consideration of alternative paradigms may open up new avenues of research, often with the need to divert resources and technology, and re-train personnel. The study of voluntary motor function has been neglected in basic science while clinicians have focused exclusively on abnormalities of structure as a cause for pain and disability. The idea that abnormalities of neuromusculoskeletal monitoring, programming, and control may be crucial in this field is stimulating some university departments to develop equipment and test hypotheses previously not deemed relevant to the orthopaedic and rheumatological clinicians with whom they usually work. We should remember that it is not data collection that is the foundation of science, but the 'bold conjecture' that Popper,[3] among others, advises should come first lest investigation flounder aimlessly.

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Sir,

Dr Williams's article (October *Journal*)[1] suggested that osteopathic principles could provide a new clinical paradigm for the management of back pain. It was disappointing that a professor of complementary medicine, in his response in the December *Journal*, appears to have overlooked a key point. Without a change in the current paradigm we shall continue to be unable to correctly identify problems presenting with no pathology, nor will we be able to select and validate therapies to which so many patients now turn for help.

The current approach to clinical problems is still essentially based on the principle of causality. We search for pathology. Where we find it, we assume it is the direct cause of the complaint. Where we do not, the problem is categorized as being a functional disorder generated by the mind. However, physiologists have made great strides in advancing our understanding of the complexities and interactions of the nervous system, and have long pointed out the inadequacy of a diagnostic terminology entirely expressed in terms of tissue pathology.

Osteopaths have used the terms 'neuromusculoskeletal system' and 'somatic dysfunction'. These terms indicate both the complex interactions between structures and the nervous system, and the possibility that these relationships may be disturbed to cause dysfunction without apparent pathology. Such disturbances may be considered generally to involve a shift or breakdown in signal processing within the system.

Unfortunately, the commitment to tissue pathology continues to prevent consideration and, ultimately, recognition and use of therapies that are not solely dependent on investigative procedures, such as radiography or readings on a goniometer.

A paradigm shift is long overdue. Only a small one is required. I suggest that, if applied to a biological system with a known non-linear response, its effects may well appear to be beyond belief.

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How should NHS primary care be restructured?

Sir,

The recent White Paper *The new NHS: modern and dependable* presnts an opportunity to reconstruct NHS primary health care (PHC) as a system of 'virtual polyclinics'. Although hospital-focused, the 1991 NHS 'reforms' had considerable implications for PHC. This White Paper offers scope to remedy the adverse consequences while salvaging some positive aspects. Among the latter, diverse models have emerged both from fundholding (total fundholding, multifunds, community fundholding) and from non-fundholding but PHC-led approaches to commissioning secondary care (locality purchasing, GP consortia, practice-sensitive purchasing). Fundholding has apparently stimulated the substitution of primary care for hospital care and strengthened GPs' positions in relation to hospitals.[1] A primary care led NHS has become policy.[3]

Those assumptions recommend implementing 'stage 4' of the White Paper comprehensively, with primary care groups (PCGs) both commissioning hospital services *and* providing PHC. This would at last put the commissioning of hospital services on a single, coherent footing. PCGs should be so constructed that fundholders who wish to can still participate in commissioning secondary services while patients of those who do not can still gain the apparent benefits of fundholding. This implies organizing PCGs around clusters of general practices, as multifunds and GP consortia have been. But GPs, fundholders, and NHS community trusts could also combine as primary care trusts to provide PHC, both directly by managing community services and employing salaried GPs, and indirectly by subcontracting other providers, including independent-contractor GPs. That would create a system of PHC 'virtual organizations' or 'virtual polyclinics', which are in some ways like group health maintenance organizations but without insurance functions,[4] and in other ways like Leningrad-experiment polyclinics but better resourced and more clinically sophisticated.[5]

This approach would create stronger, more coherent PHC providers with GPs playing a central, but not a monopolizing, role. Primary Care Act pilot schemes and health action zones are opportunities to experiment with ways of doing this. Over time, 'virtual polyclinics' could develop into real polyclinics as they acquire buildings, equipment, and other infrastructure of their own, extending recent trends in capital planning for PHC.[6] That would retain the merits of fundholding while reducing fragmentation, and possibly the transaction costs, in commissioning secondary care. Then the attentions of health authorities would have to focus on commissioning PHC, on intersectoral activity, on collaboration with local government, and on consumer advocacy — exactly where it should focus anyway.

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