T. Sundara Row [Rao], *Geometric Exercises in Paper Folding*, edited by W. W. Beman and D. E. Smith (Chicago: Open Court Publishing Company, 1901), pp. 6–8. Public domain.

16. Let us fold the square again, laying the remaining two sides one upon the other. The crease

now obtained and the one referred to in § 15 divide the square into four congruent squares.

17. Folding again through the corners of the smaller squares which are at the centers of the sides of the larger square, we obtain a square which is inscribed in the latter. (Fig. 7.)

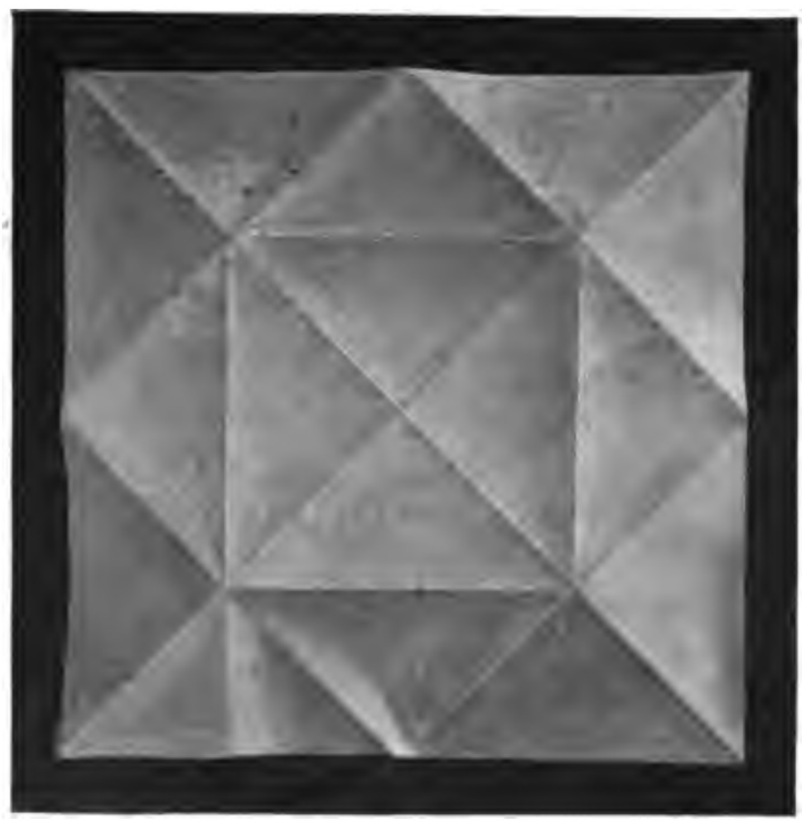

Fig. 8.

18. This square is half the larger square, and has the same center.

19. By joining the mid-points of the sides of the inner square, we obtain a square which is one-fourth of the original square (Fig. 8). By repeating the process, we can obtain any number of squares which are to one another as

$$\frac{1}{2}, \frac{1}{4}, \frac{1}{8}, \frac{1}{16}, \text{ etc., or } \frac{1}{2}, \frac{1}{2^2}, \frac{1}{2^3}, \frac{1}{2^4}, \ldots.$$

Each square is half of the next larger square, i. e., the four triangles cut from each square are together equal to half of it. The sums of all these triangles increased to any number cannot exceed the original square, and they must eventually absorb the whole of it.

Therefore $\frac{1}{2} + \frac{1}{2^2} + \frac{1}{2^3} +$ etc. to infinity $= 1$.