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Editorial

Natural Product Research at the British Pharmaceutical Conference

The 135th British Pharmaceutical Conference took place in Eastbourne in September 1998, and like the preceding 134 Conferences, delegates were able to learn of the latest developments in the pharmaceutical sciences as well as to present their own research. The Conference has always been characterized by its broad scope of subjects, although even science has its fashionable areas which come into favour and perhaps fade away again. Taken, not entirely at random from the Journal's bookshelf, the report of the proceedings of the 1939 Conference in Birmingham (in the present Journal's forerunner, the Quarterly Journal and Yearbook of Pharmacy), reveals that substantial papers were presented on natural products with medicinal properties from belladonna (Allport & Wilson 1939; Wallis & Butterfield 1939), ergot (Daglish & Wokes 1939) and lobelia (Caulkin 1939). In more recent years, the subsequent trend in pharmaceutical research swung away from the use of isolated natural products to totally synthesised pure versions and on to new chemical entities. And yet, the science component of the 135th Conference had a remarkably strong element of natural product research. It would be unfair to say this area of research was making a come-back, as of course it had never been away. Advances in analytical techniques, both in specificity and sensitivity, may have contributed to the resurgence of appreciation of the properties of well-known and newly found natural molecules, but superior notions that today's pharmaceutical scientists may have over their predecessors will be tempered by the realisation of just how much was achieved with comparatively small resources.

A major presentation was made at the Conference by the Harrison Memorial Lecturer, Professor David Phillipson and his paper has been published elsewhere in full (Phillipson 1999a). Professor Phillipson also gave a keynote address in a free communication session on pharmacognosy. We are pleased to present this paper in this issue of the Journal of Pharmacy and Pharmacology, and the author showed in this presentation how modern receptor pharmacology fitted neatly into the traditional isolation and assay armamentarium of the pharmacognosist (Phillipson 1999b).

One of the several Symposia at the Conference was devoted entirely to plants and the central nervous system, and five of the key papers presented at that Symposium are presented here. Apart from the stated theme of the use of plant materials and plant-derived new chemicals in CNS-related disorders, two striking features emerged from these presentations. First, the emphasis on pharmacognosy research has move away from isolation and analysis towards the study and understanding of mechanisms. Secondly, it is not just the newly isolated compounds that make the headlines, but much of the exciting research is on compounds that have been used for many years, if not centuries. The paper by Professor Elaine Perry and colleagues (Perry et al 1998, 1999) makes this point entertainingly and informatively, with the earliest reference being to Culpeper in 1652 (not quite a record for this Journal). Professor Perry's paper first appeared in the Journal of Alternative and Complementary Medicine, and we are grateful for the publishers of that journal for permission to republish the paper here.

In keeping with the thesis of this Editorial, Professor Paladini of Buenos Aires brought the forgotten factor of flavonoids back into recognition for their activities in the CNS; before Professor Paladini's studies some ten years before (De Robertis et al 1988), flavonoids were considered more for their anti-inflammatory or anti-oxidant effects. Professor Paladini's paper (Paladini et al 1999) emphasised the newly-discovered anxiolytic properties of compounds largely well-characterized much earlier.

The remaining three papers from the Symposium described in depth the molecular pharmacology of three classic plant-derived medicines. Peter Houghton (Houghton 1999) tackled the problem of which of the many constituents of Valerian (if any) were responsible for its activity (if any), and concluded that in fact it was Valerian's wide range of constituents that explained its ability to correct a variety of underlying conditions which necessitate a general sedative or tranquillizing effect. Similarly, Benedetto Vitiello reviewed the clinical reports on the use of *Hypericum perforatum* extracts (St John's Wort), although he was less confident as to whether its clinical utility had fully been proven (Vitiello 1999). Peter Curtis-Prior in his foray into the therapeutic value of *Ginkgo biloba* in mental function, pointed out that over half of the world's best-selling medicines contain active ingredients either directly obtained from, or chemically related to plant products. Dr Curtis-Prior missed out on the chance to establish a new record for the oldest reference in this journal by not providing one to his contention that Ginkgo was mentioned as a medicine in the Song dynasty, in asthma and bronchitis, but provided a well-argued case that *Ginkgo biloba* has therapeutic value in reducing symptoms of decline in mental function by way of three major

pharmacological actions: dilation of blood vessels; antagonism of platelet-aggregating factor; and reduction in free radicals (Curtis-Prior et al 1999).

It is apparent from all these papers that the goal of purifying plant extracts 'to death' to isolate the active principle may not be the most appropriate way to either explain or utilise the power of traditional plant medicines. There is much challenging research to be done in this field and perhaps part of the pharmaceutical scientist's role is to challenge the conventional approach.

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