value for what it contains, but it would be worth twice the price if it also contained what has been omitted.

When I picked up *Regional Immunology* I had visions of reading about the niceties of immunity to kala azar in India or leishmania in Brazil. I was wrong — 'regional' here has something to do with the specialization of the immune system in different tissues such as the gut, the lung or the anterior chamber of the eye.

I was further surprised to find articles of high quality by authoritative investigators, but was hard pressed to find what was 'regional' about the contents. The journal publishes articles worthy of any good immunological journal; I suspect that the editor, J. W. Streilein of the Department of Microbiology and Immunology of the University of Miami, will find it difficult to maintain the circumscribed purpose of the journal as well as a continuous flow of high-quality original articles devoted to that purpose. □

Fred S. Rosen is at Harvard Medical School and The Center for Blood Research, 800 Huntington Avenue, Boston, Massachusetts 02115, USA.

Neuroregulation

Jennifer Altman

Glia. Editors-in-chief Bruce R. Ransom and Helmut Kettenmann. Alan R. Liss. 6/yr. US \$180, elsewhere \$231 (institutional); US \$75, elsewhere \$105 (personal).

Journal of Chemical Neuroanatomy. Editors Harry W. M. Steinbusch and A. Claudio Cuello. Wiley. 6/yr. £160, \$290.

THE development of techniques for identifying chemical constituents of nervous tissue *in situ* has been one of the main sources of recent advance in functional studies of the nervous system. Autoradiography, immunohistochemistry and *in situ* hybridization, together with transported markers, have provided a way of relating structure to function — by revealing remarkable chemical heterogeneity in the cells of the nervous system, they have virtually added a third dimension to the study of brains.

In very different ways, these techniques are central to the two journals reviewed here. The *Journal of Chemical Neuroanatomy* has been established as a vehicle for publishing investigations using them; *Glia* is devoted to a field that owes much of its current vitality to the use of specific chemical markers for distinguishing glial cells from neurons, *in vivo* as well as *in vitro*. Both are well-produced journals, with good quality illustrations that will appeal to the dedicated followers of these subjects.

Glial cells have always been the poor relations in neuroscience. Lacking the excitement of propagated action potentials, they have often been regarded simply as stuffing between neurons. But in recent years support has come for those who have always advocated a subtle regulatory role for glial cells: they are now known to be involved in development, regeneration and perhaps maintenance of neurons; they regulate ion concentrations in the extracellular spaces of the nervous system; and they may even turn out to modulate conduction at nodes of Ranvier. They are also of clinical importance in demyelinating diseases and because of their propensity to form tumours.

These and other aspects are covered by papers in the early issues of *Glia*, which has most of the leading workers in the field on its editorial board and among its authors. Many of the contributions, which are mainly full-length research articles together with some stimulating invited reviews, are of general interest for neurobiologists. Because the workings of glial cells are clearly essential to our understanding of the nervous system, I hope the journal's title does not deter those who work on neurons from reading the work published there.

The brief of *Journal of Chemical Neuroanatomy* is wide: to publish papers giving insights into evolution, development, ageing and behaviour obtained with the large range of chemical neuroanatomy techniques now available. Despite the avowed intention of the editors to publish interdisciplinary articles that "increase the understanding of the nervous system in a comprehensive manner", the contents of the issues I have seen are limited largely to descriptive studies of localization of particular substances in a single system. Only the occasional paper meets the challenge of using techniques imaginatively in manipulative or comparative studies.

This journal thus seems likely to become a home for the vast amount of useful but rather dull descriptive work that is being produced with routine chemical neuroanatomy techniques. As long as enough people can be found to pay the rather high subscription rate, this will be a worthwhile service: because of the limited interest of each study and the need for lavish illustrations, such research is often difficult to publish elsewhere.

But to my mind, chemical neuroanatomy is one part of an integrated approach to the functional organization of the nervous system. Papers that achieve this aim should continue to be published in general neuroscience journals where they will attract far wider attention. □

Jennifer Altman is at 37 Lordship Park, London N16 5UN, UK, was formerly on the staff of Nature. She is now a research consultant and freelance writer.

Inside trading

R.J.P. Williams

NMR in Biomedicine: An International Journal Devoted to the Development and Application of NMR Spectroscopy in Vivo. Editor-in-chief John R. Griffiths. Heyden. 6/yr. UK and Europe £155, North America \$263.

THE subject of this journal is the study of biology and its possible application to medicine (I take it that is what biomedicine is) by non-invasive NMR methods. It is not intended to cover imaging by NMR, as far as I can tell, but only the study of chemical spectra in living systems.

The technique was developed many years ago now, but naturally enough in a

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rough and ready way. As the editor of the journal says in his introduction, "the field has undergone enormous expansion and great hopes and expectations rest on it". There is a sense of suspended judgement in this statement, which I believe is shared by many. Normally we expect an editor to state that a subject has been such an enormous success that a new outlet for papers was necessary. This journal, we are told, is required more so that "biological spectroscopists can speak to each other".

Most of us in our own corner of science also like to have a journal devoted to us — it saves us from looking around and it gives us an enhanced standing. There is a danger in this, however, and I feel that a newcomer journal would be foolishly managed if it fell into the trap. The danger is that it is irrelevant to anybody else except the specialist. *NMR in Biomedicine* needs to have some more general line. Let the main papers be as they are: about ^{13}C , ^{31}P , ^1H , ^{19}F NMR methodologies using all sorts of spectroscopic tricks. There is no harm in that. But let there be in as many issues as possible one review of what NMR used in this fashion has taught us about something (the liver, the brain, the citric acid cycle, for example) which we did not or could not know by other methods. Such reviews will reveal whether the hopes and expectations are being realized.

The editor states that NMR spectroscopy (of this kind) is at a cross-roads, and that his journal will lead it to fulfil its promise. The problem with cross-roads is that you inevitably arrive from one route but you have to know how to leave. The value of *NMR in Biomedicine* will be critically dependent on the direction taken. □

R.J.P. Williams is in the Inorganic Chemistry Laboratory, University of Oxford, South Parks Road, Oxford OX1 3QR, UK.

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