference works written by Dunn [1], Jørgensen [2], Ballhausen [3] and Figgis [4] started the ball rolling, and the famous theoretical text by Griffith [5] provided more of the hard theory—if you could handle it! Younger readers are encouraged to go and read these books!! In this special issue we try to enlighten our readers with the current state of the art. Aspects of the current state of the theory applied to electronic spectroscopy are provided by Anton Vlcek Jr., by Frank Neese et al. and, with respect to emission spectra, by John Endicott and Yuan-Jang Chen. Charge transfer spectroscopy has largely superseded d–d spectroscopy as a primary focus, but Christian Reber et al. remind us how rich d–d spectra can be and Andreas Hauser and colleagues focus on d configurations in their spin crossover article. Contributions to bioinorganic topics are provided by Edward Solomon et al., Pierre Harvey and by Martin Stillman and colleagues. The wide range of techniques available today are exemplified by Raman spectroscopy (John McGarvey and Wesley Browne), electrospray ionization photoelectron spectroscopy (Lai-Sheng Wang), transient infrared and near infrared spectroscopy (Dana Dattelbaum and Tom Meyer), and magnetic circular dichroism (Martin Stillman and colleagues). Finally other topics include metallocenes (Chuck Kutal et al.),

dendrimers (Vincenzo Balzani et al., and Sebastiano Campagna et al.), Rhenium cyclodextrin species (Jim Demas et al.), pentacyanomanganese species (Patrick Hummel and Harry Gray), manganese carbonyl species (Frantisek Hartl and colleagues), and ligand to ligand charge transfer (Arnd Vogler and Horst Kunkely).

I am greatly indebted to all these colleagues who took time from their busy schedules to make a contribution to this special issue on a theme beloved by the Editor!! I think the readership will gain a greater appreciation of the importance and value of spectroscopic techniques and the related theory through attention to the chapters herein.

## References

- [1] (a) T.M. Dunn, in: J. Lewis, R.G. Wilkins (Eds.), *Modern Coordination Chemistry*, Interscience Publishers, New York, 1960;  
(b) T.M. Dunn, in: D.S. McClure, R.G. Pearson (Eds.), *Some Aspects of Crystal Field Theory*, Harper Row, New York, 1965.
- [2] C.K. Jørgensen, *Absorption Spectra and Chemical Bonding in Complexes*, Pergamon Press, Oxford, 1962, this was based on an enormous number of articles published by CKJ in the 1950s.
- [3] C.J. Ballhausen, *Introduction to Ligand Field Theory*, McGraw-Hill, New York, 1962.
- [4] B.N. Figgis, *Introduction to Ligand Fields*, Interscience Publishers, New York, 1966.
- [5] J.S. Griffith, *The Theory of Transition Metal Ions*, Cambridge University Press, Cambridge, 1964.

A.B.P. Lever\*

*Department of Chemistry, York University,  
4700 Keele Street, Toronto, Ont., Canada M3J 1P3*

\* Tel.: +1 416 736 2100; fax: +1 416 736 5936.

E-mail addresses: [blever@yorku.ca](mailto:blever@yorku.ca), [ccrev@yorku.ca](mailto:ccrev@yorku.ca)

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