[Sir Thomas L. Heath, *The Thirteen Books of Euclid's Elements* (2nd edition), p. 369 (1925).]

[Heath's commentary on Euclid, *Elements*, Book I, Proposition 48.]

Proclus' note (p. 430) on this proposition, though it does not mention Heron's name, gives and alternative proof, which is the same as that definitely attributed by an-Nairīzī to Heron, the only difference being that Proclus demonstrates two cases in full, while Heron dismisses the second with a "similarly." The alternative proof is another instance of the use of I. 7 as a means of answering objections. If, says Proclus, it be not admitted that the perpendicular AD may be drawn on the opposite side of AC from B, we may draw it on the same side as AB, in which case it is impossible that it should not coincide with AB. Proclus takes two cases, first supposing that the perpendicular falls as AD, within the angle CAB, and secondly that it falls, as AE, outside that angle. In either case the absurdity results that,



on the same straight line AC, and on the same side of it, AD, DC must be respectively equal to AB, BC, which contradicts 1 7.

Much to the same effect is the note of De Morgan that there is here "an appearance of avoiding indirect demonstration by drawing the triangles on different sides of the base and appealing to I. 8, because drawing them on the same side would make the appeal to I. 7 (on which, however, I. 8 is founded)."