

## A REPLY TO PROFESSOR J. R. PARTINGTON

PAR

DAVID AYALON

PROF. J. R. Partington dedicates a very considerable part of his book "A History of Greek Fire and Gunpowder"<sup>1</sup> (Cambridge, 1960)<sup>2</sup>, to the study of the role of these weapons in the Muslim world. I shall leave it to another occasion to comment on his contribution to the study of Muslim incendiary materials and firearms in general. Here I shall confine myself to the discussion of his criticism of some of my conclusions in my book "Gunpowder and Firearms in the Mamlūk Kingdom" (London, 1956)<sup>3</sup>. My purpose is to demonstrate that his way of quoting and refuting my views diverges somewhat from the accepted rules of scholarly dispute, and obscures rather than clarifies the issues.

In order to enable the reader to follow my line of argument and my comments, I shall here reproduce in full the main passage<sup>4</sup> in which Partington deals with my above-mentioned work and in which he questions my conclusions. He says:

"Ayalon, who supposes that *naft* means gunpowder, makes these accounts speak of the 'first use of artillery in Cairo' in 1366, adding that in 1389-90, during the fierce battles for the throne, artillery figures prominently in the sieges of Cairo and Damascus. Thereafter its use increased until it became commonplace. Wiet speaks of *zambūrak* (light artillery), of artillery in Constantinople of bronze with iron hoops, and a large gun ('folly') in Cairo in 1500 for use against the Ottoman Turks. He thinks the last Mamlūks had large cannon, but their citadels in Syria were without artillery. Ayalon supposes that *midfa'* *al-naft*, *mukhūlat al-naft*, *ṣawā'iq al-naft*, *ṣawāriḥ al-naft*, *ālāt al-naft* and *hindām al-naft* were all names used for firearms of various kinds, and the last four were short-lived

1. Later to be called *History*.

2. Reviewed in *JRAS*, 1961, pp. 69-70.

3. Later to be called *Gunpowder*.

4. Another long passage in which PARTINGTON uses extensively the data he found in my book is on pp. 207-209. I shall refer to this passage only as far as it contains criticisms of my conclusions. This, however, does not imply that I am in accord with Partington's handling and presentation of my data and views to which he does not object.

names for cannon. In quoting al-Qalqašandī, however, he omits the words 'of redhot iron'. Possibly the 'copper and lead' in al-Qalqašandī's account may mean 'copper and tin', i.e. bronze, as in the artillery mentioned by Wiet, but this is conjectural.

"Ibn Ḥaldūn says the *hindām al-naft* threw iron pebbles from a magazine in front of a fire kindled by means of *bārūd*, and *bārūd* here may mean gunpowder. Al-Qalqašandī says *makāhil al-bārūd* are *al-madāfi'* shooting big arrows which almost pierce a stone, and iron balls weighing from 10 to over 100 Egyptian *rutl* (11½-112 lb. troy), and the *qawārīr al-naft* are *quḍūr* (literally, jugs) in which *naft* is put for throwing at fortresses for the purpose of burning them. The last are naphtha bottles (naphtha grenades); the troops throwing them are called *zarrāqūn*, *naḥḥatūn*, and another name for them is *naftīya*. Ayalon supposes (which I think is wrong) that the last means *midfa'* troops using a firearm (*midfa'*) charged with gunpowder (*naft*), although he agrees that Orientalists do not make this rather pedantic distinction. What Ayalon calls 'guns' are, I think, probably ballista or trebuchets; he admits that the 'noise like thunder' which they are said to make is a common Oriental exaggeration for such weapons, which we shall also encounter in the Chinese descriptions (ch. VI).

"Ballistas (*manjanīq*) were used in 1389, 1400, 1404, 1412, 1415, 1433, 1434, 1442, and even in 1500-16, when cannon were known, as Ayalon says, and in the cases when they threw naphtha they were most likely the ballista described by the Crusaders (see ch. I) and not cannon, as Ayalon supposed. That *makāhil al-bārūd* meant a ballista or trebuchet throwing stones and incendiaries, rather than a gun, seems probable from a description by Ibn Faḍl Allāh al-'Umārī (d. 1349) in his *al-Ta'rif*, who says it is something which throws both fire (*nār*) and solid projectiles (*bandāniq*).

"Ayalon proposes what he thinks is a new hypothesis that from about 1360 *naft* was the common Mamlūk name for a firearm, *naft* first and then *bārūd* being names for gunpowder, *bārūd* meaning saltpetre. He says (I think incorrectly) that the Mamlūks used naphtha only once, and without success, in the period of the Crusades, at Wādī al-Khāzindār in 1299, because they had found its effects to be capricious and dangerous. Hence he assumes that all accounts speaking of the use of *naft* must be understood as referring to firearms. I believe that the material collected in this chapter throws doubt on Ayalon's hypothesis, and the repeated