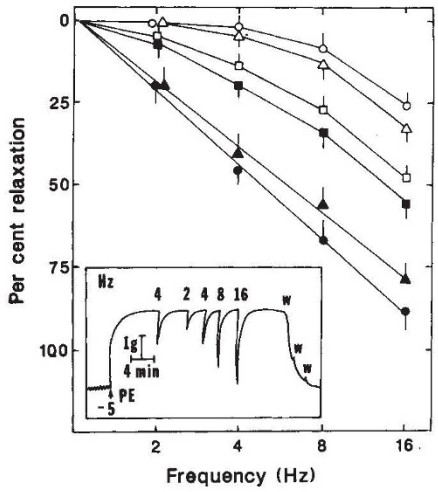

Effects of inhibitors of NO formation or action on electric-field-stimulation-induced relaxation of corpus cavernosum smooth muscle. Strips of rabbit corpus cavernosum were mounted and equilibrated under 2 g tension for 60 min in oxygenated Krebs-bicarbonate solution, and subjected to 10-V, 0.2-ms square-wave pulses at the indicated frequencies for 10 s. Bathing media contained 5 μM guanethidine and 1 μM atropine. Inset, a typical tracing illustrating relaxation of phenylephrine (PE; 10 μM)-precontracted strips. W, washing of strips. Filled circles, responses to stimulation in the absence of additions; open circles, presence of 30 μM N^G-nitro-L-arginine; open triangles, presence of 30 μM N^G-nitro-L-arginine plus 300 μM L-arginine; filled triangles, presence of 30 μM N^G-nitro-L-arginine plus 300 μM L-arginine; open squares, presence of 10 μM haemoglobin; filled squares, presence of 10 μM methylene blue. Data are means ± s.e.m. of 12–18 strips from 3–5 rabbits. Experimental values are significantly different ($P<0.01$) from corresponding control (filled circles). (Experimental details available from L. J. I. on request.)

whereas relaxation elicited by acetylcholine is endothelium-dependent, we cannot conclude unequivocally that NO is released primarily from the neurons. The data equally support the alternative conclusion that an unidentified neurotransmitter stimulates the corporal smooth muscle to generate NO. The question of whether NO is the neurotransmitter remains unanswered.

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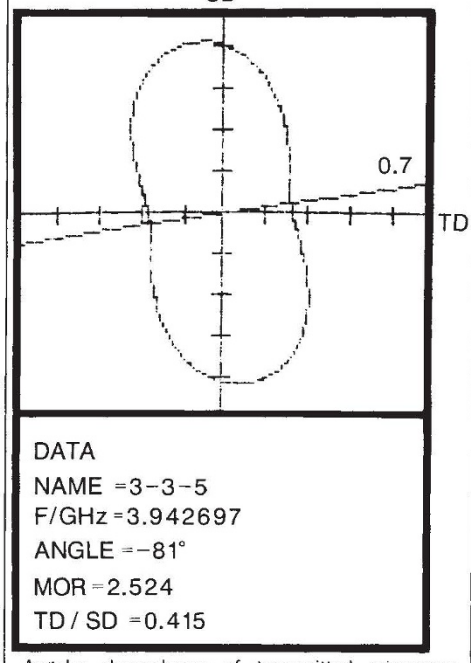
Orientation test

SIR—Determination of the orientation of fibrous components in biological tissues is essential for the study of the relationship between fibre structure and physical properties of the tissue. Conventional methods such as mechanical breaking strength and X-ray diffraction are not always convenient for practical use as a long time is required for determining fibre orientation. I have devised a method for determining the fibre or molecular orientation of polymer films, paper and blood vessels in as short a time as 30 seconds by using polarized microwaves[1–5]. I have now applied my technique to cow leather to determine the orientation and the distribution of the fibre. The new microwave method would be applicable to the determination of fibre orientation in various biological tissues such as deer and pig skin or human blood vessels.

The figure shows the angular dependence of transmitted microwave intensity for a sample of cow leather. The angular dependence gives an orientation pattern like an egg cocoon, reflecting the preferred orientation of fibres in the sheet plane. The direction of the minimum transmitted microwave corresponding to the direction of the main chains of fibres deviates by 81° from the standard direction.

The direction of maximum mechanical breaking strength deviates by about 80° from the standard direction and approximately coincides with that of the minimum transmitted microwaves. Electron microphotographs show that the main chains of collagen fibres constituting cow leather are orientated mainly in the direction of maximum mechanical breaking strength.



Angular dependence of transmitted microwave intensity at 3.9 gigahertz for a cow leather with a sample size of 100 (length) × 100 (width) × 1.17 mm (thickness) and a weight of 860 gm^{-2}. SD, standard direction; TD, transverse direction; MOR, ratio of maximum to minimum intensity (anisotropy).

The orientation patterns showing a fairly strong anisotropy for the cow leather varied remarkably with changing position, indicating that the orientation of fibres in cow leather is not uniform. The orientation angle and anisotropy also change with changing position, implying that the main-chain direction of the collagen fibres and the degree of orientation vary with position. The observed change in anisotropy with varying position may be related to the function of the skin. For example, expansion and contraction corresponding to the movement of the cow's body may require the preferable orientation of collagen fibres in a fixed direction.

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High-temperature granulites

SIR—Hayob *et al.*[1] describe exsolved high-temperature ternary feldspars from a granulite xenolith, which they claim to have been produced in a regional-scale deep crustal metamorphism "no more than 30 Myr ago". They also claim that these xenoliths record minimum metamorphic temperatures that are "the highest yet known to be preserved in deep seated metamorphic rocks". Although the discovery of such high-temperature granulites is important in the context of the continuing debate on the origins of granulites[2], Hayob *et al.* fail to justify their claims for the relative youth of the high-temperature metamorphism and ignore some published literature documenting outcropping granulites, which from various petrological criteria can be shown to have been metamorphosed at temperatures greater than 950 °C. Here I summarize data from one such terrain: the Archaean (~ 3,000 Myr; ref. 3) Napier complex of Enderby Land, Antarctica.

Hayob *et al.*'s temperature estimates come from reintegrated mesoperthite compositions containing 20–23 mol% anorthite. Similar mesoperthites have previously been reported in metapelites (and orthogneisses) from the Napier complex[3–6], and are not unique to the occurrence cited by Hayob *et al.* That these data have not been referred to by Hayob *et al.* is a serious omission, particularly given the independent mineral assemblage and thermometric evidence in

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