

measure all the bases and perpendiculars of all these new figures, by means of the scale from which the plan was drawn, and from these dimensions compute the contents, whether triangles, or trapeziums, by the proper rules for finding the areas of such figures.

The chief difficulty in computing consists in finding the contents of land bounded by curved or very irregular lines, or in reducing such crooked sides or boundaries to straight lines, that shall enclose an equal area with those crooked sides, and so obtain the area of the curved figure by means of the right-lined one, which in general will be a trapezium.

The reduction of crooked sides to straight ones is easily performed thus:

Apply a horse-hair or silk thread across the crooked sides in such a manner, that the small parts cut off from the crooked figure by it, may be equal to those taken in. A little practice will enable you to exclude exactly as much as you include; then, with a pencil, draw a line along the thread or horse-hair. Do the same by the other sides of the figure, and you will thus have the figure reduced to a straight-sided figure equal to the curved one: the content of which, being computed as before directed, will be the content of the curved figure proposed.

The best way of using the thread or horse-hair is, to string a small slender bow with it, either of whalebone or wire, which will keep it stretched.

If it were required to find the contents of the following crooked-sided figure; draw the four dotted straight lines A B, B C, C D, and D A, excluding as much from the survey as is taken in by the straight lines; by which the crooked figure is reduced to a right-lined one, both equal in area. Then draw the diagonal B D, which being measured by a proper scale, and multiplied by half the sum of the perpendiculars let fall from A and C upon B D (measured on the same scale), will give the area required.