Fig. 1 Average wear rate of steel pin as a function of time.

wear scars of AISI 52100 steel balls in a four-ball machine. The gold films are clearly visible and have been conclusively identified by X-ray diffraction. As a typical example of our results, Table 1 shows the average wear rate expressed as volume per unit sliding distance for a gold 0,0-dineopentylphosphorodithioate in n-hexadecane using a separate pin each time. From a plot of the data in Fig. 1 an equation for the instantaneous wear rate can be obtained; the data in the last column of Table 1 show that the instantaneous wear rate becomes exceedingly small.

Although the mechanism is not known, the evidence suggests that the local surface temperature on the rubbing surfaces contributes to the plating of the gold in the contact area as no deposition occurs elsewhere. The gold generally deposits preferentially on the surface in constant contact which is the one having the sustained high surface temperature—the pin or the stationary balls. In effect the system becomes one of steel sliding against gold, and any gold loss due to wear is replenished by further deposition. Thus, the system achieves a balance of film wear and film formation depending on the severity of operating conditions, and with proper balance the bearing surfaces can survive for as long as additive is present in solution.

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¹ Dickert, jun., J. J., and Rowe, C. N., *J. Org. Chem.*, **32**, 647 (1967).

² Rowe, C. N., and Dickert, jun., J. J., *ASLE Trans.*, **10**, 85 (1967).

high signal to noise ratios on a reasonable selection of sources to examine recordings of the wide band noise spectrum for a possible small contribution to the autocorrelation function in the range 0 to 1 ms. Even if cross modulation occurs, however, the very extended nature of the sources will make it unlikely that the modulation will be coherent over the whole source. Unless the orientation is highly fortuitous, narrow structure is unlikely to be present over large regions.

There is also the possibility that the Cassiopeia A spur (refs. 2, 3) could be a result of the Rees mechanism. This would then require that the supernova remnant originally had a pulsar-like object at its centre (see also ref. 4). Searches for this pulsar have so far proved fruitless but further investigations are required.

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¹ Rees, M. J., *Nature*, **229**, 312 (1971).

² Jennison, R. C., *Nature*, **207**, 740 (1965).

³ See also Jennison, R. C., *Introduction to Radio Astronomy*, 56 (Newnes, 1966).

⁴ Ostriker, J. P., and Gunn, J. E., *Astrophys. J. Lett.*, **164**, L95 (1971).

Erratum

IN the article "Fatty Acid Diagenesis in Recent Sediment from Narragansett Bay, Rhode Island" by John W. Farrington and James G. Quinn (*Nature Physical Science*, **230**, 67; 1971), the following corrections should be made. The total at the foot of column 1, Table 2, should read 35, and the fifth line of the second column of text on p. 68 should read "There is only 35% of the surface concentration . . .". Beginning at line 10 of paragraph 2 on p. 68, the following should be substituted: "Eglinton and his collaborators (personal communication) have incorporated 9, 10-³H and 1-¹⁴C labelled C_{18:1} into tidal sediment in the Severn Estuary of England and found an 11% conversion of the labelled C_{18:1} to C_{12:0}-C_{20:0} fatty acids. The pattern of incorporation of the labels suggested that the saturated fatty acids, and especially C_{16:0}, are formed by breakdown and resynthesis in addition to the direct route of hydrogenation and chain shortening or lengthening."

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Comments on the Rees Mechanism

REES¹ has suggested that bifurcated cosmic radio sources result from the energizing agency of low frequency electromagnetic waves emanating from a central rotating object. The arguments used by Rees are persuasive and prompt the following comments.

The very high field strength of the energizing electromagnetic wave is such that it could modulate the high frequency radiation by various nonlinear processes and particularly by scattering near the cavity boundaries. This modulation, if it exists, would contribute to the autocorrelation function of the high frequency radiation. It may be worthwhile for those observatories which are equipped with telescopes capable of attaining