vantage to burn at a great distance, because the diameter of the focus can never be smaller than the chord, which measures an angle of 32 minutes, and that, consequently, the most perfect concave mirror, whose diameter is equal to this chord, will never produce double the effect of a plane mirror of the same surface; and if the diameter of a curved mirror were less than the chord, it would scarcely have more effect than a plane mirror of the same surface.

When I had well considered the above I had no longer a doubt that Archimedes could not burn at a distance but with plane mirrors, for, independently of the impossibility they then felt, and which we feel at pleasure, of making concave mirrors with so large a focus, I was well aware that the reflection I have just made could not have escaped this great mathematician. Besides, there is every reason to suppose that the ancients did not know how to make large masses of glass; that they were ignorant of the art of burning it to make large glasses, possessing only the method of blowing it, and making bottles and vases; from which consideration I was led to conclude, that it was with plane mirrors of polished metals, and by the reflections of the sun, that Archimedes had been enabled to burn at a distance. But as I

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