

Compound interest

O. F. X. Donard

Applied Organometallic Chemistry. General editor P. J. Craig. Longman. 6/yr. UK £132, US \$264, elsewhere £139.

ORGANOMETALLIC compounds were a subject of interest as long ago as 1760 (*liqueur fumante de Cadet*). These days they are widely included in polymer systems as coupling agents, catalysts, cross-linking agents and biocides. The high toxicity of some of these compounds, and the possibility of natural alkylation of metals such as arsenic, mercury and tin, has resulted in intensive research on their fate and pathways in the environment — not least of the stimulants to this research were the disasters, such as that at Minamata, caused by pollution from organomercury compounds.

The editor and publisher of *Applied Organometallic Chemistry* have taken up a difficult and interesting challenge in attempting to reflect the wide variety of topics that their journal's title takes in. Subjects of papers published to date have included organometallic synthesis, industrial applications, toxicity effects on biota, environmental pathways and analytical chemistry. Most of the contributions

could have been published in a variety of other journals, but here they are offered to the reader in a single place.

The editor's aim is to produce papers "to the highest international standards". Judging from the first two volumes, these standards are being met, both in terms of scientific quality and level of the journal's production. The quality of the science is likely to be guaranteed by the distinguished editorial board, though it should be said that many of the members work in the environmental sciences, which may prefigure the future course of the journal. Delays for publication of contributions are very short at the present time, and a wide international selection of authors has already been on offer.

The journal publishes original research papers and reviews, and there is a place for short papers. Also included are book reviews, announcements of conferences and a list of papers due to appear in forthcoming issues. One welcome feature, though, which the journal lacks at

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present, would be a correspondence section to introduce some liveliness and encourage exchange between the contributors.

Applied Organometallic Chemistry promises well, though its future success will depend on maintaining the balance of papers on different topics. This journal will be a valuable tool for scientists working on any aspect of organometallic chemistry, but, because it is reasonably priced, it should also find a place in libraries covering the literature on trace metals in the environment. □

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Material gains

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Materials Science Reports. Coordinating editors S.S. Lau and F.W. Saris. Elsevier. 8/yr. Dfl 307, \$149.75.

MATERIALS Science Reports, which began publication in September 1986, consists of issues 50–120 pages in length, each containing just one substantial review. All reviews are commissioned by the editors (one American, one Dutch); while suggestions for topics are solicited from the readership, uncommissioned contributions are not. The new journal thus sits in that shadowy middle ground between books and primary research journals, between publications that depend on contracts and those that depend on unsolicited submissions. Let us call them 'commrevs'.

There are already some commrevs in the materials field: the one closest in concept to *Materials Science Reports* is *CRC Critical Reviews in Solid State Sciences*. This serial has been published for several years, though its frequency of appearance seems to be somewhat less than that of *Materials Science Reports* and its reviews are rather shorter. *Progress in Materials Science* is another; at 39 years of age this has certainly stood the test of time, though its frequency of publication is gradually declining.

The editorial in the first number of the newcomer indicates that all categories of materials, all kinds of properties and their assessment, all forms of preparation are fair game for review. To judge from the early issues, the editors in fact intend that

their journal should have a somewhat applied orientation.

The splendid opening review by Buschow, on novel permanent-magnet materials, is evenly divided between engineering considerations and basic discussion of crystal structures and the quantum mechanics of spin-spin interactions. Tsuda's remarkable article on new polymers for use as radiation-sensitive resists for microlithography combines the methods of the theoretical chemist, who can interpret the spectral response of a molecule from first principles, with a practical presentation of the use of such resist materials: how much of the science is *a priori* and how much *a posteriori* is not quite clear, but that is characteristic of such essays into design of materials. Other articles cover, for instance, metal-organic vapour phase epitaxy of compound semiconductors and lattice sites of elements in forced (ion-implanted) solution in metals.

Overall, *Materials Science Reports* is rather more applied in flavour than the two other commrevs I've mentioned, though with solid scientific underpinning (indeed, the scientific level of all three journals is excellent). The quality of English, of printing and of illustrations is all one would expect from Elsevier. □

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