I observed (1) a tendency for mosaic stones packed in rows to align (transversely through the rows) at certain intervals. Patterns would be smoother if mosaicists made them agree with these intervals. Observed alignment intervals coincide (1) with mosaic units, suggesting that this was the reason for mosaic units.

Ledin extracts Fibonacci numbers from mosaic units, and points out that the limit to \( \frac{F_n}{F_{n-1}} \) is 1.6181 [the special ratio known to the ancients in other contexts (2)]. If this was why mosaic units were used, then we have apparently unique (3) evidence that the ancients knew the Fibonacci series, and its connection with 1.618 (4).

I arrived at 1.197 cm as the constant in the generating relation (5) by dividing each observed value by its variable in this relation. Hypothetical values yielded by 1.197 cm fit the observations better than those yielded by either 1.196 cm or 1.198 cm, which diverge roughly symmetrically from the observations. The "odd" unit 21.6 cm can be regarded as 18 x 1.197 cm, but I was unaware of the Lucas series.

Ledin's information raises hope of new light on mosaic units.

RICHARD E. M. MOORE
Anatomy Department,
Guy's Hospital Medical School,
London, S.E.1, England

References and Notes
2. For example, Euclid, Elements VI def. 3; VI prop. 30.
3. D. A. W. Thompson [Mind 38, 43 (1929)] wrote of the Fibonacci series: "... there is no account of it, nor the least allusion to it, in all the history of Greek mathematics. . ." (p. 50), but suspected (p. 52) that the Greeks knew its properties.
4. According to H. S. M. Coxeter, Introduction to Geometry (Wiley, New York, 1962), Kepler was the first to give the limit to this ratio.

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Hypothalamic Stimulation of Growth Hormone Secretion

The significant increase of plasma growth hormone produced by stimulation of the ventromedial nucleus of the hypothalamus led Frohman and his colleagues (1) to propose that the hypothalamic control of growth hormone secretion resides in the ventromedial nucleus. This is an unfortunate interpretation because it raises the specter of the "nerve center" concept for the hypothalamic control of growth hormone secretion. We believe this is wrong for two reasons:

1) Frohman et al. have not excluded the effects of their lesions or stimulations on fibers which pass through the area of the ventromedial nucleus and which originate from cells beyond that nucleus.

2) We have recently reported growth hormone release from hypothalamic stimulation in the conscious monkey (2) and our three stimulus sites were 4 to 5 mm from the ventromedial nucleus. Under our experimental conditions, current did not spread more than 1 mm.

GERARD P. SMITH
Department of Psychiatry,
New York Hospital–Cornell Medical Center,
White Plains 10605

ALLEN W. ROOT
Department of Pediatrics,
University of Pennsylvania School of Medicine, Philadelphia

References

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We have proposed that the ventromedial hypothalamic nucleus is an important locus in the control of growth hormone secretion in the rat. As evidence, we have cited experiments demonstrating decreased pituitary and plasma growth hormone levels after destruction and increased plasma levels after stimulation of this locus. Although limited stimulations in areas just dorsal and lateral to the ventromedial nucleus have not resulted in elevated plasma growth hormone levels, it is possible that other hypothalamic areas may influence growth hormone secretion either through the ventromedial nucleus or independently. We would caution the interpretation of plasma growth hormone rises following brain stimulation in conscious but restrained monkeys. In contrast to the rat, where stress decreases plasma growth hormone levels (1), monkeys tend to respond to various nonspecific stimuli with elevations of plasma growth hormone (2).

LAWRENCE A. FROHMAN
Lee L. Bernardis
KENNETH J. KANT
Departments of Medicine, Pathology, and Physiology, State University of New York at Buffalo, Buffalo 14215

References
2. V. Meyer and E. Knobil, Endocrinology 80, 163 (1967).

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Gerard P. Smith, Allen W. Root, Lawrence A. Frohman, Lee L. Bernardis and Kenneth J. Kant

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