in a series of 32 samples of cerebrospinal fluid in which xanthochromia was found on spectrophotometry.² Failure to see xanthochromia does not exclude subarachnoid haemorrhage.

Secondly, only eight patients had an entirely normal computed tomogram. This rate of false negative results (3.8% (8/208)) is rather low since the sensitivity of computed tomography is only 95% on the day of bleeding and falls thereafter.³ In addition, the patients in whom the computed tomogram was normal were significantly more likely to have xanthochromia than those in whom it showed an abnormality (6/8 v 6/18, $P < 0.05$). This finding, which at first may seem paradoxical, is consistent with the hypothesis that the group with no abnormality on computed tomography is depleted by the misdiagnosis and exclusion of those without xanthochromia. Clearly, those with an abnormality on computed tomography are not subject to this potential source of misdiagnosis.

It has been stated that bloodstained cerebrospinal fluid without xanthochromia when the computed tomogram is normal can be explained by thunderclap headache and a traumatic lumbar puncture.⁴ In view of our findings we suggest that this could cause subarachnoid haemorrhage to be overlooked, particularly if the cerebrospinal fluid sample is taken within 12 hours of the onset of symptoms or if the supernatant is assessed by visual inspection: in both these cases xanthochromia may be absent in patients with subarachnoid haemorrhage. We believe that if the clinical suspicion of subarachnoid haemorrhage is sufficient to merit computed tomography then a lumbar puncture is indicated if the computed tomogram is normal. Uniform bloodstaining of the cerebrospinal fluid is highly suggestive even in the absence of xanthochromia and merits either conventional angiography or magnetic resonance angiography. This approach should prevent subarachnoid haemorrhage arising from an intracranial aneurysm going unrecognised.

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Medicine and nursing

Medicine and nursing need both scientific and naturalistic inquiry

EDITOR,—The issue of the *BMJ* of 29 July, exploring how nursing and medicine may interact more usefully, should prompt the nursing journals to initiate a similar debate in their pages. It was with dismay, though, that we read the two letters^{1,2} concerning an article by Hay.³ Although Hay's article received comment in the nursing press, the arguments surrounding it provide a timely rejoinder to the articles in the *BMJ*. The enthusiasm and impatience of nurses and midwives to develop research based practice, albeit within a framework that encompasses more than the scientific paradigm, is obvious to those in the professions. A recent series of workshops throughout Britain on the use of research in nursing led by one of us has reinforced this impression.

Hay is labouring under the misconception that "bedside nursing" is solely an intuitive activity

synonymous with the caring role of wife or mother and therefore in no need of a research base. Nothing could be further from the truth. Both objective science and more naturalistic methods of inquiry have a part to play, the former answering such questions as "Which is the most effective pressure relieving mattress?" and "Which urethral catheter is least likely to become blocked or infected?" and the latter addressing different issues, such as whether a hospital waiting list is really a queue and what in reality happens during the interactions between nurses and their clients. Indeed, nursing and midwifery have been far more progressive than medicine in recognising that health care research, involving as it does the social world of carers and patients, cannot be tackled solely through the scientific model—as witnessed by the fact that the *BMJ* has only recently published a series of articles outlining the scope and application of methods in qualitative research.⁴ It is not just science and mathematics (as Hay implies) in which health care researchers need to be proficient.

We agree that not all practitioners, be they doctors or nurses, should be expected to undertake research. If research based practice is to become a reality, however, then practitioners must be able to critically appraise both original research articles and reviews. To suggest that nursing or nurses should not strive to meet these standards does a disservice both to the profession and, more importantly, to those for whom it provides care.

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Nurses should have experience of medical training

EDITOR,—I agree with Jane Salvage that the traditional division of labour between doctors and nurses is changing and that nursing work is currently undervalued.¹ The move towards the ideal of expert nurses complementing but not substituting for expert doctors to provide a better service for patients must be based on mutual understanding of each other's current roles. Many doctors are ignorant of nursing work. I believe, however, that nurses are equally if not more ignorant of doctors' work. Most medical courses address doctors' ignorance of nursing work to some extent by incorporating some experience in nursing work. As far as I am aware, the converse is not true. Perhaps this should be considered in nursing courses to help mutual understanding.

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Senior nurses are out of touch

EDITOR,—Jane Salvage's attempts to examine what is happening to nursing is notable for its rejection of the past.¹ The contributions of Jacqueline Short (a nurse who became a doctor) and Ann Bradshaw (a lecturer in nursing), both with a different view,² are

said to show shaky reasoning and nostalgia for a mythical golden age.¹ M Barton³ rejects Hay's assertion⁴ that the nursing leadership is "frog-marching" nursing towards clinical autonomy (and research) against the wishes of the "rank and file." Our experience is that this is the case—not for every nurse, and clearly not for Barton, but for many. Acceptance of autonomy seems to be limited by an accountability that is equated with fear. This is engendered by a disciplinary regime often implemented by those who shout loudest on professionalism and relations with medicine.

Unlike the medical hierarchy, leaders in nursing rarely care for patients routinely in the same context as the rank and file. Many experienced ward nurses find themselves alienated from the leaders' views, often feeling unable to dissent in public or in print.

The public has its own clear idea of what nurses do. Booth has characterised nursing in terms of both mechanical and very complex functions, exemplified by plumping pillows and comforting patients.⁵ Many fear that leaders in nursing with a rather different agenda are hijacking their profession. Evolution is inevitable and necessary, but if the future holds a new role so radically different that those who are currently known as nurses may not be willing or able to accept it, then those who devise the successful model should find a distinctive name for their new profession. The future of nursing cannot exclude nurses, leaving the "basics to the untrained while we go ever higher."⁶

Whether nurses should accept further mechanical responsibilities that are rightly no longer considered to be appropriate for junior doctors is a matter for debate. Currently, nurses who have been so trained at times refuse to exercise these skills, invoking their professional autonomy when they are not happy about inadequate time being left for their more traditional work. A radical approach to "structural inequalities of sex and hierarchy"⁷ is not the answer, especially as entry to medicine at least is now independent of sex. Leaders in nursing may have lost their way in sociological theories, whose popular face has become an obsession with "handmaidenism," but the real problem lies elsewhere. The rank and file have seen the future, and it is understaffed.

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- 2 Short JA, Bradshaw A, Nolan M, Lempp H. Has nursing lost its way? *BMJ* 1995;311:303-8. (29 July.)
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- 4 Hay R. A nurse's place is at the bedside. *Nursing Standard* 1994;8:42-3.
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Problems of hierarchy are not confined to nursing

EDITOR,—The correspondence between M Barton¹ and Robert L Hay² clearly illustrates the difficulties that doctors and nurses have when trying to understand one another's changing professions. Both professions will continue to face profound changes in the way they practise. Change is always difficult and provides a rich environment for discontent and suspicion. It is only by trying to understand the pressures on each other's professions that we can avoid destructive bickering and conflict, which would weaken the public's confidence in our professionalism. Two articles attempted to keep the dialogue open in a spirit of mutual respect.^{3,4}

Hay singles out poor research in nursing, male leadership, and incomprehensible management style for particular criticism.² Perhaps the medical profession should put its own house in order before lecturing others. The stereotype of a domineering (usually male) consultant encouraging his registrar

to "publish or perish," regardless of the quality of the research, still has too much truth in it for doctors to try to claim the moral high ground.

We—a doctor-nurse team—share nursing, medical, and teaching postgraduate qualifications. We condemn poor research and undisciplined thinking, wherever it is found.

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Nurses' role is narrowing in Germany

EDITOR,—We were interested to read of the progress that British nurses believe is being achieved in patients' care and research and, in particular, that nurses are keen to undertake new roles previously the job of doctors.¹ In Germany the tendency over the past few years has been the reverse. Whereas a considerable proportion of German nurses, especially in larger hospitals, previously incorporated taking blood, inserting catheters, and giving antibiotics and blood products into their daily duties, they are now unwilling to take on these additional roles. Organising patients' appointments and investigations is not considered to be their responsibility. In addition, nurses are now reluctant to dress wounds and remove stitches, even on surgical wards. These jobs have to be delegated to final year students, who spend their time doing whatever the nurses believe is not their job. In other words, the shrinking duties of nurses mean that the education of our student doctors is suffering.

There is also evidence that continuing education of nurses, even on specialised wards, is gradually diminishing, such that, for example, those on cardiology wards cannot or do not want to interpret electrocardiograms. When information is required by relatives, nurses seem not to feel confident about relaying details about the patient's condition and are therefore unable to reassure those who are anxious about the patient. This is partly because they are increasingly unwilling to accompany doctors on ward rounds and therefore do not receive up to date information.

The developing situation leads us to wonder what the role of nursing has become in Germany. Are nurses now just to give out tablets and make beds, or, as seems already to have occurred in Britain, will there eventually be a move to upgrade their status by some nurses who are motivated and wish to be regarded as professional patient carers?

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Nursing eulogies ignored ethos of control and punishment

EDITOR,—Several recent articles indicate how nurses view themselves.¹⁻³ Discussion with medical colleagues has shown that none of them recognise the nursing described. The articles repeat clichés and myths for which there is no evidence.

Firstly, nurses have never been handmaidens to doctors. Many employees in all walks of life carry out instructions given by other employees. That does not make any of the former handmaidens to the latter.

Secondly, power often does not lie with doctors. Many routines and policies in wards, labour suites, theatres, and clinics are instigated and maintained by nursing staff. Nurses have considerable power, which, unfortunately, many readily use in a negative and unassertive way.⁴ Suggestions about different practices and attitudes are often met with hostility and resistance and sometimes with vindictive behaviour.

Thirdly, doctors are accused of not knowing what nurses do. The converse is more accurate. Many nurses, even experienced ones, do not realise that when they go home the doctors often do not. My efforts to explain to nurses that a doctor's behaviour may be influenced by the fact that he or she works at least twice the hours in a week that they do (as well as carrying considerably more responsibility for more patients in several parts of the hospital) have been met with disbelief, sarcasm, and facetious comments—hardly the quintessence of a caring profession.

My experience of teaching on numerous training courses for nurses and health visitors and from discussions with nursing colleagues is that derogatory and defamatory comments about doctors in general or about specific doctors seem to be part of nursing culture from the earliest days of training. The participation of senior nurse managers in this and their reluctance to challenge it perpetuates this unsafe and unprofessional behaviour.

Nursing does not acknowledge that issues are often not black and white, that there is often not a right or wrong answer, and that making decisions will mean making wrong ones. Rather, there is an ethos of control and punishment, whether of colleagues, other health professionals, or patients whose actions and decisions do not conform to expectations.

Nurses do not have a monopoly on a caring, holistic approach to patients and their families, and most doctors are not oppressive technocrats who see patients only as a collection of symptoms. Many doctors carry a burden of guilt, doubt, and an excessive sense of responsibility,⁵ which is largely unrecognised. Being aware of their failings, doctors allow unfair and ill informed comments on their profession and pomposity by others in the health field to go unchallenged. The articles on nursing, written mostly by nurses, are self eulogising.¹⁻³ Unless doctors start being proactive in promoting what they do and reactive in response to the comments of others, they will have no one to blame but themselves if their standing in the health field falls.

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Macintosh PC is better than Windows

EDITOR,—To read the articles by Nicholas Lee and Andrew Millman on choosing and installing software,¹ you might think that there is only one type of computer and two types of software. They refer to either DOS or Windows operating systems based on IBM compatible PCs. In doing this they ignore an important area of the market, which is

particularly important for those who are just starting their computing careers.

Macintosh computers that have major advantages over IBM-PC compatible computers have been available for several years. The graphical user interface on the Macintosh was a major advance over the DOS system. This was acknowledged by the development of the Windows software, which uses a graphical user interface but does not perform as well as the latest Macintosh interfaces. Newcomers to the world of computing would be best served by at least being informed of the availability and benefits of using the Macintosh interface. In a comparison of DOS and Windows with the Macintosh the advantages of the Macintosh are

- A more attractive and user friendly graphical user interface than Windows
- A more consistent feel and look to the programs
- As with Windows, a WYSIWYG screen
- Software that has long been able to show colour pictures and colour text or black and white text simultaneously
- Many programs can run simultaneously
- Moving between programs is even easier than with Windows.

Connection to other Macintosh systems, the Internet, and other peripherals is extremely easy and is easier, in my experience, than with Windows. The disadvantage that Lee and Millman relate of Windows being more liable to crash is not a great problem with Macintosh based software. Although no doubt Macintosh software can crash, in my experience using several Macintosh computers and a wide variety of software over the past five years, crashes are extremely rare.

Though Macintosh computers have been more expensive than IBM-PC compatibles, the costs have recently dropped considerably, as have the costs of the associated software. Extensive software is available for Macintoshes, and with the recent licensing of the Macintosh operating system to non-Macintosh manufacturers, hardware costs are likely to fall even more.

Anyone looking into acquiring a new computer system, particularly those who are not already experienced in computer matters, should investigate Macintosh as an alternative to IBM-PC compatible computers.

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Software package makes counting episodes easier

EDITOR,—I agree with the comments made by the Radical Statistics Health Group concerning the lack of data on the number of people treated by the NHS compared with data on the number of finished consultant episodes.¹ I have recently undertaken several studies to try to determine the causes of the increased number of emergency admissions in the NHS. Counting the number of people treated is a prerequisite for this, and the simple trick that I devised to enable this to be done from data on episodes may therefore be of interest to others. In the data on episodes every record contains a date of birth and a unit postcode. The probability of two people having the same date of birth and unit postcode is effectively zero. It is therefore possible to "identify" people by using this trick and to count them and the number of episodes that apply to each of them. Thus a good