obviously desirable state of affairs). In man, with the longest growing-up period of all animals, the development of a stable parental bond is even more important. I firmly believe that evolution has provided sex, together with its closely related emotion of love, as a mechanism for maintaining a stable family background. So we can see that sex has two biological roles: (1) reproduction and (2) the formation and maintenance of a stable pair-bond.

It is ignorance of this second biological role of sex that causes problems when sex takes place outside the context of its biologically defined role. I would like to enlarge on this with just two examples. As a result of the intense emotions associated with sexual activity one or both of the partners may begin to get emotionally attached when no such bond is either intended or desired. (How often do we see this happening in extramarital affairs?) If this is so how much more important it is when these bonds develop in still emotionally immature adolescents as a result of their sexual activity. The inevitable outcome of this is that society becomes littered with "broken hearts," "hang-ups," and "abandoned lovers" who subsequently find it extremely difficult to form a new stable pair-bond with a fresh partner (witness the ever-increasing divorce rate).

Secondly, if sex is to work as an effective pair-maintenance mechanism, then exclusivity of the partners is an inherent necessity. We don't need to look far to find examples of intense jealousies resulting from multiple sexual partnerships.

I realise that in such a short letter these views may appear too simplistic and naive, but I urge all liberal-minded progressives to re-examine how biology has intended us to use our sexuality. Let us learn from the ecologists, who have shown that even intelligent humans cannot disregard natural laws. So before it is too late let us educate our children to use sex within its biologically defined role before we do untold harm to the stability of our society.

It is surprising how rapidly a statement like "Adolescent sex is a reality, so let us at least make it 'safe' by providing contraception" becomes accepted by society and then slowly becomes modified in people's minds so that in no time it reads, "Adolescent sex is natural, good, and should be encouraged." Let us for once take notice of the religious and moralists, because unwittingly they have arrived at the correct answer.

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*.*This correspondence is now closed.—ED, BMJ.

Hospital equipment "Which?"

SIR,—The supplies officer of the Bromsgrove and Redditch District has had a reply to the query mentioned by Dr P V Scott in his letter (26 August, p 632). Because of the interest which his letter may have stimulated, may I supplement the letter from my colleague Dr W Wintersgill (16 September, p 828)?

Dr Scott is unsure about the Department's policy regarding the provision of circuit diagrams for medical equipment. It is our policy that circuit diagrams and other information necessary for the maintenance of medical

equipment should be provided to those hospitals which have the staff and facilities to make proper use of them. We have obtained the agreement of those manufacturers represented in the United Kingdom Medical Equipment Industries Group to the provision of such information as well as to the provision of training for NHS maintenance staff.

Of course such a policy only becomes "mandatory" when embodied in a contract. Contracts administered by the Department—for example, for x-ray equipment—enforce the provision of maintenance information. However, the majority of contracts for the purchase of medical equipment are issued by health authorities and in this context the Department issued a specimen form (EMQ-1) to health authorities in 1976 with a recommendation that it should be used for all purchases of electromedical equipment. This is a pre-tender inquiry form which, among other questions, asks specifically about the provision of maintenance manuals and circuit diagrams. Any authority which follows the Department's advice can learn the position about the supply of circuit diagrams before buying any equipment and, in dealing with reluctant manufacturers, can seek the Department's help, which we are giving in the particular case quoted by Dr Scott.

P M HARMS

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Comparison of the tine and Mantoux tuberculin tests

SIR,—We wish to reply to the letters from Dr J Houghton and Dr M Caplin and others (1 July, p 54), Dr V M Hawthorne (22 July, p 280), and Dr A A Cunningham (12 August, p 503) commenting on our comparison of the tine and Mantoux tuberculin tests (3 June, p 1451).

The letters from Dr Houghton, suggesting a return to the use of Mantoux testing for epidemiological purposes, and from Dr Caplin and others, supporting the continued use of the tine test, base their conclusions on experience rather than comparative trials. The experiences expressed in the letters lead to opposing views.

Dr Hawthorne supports the tine test because it is widely used, safe, and a convenient form of tuberculin testing. These qualities are accepted, but the accuracy of the unit is also relevant and the purpose of the study of the Tuberculin Subcommittee of the Research Committee of the British Thoracic Association was to observe the comparability of the tine and Mantoux tests. Dr Hawthorne objects that our population was neither demographically nor immunologically characteristic of the general population of Britain. The prevalence of a condition surely does not influence the reliability of a test used for detecting it. The references he quotes relate essentially to the epidemiology of tuberculosis and give no evidence to refute or diminish our findings, which show that, compared with the Mantoux test, the tine produces a high percentage of false-negatives and cannot be regarded as a reliable tuberculin test.

Dr Cunningham does not correlate his results with established methods of assessing tuberculin reactivity. His final paragraph emphasises the disparity of results obtained

by different researchers. Until clarification is available the well-validated Mantoux and Heaf tuberculin tests should remain the standard tests for clinical and epidemiological use.

ANDREW JOHNSON

Northern General Hospital,
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J A LUNN

St George's Hospital,
London SW1

Health Service planning and medical education

SIR,—I would support the plea of Professor D R Wood and Sir Douglas Ranger (12 August, p 498) for urgent action to defend staffing levels in teaching hospitals if we are to fulfil our commitments to medical students.

Freeman Hospital has recently been commissioned in Newcastle as a part of the teaching group of hospitals. There are no senior registrars and only one registrar in medicine. The middle-grade staff consist of senior house officers and a single "first assistant in medicine" of senior registrar status, and this post was endowed by a charity. This shortage of middle-grade staff has two adverse effects on teaching. The number of experienced clinicians available for teaching is, of course, reduced, but in addition consultants have a greater clinical work load because of the absence of registrar and senior registrar support and therefore have less time to devote to teaching.

This situation, incidentally, has arisen in an area which would be benefiting from the recommendations of the Resource Allocation Working Party (RAWP).

R WILKINSON

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Freeman Hospital,
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Confidentiality of medical records

SIR,—I was interested to read Dr O Troughton's letter (26 August, p 642), because my own "well-known medical defence organisation" gave a rather different opinion in December 1976. I was advised to "write to the paediatrician asking him to refrain from circulating confidential information except when requested to do so by the patient's parents."

Thus my initial query as to whether anyone other than the parents or legal guardians has the right to disclose medical information about a child remains unanswered.

A O STAINES

Hedon,
Hull, Humberside

Postoperative morbidity and mortality after bleomycin treatment

SIR,—I read the article by Dr P L Goldiner and others (24 June, p 1664) with growing confusion and disbelief.

If I may summarise, it seems these workers performed retroperitoneal node dissection after orchidectomy and bleomycin therapy for testicular tumour. The first five patients who underwent this procedure died. They then rethought their treatment schedule, identified

some contributory factors, and operated on a further 12 patients with apparent success.

Though the data are presented with admirable scientific detachment, some startling attitudes to patient care are evident. If five patients in a row have died from treatment with a drug which is known to produce pulmonary changes and from an operation which is known to be a major, traumatic, and shocking one, it would seem to me to be a logical thing to either abandon the bleomycin or abandon the retroperitoneal node dissection. My personal preference would be to abandon both, as they have no proved value over lesser treatments.

But our intrepid workers pressed on and were fortunate enough to have 12 survivors. They can proudly point to this record now and say they have made an advance in treatment. We may well be able to accept this now and act upon it, but what would they have done if their sixth patient had died?

I G SCHRAIBMAN

Department of Surgery,
Birch Hill Hospital,
Rochdale, Greater Manchester

* * We sent a copy of this letter to Dr Goldiner and his colleagues, whose reply is printed below.—ED, *BMJ*.

SIR,—The objections of Mr Schraibman to our work seem to be of two different natures. On the one hand Mr Schraibman maintains that both bleomycin and surgery are unwarranted in the therapy of embryonal cell carcinomas and other testicular dysgerminomas. On the other hand it is Mr Schraibman's opinion that, regardless of its efficacy, our procedure was unethical because we continued to subject our patients to surgery after the initial deaths.

The scientific objection is probably the easier to dispute. Bleomycin alone and associated with other drugs and/or surgery is considered a fundamental step in the therapy of testicular as well as oesophageal malignancies. The literature on the subject is impressive. Owing to limitations of space we can refer Mr Schraibman to only four papers,¹⁻⁴ all strongly suggesting our point of view. Two of them^{2,4} deal, in fact, with complications of bleomycin. After having identified possible risk factors and therapies both papers recommend the use of bleomycin, where indicated, although cautiously. This is indeed how we proceeded.

The ethical objection of Mr Schraibman falls, in our opinion, into the broad and rather unsettled category of informed consent. We hope to be as compassionate and objective as any of our colleagues. When a patient is faced with two or more extremely difficult alternatives we attempt to explain to him or her what each course of action may entail in terms of risks of therapy itself and expected results. We try to make our explanation honest and complete, attempting at the same time not to frighten the patient unnecessarily. Finally a decision is taken and a certain therapy is given or withheld. We offer guidance, but the patient has the final decision. In this specific issue we were faced with young men whose life expectancy was less than three years with standard therapy. With the VAB III or VAB IV chemotherapy protocols, associated with surgical removal of the involved lymph nodes, the projected five-year survival exceeds 50%. The dangers and the expected benefits had

been presented as honestly as possible to the patients. Some of them died, certainly, as they would have with other forms of therapy, but the majority are alive and free of disease after several years. We think we advised and treated these patients correctly, as was our obligation as physicians. We hope, as well, that we have contributed to the prevention of morbidity in future patients treated at our institution and others.

PAUL L GOLDINER
GRAZIANO C CARLON

Memorial Sloan-Kettering
Cancer Center,
New York

¹ Samuels, M L, Holoye, P Y, and Johnson, D E, *Cancer*, 1975, **36**, 318.

² Samuels, M L, Johnson, D E, and Holoye, P Y, *Cancer Chemotherapy Reports*, 1975, **59**, 563.

³ Nygaard, K, et al, *Cancer*, 1978, **41**, 17.

⁴ Holoye, P Y, et al, *Annals of Internal Medicine*, 1978, **88**, 47.

Radiology work load

SIR,—Most radiologists would agree with Dr M Lea Thomas (2 September, p 706) that the specialty of radiology in Britain is in a sorry state, but I hope there are few who agree with his assertion that it is an artificial specialty or support his remedy for dealing with the problem by fragmentation of the department, with responsibility for the work passing into the hands of visiting clinicians. Presumably the radiologist would adopt a purely administrative role, attempting to reconcile the various interests of the attending clinicians and boosting the flagging morale of the radiographers; in the absence of any radiologist this would be the duty of the superintendent radiographer. Moreover, how are the requirements of the general practitioner to be met? Will he also visit the department to view the radiographs of his patients? This is not to deny that a few specialised units properly exist within such a framework, but I do not think such a general trend is desirable in the district general hospital.

The explosion of new diagnostic technology and advances in conventional radiological techniques and equipment has created a bewildering yet potentially useful array of diagnostic tools. The application of isotope scans, diagnostic ultrasound, computerised scanning, mammography, conventional radiography, and a whole variety of practical procedures is best undertaken by a department of general "diagnostic imaging" or call it what you will. For these investigations to be correlated and used most effectively and economically a radiologist or group of radiologists who have knowledge and practical experience of all of these techniques is required.

Drs B Eyes and A F Evans (p 707) point out the educative function of the radiologist. There are several reasons for the ever-increasing work load of radiology departments and these include medicolegal fears (in casualty departments), increasing demands by patients, and thoughtless requests for radiography when these make no contribution to the clinical management. Attempts to educate clinicians in the usefulness and limitations of these investigations is difficult, but I think that we must at least try. A large proportion of requests are made by junior hospital staff who are present for only a matter of months in any given hospital; we may attempt to educate them only to find that, having done so, they move elsewhere. Nevertheless, if the pyramid

staffing structure of the hospital service is ever reversed a more permanent grade may develop.

The reasons for poor recruitment and a very high level of emigration of trained radiologists are well known. Better conditions of service and greatly increased earnings are the main reasons for emigration and this leaves those remaining in the NHS in a deteriorating position with an increasing work load. Unfortunately, the new consultant contract holds little promise of an improvement for the service specialties.

I cannot offer a rapid formula to rescue radiology from the doldrums, but it is obvious that we must be more critical and selective in the work we undertake, particularly if we are to embrace the recent advances. I cannot, however, accept that we should merely allow the specialty to atrophy by handing it over to others who are less well informed. Consultants within the NHS have differing skills to offer and a variety of functions to perform. We must ultimately press for a variety of contracts which recognises this. Only in this way will recruitment to radiology be improved and the abysmal decline halted.

M D ROSEWARNE

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Worcester

SIR,—Dr M Lea Thomas (2 September, p 706) appears to be adopting the position of devil's advocate. We are, however, in the silly season and it is just possible that he is serious. Even worse, his statements may be taken seriously in some quarters although they do not stand up very well to close inspection, for the following reasons:

(1) Almost all doctors consider that they are overworked and underpaid.

(2) A number of other specialties suffer from chronic low status and could be disbanded. These include dermatology, geriatrics, pathology, physical medicine, psychiatry, renal medicine, rheumatology, general practice, and medical administration. In fact there is widespread concern about status and the possibility of disbandment.

(3) Physicians often complain that the bulk of their work consists of glorified general practice.

(4) A dull professional life is the inescapable lot of most of us. There is consolation in the thought that an exciting life for the doctor usually means an unpleasant life for the patient.

(5) When the crunch comes most hospital staff and all general practitioners like to have the opinion of a radiologist.

KENNETH SWINBURNE

Wharfedale General Hospital,
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SIR,—I read with interest the letter from Dr M Lea Thomas (2 September, p 706) regarding his solution to the problem of radiological work loads. I am sure that his radiological colleagues will wish to reply and comment on his views. As the superintendent radiographer of a department carrying out many of the specialised investigations he mentions, however, I feel that I am in a position to comment on certain aspects of his letter.

Am I right in thinking that he is advocating that radiographers should perform barium meals and enemas? I find it difficult to believe