study represents a step forward in the investigation of the possible carcinogenic effects of 50 Hz electromagnetic fields.

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Authors' reply (Finland)

EDITOR,—We are well aware that magnetic fields from sources other than power lines will, if carcinogenic, mask and decrease the observed association. Our exposure assessment was based on the assumption that magnetic fields of high voltage power lines usually increase the overall exposures of children living in the vicinity of the lines compared with other children. Calculation of magnetic fields generated by power lines provided no more than a tool for classifying study subjects according to their overall exposure levels. The subcohorts of children with maximal annual average exposure of $\geq 0.20 \mu\text{T}$ or cumulative exposure of $\geq 0.40 \mu\text{T}$ years were considered to be exposed in our study; the rest were investigated solely to compare observed cancer rates with an external reference. The magnetic field level is usually less than $0.1 \mu\text{T}$ in Finnish homes without external sources,¹ and it is thus likely to mask only part of the effect of power lines in the exposed group.

The possible carcinogenic property of magnetic fields, if not the average as such, may well correlate with the average. The Finnish 110–400 kV grid is electrically well balanced by using carefully designed transpositions of phase conductors. The zero sequence current from the distribution grid cannot be transferred to a 110–400 kV grid because 110/20 kV transformers are of phasor group star delta. According to our measurements, zero sequence currents in 110 kV lines are typically a few amperes, seldom more than 10. However, zero sequence currents may have an effect on magnetic fields of power lines, especially in the case of the distribution grid but slightly also in the transmission grid for residences situated at some distance from the line. As to the resonance phenomena involving the alternating power frequency field and the earth's local geomagnetic field, Mr Philips did not further specify how these resonance phenomena would affect risk estimates in epidemiological studies.

The pragmatic objective of our study was to estimate the excess cancer risk in children living close to overhead power lines of 110, 220, and 400 kV, presuming magnetic fields are the carcinogenic agent, and not to estimate the risk caused by magnetic fields from various sources. We did not exclude the possibility of a real cancer risk of magnetic fields in our paper, although the population attributable excess risk of childhood cancer due to the power lines apparently is small. If the data are analysed using higher cut off points of exposure, risk estimates seem to be higher but they pertain to a smaller fraction of the population. For example, the children and adolescents in our study with cumulative exposure of $\geq 1.0 \mu\text{T}$ years contributed a total of 28400 person years. The corresponding standardised incidence ratios were 2.3 for total cancer (nine cases; 95% confidence interval 1.0 to 4.3), 2.8 for nervous system tumours (three cases; 0.6 to 8.1), 3.5 for leukaemia (three cases; 0.7 to 10), and 1.5 for other tumours (three cases; 0.3 to 4.3)—that is, the risk estimates for the small group of children with higher cumulative exposure seem to be relatively high, with wide confidence intervals. An analysis combining the results of the three recently published Nordic

studies taken together supported the link between magnetic fields and childhood leukaemia.² The emphasis should no longer be on blaming exposure misclassification for having decreased the observed relative risks but on further serious attempts to comprehend the effects of magnetic fields on human health.

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- 1 JUUTILAINEN J, SAALIK, ESKELINEN J, MATILAINEN P, LEINONEN A-L. Measurements of 50 Hz magnetic fields in Finnish homes. Helsinki: Imatran Voima Oy, 1989. (Imatran Voima Oy Research Reports IVO-A-02/89.)
- 2 Ahlbom A, Feychting M, Koskenvuo M, Olsen JH, Pukkala E, Schulgen G, Verkasalo P. Electromagnetic fields and childhood cancer. *Lancet* 1993;342:1295–6.

Enforced hysterectomies

EDITOR,—Guru Nandan's report of 11 women in India who were forced to have a hysterectomy highlights the appalling ethical standards of some Third World countries.¹ It is encouraging that some Indian doctors have protested against the decision to carry out these operations.

Over the past year I have received letters from 11 women who have been subjected to a hysterectomy against their will in British hospitals. They have written to me after learning that I underwent a similar experience. I am a medical writer and editor and therefore better placed than most women when it comes to standing up for myself. Two friends, one a consultant physician and the other a consultant gynaecologist, separately advised me to complain to the police. The Crown Prosecution Service decided, however, that there was insufficient evidence to justify charges of assault. Since then at least three other women have complained to the police. In one case, the woman's solicitor has commenced a private prosecution.

The women who have contacted me had consented to a lesser procedure, usually laparoscopy, and awoke to learn that the surgeon had removed their wombs without consent. Most have been told by the surgeon that he or she "found something" and performed what may have been a lifesaving procedure. On consulting a solicitor they discovered that the "something" was, at worst, fibroids or adenomyosis. One woman, a widow of 75, had been admitted to have a pessary checked under anaesthesia; the hospital has admitted that it knew that she did not want a hysterectomy but thought that she should have it.

Several women came forward after reading about similar cases in newspapers, particularly the *Independent* (eight women); only one came forward after an article in the *Sun*. I believe that there are many more cases than 12, but that most women, particularly those with little higher education, have believed what their surgeon has told them.

Most of the women are suing, which takes several years and costs thousands of pounds; most will probably abandon legal action when they and their money are exhausted. So the problem goes on. I have also heard from women who have needed an emergency hysterectomy after other procedures have gone wrong: in at least one case the procedure—dilatation and curettage—was an odd thing to do for premenstrual tension. Other women have consented to hysterectomy and subsequently learnt that it was unnecessary. Two of these had the irritable bowel syndrome, which was eventually cured by advice about diet and managing stress.

All of the women have been distraught and are emotionally scarred often years later; some are unable to work; most are terrified of doctors and hospitals. All of them are concerned that other women should not suffer the same treatment.

I have not heard any protest from the medical profession in Britain such as has occurred in India. I hope that any doctors who think that women deserve better than this will stand up and be counted. Meanwhile, we should not assume that what happens to mentally handicapped women in India is any worse than what happens in our own back yard.

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- 1 Nandan G. Women in India forced to have hysterectomies. *BMJ* 1994;308:558. (26 February.)

New building at Guy's Hospital

EDITOR,—In his article about the charitable funding for Philip Harris House at Guy's Hospital Owen Dyer quotes Rachel Daniels, spokeswoman for the Guy's and St Thomas' Trust.¹ She apparently said: "There never was a perfect agreed blueprint for the building." This is nonsense. Parts of the building are already finished, and it was due to be occupied later this year. The structure of the building (which has been planned since 1979), its services, and its contents were agreed down to the last detail.

As Dyer indicates in his article, Philip Harris House was to be the third and final phase of the modernisation of Guy's Hospital. It was completely integrated with the tower and other parts of the hospital and should have contained long awaited modern inpatient and outpatient facilities for several medical specialties. It is sophistry for the health ministers to suggest, as they do, that the building will largely be used for its original purpose. Proposals for its new function have yet to be completed, but this is certain to be very different from the original plan.

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- 1 Dyer O. Charities demand money back in Guy's changeover. *BMJ* 1994;308:935. (9 April.)

Nocturnal blood pressure

Measurement is subject to bias

EDITOR,—Though I agree with Martin Middeke and Joachim Schrader that many patients with secondary hypertension seem to have a reduced fall in nocturnal blood pressure,¹ assessment of the nocturnal dip is susceptible to considerable measurement bias. Variation in the definition of day and night can have an important influence on the calculated nocturnal fall,² and I would argue