normally engendered by these heat treatments, and this would appear to answer the recommendation made in your concluding paragraph.

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ATARALGESIA

SIR.—The article by Dr. Hayward-Butt in your issue of Nov. 16 will be of considerable interest to all anaesthetists, particularly to those who are attracted by the problem of obstetric anaesthesia.

It is evident that there is in many places a groping towards a new form of pain relief in obstetric obstetrics.

Davies referred to five cases of caesarean section in which 25 mg. of chlorpromazine was given intravenously 30–45 minutes before operation, anaesthesia being induced and maintained with a nitrous-oxide/oxygen mixture, plus morphine.

More recently, Scott and Gadd suggested that a number of forceps deliveries could be satisfactorily undertaken following the intravenous injection of 100 mg. pethidine and 25 mg. chlorpromazine.

Dr. J. H. Molloy, who arrived at this hospital a couple of months ago, informs me that when he left the Whittington Hospital a substantial number of cases had been conducted there in this manner, with fully satisfactory results. I have commented upon this trend in a general review shortly to be published, and have referred also to a number of forceps deliveries which, in cooperation with Mr. J. D. O’Sullivan at St. Mary’s Hospital, Portsmouth, I conducted satisfactorily with 150 mg. pethidine and 50 mg. chlorpromazine.

It is evident that Dr. Hayward-Butt is also engaged in this movement. He mentions that he has given his “unit mixture” (number of units unspecified) in four cases of caesarean section (three times intramuscularly, once intravenously). One would like to know in more detail the exact dosage given, the length of time between administration and the delivery of the child, and the precise condition of all the neonates. We still know too little about the placental transmission of the drugs in question to be able to ignore these details. I used chlorpromazine in my cases, but it might well be that in a larger series the sympatheticolytic and other effects mentioned by Dr. Hayward-Butt (though not recorded in my patients) would need to be known in more detail.

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If an opiate antagonist is to be used (and again I must quote the fact that in my own cases and those seen by Dr. Molloy there was apparently no pressing need for one, judging by neonatal depression, though the results would probably have been even more impressive had such an antagonist been incorporated in the mixture) I would suggest that levallorphan, rather than amiphentanyl, or blephalorphan, be chosen. Levallorphan is apparently almost specific against the “atachampsic tranquility” of my cases, and it is virtually innocuous both locally and generally, even when given in high doses intravenously—as is well recognised in this unit.

Despite Dr. Hayward-Butt’s preference for intramuscular injection, on the ground that it leads to less mental clouding, I would favour the intravenous route as there must be a more precise prediction of onset of effect, and in emergency cases (such as obstructed labour a 30-minute delay would be contra-indicated.

I earlier used the term “conducted” because I am not happy about the question of nomenclature. Dr. Hayward-Butt uses the word “ataralgesia” (such as obstetrics) a 30-minute delay would be contraindicated.

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“disturbance of mind”: I could converse easily with some, but others appeared to be in a semidrunken state, and a high proportion had amnesia for some of the events of delivery, though none recollected feeling pain. I had, perhaps clumsily, dubbed this state as one of “hyposesthesia,” in an attempt to indicate a diminution of awareness without loss of consciousness. As must be obvious, I have no Greek.

A further point which interests me, and one which will perhaps be the most intriguing to all anaesthetists, is how Dr. Hayward-Butt conducted the five abdominal operations for which no anaesthetic was given. If no relaxant drug was used, then this would imply a most interesting supplement to our knowledge of the pharmacology of pethidine and pacatal. If relaxants were employed, which they usually are, what was their respiratory function and controlled, and did they accept such manoeuvres with ataralgesic tranquility?

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CORONARY AND AORTIC ATHEROSCLEROSIS

SIR.—Dr. Elkeles’ report (Oct. 12) on the greater prevalence of aortic calcification in older women as compared with men, in contrast to coronary-artery disease, is in good agreement with our findings, not quoted by him, first published in 1954 and subsequently amplified.

Our actual prevalence-rates for these shadows at various ages were within the general range reported by Dr. Elkeles, and accorded criteria, verified by comparing pre-mortem radiographic findings with post-mortem specimens from the same individuals, appear to be similar. We felt rather humble when we found that Rokitansky already knew of the greater prevalence of aortic atheroma in women. Subsequently, Barr, in an extensive review, referred to an even earlier report by Hasse.

Since you have lately given much space to atherosclerosis, I am taking the liberty of drawing your attention to an extensive epidemiological study of atherosclerosis from which these data have been taken. We have studied about 1200 men and women aged 40 and over, chosen strictly at random from a population of about 33,000 employed clothing workers in New York City. Most were of Italian or Jewish extraction and were closely comparable from a social, economic, and occupational point of view. Our data are among the very few currently available, relating to the prevalence of manifest atherosclerosis and associated factors in representative samples of population segments. Since most of Dr. J. N. Morris’ extensive data on ischemic heart-disease in various occupational groups in Britain are based on incidence-rate rather than prevalence-rates, a comparison with our data cannot be readily made.

Among the Italian-American men in our group, the prevalence of manifest coronary-artery disease, diagnosed on the basis of a history of an acute heart attack, unequivocal angina pectoris, or clear electrocardiographic findings, was about the same as for the other groups studied in the United States. In the Jewish men, on the other hand, the prevalence-rate was about twice as high (p <0.01). No ethnic difference in the prevalence of coronary-artery disease could be detected among the women. These findings were confirmed by analysis of certain insurance records, as we have reported. Radiological evidence of calcification in the thoracic and abdominal aorta likewise

was not different in the ethnic groups, again pointing to dis-
similarities between coronary-artery and aortic disease, as
discussed by Dr. Elkeles. On the other hand, coronary-artery
disease appeared to be more common among the men with
aortic calcifications than among those without such lesions;
these particular data were insufficient for statistical analysis.

Thus some degree of association between these
two lesions may exist. In this connection, the inadequacy
of available methods for the clinical diagnosis of both
 coronary and aortic disease cannot be overstressed. With
Dr. Elkeles' and our data as a base-line, it might be of
interest to determine the prevalence of radiologically
demonstrable aortic calcifications in older people belong-
ing to populations said to be relatively immune to athero-
sclerosis; the possible radiological hazard must, how-
ever, be kept in mind.

On attempting to explain the greater prevalence of
coronary-artery disease among the Jewish men, we found
that the dietary patterns of these particular Italian and
Jewish groups could not provide more than, perhaps,
a very minor clue; caloric and total fat intake was
closely similar in the two groups even though the Jews,
on an average, consumed about 10 g. more animal fat a
day than the Italian in the diet of vegetable origin.10

Unfortunately, we could not compare the diets of the men with and without coronary-
artery disease, since the number of diseased individuals
was too small for valid analysis—a frequent con-
sequence of working with random populations rather
than sick persons and " controls ". On further analysis,
we were surprised to find that elevation of serum-
cholesterol, blood-pressure, and weight was associated
with a greater frequency of coronary-artery disease only
among the Italian men; none of these three factors,
alone or in combination, appreciated the disease-
rate in the Jewish men. The conclusion appeared inevi-
table that factors other than those investigated in this
study predisposed these Jewish men to the development
of coronary-artery disease.

These data are somewhat at variance with recent
reports on Jewish groups in Israel.11 Space does not
permit discussion of possible reasons for this divergence ;
but, as Sir Sheldon Dudley pointed out, epidemics of
the same disease may be caused by dissimilar combina-
tions of factors, according to time and place.12 He
referred to transmissible diseases, but his point applies
equally to the epidemiology of non-infectious conditions.
It goes without saying that we have-talked of " Italians 
and " Jews," but refer only to the particular Italian and
Jewish Americans in our study. The epidemiology of
atherosclerosis does not differ among people in the
broad groups according to their given ecological
setting. Nor do we wish to imply that our findings
necessarily suggest that a genetic factor is involved
in the observed differences, since there are many environ-
mental variables of possible significance that were not
studied in our investigations. We all hope that athero-
sclerosis and coronary-artery disease will eventually
be turned out to be largely due to which we do rather than to
what we are. Our study is relevant—not so much,
perhaps, because it constitutes a small link in the growing
chain of epidemiological knowledge of these disorders,
but because it demonstrates that such studies, involving
statistically valid population samples and the simul-
taneous testing of multiple variables, are feasible and
accurate within the limitations of currently available
methods.

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11. Toor, M., Katchalsky, A., Agmon, J., Allalouf, D. Lancet,
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