undesirable: brucellosis, leptospirosis, and boutonneuse fever also are known as Mediterranean fevers, and abdominal pain, not fever, is the outstanding feature. Episodes are not always unpredictable as stated, but recur regularly for years in some Israeli victims¹ and in many others.² Periodic precision can be demonstrated if events are registered continuously.

Periodic fever is a separate entity. It does occur in Jewish people, in Aryans, Japanese, and Negroes. Amyloidosis has ensued.³ Periodic fever, like periodic polyserositis,

is rarely influenced by corticosteroid therapy. Aetiocolanone has no causal relation to either disorder.⁴—I am, etc.,

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Unfilled Posts in the North

SIR,—The reluctance of senior registrars to apply for consultant posts in the north of England is not difficult to explain. The standards of medical and surgical care regarded as normal in undergraduate and postgraduate teaching institutions require elaborate laboratory and radiological investigation, together with facilities for consultation with other clinicians. "Adequate" laboratory facilities involve at least three consultants and a biochemist, but these are scarce and cannot be fully employed by populations much fewer than 150,000, who are estimated to require about 450 acute beds. Laboratory consultants require numerous staff and expensive apparatus, and must therefore work mainly in one place—they cannot effectively distribute their labours among a number of small units. It follows that modern standards of medical care can be attained economically only in hospitals of 450 beds and upwards, containing laboratories which have facilities for the four separate "disciplines" of pathology recognized by the College of Pathologists.

Such facilities are rarer in the north of England than in the south. To illustrate this

TABLE I.—Distribution of Beds According to Size of Hospital

No. of Beds	Newcastle		Wessex	
	No. of Hospitals	No. of Beds in these Hospitals	No. of Hospitals	No. of Beds in these Hospitals
Over 1,000	1	1,030	—	—
500-999	2	1,054	4	2,644
400-499	3	1,362	—	—
300-399	11	3,615	4	1,415
200-299	4	1,090	3	793
100-199	24	3,210	5	588
50-99	18	1,204	6	448
Under 50	53	1,225	19	517
Total	116	13,790	41	6,605

TABLE II.—Number of Hospitals (N) Served by Each Specialist

(a) Radiology (Diagnostic)

Region	No. of Radiologists	N.										Beds per Radiologist
		1	2	3	4	5	6	7	8	9	10	
Newcastle	35*	12*	7	8	2	1	1	1	1	0	2	394
Wessex	23	7	10	6	0	0	0	0	0	0	0	327

* 6 of these are attached to one hospital.

(b) Pathology

Region	No. of Pathologists	N.				Beds per Pathologist
		1	2	3	4	
Newcastle	36*	22	7	6	1	383
Wessex	30†	24†	5	1	0	220
A London hospital group	4	1	2	1	0	284

* 8 are attached to one hospital. † 7 are attached to one group laboratory and 5 to another.

argument I have compared information about "acute" and "mainly acute" hospitals in the Newcastle and Wessex regions. The data have been extracted from the 1966 *Hospitals Year Book, National Costing Returns*, (H.M.S.O.), and the *Medical Directory*.

Thus in Wessex 40% of beds are in hospitals of over 400 beds; in Newcastle 25%.

This excess of small hospitals implies that specialist consultants have to visit many hospitals, wasting travelling time and providing only an intermittent service. Even so, each radiologist or pathologist has to serve more beds in the north. Table II illustrates this. The London hospital quoted for comparison in Tables II and III is a regional hospital with responsibility for undergraduate and postgraduate teaching and two research units.

Expenditure on these services tells the same story. To save space I give figures only for laboratory services.

These figures show that some northern regions have inadequate basic services in radiology and pathology, and that the size distribution of hospitals makes it difficult to establish centres at which adequate services can be provided (or "centres of excellence"). This is one reason, and perhaps the most important, which discourages senior registrars in the clinical specialties from applying for posts in the north. Senior registrars in

TABLE III.—Cost of Laboratory Services

	Newcastle	Wessex	A London Hospital
Requests	1,388,400	811,900	131,700
Beds	13,790	6,605	900
Expenditure	£787,523	£586,523	£73,725
Medical salaries	£180,979	£142,026	£27,784
Requests/bed	99	121	146
Expenditure/bed	£57	£89	£82
Medical salaries of lab. specialists per bed	£13	£21	£31

laboratory disciplines will also be discouraged, because the College of Pathologists' training provides for excellence in one "discipline" only, whereas in small laboratories consultants have to undertake responsibility for two or more. There is also the fact that some established consultants consider that the first duty of a laboratory is to provide an exhaustive service in morbid anatomy and histopathology, and therefore veto the appointment of any pathologist, however skilled in another discipline, who is not able and willing to spend much of his time in the section of morbid anatomy.

The conclusions seem obvious. Young consultants are likely to avoid the northern regions until they can work in hospitals large enough to require the attendance of most clinical consultants on several days of the week, and to ensure the provision of proper laboratory and radiological facilities. Probably the easiest way of achieving this aim would be to modernize and expand the hospitals with 300-400 beds; were this done both Newcastle and Wessex could have more than half their beds in properly served units. Even then there remains the problem of persuading enough young men to start training as pathologists and radiologists. This is not a purely British problem: even in the People's Republics they are so difficult to find that they are paid "danger money."—I am, etc.,

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Psychotic Reactions During Travel

SIR,—I read with interest your leading article on psychotic reactions during travel (20 April, p. 132). When considering such reactions in travellers the role of drugs used against motion sickness must not be forgotten. Most of the drugs are anticholine in action and their effectiveness depends upon their action on the central nervous system. Hyoscine, one of the most popular and effective of these drugs, is a well-known producer of toxic psychoses.

These drugs are usually freely available to travellers, and an excessive dose may easily be taken. The traveller or his companions take such drugs for granted, and their use by the patient is often forgotten, unless the doctor specifically asks about them. —I am, etc.,

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Overcrowding in Psychiatric Hospitals

SIR,—Dr. C. Entwistle (13 April, p. 116) made a good point in advocating the discharge of long-stay patients to alleviate overcrowding in mental hospitals. It is, however, legitimate to ask what is happening to these discharged patients, what burden to their relatives do they constitute, and what community services are supporting them? With an ideal community service it is theoretically possible to transfer and diffuse the good mental hospital through the community. The problem then will only be diluted, not resolved. We might again think it would be more economical and more effective to treat

these thousands of problems together rather than separately.

These days there is a bitter competition among psychiatrists to discharge more and more long-stay patients, but very little thought has been given to the other side of the story: the community tolerance, its costs, and its limitations. Physical discharge of a patient is no substitute for cure. The criterion is that he should be happier and more useful in the community than in the hospital. I believe there is a case for moderating our enthusiasm to empty the mental hospitals with some research on discharged patients by individuals working exclusively in the community.—I am, etc.,

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REFERENCE

- ¹ Grad, J., and Sainsbury, P., *Brit. J. Psychiat.*, 1968, 114, 265.

SIR,—While deploring the overcrowding in some mental hospitals, I cannot agree with Dr. C. Entwistle (13 April, p. 116) that chronic psychiatric patients are neglected and that "the blame for this must rest with the medical profession." While it is true, as Merry showed in 1956,¹ that some consultants, possibly because of heavy commitments, rarely visit the chronic wards, it has not been my experience to encounter neglected patients in these wards, which are usually visited daily by junior doctors who attend promptly and energetically to the needs of these patients (as evidenced by their frequently voluminous case-records). In fact chronic mental patients often appear to receive as much medical and nursing attention as many patients in acute wards.

Dr. Entwistle's conclusions would certainly have been more impressive if he had supplied breakdowns of the ages of his patients, together with follow-up details after discharge. Were none of them readmitted? From reading his letter it would seem that there are no "revolving doors" at Rubery. Furthermore, his generalization that the accomplishments at Rubery could be achieved elsewhere with modern treatments and "energetic" doctors is questionable, and I am less optimistic. During 1966 and 1967 Dr. Mabel Miller and myself intensively surveyed 116 chronic patients on our "firm" (approximately a quarter of the total chronic population, and representative of all the patients in this category at Shelton).² Sixty-nine per cent., with males and females in almost equal proportions, were over 60. After 18 months 18 patients had died, 8 went to Part III accommodation and chronic sick, 6 were transferred elsewhere, and only 2 could be discharged home; but a further 18 patients had to be admitted to these wards during this period. Thus after over 450 interviews there were only 16 fewer chronic patients on our "firm." Such figures say little for modern treatments and energetic doctors, but are more a reflection of present social trends in our society and a rising geriatric population. Mental hospitals will remain overcrowded if they continue to act as geriatric "dumping grounds," as they undoubtedly have in the past.³ Far greater selectivity is required, implying closer collaboration between psychiatrists, geriatricians, general practitioners, and local authorities. Recent figures suggest that the problem will increase⁴ until adequate faci-

lities are available nationally to deal with rising numbers of elderly patients.

Overcrowding frequently coexists with locked wards. Some mental hospitals still accommodate upwards of 100 patients, many elderly, in security wards. Our survey indicated the need for an absolute minimum of patients to be detained under lock and key³—only severely disturbed patients and a few Section 60 cases. At Herrison Hospital, Dorchester, in 1962 it was possible to open the male and female disturbed wards without incident, while retaining only a handful of security patients in closed sections. All disturbed patients require repeated review and should never remain under security conditions when quiescent or recovered. Also the curious traditional practice of locking up virtually all the mental hospital wards at night needs reappraisal. Frequently a shortage of nurses is blamed for the retention of the closed-ward system. But is this shortage relative, perhaps geographical, or absolute? Hospitals offering poor promotional prospects, housing, training facilities, etc., will tend to remain chronically understaffed, whereas others, particularly those that open their doors to coloured nursing applicants, can often afford to pick and choose.

The entire mental hospital administration (medical, nursing, and lay) must approach these and many related problems realistically if more doors are to be opened and overcrowding reduced.—I am, etc.,

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- ¹ Merry, J., *Brit. J. med. Psychol.*, 1956, 29, 287.
² Barker, J. C., and Miller, M., *Nursing Mirror*, 1968, 126, No. 7, 21.
³ Barker, J. C., and Miller, M., in the press.
⁴ Robb, B., *Lancet*, 1968, 1, 815.

Transplacental Haemorrhage in Rh-haemolytic Disease

SIR,—The Liverpool group¹ count the number of foetal cells in 50 low-power fields to determine the foetal-cell score which is used to calculate the approximate size of the transplacental haemorrhage. A score of 5 foetal cells represents approximately 0.25 ml. of blood, and a score of 60 approximately 3 ml. They indicate in their report that the diameter of the low-power field of the microscope which they use is 0.940 mm.

The area comprising one low-power field can be readily calculated from the formula πr^2 , which in the case of an objective field with a diameter of 0.940 mm. is 0.694 sq. mm. Fifty low-power fields will represent a total area of 34.7 sq. mm. The diameter of the objective field, and therefore the area scanned, varies with different microscopes. With the particular microscope which I use the low-power field (diameter 1.80 mm.) covers an area of 2.54 sq. mm.—almost four times the area of a field with a diameter of 0.940 mm. Only 13.5 low-power fields of this particular microscope would cover an area of 34.29 sq. mm. Clearly the scanning of 50 low-power fields will result in considerable differences in the actual area scanned with different microscopes, and is therefore not an acceptable convention for general use. It is highly desirable at this early stage in the routine application of this valuable procedure to adopt a convention which will be universally applicable, and to this end I recommend the adoption of 50 sq. mm. as the total area to be scanned.

Furthermore, it is essential that every published report dealing with this procedure should indicate the diameter or area of the low-power field of the microscope used to enable the appropriate correction to be applied in the interpretation of the results.

The diameter of the objective field is determined by the magnification of the objective and the diameter of the diaphragm built into the eyepiece. The necessary information to enable the diameter of the objective field to be calculated can be readily obtained from the manufacturer or supplier of the microscope, or by direct measurement with the aid of a stage micrometer.—I am, etc.,

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REFERENCE

- ¹ Woodrow, J. C., et al., *Brit. med. J.*, 1965, 1, 279.

Rh Immunization

SIR,—Following the reports (20 January, pp. 148, 150, and 152) of failure of immunoglobulin anti-D to suppress primary sensitization by Rhesus-positive red blood cells in seven cases, we now report two further failures. During the past 11 months 250 women at risk have received between 200 and 410 μ g. of immunoglobulin anti-D within 72 hours of delivery and so far two have developed antibodies.

Case 1.—A primigravida had foetal cell counts done using the Kleihauer method at 18, 22, 26, 30, 32, and 34 weeks. Up to 32 weeks these indicated that no significant transplacental haemorrhage had occurred, but at 32 and 34 weeks the count indicated bleeds of approximately 1 ml. and 3 ml. respectively. At 35 weeks she was admitted with a small antepartum haemorrhage of unknown aetiology and delivered at 36 weeks after spontaneous onset of labour by low forceps for foetal distress. The baby was ABO compatible Rhesus positive (D+ C+ E— c—). No foetal cells were seen in the maternal circulation after delivery and no antibodies were detected in the mother's serum. She received 4 ml. of gammaglobulin containing approximately 440 μ g. of anti-D eight hours after delivery. Three months later her serum contained anti-D antibodies to a titre of 1 in 32 by Papain treated-cells method.

Case 2.—A primigravida had foetal cell counts done at 32, 34, and 36 weeks' gestation. At 36 weeks the count indicated haemorrhage of approximately 1 ml. At 38 weeks she came into spontaneous labour and had an uneventful delivery of an ABO compatible Rhesus D and E positive infant. No foetal cells were found in the maternal circulation at delivery and the indirect Coombs test was negative. She received 200 μ g. anti-D gammaglobulin, but six weeks later her serum contained anti-D antibodies to a titre of 1 in 32 by the Papain treated-cells method.

It is difficult to explain these failures unless the time between probable sensitization and delivery of four weeks in one case and two weeks in the other is too long to suppress the primary immune response.—We are, etc.,

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