

2. Breast:	including stethoscope examination	
3. Other:	full abdomen, some orthopaedic tests, some ophthalmoscopy	
4. Verbal	extended consultation on sexual relations.	
	Total	530
	Breast	76
	Genital	67
	Other	87
	Verbal	9
		%
		14
		13
		16
		—

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#### MIGRAINE AND THE SPREADING CORTICAL DEPRESSION OF LEAS

Sir,

Leas in 1944 described a phenomenon of a wave of complete electrical inactivity of the cortex initiated by a strong repetitive stimulus. The wave spread at about 0.5 mm per second in all directions but would not cross the midline. Its advancing edge is a zone of intense electrical activity. In migraine the visual disturbance is often a field loss with fortification spectra around its margin.

The points of similarity between the two phenomena are obvious so that it is reasonable to advance the hypothesis that migraine is the subjective aspect of spreading cortical depression. Since spreading cortical depression can easily be produced in the experimental animal it holds promise of a new method of pharmacological investigation of the treatment of migraine.

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## REFERENCE

Leas, A. A. P. (1944). *Journal of Neurophysiology*, 7, 359-390.

#### CHEWING GUM

Sir,

As a long-time gum chewer and research mathematician, I would like to add a mediating note from across the ocean to the apparent contradiction raised in the letter from Dr T. Paine referring to the study by Dr Godfrey D. Ripley.

First it should be noted that there are a number of ways to analyse a given set of data. The stated results of one in six appears to come from performing a "Z" test on the numerical differences between the number of colds in the base and test years in the two groups. However, since the research was designed to investigate the prophylactic effects of chewing gum and since cold frequencies vary from year to year, a more plausible

analysis would be to compare the number of subjects in each group who experienced a decreased number of colds in the test year. Dr Ripley's Table I becomes:

	chewer	non-chewer
Decreased number of colds in test year	31	23
Same or increased number of colds	9	17

Using the formula for chi-square corrected for continuity we calculate a value of 2.79 ( $p < .05$ —1 tail, since the difference is the hypothesised direction).

Thus, we obtain a result which is significant at the cherished five per cent level. However, even if an alternate analysis were not possible, I would question Dr Paine's implicit notion that either you have significance at the five per cent level or you have nothing meaningful. It seems clear that if there is any reasonable chance of a prophylactic effect from something as easy and pleasurable as gum chewing that the benefit to risk ratio is very high. Additional studies would therefore seem to be very worthwhile.

The crucial point is that statistical significance level should be based on the relative costs of the type I and type II errors, not on any arbitrary fixed standard. I hope the preceding will provide the reader with something significant (!) to chew on.

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## REFERENCES

- Paine, T. (1972). *Journal of the Royal College of General Practitioners* 22, 180.  
Ripley, Godfrey D. (1972). *Journal of the Royal College of General Practitioners*, 22, 61-62.

#### GENERAL PRACTITIONERS AND CONTRACEPTION

Sir,

I feel that Dr A. J. Dalzell-Ward, Chief Medical Officer of the Health Education Council, (January *Journal*) is not taking sufficient account of the lamentable failure rate of so many contraceptive methods. Ann Cartwright, in her study, *Parents and Family Planning Services*, found that two fifths of the mothers in her sample said they had become pregnant, at least once, at a time when they and their husband were using some method of birth control.

While it is true that by no means all unwanted conceptions result in unwanted babies, it is probably also true that the majority of unwanted babies begin as unwanted conceptions, and that