NEWS AND NOTES

EPIDEMIOLOGY

Food-poisoning from School Meals

The following notes are based on reports to the Public Health Laboratory Service from public health and hospital laboratories in the United Kingdom and Republic of Ireland.

In the course of one day in the summer of this year at least 250 cases of diarrhoea associated with abdominal pain, nausea, and vomiting were reported from six schools in a city in the north of England. All the schools were supplied with lunch from a central kitchen, which prepared about 1,000 meals daily, and all the affected persons ate school meals. Symptoms in affected patients appeared from about 9 to 12 hours after the midday meal, at which the main dish served was sausage pie.

From samples taken from the refrigerated pie in the central kitchen and from the swill bins several types of spore-bearing bacteria were isolated by aerobic incubation and a pure heavy growth of *Clostridium welchii* by direct anaerobic culture. Three strains of *C.welchii* tested belonged to serological type 7. Refrigerated samples of school meals served on the preceding days were also examined, but they yielded no pathogenic bacteria.

Specimens of faeces were examined from 142 children and 12 teachers with symptoms, 18 kitchen staff (nine of whom had no symptoms), and from 19 home contacts of affected children. These 19 home contacts worked in the food industry. *C.welchii* was isolated from 36 of 47 (77%) unheated stools and from 57 of 68 (84%) heated stools. All the strains from the heated stools were non-haemolytic type 2; those from unheated stools were not kept for serological identification.

The strains of *C.welchii* isolated from the suspected meat and from the patients were of different serological types. However, the meat was prepared from the carcasses of several animals, and only three strains, each derived from a single colony, were sent for serological examination. Wherever possible a series of about 10 strains each derived from a separate single colony, should be examined serologically.

The sausage meat had been made at the suppliers two days before consumption from belly pork (seven parts) and imported beef (three parts). Preparation of the meat was complete by 2 p.m. and it was then stored in a refrigerator till the next morning, when 165 lb (75 kg) were delivered to the central kitchen between 10 and 10.30 a.m. An hour later, after weighing, the sausage meat was removed from the supplier's containers and transferred in thin layers to enamel trays for refrigeration. The meat was removed from the refrigerator at 7 a.m. the next day to be made into sausage pies. These consisted of a thick layer of sausage meat between thick layers of pastry in pie dishes, cooked in a moderate oven at 375°F (190°C) for one and a half hours. The pies were made in two batches, the second one and a half hours after the first. When the cooking of the second batch was completed at 10.30 a.m., the meals were sent out to 11 schools. Only six of these schools were known to have been affected, and it seems probable that these were the schools that received the earlier batch of sausage pie. It was noted that the centre of the sausage meat after cooking was pink, suggesting that this combination of time and temperature was probably inadequate for complete heat penetration.

The central kitchen involved in this episode had been implicated in a previous outbreak of food-poisoning due to a salmonella, and six schools were affected. The vehicle of infection in this outbreak was probably inadequately cooked meat.

Two other outbreaks of food-poisoning associated with school meals were reported in the summer of this year. In one of these outbreaks 165 children from 11 of 14 schools supplied with 803 meals by a central kitchen were affected by diarrhoea and vomiting after a meal. *Salmonella typhimurium* phage type 14 was isolated from affected children, and the source of the outbreak was probably "semi-hard" boiled eggs that had been boiled for 7 minutes in two batches, each of 400 eggs. The portion of egg available for examination had a sticky consistency. Though a temperature of 70°C is sufficient for coagulation of yolk protein, the eggs in the centre of the large mass in the containers would not have reached this temperature within 7 minutes of boiling. Any bacteria surviving in the eggs had ample time to multiply both in the warm mass of 800 shelled eggs stored overnight in one container in the refrigerator and also during distribution to the various schools.

Outbreaks of food-poisoning will continue to occur unless the time elapsing between cooking and eating is short or the temperature during storage is sufficiently low to prevent the multiplication of organisms. Inadequate cooking allows the survival of spores and sometimes vegetative cells, but even "adequate" cooking may not destroy spores such as those of *C.welchii*.

Infectious Diseases

Week Ended 20 October

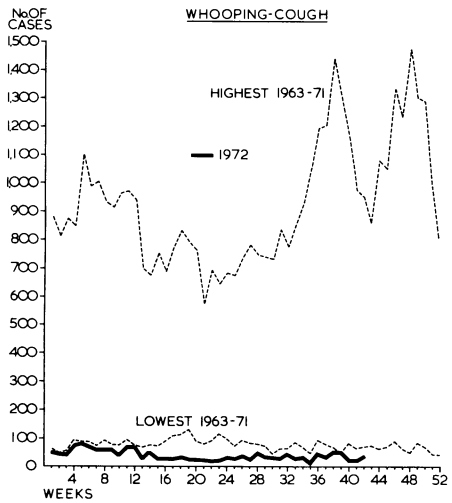
Typhoid Fever: Haringey (G.L.C.) 1.

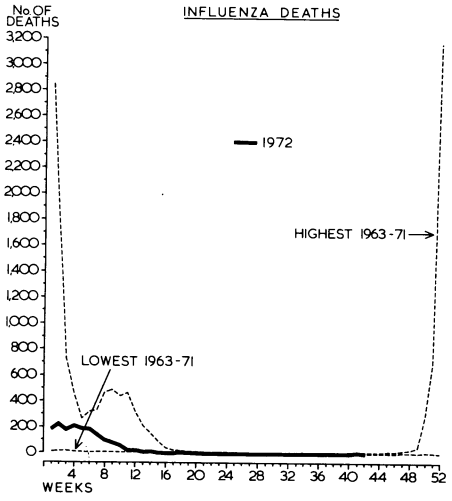
Paratyphoid Fever: Tynemouth C.B. 1, Horwich M.B. (Lancs) 1, Dundee B. 1.

Malaria: Reading C.B. 1, Brent (G.L.C.) 2, Ealing (G.L.C.) 3, Hammersmith (G.L.C.) 1, Haringey (G.L.C.) 1, Hounslow (G.L.C.) 1, Kensington and Chelsea (G.L.C.) 2, Lewisham (G.L.C.) 1, Aldershot MB. (Hants) 1, Newcastle upon Tyne C.B. 2, Aldridge-Brownhills U.D. (Staffs) 1, East Kilbride B. 1.

Graphs of Infectious Diseases

The graphs below show the uncorrected numbers of cases in England and Wales for whooping cough and of deaths from influenza. The figures for 1972 are compared with the highest and lowest figures for each week in the previous nine years.





MEDICOLEGAL

Dentist's Libel Action Continues

FROM OUR LEGAL CORRESPONDENT

The hearing of Mr. Drummond-Jackson's libel action was resumed after the end of the Long Vacation and a further break in order that the plaintiff's advisers should have time to try and examine the results of Professor Thornton's experiments at the University of Sheffield. On Friday 27 October the case was in its 34th day, the week having been spent in hearing the remainder of the evidence of Dr. J. G. Bourne, an expert witness called by the plaintiff.

The case was discontinued on 31 October on the terms reported at p. 254. Below we resume the report of Dr. Bourne's evidence.

When he went back into the witness box Dr. Bourne continued with his survey of the deaths that have been alleged to be attributable to methohexitone. But before doing so the witness had some comments to make upon the article in the *B.M.J.* itself. He said in answer to Mr. Richard Hartley for the plaintiff that the authors in his view had been a little ungenerous in the selection of the advantages that they said had been claimed for the technique of intermittent intravenous methohexitone. They had confined themselves to ones that were somewhat trivial or controversial or even rather silly-sounding, such as the claim that it was not an anaesthetic but produced chemical hypnosis only. Dr. Bourne said that they had omitted very real advantages such as the ones that he had listed in his book *Studies in Anaesthetics*. There he had written that from the patient's point of view the sensation of losing consciousness closely resembled that of falling asleep and was totally different from the progressive dementia experienced with inhalational agents. Awakening was pleasant and there was no post-anaesthetic nausea. From the dentist's angle the advantages were that the most resistant patient could be easily brought under control, that access to the upper teeth was not impeded by the presence of a nasal mask, and that the operating time could be readily prolonged if the need arose. The only drawback was a somewhat slow recovery.

Authors' Alleged Attitude

In answer to the judge Dr. Bourne said that he felt that the authors were rather "crabbing it" from the start; he would have expected the real advantages to have been at least mentioned together with a reference where they could be found by any interested reader. The authors' statement that one advantage claimed was that the laryngeal reflexes remain competent was obviously controversial. The claim that there was no respiratory depression was obviously false; there was. Nor could one really claim that there was rapid and complete recovery: there was rapid recovery, the witness said, but the patient had to be kept hot for an hour or more.

Dr. Bourne then dealt with the doses and the duration of the treatments given by the Birmingham team. He said that on reading the article he realized that what they were disparaging was not, in his view, the intermittent methohexitone method at all. It did not represent the generality of its use, nor the generality of either Mr. Drummond-Jackson's teaching and use of the method or S.A.A.D.'s. It falsified the title of the paper, which should have included some indication that it was a report on an atypical and excessive use. Mr. Hartley then read the paper's claim that "the anaesthetist and dental operator had had considerable previous experience with the technique before embarking on the study." Dr. Bourne said that he thought that they had acknowledged that they had not really had experience of administering the anaesthetic. They had been round and watched it being given and attended lectures and demonstrations but nothing really replaced personal experience of handling the technique and giving it.

Dr. Bourne then went on to deal with the E.E.G. findings and he said that as clinical anaesthetists the authors should have picked up the fallacy of using what the E.E.G. showed as a criterion for judging the clinical depth of the anaesthesia. At the Eli Lilly symposium on the use of methohexitone, which was held before the publication of the *B.M.J.* article, Professor Robinson had said that with 50 mg doses there were changes in the E.E.G. on induction and one got down to 6 cycles per second, which was fairly deep surgical anaesthesia. Dr. Bourne said that in his opinon that level of anaesthesia would not be reached by a dose twice or three times as large. He would not quarrel if they had said that it produced considerable depression of the central nervous system or brain function, but the same E.E.G. changes were found in deep normal sleep. Their measuring device was so sensitive that it might easily have shown exactly the same changes with a person snoring in bed at night.

The witness said that when he read of severe obstruction and cyanosis with evidence of severe suboxygenation he realized that the Birmingham team could not have been conducting the procedure correctly. The sentence in the article referring to "a crowded dental surgery containing a mass of bizarre apparatus" gave him the clue and he wondered how anyone could conduct dentistry under intermittent methohexitone under such conditions. Picturing the scene, he said, the patient's head would be in the dentist's lap with his two nurse-assistants focused on it, the anaesthetist would be somewhere "at midoff," there would be electrical leads coming from the E.E.G. and others going to the electrocardiograph, there was an artery and various veins cannulated, a cardiac catheter threaded down through a vein to the heart, a finger plethysmograph on the finger, blood pressure recording apparatus with its leads, apparatus round the chest for determining changes in the breathing and a constant to-ing and fro-ing of the technicians taking samples. To get the best results, said Dr. Bourne, the technique must be given by the operator dentist and not by an isolated anaesthetist, because it was only the dentist who knew where his drill was going to be applied in the next 30 seconds, whether on a sensitive or insensitive part of the tooth. The dentist, too, and his nurses were in a better position to observe the patient with the light down on his face: they ought to be able to spot complications, stertorous breathing, or tinges of cyanosis. The very nature of the investigation, he concluded, so altered conditions that they no longer represented the procedure that they were out to investigate.

Allegation of Deaths

Dr. Bourne then turned to the last sentence of the Birmingham article where it was stated that "on the evidence presented, the technique of intermittent methohexitone must be regarded as having serious detrimental physiological effects which may well have been the cause of the reported deaths." That, he said, was the single most serious allegation in the paper against the method and it was for that reason that he had singled it out to challenge, within an hour of reading the paper, in a letter that was published in the next issue of the *B.M.J.* Dr. Bourne said that the safety of the method depended on two factors: the first was the extreme lightness of the narcosis needed to cover operations on the teeth. The second safety factor was the brevity of action of the initial dose of methohexitone and of subsequent increments. The brevity was due not to detoxication or excretion of the anaesthetic but to its rapid redistribution in the body. One had only to stop giving increments and the patient would rapidly come round. He was always within 2 minutes of being virtually no more than asleep. The witness added that by "virtually no more than asleep" he meant no longer in need of help for survival. Where the patient was lying down for treatment the only complication that might kill him was asphyxia and that would take some 4 minutes to cause death, or longer if it was only partial asphyxia, as one saw in asthmatic patients. As he put in his book, said Dr. Bourne, provided that the increments and the total dosage have been kept within limits and that the redistribution is proceeding effectively, then the patient will wake up before he has time to die. But as more and more increments are given, the level of barbiturate in the blood-stream rises and the redistribution effect wanes. The witness added that the Birmingham team had not reached anywhere near the stage where the redistribution effect disappeared altogether. That was shown by the fact that the patients were able to stand up walk away and performed not badly in the Romberg test. So, Dr. Bourne continued, the team's fears about the cardiovascular effects were not altogether well-grounded. He said that he himself was not worried about the cardiovascular effects of the excessive dosage, though the authors themselves in their paper in the *B.D.J.* had

said that these were the effects that worried them the most. What mattered was the respiratory effect, and as the redistribution effect waned, there came a stage where the protective respiratory reflexes continue to be considerably depressed when the next increment came to be given.

Dr. Bourne said that he was quite sure that Mr Drummond-Jackson and other people highly experienced with the techniques could far exceed the ordinary doses with safety, but they would know how to keep the increments to a minimum both as to spacing and quantity, and they would also immediately modify or abandon the treatment if any serious risk of asphyxia showed up. Two mistakes had been made by the Birmingham team: they had persevered in treatments that should have been abandoned and they had used increments that were larger than the dentistry required. He could not help wondering whether increments were sometimes given at a time and in a quantity that was required to keep the patient still for the continuance of the monitoring and not necessarily for the purpose of the dentistry. This would have been done in the very best of good faith. In answer to Mr. Justice Ackner, the witness replied that leaving aside the deaths, if the article had contained a preamble saying that it was a first-rate technique if limited to 10 minutes for extractions and 20 minutes for conservation treatment, there would have been very little that worried or surprised him. He said that he was grateful to the team if they had stopped long administrations. Asked by the judge if he conceded that the abuse with long sessions did exist, Dr. Bourne replied that it did, though not to any very great extent. He knew, as Mr. Drummond-Jackson had himself admitted, that he had done it on occasions but he was not worried about it in the hands of the plaintiff or one of his pupils. However, it might be dangerous in less experienced hands and in any case the patient would have a hang-over, which was undesirable.

Editorial Comment

After this Dr. Bourne commented on the editorial that had appeared in the same issue of the *B.M.J.* as the Birmingham article. In it the author, Dr. A. Galley, had written: "some of the deaths after the use of intermittent methohexitone which have been investigated by H.M. Coroners can be reasonably explained by these findings from Birmingham." Dr. Bourne said that he was pretty certain that he knew about every one of the deaths—and they had been very few—that had occurred with methohexitone and he did not believe that any one of them could be explained in that way. The editorial, he said, had swallowed the Birmingham paper hook, line and sinker. It challenged nothing nor did it criticize anything: it did not give a more balanced view, as editorials usually did.

Deaths after Methohexitone

Mr. Hartley and Dr. Bourne then reviewed the deaths that had occurred after the use of methohexitone. One death, the so-called Lewes death in 1967, where the deceased had suffered a ruptured berry aneurysm Dr. Bourne dealt with at the end of the summer term. He continued now with a case investigated by the St. Pancras Coroner in the year 1968 of a 7-year-old girl. At the inquest the mother described how the child's face had gone a funny colour and then a few minutes later she said she had seen the chest moving up and down very quickly and then it had stopped. Dr. Bourne said that the evidence suggested severe asphyxia. The dentist had said at the inquest that he had injected pentobarbitone sodium 80-100 mg in 2 ml and 12·5 mg pethidine combined with 0·2 mg of hyoscine. Then almost immediately after that 40 mg of methohexitone 2% had been injected slowly. There followed 6·6 ml of local xylocaine 2%, and by this time the child was pretty well asleep. Work started after a few minutes but later as the child was fairly conscious and intractable 40 mg more of methohexitone had been given. Dr. Bourne told the judge that to give 40 mg of methohexitone on top of 80-100 mg of pentobarbitone and 12·5 mg of pethidine was something that no anaesthetist would countenance in a child of 7.

In cross-examination at the St. Pancras inquest the dentist had said that he had done this sort of treatment on dozens of occasions, but that he had no oxygen. The dentist agreed that oxygen was more important than stimulants and added that he had not thought that this was such an emergency as to call an ambulance for oxygen. Counsel for the Birmingham authors then rose to tell Mr. Justice Ackner that the death had taken place in March 1968 and that in July 1969 proceedings had been taken against the dentist, the main complaint being that he had no oxygen available. The result had been that the dentist had been reprimanded and £200 had been withheld from his remuneration.

The next death to be tackled by Dr. Bourne was that of a 14-year-old girl at Colwyn Bay in March 1968. The pathologist had said at the inquest on the girl that he had found two puncture marks in the precordial area of the chest and two venipuncture marks on the dorsum of the right hand. The dependent parts of the body had been cyanosed. Dr. Bourne said that that made it look as if the anaesthetist had missed the vein at the first attempt and that had resulted in more time for a faint to develop. The pathologist had also found that the lungs were intensely congested and oedematous, but Dr. Bourne pointed out that there was no question of asphyxia in this case. Indeed, the witness said he had found other deaths where there was no asphyxia element and yet the lungs appeared to be oedematous. In his opinion, oedema of the lungs could not be taken to signify asphyxia. Dr. Bourne went on to criticize the pathologist's explanation at the inquest that death had been caused most probably "on the basis of an idiosyncrasy to the drug." The death had occurred within 60 seconds of the drug being injected, and he did not know any drug that would kill a person in 60 seconds "as an idiosyncrasy of the drug." The witness told Mr. Hartley that he thought it extremely likely that the patient fainted and died as a result of being upright and kept upright. Dr. Bourne said that the anaesthetist involved had told him that an induction dose of 50 mg had been given to send the girl to sleep and that when he looked up the patient had collapsed and had stopped breathing. He had told Dr. Bourne that he had spent a minute inflating her lungs with oxygen while she was still sitting in the chair and then lifted her to the floor. In the witness's view that had been the fatal factor: they had kept her upright inflating her lungs after she had fainted.

Mr. Hartley then referred to a death at Brighton in 1970 where the pathologist had said at the inquest that the cause of death was cerebral and cardiac necrosis due to anoxia under the influence of methohexitone. He had postulated that death had occurred as a result of the deceased's enlarged heart. The dose of methohexitone in this case had only been 20 mg. Dr. Bourne told the Court that subsequently he had telephoned the anaesthetist involved and she had explained to him that the patient had been lying on a couch of the hinged sort rather like a deck-chair. Both the anaesthetist and the dentist described the patient's position as semi-recumbent. The witness added that this factor made the fainting hypothesis entirely tenable.

Dr. Bourne spoke of yet another death at Basingstoke as being explicable on the fainting hypothesis. He and Sir Robert Macintosh had attended the inquest and afterwards Sir Robert and Mr. Evans-Prosser had written a letter to the *B.D.J.*, with which he concurred referring to this death. The letter had said that they believed the death would not have occurred had the patient been horizontal instead of sitting. It said that the dentist-administrator whom they had interviewed had agreed with this. They had all sat through the prolonged inquest at which the all-important possibility of death being due to an unrecognized faint followed by maintenance in the upright position received but passing mention. The letter suggested that the patient had fainted probably at the prick of the needle and that her brain (30 cm above heart level), poorly supplied with blood, suffered lethal though not immediately fatal damage within the first few minutes of treatment. They had added that in order to prevent sudden movement of the arm that might dislodge the needle, the dentist gave further increments to a total of 140 mg. This was open to criticism, the writers said, but did not materially contribute to the fatal outcome.

A further case reviewed by Dr. Bourne was that of a young man who had died at Slough in the year 1967. He had been given a first dose of 100 mg followed by an initial booster of 50 mg and four subsequent increments of 30 mg each. At the inquest Dr. Galley had given evidence as an expert and had stated that there was nothing inherently wrong in the choice of the drug for keeping a person anaesthetized for a period of 20 minutes but that there should be a second qualified and trained practitioner present. He had told the coroner that he had seen a number of these anaesthetics given and he was always a little worried about the airway. The purpose of the second person present, Dr. Galley had said, was to keep the tongue from going back: there was a tendency for the tongue to do so when the dentist was working on the lower jaw. Dr. Galley had continued that the reason for the stopping of the heart in the Slough case could have been the stopping of the airway: he could not think of any way in a healthy person other than that. Dr. Bourne, commenting on Dr. Galley's evidence at the inquest, said that he

thought that a consultant anaesthetist might have thought of fainting as a possible way of the heart stopping. There was enough on record in print to make it pretty plain that there was another cause than blocking of the airway. Dr. Galley had also stated at the Slough inquest that respiratory obstruction was partly the cause of death in all the cases. Dr. Bourne, commenting on this, said that the view that nearly all deaths in dental anaesthesia were attributable to asphyxia was that of the old school. In the witness's view no young healthy person was going to die of asphyxia unless that asphyxia was severe and prolonged with cyanosis so marked that even a child could see that the patient was in a bad state, if not suffocating.

Ministry Report

Dr. Bourne also felt that in his evidence Dr. Galley had been canvassing support for the Ministry of Health's report. This had been successful, since the coroner had undertaken at once to write to the minister and point out the danger of having no second administrator present when a dental anaesthetic was being given. Later in his evidence Dr. Bourne once again criticized the view taken by the Joint Subcommittee on the operator-anaesthetist. He said that there was no additional risk where there was only one person present. Given the five provisos for safety that he had set out in his book, Dr. Bourne said that he believed that it was not only permissible but preferable that the anaesthetic should be in the hands of the dentist. The report had claimed that the practice of acting as both operator and anaesthetist had been advised against by the medical protection societies. However, the witness claimed that if an article by Dr. H. Constable of the M.P.S. written in 1964 was read carefully it was clear that he was saying that they had not found any increased risk in the dentist giving his own anaesthetic. The reason why they advised against the practice, said Dr. Bourne, was because the opposition was so strong from specialist consultant anaesthetists (who invariably were called to court in these cases) that the M.P.S. had found that the cases were simply not worth defending. They invariably lost on the evidence of the consultant anaesthetist. The witness concluded that what Dr. Constable was saying was that the consultant anaesthetists always said "This should not have happened the dentist was giving his own anaesthetic," and then any further consideration of the case was of no avail.

Cross Examination

Cross-examined by Mr. James Comyn, Q.C., on behalf of the Birmingham authors, Dr. Bourne started by agreeing that there were certain matters on which he held very strong views that were not shared by everyone in the profession. He had no objection to the subject matter of the Birmingham investigation, but thought that it was doomed to failure because the conditions in which it was carried out did not resemble clinical practice. Asked by counsel whether he accepted that his clients were honest men, the witness replied that on the basis of the facts that he knew, rather than on the basis of the facts that Sir Robert alleged to have found, his conclusion was that they had not been completely straightforward intellectually. Referring to a letter he had written to the *B.D.J.* (published 15 July 1969) he said that it was still his view that it was regrettable that legal proceedings were being brought since it had made it impossible for Professor Robinson to answer the challenge to name the deaths that his team attributed to the technique. Dr. Bourne said that he had been asked by the plaintiff to give evidence only in May of this year and that it had been a shock to him as he had thought until that point that he was only going to appear as a spectator. It was an exceedingly unpleasant and unwanted shock. Asked by Mr. Comyn whether he had told Dr. Tomlin that he was having nothing whatever to do with the legal proceedings, he replied that he could not remember having done so but that he might well have done.

Dr. Bourne was then asked about time limits and he said that it was wise and sensible not to use the technique beyond 10 minutes for extraction and 20 minutes for conservation. He said that he had always held that it should be restricted to the sort of thing that he had witnessed when he had first seen the technique used. He thought that it was in 1967 that he had realized that this was not the view of everybody and that his own view needed to be stated. He added that he was probably the first person in S.A.A.D. to make the point crystal clear, but that it was now S.A.A.D. teaching. With regard to Mr. Drummond-Jackson the witness said that he did not think that the plaintiff had really ever got his views on length straight with himself. He undoubtedly in the generality of his teaching taught administrations of reasonable length, but at the same time on occasions he went nap and tried to show people how safe it was by the occasional overstepping of the mark both in print and in fact. Dr. Bourne said that his own experience of the technique was confined to extractions and that the longest time that he had ever used the technique was for 32 minutes, which was quite exceptional. The highest dose that he had ever given was in the 32 minutes case and was 200 mg. That had been an apicectomy. Dr. Bourne agreed that though in the new grey edition of the S.A.A.D. hand-book he had written that the dentist "should only use the method for dental procedures that are easily performed and not unduly prolonged," there was no mention of specific limits.

Fainting Theory of Crucifixion

The witness was next asked by Mr. Comyn whether his theory about deaths in the upright position and deaths from fainting had led him to some views on Roman crucifixions. Dr. Bourne agreed that in an article in the *Sunday Times* seven years ago he had put forward the theory that Christ had not died on the Cross at all but had merely fainted. In his view Christ's was a simulated death with no true resurrection. He added there was an increasing number of people who were coming to doubt the validity of a miraculous idea of a supernatural resurrection. Two days later Mr. Comyn returned to this topic and Dr. Bourne said that he had first formed this view in 1955 but he had hesitated to put it into writing for some 10 years for fear of giving offence. The witness stated that Christ was thought to have been on the Cross for some three hours and he surmised that the faint had taken place a good deal later than the actual crucifixion. It was a measure of His greatness that the soldiers had been sufficiently impressed not to break his legs. The sword thrust had been nothing more than a test of death to see whether He moved and since He did not the soldiers had been pleased to defy the order they had been given and not break His legs. Mr. Comyn then asked the witness whether the phenomenon that he alleged occurred in the case of Christ occurred frequently in Roman crucifixions in general. Dr. Bourne answered that Josephus writing immediately after the time of Christ had described a recovery, but that he thought that it was extremely rare to recover. In answer to the judge, Dr. Bourne said that on the occurrence of the faint the head and shoulders would droop forward, lessening the vertical lift from the heart to the brain. He added that even if the body was kept upright the blood pressure in fainting did not necessarily fall so low that the cerebral circulation was entirely stopped. The head and shoulders drooping forward would retain a sufficient blood flow through the brain to save it from being severely damaged. Dr. Bourne went on to explain to the judge that the difference between Roman crucifixions in general and Christ's in particular, was that ordinarily the victims were left on the cross and if they were left there for long they would inevitably die. Furthermore, there was a coup de grace in that their legs were usually broken. That was what had happened to the thieves on either side of Christ and it had finished them. Mr. Justice Ackner then referred the witness to a passage in his book where he had written that "the Roman crucifixion was an example of death from fainting while the upright position was forcibly maintained," and he asked how long it would have been necessary to maintain the upright position for a fatal faint to have been the inevitable consequence. Dr. Bourne replied that would vary enormously between individuals but ultimately, left there, they were all bound to die.

S.A.A.D. Handbooks

Mr. Comyn also had questions for the witness about the S.A.A.D. handbooks, and Dr. Bourne underlined that he did not hold himself responsible for anything in the black book, its successors, or its predecessors except the chapters that he had written. Asked by counsel whether there were passages in the black book (published in 1967) that he actively disagreed with, he replied that there was masses he disagreed with including any mention of long administrations or heavy dosage. He was prepared to say in the hearing of Mr. Drummond-Jackson that he did not think that it was a very good book. At the time that he had seen the typescripts he had certainly never appreciated that there was nothing in the book about the limits of duration or dosage. Asked by Mr. Comyn whether the omissions were in his view a fatal defect in the black book, Dr. Bourne replied that looking back he would agree that that was so, but that at the time their ideas were developing and the technique was in its early stages. Later the witness agreed that nowhere in the black book was a maximum duration specified. He agreed, too, that he

had not specified one in the part of the book that he had written, though he had described a typical case as being of 12 minutes. Nor was there anywhere in the black book including in the part that he had written any total maximum dosage specified. Dr. Bourne also acknowledged that on the contrary there were many parts of the book that indicated that there was no maximum dosage or duration. Finally, asked by counsel whether the black book was dangerously defective in certain respects, Dr. Bourne replied that it was most assuredly defective. At the end of the week Dr. Bourne had still not left the box.

PARLIAMENT

Questions in the Commons

Thalidomide Children (Education and Employment) Bill

On 25 October Mr. LEWIS CARTER-JONES (Eccles, Lab.) was given leave by the House of Commons to introduce a Private Members Bill to make further and better provision for the education and employment of thalidomide children. The bill received an unopposed first reading.

Mr. Carter-Jones said there had been a long period of neglect in respect of thalidomide children and some of them were now 10 years of age. Valiant efforts on their behalf had been made by many people and organizations but a lot more needed to be done about their education and employment prospects to enable these children to take their place in society as useful citizens. Suggesting that the law could be modified to allow interim payments to be made so that parents of affected children could start tackling the problem, Mr. Carter-Jones said the final solution could come later. Many members on both sides of the House, he said, felt that the Distillers Company had a moral responsibility to the sufferers. If the company accepted this moral responsibility there would be no need for the introduction of the bill. It was incredible and disgraceful that the Lady Hoare Trust, a charity with limited resources and which had given invaluable support to the parents and children, was almost out of funds but the Distillers Company still had not made a contribution. The problem could also be resolved by the Government accepting full and total responsibility for the children and for the difficulties faced by the parents. There was evidence that by applying advanced technology, in which Britain led the world, there could be a remarkable improvement in the situation of thalidomide children.

With the prorogation of Parliament on 26 October the bill will be reintroduced during the next session.

In written answers on 24 October, Sir Keith Joseph said that so far as financial help was concerned his responsibilities to thalidomide children and their families were met by the socal security scheme, the benefits of which were available to them to the same extent as to others who were disabled. The children were of school age and questions concerning their education were the responsibility of the Secretary of State for Education and Science (Mrs. Margaret Thatcher).

General Medical Council

In a written answer on 26 October Sir KEITH JOSEPH said the outcome of discussions between the G.M.C. and the British Medical Association would be known shortly and he would then decide what action, if any, was required concerning doctors threatened with removal of their names from the Medical Register on 15 November. The legal position was that erasure of a doctor's name from the Medical Register precluded his employment as such in the N.H.S.

MEDICAL NEWS

Cancer Research

No effective use would be made of any sudden increase in funds available for cancer research, according to Lord Zuckerman's report published last week as a Green Paper price 20p. Lord Zuckerman had been asked by the Prime Minister to review the present state of cancer research in Britain having regard to the work that was being done in other countries. The report concluded that shortage of money was not a major problem, but that much better use could be made of existing knowledge. It called for early introduction of the proposals made by the Central Health Services Council for the establishment of oncological centres. Lord Zuckerman also stressed the importance of better communications among doctors about advances in treatment.

Second Chair of Surgery, Sheffield

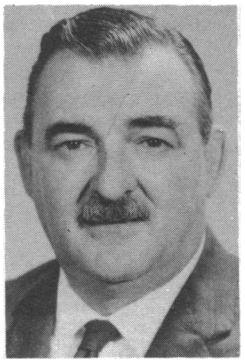
Mr. Ronald G. Clark, senior lecturer in surgery at Sheffield University, has been appointed to the second chair of surgery, tenable at the Northern General Hospital, Sheffield. Mr. Clark entered medicine after a few years in industrial and nutritional technology and qualified in medicine at Aberdeen University in 1956. His surgical training was obtained at the Western Infirmary, Glasgow, at the end of which he spent one year as Harvard University surgical research fellow at the Peter Bent Brigham Hospital. Returning to this country he spent four years as lecturer in surgery at the Western Infirmary, Glasgow. Mr. Clark became senior lecturer in surgery at Sheffield in 1966.

Potatoes and Spina Bifida

A statement issued last week by the Department of Health said that urgent studies were being made of the suggested link between potato blight and congenital abnormalities of the nervous system (see the article by Dr. J. Renwick in the *British Journal of Social and Preventive Medicine* May 1972). The statement stresses that the hypothesis put forward by Dr. Renwick suggests a risk for pregnant women from blighted potatoes but that it casts no doubt on the wholesomeness of potatoes as a foodstuff.

New Professor in Nigeria

Professor G. M. Edington, professor and head of the department of pathology and deputy vice-chancellor of Ibadan University, Nigeria, has been appointed professor and head of the department of pathology at Ahmadu Bello University, Zaria, Nigeria. Professor Edington qualified at Glasgow University in 1939 and after war service in India and Burma he became specialist pathologist in charge of the Medical Research Institute and Laboratory Services, Gold Coast and Ghana. He returned to Britain in 1957 and was consultant pathologist to the Whiston and Rainhill Hospitals in the Liverpool region. He took up his appointment in Ibadan in 1958. He has been a member of a number of international committees and in 1961 was appointed a member of the W.H.O. Expert Committee on the Chemotherapy of Cancer. Professor Edington's published work includes many articles on tropical pathology and he is the co-author of the textbook, *Pathology in The Tropics* (1969).



Seminars at B.M.A. House

A seminar on the "Gut" will be held at B.M.A. House, London, on Friday, 17 November, from 10 a.m. to 5 p.m. For details see advertisement on page iii.

F.F.M. Annual Meeting

The Fellowship for Freedom in Medicine held its annual meeting on 28 October. The chairman, Dr. P. A. T. Wood, spoke on the forthcoming reorganization of the N.H.S., and the guest speaker, Dr. E. Grey-Turner, gave an address on "The N.H.S.—Has it Any Lessons for Europe?"

COMING EVENTS

Bleomycin International Symposium.—All-day 6 November, Royal Festival Hall. Professor L. G. Lajtha and Sir Ronald Bodley Scott will preside. Details from Mr. G. W. Williams, Lundbeck Ltd., The Green, Welwyn, Herts. (Tel. Welwyn 6601.)

Dublin Children's Hospital.— Centenary scientific conference, 16-18 November. Details from the hospital, Temple Street, Dublin.

National Association of Clinical Tutors.—Third annual meeting, 27 November, 9.30 a.m., Royal College of Physicians of London. Details from the honorary secretary, Dr. D. Ferriman, North Middlesex Hospital, Edmonton, London N18 IQX.

National Symposium on "Care of the Dying."— 29 November, Royal College of Physicians of London, organized by the Department of Health and Social Security. Sir Keith Joseph will open the symposium and Sir George Godber will preside. Details from the chief information officer, D.H.S.S., Alexander Fleming House, Elephant and Castle, London S.E.1. (Tel. 01-407 5522.)

Irish Medical Association.—Copies and details of the postgraduate teaching course, November-December, are obtainable from the I.M.A., 10 Fitzwilliam Place, Dublin 2.

SOCIETIES AND LECTURES

*For attending lectures marked * a fee is charged or a ticket is required. Applications should be made first to the institution concerned.*

Monday, 6 November

BLAIR BELL RESEARCH SOCIETY.—At Royal College of Obstetricians and Gynaecologists, 2.30 p.m., ordinary meeting.

INSTITUTE OF DERMATOLOGY—4.30 p.m., Dr. M. F. Spittle: Principles of Radiotherapy.

INSTITUTE OF LARYNGOLOGY AND OTOLOGY.—5.30 p.m., Clinicopathological conference.

Tuesday, 7 November

B.B.C. TELEVISION.—1.15 p.m. on channel 2, 11.20 p.m., Tuesday, 14 November, on channel 1. Medicine Today: The Investigation of Liver Disease.

INSTITUTE OF DERMATOLOGY.—4.30 p.m., Dr. R. Marks: The Horny Layer.

ROYAL ARMY MEDICAL COLLEGE.—5 p.m., Mitchiner memorial lecture by Mr. H. C. Edwards: The Training of a Military Surgeon.

Wednesday, 8 November

INSTITUTE OF CHILD HEALTH.—5.30 p.m., Dr. P. Pinkerton: Psychosomatic Approach to Childhood Asthma Exemplified by Videotape.

INSTITUTE OF NEUROLOGY.—6 p.m., Mr. I. H. Pattison: Scrapie as a Model for the Study of Central Nervous System Degeneration; 7 p.m., Mrs. E. Beck: Neuropathology of some Experimentally Transmissable Degenerations of the Brain.

INSTITUTE OF PSYCHIATRY.—5.30 p.m., Dr. J. L. Crammer: The Scientific Basis of Successful Treatment With Tricyclic Antidepressants.

INSTITUTE OF UROLOGY.—5 p.m., Mr. W. F. Hendry: Urinary Infection in Children.

LONDON UNIVERSITY.—At London Hospital Medical College, 5.30 p.m., Professor A. R. Muir: Growth and Differentiation of Skeletal Muscle.

OXFORD UNIVERSITY.—At Radcliffe Infirmary, 5 p.m., Professor W. S. Bullough: The Chalones, a New Endocrine System.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS.—5.30 p.m., Dr. J. S. Wigglesworth: Pathology of Neonatal Respiratory Distress.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5.35 p.m., Lumleian lecture by Professor J. P. Shillingford: Advances in Management of Acute Myocardial Infarction over the last Ten Years.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 p.m., Hunterian lecture by Professor G. P. Arden, Surgical Treatment of Still's Disease.

ROYAL POSTGRADUATE MEDICAL SCHOOL.—2 p.m., Pathology lecture.

SOCIETY OF APOTHECARIES OF LONDON.—5.30 p.m., Sydenham lecture by Dr. F. N. L. Poynter: Sydenham's Influence Abroad.

CARDIOTHORACIC INSTITUTE.—At Institute of Diseases of the Chest, 5 p.m., Dr. T. J. H. Clark: Management of Acute Asthma.

Thursday, 9 November

EDINBURGH UNIVERSITY.—5 p.m., Sir Stanley Davidson lecture by Professor W. S. Peart, F.R.S.: Renal and Suprarenal.

INSTITUTE OF OBSTETRICS AND GYNAECOLOGY.—At Chelsea Hospital for Women, 11.15 a.m., Mr. A. E. B. Matthews: Endometriosis. (Admission by ticket only, obtainable from secretary, Institute of Obstetrics and Gynaecology, Chelsea Hospital for Women, London, S.W.3.)*

ROYAL POSTGRADUATE MEDICAL SCHOOL.—4 p.m., Professor A. Rapoport (Toronto): Metabolic Studies in Patients with Renal Calculi, 6 p.m., Anaesthetics lecture.

ROYAL SOCIETY.—4.30 p.m., Leeuwenhoek lecture by Professor H. L. Kornberg, F.R.S.: Carbohydrate Transport by Micro-organisms.

ST. MARY'S HOSPITAL MEDICAL SCHOOL.—5.15 p.m., Mr. D. W. T. Roberts: General Surgical Problems arising during Gynaecological Surgery.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At Royal College of Physicians of London, 5.30 p.m., Dr. D. Harken: Surgical Treatment of Heart Failure.

Friday, 10 November

INSTITUTE OF OBSTETRICS AND GYNAECOLOGY.—At Queen Charlotte's Maternity Hospital, 11.15 a.m., Mr. H. G. Arthure: Maternal Mortality; 3 p.m., discussion: Caudal and Epidural Analgesia. (Admission by ticket only, obtainable from secretary, Institute of Obstetrics and Gynaecology, Chelsea Hospital for Women, London, S.W.3.)*

NATIONAL HEART HOSPITAL.—At Royal College of Physicians of London, 5 p.m., St. Cyres lecture by Dr. R. Bonham-Carter: Progress in Treatment of Transposition of the Great Arteries.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—5 p.m., Frederick Price lecture by Lord Rosenheim: Inherited Disease of the Kidney.

ROYAL POSTGRADUATE MEDICAL SCHOOL.—11 a.m., Professor N. F. McGowing: Changing Profile on Testicular Tumours.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—4.30 p.m., R. W. Johnstone memorial lecture by Professor W. I. C. Morris: Experiences with Cancer of the Vulva.

UNIVERSITIES AND COLLEGES

ABERDEEN

PH.D.—*In the Faculty of Medicine:* D. W. Sharp.

DIP. PSYCHOTHERAPY.—Mette L. Nygard, A. W. Scott-Brown.

MANCHESTER

Appointments.—Dr. T. J. Crow (senior lecturer, psychiatry); Mr. C. V. Horn (senior lecturer, orthopaedic surgery); Mr. J. Cronin (lecturer, otolaryngology); Dr. J. W. Gleisner (lecturer, psychiatry).

ROYAL COLLEGE OF PHYSICIANS OF LONDON

At a quarterly meeting held on 26 October, with the president, Dr. C. A. Clarke, F.R.S., in the chair, Sir Francis Avery Jones was elected second vice-president.

Dr. D. W. Pugh, Dr. E. G. Wade, Dr. W. L. L. Rees, and Dr. S. Shuster were elected councillors of the college.

The appointment of Dr. J. T. Hart as Milroy lecturer for 1974 was announced.

The following were elected and admitted as Members:

R. T. Bevan, R. H. Fox, P. N. Magee, J. S. Pepys Rawlins, Elsie R. Rue, Margaret J. Suttill.

D.A.—K. Kyei-Mensah.

D.L.O.—J. Abdel-Karim Barghouthy.

D.PATH.—H. M. Rasim.

D.M.R.T.—E. R. Smith.

D.AV.MED.—N. E. Baldock, W. A. Cottier, R. C. Davie, K. Edgington, C. M. Fernando, F. C. Hurrell, E. C. Jamieson, Teik-Beng Khoo, R. Y. H. Lee, J. H. Lemon, R. M. Stewart, H. A. Wober.

D.I.H.—M. S. A-E. Abd-Eldayem, R. A. S. Balogun, R. L. Bayman, Eileen M. Booth, Elizabeth F. Bradley, B. C. Elvin, M. M. Gupta, A. S. Koh, A. B. Quainoo, A. M. Semmence, E. Tarimo.

D.C.H.—S. Acharya, S. N. Adhikaree, S. K. Adjei, I. W. Aitken, Elizabeth M. Allen, R. J. Andrews, G. D. Ansell, C. R. Ashton, N. H. D. Atherstone, P. G. Baker, P. K. Ballard, R. K. Banerjee, Deborah M. Barff, Elizabeth A. Barnes, Diana M. L. Birch, Sarah J. Bodden, Julia M. Brown, E. J. M. Cantillon, S. K. Chakrabarti, Catherine A. Chalmers, Elizabeth J. Chambers, A. H. Chapman, G. J. Charlwood, P. J. Congdon, S. Court, Margaret J. Crawford, Mary C. Cummins, A. R. Cunnington, D. A. Curnock, M. K. Dang, G. S. Davidson, Elizabeth A. Dibley, M. G. Dornan, D. A. Ducker, J. M. Elwood, Angela M. Evans. J. E. Findlow, Millicent C. W. Floate, J. M. Forrest, S. M. F. Fraser, Susan Fricker, C. R. M. Glayser, W. D. Gorrod, P. J. Graves, Anne M. Green, M. J. Harran. Shirley V. Hodgson, C. O. Holme, S. J. K. Holmes, A. Hutchinson, G. C. Ibezi, Henrietta M. H. Ip, G. C. Jain, F. Jaiyesimi, J. R. Jarvis, Delyth W. Jones, T. G. R. Jones, Dhanalakshimi Karthigesu, S. D. E. Kelly, Razia Khatun, E. M. Krantz, C. S. Kumaranayake, Heather M. Lakin, E. J. Lavender, P. R. Layman, N. T. Leach, P. H. Lee, W. Lenny, A. P. Lewis, D. Lillystone, Lo Chi Chan, C. O. McKeown, J. I. McLachlan, W. S. F. Mann, Nicolette P. F. Mills, P. K. Misra, A. H. Mowbray, N. Murtaza, D. I. Mustafa, Sunita A. Naravane, J. A. A. Nichols, F. Oberklaid, N. M. O'Mullane, G. G. Owens, S. R. Patel, R. J. Paterson, Cynthia Phillips, June V. Phillips, Susan E. Phillips, D. W. Pilling, C. Protestos, R. H. Qureshi, P. Reder, A. N. Redington, Helen Reid, S. M. Renton, Helen P. Ring, I. F. Robertson, R. Robertson, Mary E. Rodgman, J. C. Sadler, D. M. Sanders, A. H. Sellick, D. I. Shier, H. F. Shipman, J. A. Sills, Beulah Simpson, Elizabeth Smibert, C. M. Squire, T. A. Stefani, D. W. Stevens, Urmila Tandon, Anne E. Tattersall, D. J. Thakrar, Than-Nu-Shwe, Patricia E. Thurley, J. S. M. Toms, Marion A. Wakefield, Mair Walker, J. B. G. Watson, M. L. White, O. P. G. Whitfield, R. N. Wild, A. R. Wilkinson, C. Willcox-Jones, Elizabeth M. Wood, V. Yu Yu-Hei.

D.M.R.D.—F. Aazam-Zanganeh, D. B. Agrawal, A. A. H. Albar, J. L. S. Alexander, Parvin I. Alipour, N. A. Aljasani, D. J. Allison, A. B. Ayers, J. A. Barr, N. C. Barraclough, E. M. Bass, K. A. Brownlie, P. J. Bryan, Helen M.-L. Carty, T. M. H. Chakera, D. C. Clark, A. Cohen, B. Cosmann, R. S. Dossetor, J. P. G. du Plessis, N. R. V. Edmunds, N. Fariz-Husein, R. A. Fawcitt, Rosemary Ford, G. C. H. Freakley, Isobel G. Furnival, Georgietta O. Goodluck, R. W. Graham. D. W. Gregory, P. Griffiths, M. Gyi, Christine M. Hall, K. Hall, Claire V. Hendry, Martha A. W. Hewitson, G. Hussain, Pamela A. Jones, T. Khalid, S. Kisumbi, K. M. Kotecha, H. Latigo, E. L. Levin, E. C. D. Lim, S. Lwin, R. Maguire, J. B. Masterson, B. R. May, Rhiannon Mitchell, S. A. Mukhtar, M. D. Newfield, H. M. V. L. B. Nikapota, J. P. Owen, J. P. Pallan, G. Papassiopoulos, A. Papastathopoulos, S. R. Patel, K. S. Pathak, J. Pemberton, A. C. Quinn, K. Ragupathy, Devyani N. Savla, M. R. P. Shaw, N. C. W. Smith, Aisne F. Stoker, H. N. Surati, K. P. Tan, Ann De C. Tate, G. L. V. Tatler, A. C. Ude, Susan B. Walkden, A. A. Warner, A. J. A. Wightman, E. W. Williams, F. J. B. Williams, H. K. Wilson, K. P. Wong, So San Y. Wong, A. L. Wod, K. H. Yeong, M. A. Zirevogel, Nam J. Lim, O. J. Follows.

D.O.—K. Ahmad, M. Ahmad, A. T. Alkalhoud, K. M. Al-Rifai, D. J. Austin, M. F. Bakhoun, F. A. Benjamin, K. O. Bentsi-Enchill, M. R. Chaudhuri, R. Y. S. Chen, J. H. Cook, Barbara M. Dickinson, H. C. Ghosh, D. C. Gibbons, R. C. Gupta, V. Gusa Lavan, M. Hasan, Marie K. Housley, M. Idrees, A. Khaliq, N. B. Mammo, D. R. Michell, F. W. D. Narnor, M. D. Parekh, P. A. G. Payne, O. Prakash, M. Ram, N. Samanta, M. N. R. Shama Sundara Rao, P. A. Shaw, R. Soler, A. el R. Soudan, C. Townsend, K. Tucktuck, J. C. Tudor, T. C. Wong, D. G. Yadav.

D.PHYS.MED.—Aleya M. El M. El Banna, W. A. Kemp, F. R. I. Middleton, H. N. Misra, Celia M. Prinn, C. Soria-Herrera, Md. A. Wahed, G. K. Wilson.

D.P.M.—Elspeth M. Earle, Jane M. I. McKeown, R. N. Mitra, Angela M. Scrase, Valerie J. Spotswood, Dulcie E. Suleman.

D.T.M.&H.—Anne M. A. Aandstad, M. M. Akhter, P. Archer, A. A. R. Awad, R. H. Barr, W. A. H. H. Behrens, W. Beresford, S. K. Biswas, Julie L. Clift, J. R. de Carteret, D. H. C. Evans, G. K. Fuller, J. E. Hellman, R. C. Hickman, M. G. M. Jayarajan, H. J. P. Kyronseppa, M. Lewis, D. Lister, S. M. Malik, S. H. Mohammed, Veronica A. Moss, D. C. Muogbo, G. Pillay, S. A. Qawi, R. H. Qureshi, A. Rimi, R. Roesin, E. Savdie, R. A. H. Seger, H. C. Spencer, P. F. H. Stingl, Beatrice Y. Talwatte, A. S. M. Taslimuddin, E. D. B. Tenambergen, A. M. Yosri, S. M. Zmily.

Corrections

New Consultant Contract

In the letter from Dr. J. C. Briggs (28 October, p. 241) we regret that a printing error resulted in a loss of a line. The relevant sentences should have read: "As a result, the South-west Regional Whole-time Consultants Organization has approached 197 whole-time consultants in the region and asked: 'Are you in favour of an option *not* to engage in private practice being included in any contract negotiated?'

"Of those approached 129 replied and 126 were in favour of the clause."

Dentist's Libel Action Resumed

We regret that in our "Medicolegal" note on 28 October (p. 266) we incorrectly described Mr. Michael John Heath as a doctor and a member of the Department of Anaesthetics at the University of Birmingham. In fact, at the time that the Birmingham article was published (31 May, 1969) he was a lecturer in the Department of Conservative Dentistry at the University of Birmingham.

Notice to Authors

When original articles and letters for publication are not submitted exclusively to the *British Medical Journal* this must be stated. Accepted articles may subsequently be selected for publication in the North American monthly edition.

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