

The Introduction of Firearms to the
Land of Aladdin

by

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Abstract

In the late 1300s and early 1400s, when firearms made their arrival in the lands of Islam, the various dynasties exhibited differing responses. While the Ottoman sultanate wasted no time in incorporating firearms into their formidable military machine, both the Mamluks of Egypt and the Safavids of Persia were far more reluctant in adopting the new weapons. David Ayalon, investigating the question of Mamluk reluctance, identified the rigid sense of pride in the traditional forms of warfare to be found in the ruling class; however, the same attention has not yet been paid to the Safavids. A paucity of relevant references in the accounts of European travellers combined with a tendency in the Safavid sources to apply identical terms to both gunpowder and non-gunpowder weapons made the relative abundance of firearms difficult to quantify. In all, the same stubborn attitude found in the Mamluks was also found in the Safavid elite, but in the case of Persia, this cannot be considered the sole answer. Instead, the historical background and military situation also played an important role.

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Chronology of Events

- 10th century Gunpowder invented in China
- 12th century Fire-lance in use in China
- 12th century Firearms invented in China
- 1253 Safi al-Din born
- 1326 'Christchurch gun' - Earliest documented evidence of firearms in Europe
- 1360s First use of firearms by Mamluks
- Early 1400s First use of firearms by Ottomans
- 1467 Aq Qoyunlu defeat Qara Qoyunlu to gain power over Persia
- 1488 First documented Safavid use of firearms (siege at Gulistan)

----- Beginning of Safavid Dynasty -----

- 1499-1524 Isma'il I rules Safavid order
- 1500-11 Isma'il conquers Persia
- 1508 Capture of Baghdad
- 1510 Battle of Marv -- Isma'il defeats Uzbek Shaybani Khan
- 1514 Battle of Chaldiran
- 1524-76 Shah Tahmasp
- 1524-33 Qizilbash interregnum
- 1524-38 Five major Uzbek invasions

1528	Battle of Jam
1533-53	Four Ottoman invasions
1555	Peace Treaty between Persia and Ottomans - Treaty of Amasya
1576	Shah Isma'il II
1578	Shah Khudabanda
1588-1629	Shah Abbas the Great
1590	Peace Treaty with Ottomans
1593-98	Abbas wages war against Uzbeks
1602-27	Abbas wages war on Ottomans - recovers Baghdad (1623)
1629-42	Shah Safi I
1638	Baghdad falls to the Turks
1639	Treaty of Zuhab
1642-67	Shah Abbas II
1667-94	Shah Sulayman
1694-1722	Shah Sultan Husayn
1722	Fall of Isfahan - End of Safavid Dynasty

Chapter I: Invention of Gunpowder

Sometime around the year 1000 C.E., a seemingly innocuous innovation arising in the east set the history of warfare on a new and destructive course. The knowledge of this 'black powder' - or as it later became known, 'gunpowder' - would disseminate throughout the lands known to man, infiltrate almost every culture, and leave deep, indelible footprints wherever it traveled. In the words of Carlyle, gunpowder "made all men alike tall."¹ It drastically increased the battering power of an army; it brought the explosive capacities of the chemical world to augment those of the sword-arm. With a few centuries, cannons would be shattering stone fortifications, massed arquebusiers decimating cavalry charges; cities would be levelled, battle-seasoned armies torn to bits, as the face of battle was firmly and irrevocably altered.

But these words, of course, greatly generalize the situation. In actual fact, the path trodden by gunpowder was slower than might be assumed, encountering a number of unforeseen obstacles on the way, and leaving a trail of questions in its wake: Who invented gunpowder - or to be more exact, discovered the necessary combination of saltpetre, charcoal and sulphur - in the first place? Where was the transformation from explosive to propellant, the

¹ Quoted in Fairfax Downey, Cannonade: Great Artillery Actions of History: The Famous Cannons and the Master Gunners (New York: Doubleday and Co., Inc., 1966), ix.

key element in the invention of firearms, initially conceived? And what factors could oppose the spread of firearms, when such obvious benefits accrued to those in possession of such technology? The consensus answers to the first two questions shall be briefly explained in the following section. The answer to the third, relating to a particular instance, that of the Safavid dynasty of Iran, is what shall be investigated in the remainder of this work.

To begin this discussion, we must first make an important distinction between the many varieties of primitive 'Greek fire' and true gunpowder: the former is simply that group of ingredients which, when mixed together, produce a substance (or substances) capable of great combustion and adherence to objects.² This would include various oils, fats, sulphur, pitch, resin, bitumen and other forms of petroleum, and possibly quicklime, for the creation of the feared 'sea-fire', as certain brands of Greek fire were also known (though H. L. Hime proposes phosphide of calcium as the more likely ingredient).³ Such incendiaries, delivered through various devices and means, proved an integral part of early warfare and spread far beyond both the time and geography of their namesake Greeks. Perhaps dating even to the time of Homer, who declared Troy to burn "with unquenchable flame", through the

² Robert Elgood, *Firearms of the Islamic World; in the Tareq Rajab Museum, Kuwait* (New York: I. B. Tauris, 1995), 19. Lieutenant-Colonel Henry W. L. Hime, in *The Origin of Artillery* (London: Longmans, Green and Co., 1915), makes the distinction employed here between "Greek fire" (that group of incendiaries existing before the 7th century A.D.) and the "sea-fire" that arose at that time. J. R. Partington, in his *A History of Greek Fire and Gunpowder* (Cambridge: W. Heffer and Sons, Ltd., 1960), names *only* the "sea-fire" as true "Greek fire."

³ Hime, *The Origin of Artillery*, 34.

siege of Plataea (429 B.C.E.), where the Spartans made use of a flammable mixture to burn the walls of the town, and past the first siege of Constantinople (674-676 C.E.) where the Muslim ships were ravaged by sea-fire, until the time of various notables as Saladin and Edward II of England, such incendiaries have been used.⁴ They were hurled in clay pots, squirted by giant syringes, encased in glass or clay grenades and flung by massive catapults, tied in canisters to arrows. However, conspicuously missing from the ingredients of these early mixtures was saltpetre. The future use of saltpetre would greatly augment the explosive component at the expense of the incendiary, which would then, in turn, lead to its use as a propellant. A pure, almost instantaneous burning (detonation) is required to expel a projectile with significant force; this could never be achieved with the slower burning compounds of before. The reader must imagine a roaring bonfire, intermittently spitting out explosions of pitch or resin in order to envision these early compounds. As a result, it is when the arrival of saltpetre appears in the historical record - specifically, in combination with sulphur and charcoal at an approximate ratio of 75:15:10, the most efficient formula⁵ - that we can judge true gunpowder to have arisen.

⁴ Hime, The Origin of Artillery, 25. These are only a few of the vast examples of incendiaries used in the warfare of antiquity. For a longer listing, see Partington, A History of Greek Fire and Gunpowder, 1-41.

⁵ Kenneth Chase, Firearms: A Global History to 1700 (Cambridge: Cambridge University Press, 2003), 31.

Hopefully, one may now grasp a few of the difficulties with the question at hand: the invention of gunpowder was no static, definitive event, but rather, the end result of a progressive march, as primitive incendiaries through trial and error became gradually more sophisticated, absorbed saltpetre into their makeup, and eventually arrived at today's gunpowder. In targeting an exact date, one attempts to impose a defining moment onto a progressional entity, a necessarily difficult task. This is compounded by the lack of clarity to be found in archival material describing ancient weaponry, in which incendiary, pyrotechnical, explosive, and propellant powders were often referred to in identical terms, making it almost impossible to distinguish the subtle differences in their chemical natures.⁶ To elaborate by way of example, Jean, Sire de Joinville (1224-1319 C.E.), a French Crusader, wrote of a catapult assault by the Muslims using an explosive incendiary: "[T]he noise it made resembled thunder and it appeared like a great fiery dragon flying through the air, giving such a light that we could see in our camp as clearly as in broad daylight. When it fell it burst and liquid was ejected, spreading a trail of flame."⁷ Gunpowder or Greek fire? As one may well understand even from this brief excerpt, it is extremely difficult to determine.

⁶ T. K. Derry and Trevor I. Williams, A Short History of Technology: From the Earliest Times to A.D. 1900 (Oxford: Clarendon Press, 1960), 22.

⁷ Quoted in Ahmad al-Hassan and Donald R. Hill, Islamic Technology: An Illustrated History (Cambridge: Cambridge University Press, 1986), 112.

Commonly, credit for the invention of gunpowder is given to the Chinese, though this claim is far from uncontested. In fact, petitioners also exist among Indians, Greeks, Arabs, English, and Germans.⁸ The Greek claim is based primarily upon the writings of Marcus Graecus, in his six-page book, *Fires for the Burning of Enemies* (c. 1300), in which he catalogued thirty-five recipes of incendiaries designed for various purposes. However, scholars have agreed that, due to the primitive nature of the purification of saltpetre, none of the recipes mentioned would result in what could be deemed a true explosion.⁹ Hassan al-Rammah, a Syrian Muslim, emerged with a manuscript circa 1275-1295: *Al-furusiya wa al-munasib al-harbiya* ("Horsemanship and Stratagems of War"). Once again, various recipes were listed, in addition to the sections on tactics, weapon usage, military operations, communications, and naval combat, to name but a few.¹⁰ And though the preparation of saltpetre recorded by al-Rammah was more advanced than that of Graecus, still the recipes were primarily pyrotechnic or incendiary, without fully investigating the explosive.¹¹ "Hassan and Yusuf [an Arab alchemist writing slightly after al-Rammah], without knowing it, were only a step from gunpowder; but they did not take the step. The notion of a powder solely intended to explode seems never to

⁸ Rahman Zaky, "Gunpowder and Arab Firearms in Middle Ages," *Gladius*, VI (1967): 45.

⁹ Zaky, "Gunpowder," 52. Though this view is not without dispute – see Chase, *Firearms*, 59.

¹⁰ Zaky, "Gunpowder," 48.

¹¹ Zaky, "Gunpowder," 49. For further analysis of Graecus, see Partington, *History of Greek Fire*, 41-63.

have entered their heads, and they had no object in view that might have suggested it." Hime's own views on the matter are unequivocal: "Gunpowder had been discovered half a century before by an Englishman."¹²

This Englishman was Roger Bacon. In 1267, Bacon's own list of formulas was published in the carefully encoded *Epistola de secretis operibus artiis et naturae*, in which he suggested possible military usage of this new powder - "An enemy's army might be either blown up bodily or put to flight by the terror caused by the explosion."¹³ Coincidentally enough, however, a fellow Franciscan and contemporary of Bacon, William of Rubruck, had recently returned from the court of the Great Khan Mongke at Karakorum, a place toward which a great number of Western heads were then being turned after the 1241 invasion of Hungary.¹⁴ The assumption is thus easily made that Rubruck brought the formula for gunpowder into the hands of Bacon, upon which time he published his work. Indeed, the suggestion that Bacon hit upon the exact recipe almost immediately is certainly suspect, especially when compared with the centuries of experimental research proposed by the modern

¹² Hime, *The Origin of Artillery*, 72-73.

¹³ Quoted in Hime, *The Origin of Artillery*, 114. The German claim, based on the writings of Albertus Magnus, is discussed by Partington, *History of Greek Fire*, with the conclusion that "the recipes at the end for gunpowder, etc., are literally the same as those in the *Liber Ignium* of Marcus, Graecus." (82-3).

¹⁴ Arnold Pacey, *Technology in World Civilization: A Thousand-Year History* (Cambridge, Mass.: The MIT Press, 2000), 45.

and commonly held theory declaring the Chinese as inventors of gunpowder, to which we must now turn our focus.

The argument for Bacon cannot be dismissed based solely upon the circumstantial and inferential evidence of Rubruck's visit to the east, not without corroborative material to back the Chinese claim; and this was, until recent times, the very problem. Hime, indeed, devotes twenty-odd pages disputing the Chinese claim; he proceeds further to discredit the claims of Fathers Amiot and Gaubil, Jesuit scholars working in China who were the first to propose the Chinese as inventors of gunpowder, as lacking in "critical faculty" and misunderstanding the "difference between an explosive and an incendiary."¹⁵ Supporting Hime was the work of Joseph Reinaud and Idelphonse Favé, with their assertion that nothing of a conclusive nature on the presence of gunpowder in China could be found before the thirteenth century.¹⁶ However, one must realize that Hime published in 1915 and the article by Reinaud and Favé appeared in 1845; subsequent research has emerged with a very different conclusion. Investigations by Needham, Braudel, and Foley and Perry have all credited the Chinese with first making the vital combinations necessary to gunpowder.¹⁷ The critical element of

¹⁵ Hime, *The Origin of Artillery*, 90. As Partington (*History of Greek Fire*) points out, Amiot, in fact "followed uncritically his Chinese sources, which attributed the invention of both gunpowder and firearms to Sun-tzu and Wu-tzu (works ascribed to both have been dated fourth century B.C.)" (238-9).

¹⁶ Partington, *History of Greek Fire and Gunpowder*, 288. Partington, himself, also comes to a similar conclusion.

¹⁷ See Elgood, *Firearms of the Islamic World*, 20-21.

saltpetre makes its initial appearance in a Chinese alchemical text dating from 492, while the first published Western purification of the compound does not appear for another 1100 years.¹⁸ And neither are the Arab and Persian terminologies for gunpowder (“Chinese snow”, and “salt from China”, respectively) to be taken lightly, or as mere coincidence.¹⁹ Thus, the majority of scholars have made the reasonable assertion that gunpowder was invented in China, and from that region brought to the West, rather than the reverse. Certainly, the exact date cannot be known, but in taking the estimates of McNeill (eleventh century) and Needham (ninth century) as our basis, we can express a certain confidence that it falls somewhere within this range.²⁰

The Development of Firearms

When dealing with the firearms themselves, scholarship runs in a similar vein to the debate concerning gunpowder, most likely due to the same difficulties: a lack of sources, compounded by the non-specific terminology to be found in these sources. The critical factor is the utilization of the propellant

¹⁸ Chase, *Firearms*, 31. Zygulski held the basis of some Greek fire to be saltpeter, yet this assertion is suspect as it requires the Byzantines to have hidden the existence of the substance from the Middle East for at least 600 years – See Elgood, *Firearms of the Islamic World*, 19.

¹⁹ Derry and Williams, *A Short History of Technology*, 2 (translations *thalj al-Sin*, “snow of China”; *milh al-Sin*, “salt of China”). See also Partington, *History of Greek Fire*, 22.

²⁰ William H. McNeill, *The Age of Gunpowder Empires: 1450-1800* (Washington D.C.: American Historical Association, 1989), 3. Also Elgood, *Firearms of the Islamic World*, 20 and Pacey, *Technology in World Civilizations*, 47 who estimates that the Chinese possessed a high-nitrate gunpowder “at least by the time of the siege of Kaifeng in 1126.”

aspect of gunpowder, rather than the explosive or incendiary; however, this difference is misleading and often the subject of speculation (as may also be seen in the words by de Joinville). To clarify this point, one must observe the example of the "fire-lance," an implement widely considered to be an ancestor to the gun. Used by Chinese soldiers, and, by at least 1260, various Muslim armies, the fire-lance "consisted of a tube made of bamboo, wood or metal mounted on the shaft of a lance, and was filled with a mixture of gunpowder, toxic chemicals, lead pellets and pottery fragments. When ignited, it spouted flame and sparks for perhaps five minutes, rather like a Roman candle."²¹

Though using gunpowder as the source of its combustion, the fire-lance is not to be mistaken for a firearm; its reaction is of the slow-burning, non-explosive type lit at the mouth of the barrel rather than its base, as in the case of a true gun. The primary production of the gunpowder was flame; yet, since small projectiles (the pottery and pellets) were also frequently propelled alongside the flames, the fire-lance is acknowledged to be the 'halfway step' to what could be termed a genuine firearm.²² In fact, the commonly held characteristics to define a "real" firearm are exactly as have been implied: the lighting at the base of the barrel (through a hole or fuse or ignition point), and the use of gunpowder purely as a propellant. Therefore, such implements as pistols, muskets, arquebuses (primitive weapons resembling muskets), and cannons

²¹ Pacey, *Technology in World Civilization*, 47.

²² Chase, *Firearms*, 31.

fall into such a category, while bombs, grenades and the like do not. The story from this point onwards continues to parallel our previous tale of gunpowder, with a European claim subsequently being undermined by modern research into Chinese history.

A traditional view holds the inventor of the cannon to be a German monk, Berthold Schwarz; this is bolstered by the existence of a stained glass window from 1354 that dates Schwarz's 'invention' to 1313. Hime supports this idea, and proposes the view that Schwarz's cannons were then exported to England in time for Bannockburn (1314).²³ Nonetheless, contemporary opinion considers the Schwarz argument to be somewhat of an invention itself, if not entirely fictional.²⁴ The earliest completely reliable evidence of European firearms dates to 1326, and the manuscript of Walter de Milemete, which portrays the "Christchurch gun", a crude vase-shaped gun with arrows protruding from its mouth; also from this same year are Florentine documents asserting that "the city authorities were acquiring 'metal cannon' and iron shot as if they were already commonplace."²⁵ Most likely, the first use of European

²³ Hime, Origin of Artillery, 124. Partington, History of Greek Fire, 91, however, holds the discovery date to be 1353/4, not 1313.

²⁴ Chase, Firearms, 60; Elgood, Firearms of the Islamic World, 218; W. Y. Carman, History of Firearms from Earliest Times to 1914 (London: Routledge and Kegan Paul Ltd., 1955), 16; Zaky, "Gunpowder and Arab Firearms," 45; Partington, History of Greek Fire, 96. However, the fact that Schwarz was also known as "Master of the Greek countries" (Byzantine, Arab lands) leads some scholars to propose that he had carried the knowledge of firearms from such places. See Joseph Jobe, ed., Guns: An Illustrated History of Artillery (London: Patrick Stephens Ltd., 1971), 10.

²⁵ Pacey, Technology in World Civilization, 40; Carman, History of Firearms from Earliest Times to 1914, 18. Granted, this quotation does imply that such implements had been around for some time, but no evidence has yet been unearthed to corroborate this.

cannon occurred at Crecy (1346) – perhaps as an attempt to frighten the French horses – and also at the later siege of Calais.²⁶

But, once again, we must turn to more recent scholarship on China, which gives us the following assertion: “The earliest true firearms may well date from as early as the first half of the 1100s.”²⁷ Basing this statement upon a sculpture of a demon holding a vase-shaped receptacle with a cannonball emerging from its barrel, found in a Buddhist cave temple in Sichuan, Kenneth Chase points out that Eastern technology predates that of the West by over a century - perhaps even two. Incontrovertible evidence arrived with the 1970 discovery of gun barrels in Manchuria, without question gunpowder weapons, which dated back to 1288.²⁸ Also, early fourteenth century Chinese manuscripts containing pictures of bottle-shaped guns offer such close resemblance to the Christchurch gun that a common origin is unquestionable and the Chinese priority difficult to doubt.²⁹ Thus, in the face of such evidence,

²⁶ George Sarton, Introduction to the History of Science, Vol. 3: Science and Learning in the Fourteenth Century (Baltimore: Williams and Wilkins Co., 1947), 722. He also mentions possible uses in 1319 (Berwick), 1324 (Metz), and by the Moors in 1325 (Baza), 1326 (Martos), and 1331 (Alicante), though none of these cases is conclusive. Chase, Firearms, 59 cites Cividale (1331) as the first use in Europe. Pacey, Technology in World Civilization, 49 states: “Indeed cannon were in use in Islamic areas of Spain by the 1330s.” Neither of these last are cited. Also see Partington History of Greek Fire, 97-108, for comprehensive investigation of this subject. Regarding the possible use of guns at Crecy, he concludes: “The use of at least three small guns is accepted by most unprejudiced English, French, Danish and German historians.” (107-8).

²⁷ Chase, Firearms, 32.

²⁸ Pacey, Technology in World Civilization, 47.

²⁹ McNeill, The Age of Gunpowder Empires, 4. This claim flies in the face of the spontaneous innovation often claimed for firearms, or more particularly, cannons, as McNeill tacitly acknowledges in his other work, The Pursuit of Power: Technology, Armed Force, and Society since A.D. 1000 (Chicago: University of Chicago Press, 1982). North implies knowledge of gunpowder as propellant passed through

we must arrive at the following conclusion: firearms were first invented in the Far East, and from there exported westwards, either through the lands of Islam or the Mongol territories.³⁰ Though the Europeans were latecomers to this early 'arms race', they nevertheless not only made up the Eastern lead but rapidly surpassed both the Chinese and the Muslims in the transformation of firearms from noisemaker into devastatingly effective instruments of war.

Resistance to Firearms

Of course, one must never assume that early firearms, once the critical tasks of the alchemist and armourer had first been achieved, were instant successes, or held even the slightest comparison to the weapons of today's militaries. On the contrary, these first firearms were crude, unimpressive implements with severe, if not crippling, limitations on accuracy, range and reliability, and were oftentimes more dangerous to their users than to the intended targets.³¹ Firearms were liable to overheat and crack; they were unwieldy, cumbersome, and extremely difficult to aim; gunpowder was

Arab lands to Europe. Anthony North, *Introduction to Islamic Arms* (Owings Mills, Maryland: Stemmer House Publications, 1985), 5.

³⁰ Zaky, "Gunpowder and Arab Firearms," 46, holds that it was the Arabs who first took the necessary steps to create a firearm, but without corroborative evidence (or citation) this is difficult to accept. McNeill in *The Age of Gunpowder Empires*, 1, implies the transition to Europe took place through the Mongol invasion of Hungary, yet Pacey, *Technology in World Civilization*, 45, disputes this, asserting that "the Mongols did not have gunpowder weapons in Hungary in 1241, but acquired them from the Chinese soon after."

³¹ For an example of this, see the excerpt on the great "Basilica" cannon (used by the Turks against Constantinople) later in this paper.

constantly short in supply, and could easily be spoiled and rendered useless by dampness.³² Consider the procedure a soldier must follow after firing his weapon in order to ready another shot:

(1) Hold the gun up with his right hand, (2) remove the match from the lock with his right hand, (3) put the end of the match back in his left hand, (4) blow any sparks out of the priming pan, (5) put priming powder in the pan, (6) shut the pan, (7) shake any powder off the lid of the pan, (8) blow any remaining powder off the lid of the pan, (9) pick up the gun in both hands, (10) transfer the gun to his left side, (11) open a flask with his right hand, (12) insert the powder and bullet into the muzzle, (13) draw the ramrod out of the stock, (14) adjust his grip on the ramrod, (15) ram home the bullet and powder, (16) pull out the ramrod, (17) adjust his grip on the ramrod, (18) return the ramrod to the stock, (19) hold the gun up with his left hand, (20) grasp the gun with his right hand, (21) transfer the gun to his right side, (22) take one end of the match in his right hand, (23) blow on the match, (24) insert the match in the lock, (25) adjust the match in the lock, (26) blow on the match again, and (27) level the gun, before he could finally (28) pull the trigger again.³³

Of course, this entire juggling act was to be performed amid the screams and death of combat, certainly no easy task.

These difficulties aside, firearms also confronted an instinctive prejudice. Luther, himself, in the mid-sixteenth century decried: "Cannons and fire-arms are cruel and damnable machines; I believe them to have been the direct suggestion of the Devil."³⁴ In Europe, artillerymen were scorned and derided, usually tortured or slaughtered out of hand whenever captured; and as a group, following an early war, they were excommunicated by the Pope.³⁵

³² Chase, Firearms, 73; see also Jobe, Guns, 9.

³³ Chase, Firearms, 25.

³⁴ Quoted in Downey, Cannonade, 42.

³⁵ Downey, Cannonade, 37.

Milton ascribed firearms to the mind of Satan; indeed, the percussion of cannon was often described in infernal language recalling the underworld. Ineffective as they often were, the apparently supernatural detonations, the noise, the smoke, the ear-shattering explosions that accompanied the delivery of an irresistible ball of iron - or stone, as the earliest cannoniers used for ammunition - could not help but hold sinister, 'Devilish' overtones which translated to a morbid allure: "The first shot is for the Devil," reads the gunner's proverb, doing nothing to lessen the satanic allusion of artillery.³⁶ Though too much must not be made of this cultish aspect, even in the words of McNeill, "were it not for the noise.... firearms would most likely never have been invented."³⁷ In vastly simplified format, the situation as described was the case for Europe, but the Europeans quickly became the global masters of gunpowder weapons. The Middle East, to which we must now turn, presents a vastly different tale.

In the various dynasties of the Islamic world, there emerged a greater prejudice against firearms than that seen in Europe. This can be seen in the following grievance of the vanquished Mamluk Tuman Bey after losing a decisive 1516 battle to the Ottoman sultan Selim:

...you have brought with you this contrivance artfully devised by the Christians of Europe when they were incapable of meeting the Muslim armies on the battlefield. The contrivance is that bunduq which, even if a woman were to fire it, would hold up such and such a number of men. Had we chosen to employ this weapon, you would not have preceded us

³⁶ Downey, *Cannonade*, 38.

³⁷ McNeill, *The Age of Gunpowder Empires*, 38.

in its use. But we are the people who do not discard the Sunna of our Prophet Muhammad which is the jihad for the sake of Allah with sword and lance. And woe to thee! How darest thou shoot with firearms at Muslims?³⁸

Also by this same example, since the victor of the contest was a Muslim who did use firearms, it becomes quickly apparent that this prejudice was by no means universal; however, such exceptions aside, the Muslim opposition to firearms was known to be quite profound.³⁹ In the Middle East, firearms were deemed blasphemous and impure, the arquebus “an instrument of a craven and treacherous foe”⁴⁰; but most importantly, they defied the tradition of the Prophet. Muhammad himself had been an archer and extolled the noble aspects of the skill, which, consequently, was held in great esteem by the societies of the Muslim world.⁴¹

Yet beyond custom and religious sentiment, the reflex bow used throughout much of the Middle East and Persia had also proven its worth; it was a devastatingly effective weapon.⁴² Consider the following comparison:

The Turkish *mamluks* of Egypt could get off a second and third arrow before their first arrow hit a target 75 yards away, and experienced

³⁸ Ibn Zundul, *Fath Misr*, (Cairo, 1278H), 104, as quoted in Ayalon, *Gunpowder and Firearms*, 94-95.

³⁹ Neither were the Ottomans immune to the Muslim prejudice; this shall be discussed in full at a later point.

⁴⁰ V. J. Parry, “Warfare,” in *The Cambridge History of Islam. Vol 2: The Further Islamic Lands, Islamic Society and Civilization*, edited by P.M. Holt, Ann K.S. Lambton and Bernard Lewis (Cambridge: Cambridge University Press, 1970): 836.

⁴¹ According to tradition, God had commanded Muhammad to use the bow; it was also the instrument handed to Abraham by the Archangel Gabriel; and more than 40 *hadith* reports either directly or indirectly deal with archery.

⁴² The Turks were particularly excellent archers, and also incorporated the crossbow into their arsenal. See Parry, “Warfare,” 828.

archers can generally keep up a pace of six to eight well-aimed shots per minute... [They] were also expected to hit a 38-inch circle at a range of 75 yards with five out of five arrows.⁴³

In contrast, contemporary firearms could produce just a single shot in several minutes, and misfired up to half the time. Even eighteenth-century muskets could only hit a target 50 paces wide from 100 paces away less than half the time and would rarely hit a man at more than 80 yards distant.⁴⁴ The disparity is well evident.

Firearms, as they existed in these times (c. 1200s - 1300s), were also irreconcilable with the great tradition of cavalry warfare to be seen across so much of the *dar al-Islam*. Imagine the twenty-eight step procedure presented by Chase, only now performed on horseback, in order to realize the impossibility of firing from horseback, the sheer size and weight of the weapon notwithstanding. The great expansion undertaken by the forces of Islam since the time of the Prophet was in no small part due to the success of cavalry-based armies, a success that had continued through the Crusades and beyond. The existing military apparatuses of the Islamic kingdoms had proven their worth, and many times over; it would take a great deal indeed for the Muslims to be persuaded to discard them, and adopt instruments that forced such change in the conduct of war.

⁴³ Chase, Firearms, 74

⁴⁴ Chase, Firearms, 74.

Briefly put, the forced changes brought about by firearms were multi-fold and ongoing. The awkwardness and slow rate of reload of early gunpowder weapons rendered them extremely difficult for use by cavalry units. These same inefficiencies also drove such changes in the manner of infantry warfare as the necessity of pikemen to protect infantry while they prepared for a second shot. The incorporation of artillery batteries brought changes, too, with similar requirements of defense, in addition to the extra factors of transportation and lack of mobility. In all, firearms markedly changed the face of war, and thus experienced great resistance from those who preferred the 'face' exactly as it had previously existed.

However, one must not assume that Muslims unanimously turned up their noses at firearms. By the time of the advent of gunpowder weaponry, the world of Islam was no longer the unified entity borne of the Prophet's vision but a vast geographical area comprising an array of different cultures and dynastic visions. In the 1400s, the Moors in Spain were quick to seize upon cannons in their struggle both offensively against the great Christian fortresses and defensively behind the walls of their own, and the Ottoman success has already been acknowledged.⁴⁵ Nonetheless, even within the Ottoman army, evidence is seen of the derision towards firearms, or, more specifically, the users of such implements:

⁴⁵ Chase, Firearms, 95; Elgood, Firearms of the Islamic World, 15; David Ayalon, Gunpowder and Firearms in the Mamluk Kingdom: A Challenge to a Medieval Society (London: Vallentine, Mitchell and Co. Ltd., 1956), ix; David Ayalon, V.J. Parry, G. S. Colin, and Yar Muhammad Khan, "Barud," in Encyclopedia of Islam: New Edition (Leiden, 1960-), 1060.

[The artillerymen] were seen going about with their hands all begrimed with soot, their uniforms dirty, and their clumsy powder-boxes and coaches hanging down, so that they became a laughingstock to their comrades, who jeeringly called them apothecaries.⁴⁶

The Turks desired their warfare 'clean'; the new units frustrated this desire and, thus, were treated with scorn.⁴⁷ Despite such delicacies, the bulk of evidence speaks of an overall Ottoman success in the adoption and use of firearms, as shall be further investigated in this work.

Not so the story of the Mamluks (1250-1517) and the Safavids (1500-1722). The comprehensive and oft-cited work by David Ayalon, *Gunpowder and Firearms in the Mamluk Kingdom*, illustrates the case for Mamluk Egypt, pointing a finger at the particular power structure of the society and the obdurate attitude of the ruling elite as primary obstacles to the widespread incorporation of firearms. The Safavid example, however, has been far less comprehensively investigated, despite the fact that the Safavid reluctance to adopt and utilize firearms has become one of the many puzzling questions to be found in the history of Islam. Even the stubborn Mamluks, bowing to Portuguese encroachment and the obvious Ottoman military superiority following the battle of Marj Darbiq (1516), fostered a program of great development (which occurred before they were overthrown by the Ottomans⁴⁸), but the Safavids

⁴⁶ Ogier Busbecq, *The Turkish letters of Ogier Ghiselin de Busbecq, Imperial Ambassador at Constantinople 1554-1562*. Translated by Edward Seymour Forster (Oxford: Clarendon Press, 1968), 122-123, as quoted in Chase, *Firearms*, 96.

⁴⁷ Halil Inalcik, "The Socio-political Effects of the Diffusion of Fire-arms in the Middle East," in *War, Technology and Society in the Middle East*, edited by V.J. Parry and M.E. Yapp (London: Oxford University Press, 1975), 199.

held firm in their resistance following the defeat at Chaldiran (1514), even to the extent that a legend arose accrediting the introduction of firearms in Iran to an English adventurer, Robert Sherley, as late as the eve of the seventeenth century. Naturally, this fallacy has been corrected, but the fact of its remarkable persistence speaks for itself: the Safavids were notably 'backward' and remiss in the race for firearms when so many others, including their sworn enemies, the Ottomans, were eagerly running forward. It is the purpose of this thesis, by careful examination of the primary and secondary documents of the early Safavid era, to provide a suitable answer to this puzzle. Can Ayalon's suppositions about the Egyptian Mamluks be simply expanded to include the Safavid Qizilbash, the equivalent ruling lords of the Safavids? Can Kenneth Chase's recent geographical explanation be considered conclusive? Or perhaps the hypothesis of Matthee, that the legendary Safavid reluctance to join the gunpowder derby is simply modern presupposition and, in fact, myth? Hopefully, after careful comparison of the relevant sources, some sort of incorporation and synthesis can be achieved, and a level of confidence reached. Certainly, the Safavid question has not been ignored, but neither has it been given the attention it deserves.

⁴⁸ Parry, "Warfare," 834; Inalcik, "Socio-political Effects," 202.

Chapter II: Firearms in the Islamic World

According to Elgood, "a comprehensive survey of Islamic firearms remains to be written."⁴⁹ This section in no way intends to be such a piece, simply a catalogue of the most recent findings and an assertion of the consensus to date. Also, for the purpose of the following discussion, only the central lands - that is, the region of Anatolia (homeland of the Ottoman sultanate), the Egyptian domain of the Mamluks, and, of course, Safavid Iran - shall be considered, during the time that firearms were first knocking at their doorsteps.

The Ottomans

The actual date of the arrival of firearms at the Ottoman sultanate is the subject of continuing debate. It is commonly agreed that firearms were introduced through the ongoing Ottoman struggle with Balkan Europe, which itself acquired guns from a Venetian Senate worried about the encroaching Turks.⁵⁰ Fragmentary evidence, as supported by Uzuncarsili (a scholar on Islam whose work and translations from the 1930s and 1940s are often

⁴⁹ Elgood, Firearms of the Islamic World, 13.

⁵⁰ Chase, Firearms, 85; Elgood, Firearms of the Islamic World, 31. The Venetians either manufactured firearms themselves or acquired them in trade with other European states.

referenced by more modern historians), does exist to suggest cannon use by the Ottomans at the Battle of Kosovo (1389) and the first siege of Constantinople (1396-1402), but recent scholars have disputed this claim, as summed by Wittek: "I am inclined to think that before 1400 the Ottomans had no knowledge of firearms."⁵¹ Cipolla, on the other hand, supports Uzuncarsili, pointing out a 'reliable' Indian source claiming that "the Turks introduced cannon into India in 1368" and declaring that the alleged cannon use at Kosovo "has been generally admitted by historians since the times of von Hammer." Thus, the issue has yet to be firmly settled.⁵² Neither does the dissent come to an end with Wittek's date of 1400. The records pertaining to the 1402 catastrophe at Ankara, when Timur captured the sultan Bayezid and purportedly displayed him in a cage, also refer to firearms, but this conclusion depends on a translation error.⁵³

What dates, then, can we competently rely upon? A number of records, from both Greek and Turkish sources, attest to the existence of Turkish cannons during the reign of Mehmet I (1413-21) and possibly before.⁵⁴ The Ottomans most definitely deployed cannons against Constantinople in 1422, and used

⁵¹ P. Wittek, "The Earliest References to the use of Firearms by the Ottomans," Appendix II in *Gunpowder and Firearms in the Mamluk Kingdom* by D. Ayalon (London: Vallentine, Mitchell and Co. Ltd., 1956): 141; Chase, *Firearms*, 229; Elgood, *Firearms of the Islamic World*, 31.

⁵² C. Cipolla, *Guns, Sails, and Empires: Technological Innovations and the Early Phases of European Expansion 1400-1700* (New York: Pantheon Books, 1965), 90-1.

⁵³ The translation in question is that performed by Le Strange; he confuses "gun" with "crossbow" – original words not included. For further elaboration see Elgood, *Firearms of the Islamic World*, 219, Chase, *Firearms*, 228-9.

⁵⁴ Parry, "Warfare," 834.

them to defend Adalia (1424) against the besieging Qaramanoghlu Muhammad Beg, killing him with “a well-directed cannonball.”⁵⁵ And from this point onward, firearms are present in almost all Ottoman military records. The first use by the Turks of cannons in the open field occurred most likely at Varna (1444) and unquestionably by the second battle of Kosovo (1448): during this decade the arquebus also made its first irrefutable appearance.⁵⁶ Certainly, once firearms appeared on the Ottoman scene, they were developed quite vigorously, as the Turks arrived outside the walls of Constantinople in 1453 with a truly impressive array of cannons.

As would prove to be a consistent theme in the Ottoman military dynamic, the master gun founder in the Muslim army set to besiege Constantinople was, in fact, no Muslim, but a European; a Hungarian, to be more exact.⁵⁷ Formerly in the pay of the Byzantine Emperor, Constantine XI, this Hungarian, by the name of Urban, deserted to join the Turks in 1452, lured by the greater money offered by Mehmet II (Constantine XI had refused to increase his stipend) and the prospect of working with the vast resources of the Ottoman military machine. At the time, the Byzantines were in the last throes of a decline that had been ongoing for some hundreds of years: it is doubtful that sufficient quantities of bronze would have been available for cannon

⁵⁵ Wittek, “The Earliest References to the use of Firearms,” 142. He concludes that this reference “deserves our trust.”

⁵⁶ Wittek, “The Earliest References to the use of Firearms,” 142-3; Elgood, Firearms of the Islamic World, 32; Parry, “Warfare,” 834-5

⁵⁷ Though some sources claim him to be a Dacian – see Cipollo, Guns, Sails and Empires, 94.

founding, and the walls of Constantinople were diminished from their former strength and not likely to long support the weight and recoil of even the guns already in place.⁵⁸ Thus, Urban took the brand of traitor, and joined the infidels; “[t]hereby an epoch of history was established by the defection of a single artilleryman.”⁵⁹

Of course, decaying or not, these walls were still solid and thick, “the most formidable system of defenses in Europe”, and enough to give Mehmet nightmares.⁶⁰ He spent sleepless nights in his tents drawing and re-drawing plans to somehow overcome the fortifications, and consistently returned to one thing: artillery. Hence, the Hungarian gun founder was generously welcomed, and immediately placed to work.

Urban then cast a truly massive gun, which, upon being tested against a Venetian galley passing through the straits, tore the hapless ship in half with but a single shot. Heady with excitement, Mehmet immediately commissioned a second gun, but this one twice the size of the first. ‘Basilica’, when it was completed, was a monstrosity among cannons. Thirty-two feet in length, weighing more than seventeen tons, it was able to hurl stone balls greater than a thousand pounds in weight. It took two hours to reload, and the noise when

⁵⁸ Downey, *Cannonade*, 23.

⁵⁹ Downey, *Cannonade*, 23.

⁶⁰ Cipollo, *Guns, Sails and Empires*, 93.

it detonated reverberated for miles, and – as claimed – “shocked pregnant women into miscarriages.”⁶¹ The great cannon then set out to war:

Now by the Sultan’s urgent command... [d]erricks hoisted “Basilica” onto its long, stout carriages of sixty wheels to which thirty (some say forty-five) yoke of oxen were hitched. On each side marched a hundred men, poles poised to prevent an overturn. They were flanked by files of armed guards, weapons menacing them. If the great gun began to topple to one side or the other, the pole prop men dare not flinch away but must do their duty. In any case they would die, shot by the guards or crushed by “Basilica” whose fall would be cushioned by their bodies and so be less likely to suffer injury. Two hundred and fifty pioneers preceded the monster, their duty to level roads, remove obstacles, and build or repair bridges. Further ahead and to the flanks rode an escort of ten thousand cavalry. Slowly the mighty train wound onward to the sound of the rumbling of wheels, the trumpets and pipes, and the thunder of kettledrums, rising above the neighing and lowing of horses and oxen... Thus the ponderous Turkish artillery, whose 150-mile march would require two months, advanced on Constantinople.⁶²

As the Turks closed upon the city, Basilica and the other big guns were set into place and readied for firing at the stout ring of battlements, walls, and towers that encircled the town. The ground shuddered as Basilica began the bombardment, with every other Ottoman cannon echoing behind.

Wreaking havoc with each round, the cannon, though only firing seven or eight times each day, was soon paying the price of the massive explosions within, and a slight fissure was spied running along its barrel. Urban prepared to remove the gun for recasting, but the Sultan forbade him from doing so; instead, he demanded that the gun be kept firing. Despite Urban’s pleas and desperate warnings, Mehmet held firm to his order, and Urban prepared the detonation that would not only destroy the gun, but also take the lives of its

⁶¹ Downey, *Cannonade*, 25. ‘Basilica’ is also known as ‘Mahometta’ – see Cipollo, *Guns, Sails and Empires*, 94.

⁶² Downey, *Cannonade*, 28.

entire firing crew (and Urban himself) in an enormous blast of white flame. Hence, the lesser brethren of the massive gun were left to complete the reduction of Constantinople.

This aside illustrates two themes prevalent in any discussion of Turkish firearms: a marked dependence on European technology and artisans; and a fascination with guns of colossal size. For the most part, contemporary research has revealed the 'big gun' fascination of the Turks as a myth, largely fostered by the well-known tale of Basilica and also the publicized testimony of Baron de Tott during one of the Turco-Russian wars (1768-74), laughing at an enormous cannon - which could throw a ball of marble eleven hundred pounds in weight - used by the Turks, of which they claimed that a "single discharge would be so destructive and reach so far, that it would be, alone, sufficient to destroy the whole fleet of the enemy."⁶³ However, though the Turks did, in fact, cast extremely large guns (and at times gave them as presents to foreign monarchs), investigation of the Ottoman military machine actually shows a great deal of variation within their artillery corps, with many smaller cannon carried by horses or camels and medium-sized pieces in addition to the great behemoths. Indeed, the typical Ottoman method for the reduction of a fortress is known to have involved both medium guns (culverins capable of deep penetration to undermine the stonework) and large pieces ('basilisks'

⁶³ Cipolla, *Guns, Sails and Empires*, 97.

discharged in salvo to topple an enfeebled wall).⁶⁴ This myth also drew strength from the very eagerness with which the Turks incorporated cannons into their armies, a feature stemming from the fact that these cannons addressed the hitherto only weakness to be seen in Ottoman military forces. The Turks were extremely competent battlefield warriors, but their cavalry-based armies, needing great quantities of horse-fodder, were badly derailed by an extended siege, when a well-fortified town refused to capitulate.⁶⁵ Thus, the battering power of large wall-smashing cannons filled an obvious role in the Ottoman armies, enabling fortifications to be quickly reduced and a battle won before the surrounding fodder was exhausted and the besiegers forced to withdraw.

On the other hand, the Ottoman dependence on Europe was certainly no myth. Rather, such instances as the defection of Urban in 1452 only grew in number during the fifteenth, sixteenth and seventeenth centuries. And despite early success (e.g. the Turks were quick to adopt the Hungarian 'wagenburg', a method of chaining gun-carts together and setting the cannon between them during a field battle; this proved quite efficient against the Safavids), the reliance on Europe would eventually prove crippling.⁶⁶ The numbers of Christian specialists mentioned in Ottoman military documents grew

⁶⁴ Ayalon et al. "Barud," 1062.

⁶⁵ Cipolla, *Guns, Sails and Empires*, 92; Parry, *Warfare*, 836.

⁶⁶ Ayalon et al. "Barud," 1062.

markedly, as did the flow of war material from Europe into the Middle East, even in the face of papal interdicts forbidding such intercourse.⁶⁷ The Turks consistently struggled to keep pace with Europe, and soon found themselves unable to do so. Eventually, European tactics and weaponry reached such a state of interdependence, with artillery, infantry, and cavalry formations all inextricably tied together, that the Ottomans could no longer simply copy such innovations, and following the mid-seventeenth century, despite a number of attempts to modernize the army, they found themselves continually on the losing side of most battlefields.⁶⁸

Regardless of the poor showing when compared to Europe, however, the Ottomans were undeniably the greatest success story of the Islamic world where firearms are concerned. It is widely acknowledged that the Turks were responsible for spreading firearms throughout the Muslim lands, whether to support a fellow Muslim against a non-Muslim, or to support the enemy of an enemy - as seen in the Turkish support of the tribal Uzbeks, both of whom had a common enemy in the Safavids.⁶⁹ The flow of firearms from Anatolia was not always deliberate, however, and the Turks took great pains to reduce the natural processes of dissemination that could see gunpowder weaponry fall

⁶⁷ Chase, Firearms, 97.

⁶⁸ Chase, Firearms, 98; Ayalon et al, "Barud," 1062-1064; Cipolla, Guns, Sails and Empires, 94-5; Parry, "Warfare," 847-849. The Ottomans were still traditionalist at heart with a noticeable aversion to the development of tactical innovation and infantry maneuvering, as this would have meant discarding much of the traditional nature of Islamic warfare. Add to this an absence of great Ottoman commanders and the lack of standardized parts for weaponry - see Elgood, Firearms of the Islamic World, 16.

⁶⁹ Elgood, Firearms of the Islamic World, 15.

into the hands of an enemy, forbidding all commoners the right to possess weapons and enacting strict punishment upon all transgression, conducting periodic searches, and storing all weapons in arsenals, only to be released upon order of the sultan.⁷⁰ Nonetheless, this too became a losing battle fought by the Turks, and firearms soon found a place throughout the Muslim lands.

Since the fifteenth and sixteenth centuries were a time of almost continual warfare for the Ottoman Empire, there was rarely a time when these firearms were not put to use. The standing Ottoman army consisted of six cavalry regiments, the artillery corps, and the famed janissary infantry corps. The janissaries carried firearms, unlike any other Muslim military force at the time. The unique position of the janissaries within the Ottoman power structure - dependent upon, and taking their orders solely from, the sultan himself - enabled the Ottoman rulers to establish a corps of arquebusiers despite the Muslim prejudice against firearms. Though, admittedly, less resistance to gunpowder weapons existed among the Turks than either the Mamluks or the Safavids, this by no means indicates that such a factor had no effect on the Ottoman military. However, the existence of a military department answering only to the sultan without the interference of a noble elite enabled him the freedom to do as he wished; in this case, to outfit them

⁷⁰ Inalcik, "The Socio-political Effects," 195-202; Chase, Firearms, 87-8.

with firearms. The janissaries, therefore, were the avenue through which the sultan was able to overcome the Muslim prejudice.⁷¹

With the janissaries as part and parcel of their army, the Ottoman Turks went to war - and were remarkably successful in the endeavour. In Europe, they pushed as far as to knock upon the walls of Vienna, while in the Middle East, they pummelled the Egyptian armies upon two separate occasions - Marj Darbiq in 1516; Raydaniyya in 1517 - and halted the previously unchecked expansion of the upstart Safavid Shah Isma'il at Chaldiran (1514). Of course, one must not credit the entirety of this success to the janissaries. In the words of Parry: "No force of 12-15,000 men, however formidable their skill, is numerous enough to be the decisive element in the armed forces of a vast empire. The main weight of the Ottoman armies was to be found in the *sipahis* (cavalry), who far out-numbered the troops of the central regime."⁷²

Nonetheless, the *sipahi* cavalry forces were little different from those of the Mamluks and Safavids, and it is quite commonly held that the victories over such opponents were due to the superior artillery of the Ottomans and also the arquebus-bearing janissary infantry.⁷³

⁷¹ Parry, "Warfare," 836-838.

⁷² Parry, "Warfare," 845.

⁷³ See Parry, "Warfare," 841; Chase, *Firearms*, 98, 100, 105-7, 125; Elgood, *Firearms of the Islamic World*, 15-16; Roger Savory, *Iran Under the Safavids* (Cambridge: Cambridge University Press: 1980), 43. McNeill states that the importance of the janissaries was far beyond what their numbers would imply - *The Pursuit of Power*, 33.

Therefore, when dealing with firearms in the Ottoman lands, we see a success story with certain qualifications. We have already talked about the reliance upon Europe seen from the earliest days of gunpowder weapons in Turkey, but also the great Ottoman victories over their counterpart Muslim empires, victories that can be directly attributed to the adoption of firearms and resulted in the Ottoman Empire becoming a powerful entity that would remain intact until the twentieth century, far outlasting any of its contemporary Islamic dynasties. We have thus briefly seen the success story of the Muslims; we must now face that of 'failure.'

The Mamluks

To summarize: in the mid-thirteenth century, the Ayyubid dynasty ruling Egypt and Syria was overthrown by its Turkish slave soldiers, known to the world as *mamluks*; they would go on to set up the Mamluk sultanate. This new regime legitimated itself almost immediately, winning a decisive victory over the hitherto-unstoppable Mongol forces at Ayn Jalut (1260), and later, in the closing stages of the century, also proving their military superiority over the Crusaders. The Mamluk military apparatus was proud, powerful, and certain of its worth: this characteristic, according to David Ayalon in his

seminal work, *Gunpowder and Firearms in the Mamluk Kingdom*, would be the cause of its downfall, two hundred years later.⁷⁴

There exist unsubstantiated accounts of the presence of firearms in Egypt in 1342 and 1352, but Ayalon is suspicious of these uncorroborated claims.⁷⁵ Instead, he holds to a later date, "the close of the sixties of the fourteenth century" as the earliest use of firearms in the Mamluk kingdom.⁷⁶ From the writings of al-Qalqashandi and Ibn Khaldun, we have testimony of cannons in Cairo from either 1365 or 1368, in Alexandria in 1376, and common throughout Egypt and Syria by the following decade.⁷⁷ Such dates are also supported by circumstantial evidence. As stated by Elgood: "Since the Venetian cogs which carried trade goods to and from Egypt were armed with artillery from the 1370s, the existence of cannon from that date in Cairo seems rather to be expected."⁷⁸ It is thus noteworthy to point out that the Mamluks were in possession of firearms perhaps six decades prior to the Ottomans, indicating an initial introduction from other than the Turks - most likely Europe - but more importantly, making the later superiority of the Turks (to the other Muslim states) in gunpowder technology all the more puzzling.

⁷⁴ Ayalon, *Gunpowder and Firearms in the Mamluk Kingdom*.

⁷⁵ Ayalon, *Gunpowder and Firearms in the Mamluk Kingdom*, 2.

⁷⁶ Ayalon, *Gunpowder and Firearms in the Mamluk Kingdom*, 4.

⁷⁷ Elgood, *Firearms of the Islamic World*, 23; Chase, *Firearms*, 99.

⁷⁸ Elgood, *Firearms of the Islamic World*, 23.

As described by Ayalon and to a lesser extent by Kenneth Chase in *Firearms: A Global History to 1700*, there existed at the very core of Egyptian society a great tradition of cavalry warfare, the mounted rider with his bow, that eventually proved, in fact, to have certain limitations:

The Mamluks were infatuated with horsemanship and could not understand or accept that some mechanical contrivance might change the face of warfare and make infantry more effective than cavalry. To the extent that they understood what was going on, they nevertheless refused to have anything to do with it. They continued to fight in the way that they had always fought, and they were willing to go down to defeat rather than compromise a value that was at the core of their identity. Since their privileged place in society was predicated on their military prowess, they could not admit that mounted archery was no longer supreme without seriously undercutting their own legitimacy.⁷⁹

As mentioned, not only had Mohammed himself been an archer and held the sport in high esteem, thus instilling a great respect for archery in the Mamluks, but also their particular style of warfare had already profoundly verified its worth against both the Mongols and Crusaders.

To equip a soldier with an arquebus meant taking away his bow and, what was to the Mamluk more distasteful, depriving him of his horse, thereby reducing him to the humiliating status of foot soldier, compelled either to march or to allow himself to be carried in an ox-cart.⁸⁰

Firearms were dirty, base, and stood as complete anathema to what the Mamluks regarded as noble and honourable warfare; therefore, an extremely

⁷⁹ Chase, *Firearms*, 106. As aforementioned, this tradition, as bolstered by military success and religious custom, existed throughout the lands of Islam, but certainly the Egyptian Mamluks were the prototype of this.

⁸⁰ Ayalon et al., "Barud," 1060.

powerful aversion to gunpowder weapons stood against their inclusion into the Mamluk military machine.⁸¹

Of course, these same arguments might easily be said to affect the contemporary Muslim dynasties; after all, Muhammad was held in the same religious reverence across all *dar al-Islam*, and a similar manner of cavalry-based warfare was also a common denominator. And, indeed, comparisons can also be drawn between the Mamluk elite and the Ottoman nobility, but the self-indulgent attitude of the Mamluks and their fierce resistance to firearms is thought to run in a far deeper vein than that of their northern counterparts. Chase also brings to light the important point that the Mamluk kingdom was not exposed to the same style of warfare as were the Ottomans, and, hence, not placed under the same forced draft toward gunpowder weapons as the Turks, who routinely fought against Europeans in possession of firearms.⁸² Later to be brought into this comparison is the Safavid nobility, the Qizilbash, every bit as traditional and proud as the Mamluks, and also never forced to battle with a European opponent.

We thus see the importance of the janissary troops, and their loyalty to the Ottoman sultan. Under the Turkish state's power structure, the sultan was able to outfit his janissaries with gunpowder weapons without interference

⁸¹ The severe limitations of firearms at this time must again be noted, also fostering the distaste of the Mamluks – Ayalon points out the 1409 siege of Sarkhad, where continual fire by cannons proved ineffectual, and the city held until the arrival of a mangonel, which quickly proved successful where the cannons had failed. See Gunpowder and Firearms in the Mamluk Kingdom, 29.

⁸² Chase, Firearms, 106-7.

from the nobles; such could not be the case in Egypt, where the ruling Mamluks would oftentimes thwart the sultan's will - if, indeed, he was not in agreement with the Mamluks in the first place, as the sultan was himself drawn from the ranks of the ruling Mamluks. As a result, firearm-bearing infantry troops came into being in the Ottoman sultanate, but not in that of the Mamluks until a much later date.

Throughout the fourteenth and fifteenth centuries, the Mamluks held fast to their line of resistance. This by no means implies that firearms were not to be found, only that the dissemination occurred at a far slower rate than would otherwise be assumed. Siege cannons, since they fit into an already existing role in the Mamluk army currently occupied by such machines as catapults and mangonels, were incorporated more completely; but field cannon and arquebuses faced consistent opposition. In fact, Ayalon argues that the arquebus was not introduced into Egypt until 1490, almost a century after the first arrival of cannon, and that the Mamluks refused all use of field artillery until the very end of their rule.⁸³ Sultan al-Nasir (1495-1498) saw his efforts to create a unit of arquebusiers thwarted by the Mamluk elite, and Sultan al-Ghawri saw his own attempt meet with a similar fate in 1514. However, the diplomatic situation upon the latter occasion, perceived to be no less than a dire

⁸³ Ayalon et al., "Barud," 1059-1060.

crisis, enabled al-Ghawri's attempt to remain unofficially intact, due to the desperate need for such a body of soldiers.⁸⁴

This crisis facing the Mamluks at the beginning of the sixteenth century was two-fold. In 1497, the Portuguese explorer Vasco de Gama sailed round the Cape of Good Hope, opening up an entirely new world to his fellow countrymen, who consequently arrived in force with their formidable gunships at the Red Sea ports, the backyard of the Mamluks. The Mamluks commenced to cast hundreds of cannons to be stationed at these ports, and outfitted a fleet of warships - which quickly proved to be no match for the powerful Portuguese. The state of alarm redoubled after a decisive land defeat at the hands of the Ottomans at Marj Darbiq (1516). More cannons were cast, others purchased from the Venetians, Frankish arquebusiers were hired, and frantic preparations made to arm the Egyptian infantry with firearms. However, these panic-stricken measures proved futile. An advancing Ottoman army utterly routed the Mamluks less than a year later, in 1517, toppling the Mamluk dynasty, in the words of Elgood, "with the aid of the very firearms that the Mamluks had so decisively rejected."⁸⁵ Thus ends the story of the Mamluks.

⁸⁴ Ayalon et al., "Barud," 1059.

⁸⁵ Elgood, *Firearms of the Islamic World*, 25.

The Safavids

As the history of the Safavids is to be discussed in great detail in its own particular section, the following piece, in the interest of efficiency, will be of a summarizing nature, dealing primarily with what has commonly been accepted on the story of Safavid firearms and leaving deeper investigation and analysis alone.

When Shah Isma'il and his Qizilbash lords emerged from the hills of what is now known as Azerbaijan to establish the Safavid dynasty in the opening years of the sixteenth century, there began a period of reasonable stability in an area that had hitherto seen a great deal of fragmentation and rivalry. This does not mean to imply that the Safavids had established absolute control over Persia, nor that opposition never occurred within these borders (the Safavids were almost continually fighting against the Uzbeks, a tribal force based in north-eastern Iran) but that for the first time since the death of Timur in 1405, a single power was to remain dominant for more than a handful of years. Prior to the Safavids, Iran had been a continual battleground, as such tribes as the Aq Qoyunlu ('White Sheep'), the Qara Qoyunlu ('Black Sheep'), and the various khanate powers descending from Timur struggled for control over the region. The Safavids, however, under the charismatic Isma'il, were able to accomplish what none of these other powers could; namely, vanquish all rivals and establish a lasting dynasty.

Though Alessandro Bausani, in his work *The Persians*, claims the existence of firearms in Iran in 1387 and the production of a "very few primitive cannon at the end of the fifteenth century," this assertion is not without dispute, and is rendered even more suspect by the large gap between the two dates and lack of any information for the intervening period.⁸⁶ Truly, the history of Iranian firearms begins with Uzun Hasan, an Aq Qoyunlu leader who conquered Baghdad in 1469. As his star continued to rise, the various European powers saw Hasan as a potential threat to the Ottomans, and, following the prevailing trend ('the enemy of one's enemy...') immediately sent envoys to Iran, and subsequent shipments of firearms. Though little is to be found in later documents concerning the European weaponry and specialists sent to Hasan - and, in fact, it is well known that one consignment, at least, did not reach its destination⁸⁷ - in the words of John Woods (*The Aq Qoyunlu: Clan, Confederation, Empire*), it can be assumed that the "sulpheric arts had no secrets for the Aq Qoyunlu."⁸⁸

The Safavids, under Isma'il's father, were first recorded to use firearms at the siege of Gulistan, in 1488, while Isma'il himself possessed 'muskets'

⁸⁶ Alessandro Bausani, *The Persians: From the Earliest Days to the Twentieth Century*, trans. by J. B. Donne. (London: Elek Books Ltd., 1962), 138. Bausani is translating *ra'd-andaz* as "firearm", while the more correct translation would be "explosive grenade" - see Elgood, *Firearms of the Islamic World*, 113.

⁸⁷ Elgood, *Firearms of the Islamic World*, 114.

⁸⁸ John Woods, *The Aq Qoyunlu: Clan, Confederation, Empire*, 63. He also points out instances of the Aq Qoyunlu retrieving artillery pieces abandoned by fleeing Ottomans (129), and makes reference to cities "[r]educed by Aq Qoyunlu artillery (151).

when attacking the city of Yazd (1504).⁸⁹ From this point, we see the documented use of gunpowder weapons in 1506, 1510, 1516, 1528-9, and onwards, quickly disproving the idea that the Sherley brothers introduced firearms to Iran at the end of the seventeenth century.⁹⁰ Still, the prevalence of this myth indicates an important point, as it would never have arisen if firearms had existed in anything approaching significant numbers; this is exactly the topic of the following sections. The traditionalist nature of the Safavid Qizilbash lords can be likened to that of the Egyptian Mamluks in terms of the veneration of cavalry warfare, but even the Mamluks altered their tune after the disaster at Marj Darbiq (1516); not so the Qizilbash following Chaldiran (1514).⁹¹ One must also realize that the limiting drawbacks of the earliest firearms were no longer quite so much a factor, as the Safavid dynasty did not even begin until 1502; nevertheless, the Safavids did not even possess a true firearm-bearing infantry corps until the early seventeenth century - and some sixty years later, Shah Abbas II actually abolished the Safavid artillery corps.⁹² Thus, the Safavid reluctance to incorporate gunpowder weaponry into their military apparatus can be seen as not only long-standing but also

⁸⁹ Chase, Firearms, 117.

⁹⁰ Ayalon et al., "Barud," 1067.

⁹¹ At Marj Darbiq the Mamluks were decisively defeated by the superior artillery of the Ottomans; this resulted in the fall of the dynasty the following year and the incorporation of Egypt into the Ottoman Empire. The Battle of Chaldiran played a similar role for the Safavids as Marj Darbiq did for the Mamluks: a defeat at the hands of a technologically superior force. Chaldiran can be shown to have played a vastly important role in the development of the upstart Iranian dynasty; as such, it shall presently be discussed and examined in great detail.

⁹² Elgood, Firearms of the Islamic World, 117.

stubborn to a point even beyond that of the Mamluks. Obviously, such profound resistance must stem from an equally profound and deep-rooted cause, as will be demonstrated.

At the start of this thesis, after beginning with the invention of gunpowder, we passed through the subsequent development of gunpowder weaponry, and then briefly examined the responses to such weaponry by a select few lands. After laying to rest the three questions posed in Chapter I, our discussion narrowed to deal more specifically with the spread of firearms through the Muslim lands, and came to rest upon the Safavid enigma. From this point onward, we will deal with the Safavid question alone, presenting in great detail the recent writings that have come in response and analyzing each for particular merit and corroboration.

Chapter III: A Brief History of The Safavids

In the land positioned between India and Arabia, the fourteenth and fifteenth centuries tell a two hundred year long tale of transformation; that of a minor spiritual cult led by a gentle-handed and spiritual figure changed into the dynastic vision of a messianic warlord charging with drawn sabre at the forefront of a wave of cavalry, of a domain that swelled from a single city into an empire greater in size than modern-day France. Before the arrival of the Safavids, Iran had hitherto been "the football of the feuds between tribal rulers of Mongol and of Turkish origin."⁹³ The Aq Qoyunlu and Qara Qoyunlu passed control of the plateau between each other for much of the fifteenth century, and various Timurid warlords were constantly threatening; but under the Safavids, this situation of flux was finally halted. At its greatest extent, under the reign of Shah Abbas I, the borders of the realm would slide from Kandahar in the east, a city in today's Afghanistan, almost to the banks of the Oxus River in the north, leaping the Caspian Sea and continuing onto the slopes of the Caucasus mountains, then down through Azerbaijan to Baghdad on the banks of the Tigris River, and finally, over to the shores of the Persian Gulf. What is more, for the first time in centuries, the Iranian lands now sat firmly under the dominion of Iranians, rather than as a province of a foreign

⁹³ Carl Brockelman, History of the Islamic Peoples (London: Routledge and Kegan Paul Ltd., 1939), 324.

empire or ruled by a foreign people. And whether or not, as has often been opined, the foundation of this new state actually marked the true beginning of modern Persia, in the words of Roemer: "It certainly herald[ed] a new era."⁹⁴ The Shi'ite Safavids had arrived, and they would leave their distinctive footprint upon Persian history.

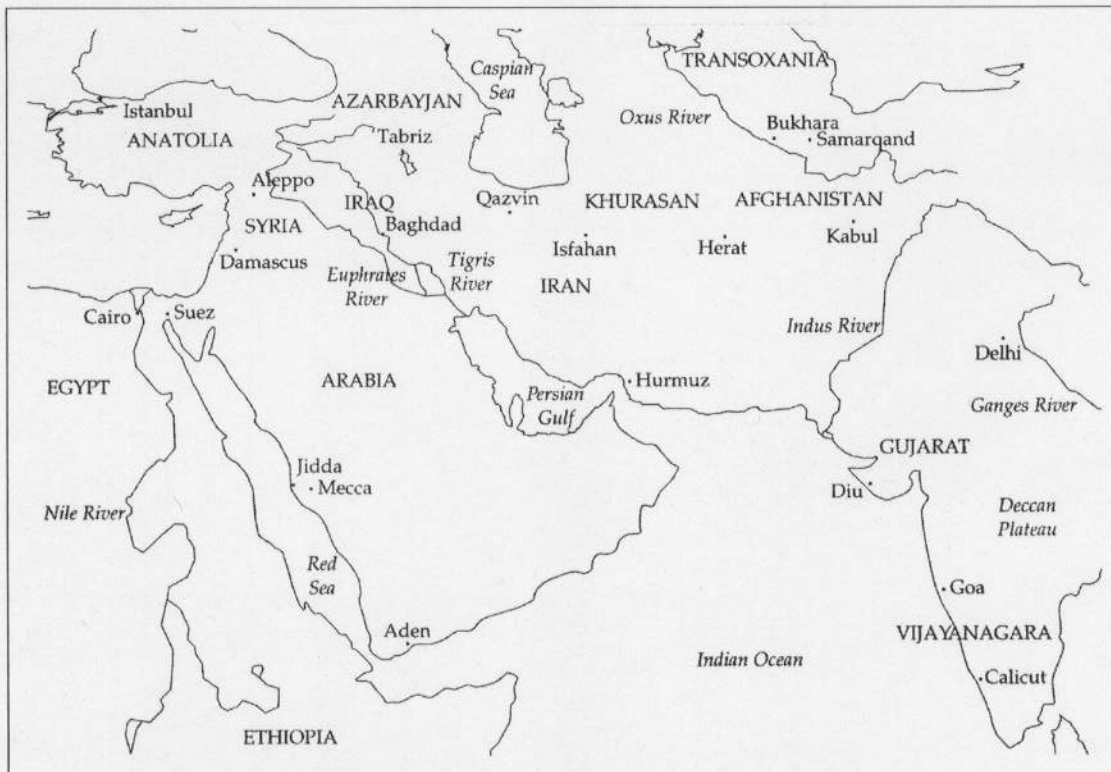


Figure 1 - Eastern Islamdom (Chase, *Firearms*, 113.)

It must at this time be acknowledged that, both previous to this point and following from it, the terms 'Persia' and 'Iran' have been used interchangeably. This is acceptable as the borders of these regions throughout history have been quite fluid and as the Safavid boundaries themselves

⁹⁴ H. R. Roemer, "The Safavid Period," in *The Cambridge History of Iran, Vol. 6: The Timurid and Safavid Periods*, edited by Peter Jackson and Laurence Lockhart (Cambridge: Cambridge University Press, 1986), 189.

changed during the dynasty, it is the general region rather than an exact geographical entity that is indicated. Of course, this also implies reference to the less precise definition of historical Iran as opposed to the borders of the modern nation.

To understand the origins of this dynasty that so quickly rose from obscurity to unite the Iranian plateau under a single entity, we must first travel to the early fourteenth century, and a city close beside the western shores of the Caspian Sea, a relatively minor city named Ardabil. Here, we could quickly locate the person of Sheik Ishaq Safiuddin, the leader of a mystical brotherhood. The fervent followers of Safiuddin (whose sect soon became named after him - the 'Safavids') claimed him to be descendant from the seventh Imam, Musa Kazim - though research has shown this claim of Arabic descent to be false; he was, in fact, of Kurdish stock.⁹⁵ Nevertheless, Safiuddin, a leader of zealous piety, was held in great religious esteem bordering on worship; indeed, his title itself translates as 'Purity of the Faith'. This devotion was to be the foundation stone for the empire to follow, the mechanism by which the Safavids were transformed from "a Sufi order of purely local importance into a religious movement whose influence was felt not only within the borders of Persia, but also in Syria and eastern Anatolia."⁹⁶

⁹⁵ Bausani, The Persians, 136.

⁹⁶ R. M. Savory, "Safavid Persia," in The Cambridge History of Islam, Vol. 1: The Central Islamic Lands, edited by P.M. Holt, Ann K.S. Lambton and Bernard Lewis (Cambridge: Cambridge University Press, 1970), 395.

Upon Safiuddin's death in 1334, his son, Sadruddin, was immediately handed the reins of power. Sadruddin was also greatly pious in nature, to such an extent that he even possessed a number of high-ranking Mongols as disciples; he would later successfully request from the great Mongol warlord Tamerlane the release of large numbers of his Turkish prisoners, who subsequently emigrated by the thousands to join the fledgling Safavid brotherhood-cum-sect. The repute of the saintly Safavid leaders continued to grow, and Tamerlane would eventually grant them the city of Ardabil, as "a pious endowment."⁹⁷

But at this moment, we must make brief reference to the particular nature of the religion in question. Though the Shi'i characteristic of the later stages of the dynasty is an extensively documented and accepted fact, less well known is the fact that the Shi'ism was not to emerge until the era of Sheik Khwaja 'Ali (1391-1427), grandson of Sadruddin. Prior to this time, the true nature of the Safavid religion was far less certain; indeed, it is even likely that the revered Safiuddin was not Shi'i at all, but in all probability "a Sunni of the Shafi'i *madhhab*."⁹⁸ Nonetheless, the later Shi'ism of Khwaja Ali's successors was beyond dispute, and by the time of Isma'il, a hind-sighted myth had been woven upon the 'facts' of Safavid history, dating their Shi'ism (and family lineage) to the very birth of the Islamic world. Though the reasons for this

⁹⁷ Brockelman, History of the Islamic Peoples, 319.

⁹⁸ R. M. Savory, "Safavid Persia," 394.

'back-dating' cannot be incontrovertibly stated, one may surmise the following: by claiming a line of direct descent from the Prophet himself, the Safavids were able to not only differentiate themselves from the powerful Ottomans (and also the Sunni Aq Qoyunlu who were paramount in Persia after 1467) and enlist the opposition elements to their cause, but also establish a claim for themselves as the only legitimate Muslim power and, thus, the rightful rulers of Iran.⁹⁹

Whatever the Safavids lacked in the truthfulness of their genealogical tale, however, they more than made up for in the ferocity with which they pursued their newly-minted Shi'ism, as some great degree of repression existed in fifteenth- and sixteenth-century Iran; executions, withdrawal of patronage, and persecution occurred to such an extent that a wide literary and artistic stream could soon be spotted flowing eastward. This 'Caravan of India' was described in the words of the Safavid poet Kawsari: "In this dominion there is no purchaser of speech... Now go I ought toward Hindustan."¹⁰⁰

In returning to a slightly earlier time, with the Safavid state still in its fledgling and undeveloped state, the spiritual, non-temporal authority of the Safavid Sheiks was quick to evolve and seize upon the right to secular rule inherent in their ancestral myth. Under the ambitious designs of Sheik Junaid, who ruled from 1447 to 1456, the Safavids were now called not only to prayer

⁹⁹ Roger Savory, *Iran Under the Safavids* (Cambridge: Cambridge University Press: 1980), 29-30.

¹⁰⁰ Quoted in Stephen F. Dale, "The Islamic World in the Age of European Expansion: 1500-1800," in *The Cambridge Illustrated History of the Islamic World*, edited by Francis Robinson (Cambridge: Cambridge University Press, 1996), 72.

and worship, but also to fight for their beliefs. Marching in religious wars against Trebizond and the Circassians, Junaid professed the Shi'ite doctrine with great fanaticism, and attracted still-larger numbers of adherents; this was to set the scene for the rise of Isma'il and the subjugation of the Iranian plateau, some five decades later.

The short but dramatic story proceeds as follows. The son of Junaid, Haydar, fell in battle against Ya'qub, the Aq Qoyunlu sultan, who then gathered Haydar's wife and sons and stole them away to his homeland in the province of Fars. Two years later, however, when Ya'qub died, a squabble for inheritance erupted among his sons and the Safavid prisoners were able to win their release, but on a conditional basis: they must agree to fight on the side of Rustam, an Aq Qoyunlu prince and main challenger for the throne of Ya'qub. 'Ali, oldest son of Haydar and now leader of the Safavids, honourably complied with the request, and played no small part in the eventual victory of Rustam, who seized the Aq Qoyunlu mantle. However, quickly realizing that "he had released the genie from the bottle,"¹⁰¹ Rustam treacherously turned upon his erstwhile ally, viciously attacking his forces and hurling the young Safavid sultan into the rapids, whereupon he was quickly drowned. His two youngest brothers, Isma'il and Ibrahim, after eluding a meticulous house-to-house search, were whisked away by loyal followers and kept hidden for more

¹⁰¹ Savory, *Iran Under the Safavids*, 53.

than four and a half years. Interestingly, Safavid legend holds that 'Ali, in fact, had been quite aware of the treachery and his impending doom:

On his arrival at Shamasi, a village near Ardabil, Sultan 'Ali Padishah came to know by his spiritual insight that on that day he would have to drink the cup of martyrdom at the hands of his enemies, and consequently, he sent for this chief devotees and told them the sad news; but asked them no to be disheartened, for the banner of Isma'il Mirza's sovereignty would soon rise. He then took off his turban and placed it on Isma'il Mirza's head, bound his girdle on Isma'il Mirza, nominated him his successor, and laid on him the obligation of avenging his death, and that of his father and grandfather.¹⁰²

By all accounts, observing the epic rise soon to follow, it must be granted that the newly nominated Safavid sultan greatly surpassed his brother's earnest wishes and satisfied his final request in no small manner.¹⁰³

Born on a Tuesday, on 17 July 1487, Isma'il lost his father at the age of one, saw his brother solemnly announce he was marching to his death when he was but seven years old, and lived as a prisoner in an enemy fortress for nearly half a decade. As a man, he was described in such fashion:

At present he is about thirty-one, very handsome, of a magnanimous countenance, and about middle height; he is fair, stout, and with broad shoulders, his beard is shaved and he only wears a moustache, not appearing to be a very hairy man. He is as amiable as a girl, left-handed by nature, is as lively as a fawn, and stronger than any of his lords.¹⁰⁴

Isma'il was said to have inherited his bravery from 'Ali, the Prophet's cousin, from whom the Shi'ite Imams are said to descend.¹⁰⁵ On the battle-field he was

¹⁰² Ghulam Sarwar, *History of Shah Isma'il Safawi* (New York: AMS Press Inc.: 1939), 28.

¹⁰³ However, the individual persons responsible for the deaths Isma'il was charged to avenge would, in truth, escape his grasp, dying of their own account before Isma'il's determined march to power was to begin.

¹⁰⁴ Hasan Beg Rumlu, *Ahsanu't-Tawarikh* (Calcutta, 1931), 182-3, as quoted in Sarwar, *History of Shah Isma'il Safawi*, 100-101.

“a lion wielding a dagger,” and he had a marked passion for slaying wild cats single-handedly: “He had issued orders that whoever should bring news of a lion should receive from his officers a horse and saddle; and he who should bring news of a leopard an unsaddled horse.”¹⁰⁶ But in 1497, when he set out upon the daunting task of regaining his rightful inheritance, Isma’il, but thirteen years old, had only seven followers riding grim-faced behind him, and had yet to carve the glorious character history would endow him.

With the loss of three successive sheiks in battle, and the fact that Isma’il, as yet, had no successor, his advisors were obviously reluctant to allow the young lord to embark upon his quest and gave solemn counsel against it; but he was not to be swayed. Heralds rode to those lands loyal to the Safavid cause, and quickly, Isma’il’s seven followers would swell into ranks of thousands. This time, they were not to be stopped. The cities of Baku and Tabriz were taken. Baghdad was then annexed, and the lands of the Aq Qoyunlu were quick to follow - the Qara Qoyunlu had fallen at Tabriz. Finally, after over a decade of almost constant warfare, Isma’il met one of his last enemies in Iran, the Uzbek Khan Shaybani, a fervent Sunni, in pitched battle on the plains outside Marv. The Uzbeks were utterly routed, and more than 10,000 were slain. In a bold and declarative gesture, Isma’il sent Shaybani’s

¹⁰⁵ The Shi’ites hold their Imams to be the rightful successors of Muhammad as leaders of all that is Islam. Thus, affiliation with either ‘Ali or the line of Imams is a powerful compliment, indeed.

¹⁰⁶ Sarwar, *History of Shah Isma’il Safawi*, 99-100.

stuffed head to the Ottoman sultan Bayezid. He kept the skull himself, however, encasing it in gold to use as a drinking cup.¹⁰⁷

The Safavids now found themselves rulers of Iran; this was, however, by no means an uncontested mastery. Constant incursions from the Uzbeks in the east and the powerful Ottoman menace in the west were both sources of continual strife that would last the entire two hundred year length of the Safavid dynasty. It was, in fact, the Ottomans who were to check the rapid expansion of the charismatic Safavid shah. Practically revered as a god by his followers, with the Qizilbash nobles (so named for their distinctive red-tasselled caps given them by Haydar - with twelve tassels to represent the twelve imams: 'Qizilbash' translates as 'red-head' in Turkish¹⁰⁸) firmly under his authoritative thumb, Isma'il had tasted nothing but victory, and was attracting a vast amount of support from the heterodox periphery lands of the Ottoman Empire, in which region a significant portion of the populace had Shi'ite leanings. Thus, the formidable Ottoman sultan Selim 'the Grim' amassed an army and marched upon Persia. The battle that followed, the famous occurrence of Chaldiran, has been mentioned already, and will again be discussed later, so beyond the reiteration that it was a decisive victory for the Turks, it will be set aside for the moment.

¹⁰⁷ Brockelman, History of the Islamic Peoples, 321.

¹⁰⁸ Brockelman, History of the Islamic Peoples, 319; Bausani, The Persians: From the Earliest Days to the Twentieth Century, 136.



Figure 2 - Shah Isma'il I (Savory, *Iran under the Safavids*, 28. From woodcut of the British Museum.)

By all accounts, Isma'il was devastated following Chaldiran, after which, "it is said that [he] never again smiled for the rest of his life."¹⁰⁹ Chaldiran had utterly destroyed Isma'il's belief in his own invincibility. He became lethargic and reclusive, "attempting to drown his sorrows in drunken debauches,"¹¹⁰ wearing only the shade of black, and the drive for battle seemed to have fallen

¹⁰⁹ Bausani, *The Persians: From the Earliest Days to the Twentieth Century*, 138.

¹¹⁰ Roemer, "The Safavid Period," 401.

from him. He withdrew his attention completely from political matters, instead allowing the Qizilbash to strongly assert themselves and their independence, practically running the state. In the words of Roger Savory: "After [Chaldiran], Isma'il retired to his tent, so to speak, to sulk rather in the manner of Achilles."¹¹¹ It was a move that was to have long-lasting and profound effects on the fortunes of the inchoate empire.

With the death of Isma'il in 1524, at the age of just thirty-seven, his ten-year-old son, Tahmasp, a very different figure from his father, then rose to the throne. The D'Alessandri *Account of Persia*, an historical memoir written by a Venetian ambassador to Persia in the mid-sixteenth century, makes mention of the fact that Tahmasp did not leave his palace for eleven years; he neglected his state, and "cared only for women and money."¹¹² He was quite sophisticated in his aesthetic tastes, but "inactive of temperament and personally rather mean."¹¹³ And neither was he of sufficiently strong character to wrest power away from the Qizilbash nobles, whose religious awe of the office of the shah had been shattered by Chaldiran and Isma'il's subsequent withdrawal. Thus, besides the fact of his extreme youth at the time of his succession, Tahmasp was now also faced with a class of lords whose reverence for 'the Shadow of God

¹¹¹ Savory, *Iran Under the Safavids*, 58.

¹¹² Quoted in Brigadier-General Sir Percy Sykes, *A History of Persia* (London: Macmillan and Co., Ltd., 1957), 170.

¹¹³ Marshall G. S. Hodgson, *The Venture of Islam: Conscience and History in a World Civilization*, 3 vols. (Chicago: University of Chicago Press, 1974), II, 31.

upon Earth' was irretrievably broken.¹¹⁴ In fact, the decade following Isma'il's death before Tahmasp was able to restore some measure of control is often referred to as the 'Qizilbash interregnum'. Consequently, and quite predictably, as a result of the internal tension within the Safavid state, territory was lost on both the eastern and western frontiers - the Uzbeks launched no less than five major invasions of Khurasan, in addition to the practically incessant border raids; the Ottomans, also, marched four times into Iran - and when Tahmasp died, after fifty-two years of rule, dissent erupted as the various Qizilbash tribes fought for supremacy.

But before this discussion proceeds any further, a note must first be inserted upon the character of Tahmasp, in order to correct any misapprehensions that may have arisen. Certainly, he was by no means the same courageous and spirited warrior as his father, but the fact that he regained at least partial control of the reins of power (thus ending the 'interregnum') and also that the determined Ottoman and Uzbek incursions did not end in the utter dissolution of the Safavid dynasty speaks volumes for his ability and must mitigate any premature criticism. In fact, Tahmasp, as shall be shown, was quite adaptive and insightful in his military dealings.

To continue: the Qizilbash immediately banned the oldest son of Tahmasp, Muhammad Khudabanda, a half-blind dissolute, from the

¹¹⁴ Savory, Iran Under the Safavids, 46.

succession. Instead, their powerful support was divided among the seven other sons of Tahmasp and a number of his grandsons: chief among the claimants was the warlike and bold Isma'il, second son of Tahmasp. Isma'il, who had long been imprisoned by his father on account of his fiercely independent designs, now escaped from prison and amidst the chaos successfully planted himself upon the Safavid throne, murdering its current occupant, Tahmasp's favourite son, Haydar. Isma'il II, as he became known, then embarked upon the calculated assassination of his brothers and cousins and any others who might possibly conspire for his crown. Lucky, indeed, to escape this sweeping blade was Abbas, son of Khudabanda, to whom we shall presently be introduced. But Isma'il, despite his bloody and paranoid precautions - "the royal tents," he had stated, "cannot be held up by old ropes"¹¹⁵ - was not to remain long in power. Almost immediately, he alienated the Qizilbash with a display of open disdain for Shi'ism - he refused some of the more fanatical Shi'i theologians from attending court and confiscated their books; he also banned the ritual cursing of the Caliphs Abu Bakr, Umar and Uthman from the mosques - and shortly afterwards, in the home of a boy lover, he was poisoned.¹¹⁶ The Qizilbash then reluctantly acclaimed Khudabanda as shah - Isma'il had eliminated the vast majority of the other options - a mild, poetry-writing type, who, it must be recalled, was practically

¹¹⁵ Roemer, "The Safavid Period," 410.

¹¹⁶ Brockelman, History of the Islamic Peoples, 324.

blind. Quickly, he was mired as a helpless pawn in the power struggle between two determined 'Queens': Tahmasp's daughter and Khudabanda's ambitious and vindictive wife. In the months to follow, both women ruthlessly murdered and manipulated, each laying waste to the Safavid court in order to clear the path for her own son to follow Khudabanda upon the throne of Persia - and further incurring the wrath of the Qizilbash lords in their efforts. In a note sent to the shah, a group of conspirators loosed their tongues against Khudabanda's wife, who had gained the upper hand in the struggle:

Your majesty well knows that women are notoriously lacking in intelligence, weak in judgment, and extremely obstinate. Mahd-I-'Ulya has... acted contrary to the considered opinions of the *qizilbash* elders, and has constantly attempted to humiliate and degrade us. [She] has called us mutinous, and has uttered dire threats against us... If she is not removed from power, in all probability revolts will occur which will be to the detriment of both religion and the state.¹¹⁷

But the ineffectual Khudabanda could do nothing but vacillate, washing his hands like Pilate, while his wife simply scoffed, and refused to alter her position in the slightest; consequently, the Qizilbash conspirators burst into the *haram* and strangled her to death. Receiving word of this news, the aforementioned Abbas, acting as governor in Khurasan, then marched upon the capital, and after a public demonstration in his support convinced the Qizilbash, who also wished to use his youth to their advantage, he was allowed to topple his father from the throne, and announce himself shah. Thus ended the second period of Qizilbash control over the state.

¹¹⁷ Roger Savory, trans. *History of Shah 'Abbas the Great (by Eskander Beg Monshi)*. 2 vols. (Boulder: Westview Press, 1978), I, 370.

'Abbas the Great' (1588-1629), as history would deem the new shah, under whom the Safavid empire would reach its peak, first undertook a number of degrading steps in order to consolidate his wobbling throne. He conducted a humiliating peace with the Ottomans, painfully ceding a number of rich provinces, and sent a cousin to Istanbul as a hostage, freeing himself some breathing space to deal with domestic issues and also the insurgent Uzbeks in the east, to which end he then set out with determination. When the Englishmen Sherleys (Sir Anthony and Sir Robert) arrived in Persia, Abbas made use of their expertise in affairs of artillery and tactics to modernize and strengthen the Persian Army - which effort gave rise to the myth that the Sherleys introduced gunpowder to Iran. He founded a corps based on the Ottoman janissary model in order to achieve greater independence from the Qizilbash, who had hitherto been the major source of Safavid military power; he transferred the capital from Qazwin to Isfahan, outfitting the city with magnificent architecture - stately bridges soon traversed the rivers, wide avenues and verdant gardens beautified the scene; he softened the Shi'ism of his forbearers, establishing a benevolent and stable reign under which intellectualism could again flourish; he also undertook a summary display of his authority, executing a powerful Qizilbash lord who had proclaimed for Abbas's brother as the rightful shah, bringing a further measure of control beneath the office of sultan. "Now that I am king," he proclaimed, "we are going to forget about the practice of Sultan Muhammad Shah (his ineffectual

father, Khudabanda); the king is going to make the decisions now."¹¹⁸

Unequivocally, and in no small manner, Abbas asserted himself over his lords and his entire state, setting the throne upon far firmer foundations. With such a stable platform in place, Abbas then embarked upon satisfying his militaristic ambitions. He recaptured Tabriz, Shirwan and Baghdad (after which battle the Safavid historian Iskander Beg Munshi headily shouted to the heavens: "May Baghdad remain in Safavid hands until the end of time!"¹¹⁹), restored Safavid rule up to the foothills of the Caucasus, and resolutely pushed his eastern border outward until it reached the city of Marv. The Ottomans, too, despite fielding a huge army, were also defeated in a famous battle near Lake Urumia, where 100,000 Turks faced only 62,000 Safavids - but 20,000 of those Turks were killed in a glorious victory of the revamped Persian army. Vast tracts of territory were then restored to Abbas, and the frontier between the two empires soon stood as it had one hundred years previously.

The pinnacle of Safavid power was undoubtedly during the reign of this formidable shah - who lived in an era of similar 'greats' upon the international scene: Philip II of Spain, Queen Elizabeth I, Suleyman the Magnificent, and Akbar the Mughal Emperor were all contemporary to Abbas. And as stated by

¹¹⁸ Quoted in Savory, *Iran Under the Safavids*, 83. (no original source given)

¹¹⁹ Savory, trans. *History of Shah 'Abbas the Great*, II, 1220. But his fervent plea was not answered, as Baghdad was recaptured by the Ottomans fourteen years later from Shah Safi, Abbas's successor.

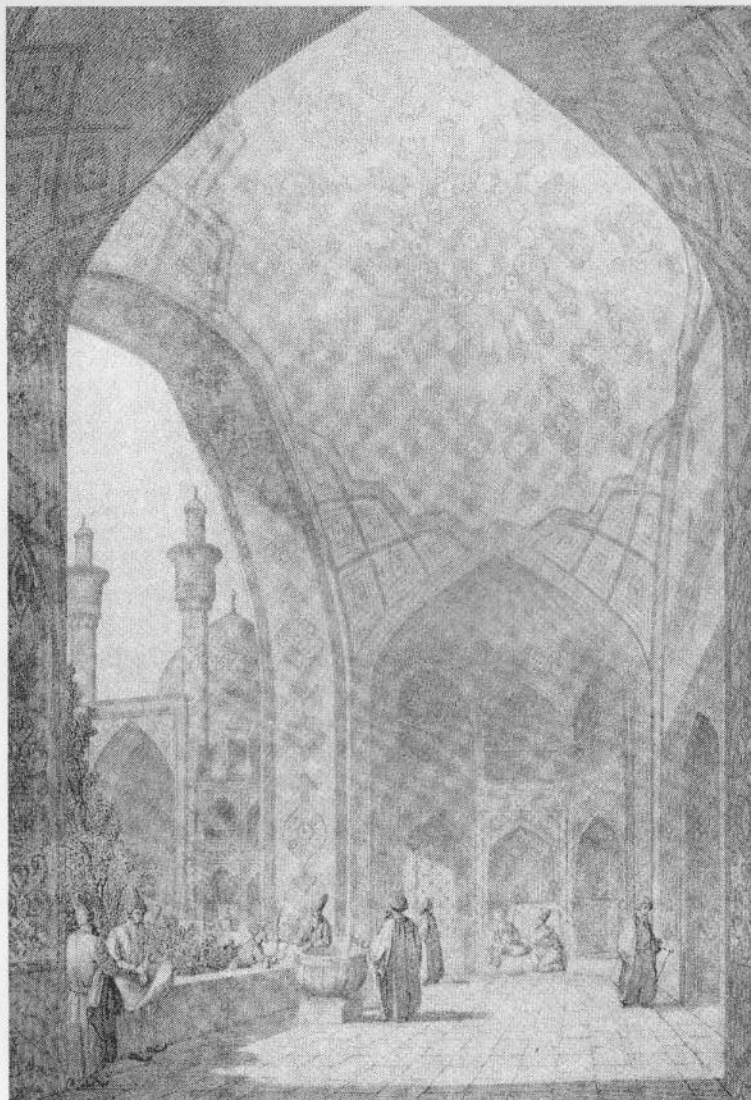


Figure 3 - Isfahan (Sykes, *A History of Persia*, 207. No original source or date given.)

Chardin, "When this great Prince ceased to live, Persia ceased to prosper."¹²⁰

Most certainly, it cannot be doubted that in many ways, Abbas was an admirable character; in the words of Anthony Sherley: "the furniture of his mind infinitely royal, wise, valiant, liberal, temperate, merciful, and an exceeding lover of Justice." He was a man deemed handsome, possessing

¹²⁰ Quoted in Sykes, *A History of Persia*, 183. (no original source given)

“fine, clean-cut features, keen eyes and large moustaches,”¹²¹ beloved by his people and with ideas far in advance of his time. But by no manner could Abbas be considered a saint, as may be easily illustrated with one rather poignant anecdote. Upon being delivered the astrological prediction that the occupant of the shah’s throne was threatened by certain danger, perhaps even death, Abbas abdicated in 1591, seating in his place a Christian man who was heralded and feted for three days, and then put to death on the fourth; the heavens being satisfied, Abbas reclaimed his throne.¹²² He had, it must be admitted, a recognizable portion of cruelty in his nature, blinding and imprisoning his brothers when he was first crowned shah, murdering his eldest son when he became dangerously popular, blinding his second son when he gained fame from an expedition to Africa. Nevertheless, it appears that the judgment of history upon Abbas I has seen fit to overlook such excess, and grant him the moniker ‘Great’ – certainly, as already mentioned, he brought the Safavid dynasty to its most formidable heights. However, once the apex of a climb is reached, afterwards, there is but one direction to proceed.

Dissolute, degenerate, odious, weak and ineffectual: such could be descriptors of the Safavid shahs to follow. Under Safi, the successor of Abbas, princes, princesses, councillors and generals were put to death during thirteen years of tyranny; hard-won territory was quickly lost (chief among which was

¹²¹ Sykes, *A History of Persia*, 183. (no original source given for Sherley quote)

¹²² Sykes, *A History of Persia*, 175.

the city of Baghdad); and the Safavid fortunes declined. Indeed, this downward spiral would continue unchecked. Of the later Safavid shahs, Abbas II, great-grandson of Abbas the Great, presented but the single bright spot, regaining a brief spark of prosperity for the Safavid Empire in at least holding the various encroaching forces (Afghan tribes, Uzbeks, Ottomans) at bay, if doing nothing to regain any territory; but he fell prey to dipsomania at an early age, as did also his capricious son. Then came the final blow, as the grandson of Abbas II, Husayn, could do nothing but watch helplessly as Afghan hordes swept from the heights and laid waste to his forces in the fields outside Isfahan. In the subsequent siege, lasting more than half a year - and forcing the population in the later months to consume cats, dogs, mice, even human flesh from streets piled with rotting corpses - over eighty thousand lives were lost. Even today, the population of Isfahan (approx. 650,000) is less than half its sixteenth century population. Finally, on 12 October 1722, the Safavid throne was toppled, on which ill-starred day Husayn reluctantly surrendered.¹²³ Subsequent shahs were to struggle mightily to restore the Safavid fortunes, allying themselves with various Afghan tribes, but never would they regain their previous glory, and the Safavid name was quick to fall from the pages of history.

It is perhaps interesting, by way of eulogy, to surmise that the great Abbas had, in no insignificant manner, been also responsible for the precipitous

¹²³ Roemer, "The Safavid Period," 427.

decline of the Safavid dynasty by the initiation of three trends: first, the confining of potential heirs to the *haram* in the hopes of ending succession disputes resulted in "fatally compromising the military and political acumen and experience of potential new rulers, just as it increased the influence of the *haram*."¹²⁴ Secondly, Abbas also lost control over the Shi'a *ulama*, which quickly began to assert the doctrine that only the descendants of Ali, namely the Imams, could lead the Islamic community, or in their stead, the representatives of the imams, the *ulama* themselves. Gone, certainly, was the heady, god-like reverence enjoyed by Isma'il. By the early years of the eighteenth century, "the [*ulama*] had effectively usurped the religious authority of the dynasty."¹²⁵ And lastly, the military system implemented by Abbas, creating *ghulam* forces loyal to the throne and diverting traditional revenue from the Qizilbash to the state government also proved to have debilitating consequences. "The reduction in Qizilbash strength was not made good by a corresponding increase in the size of the *ghulam* forces, and... the *ghulam* did not possess the fighting qualities of the old Qizilbash troops."¹²⁶ Thus, the fighting power of the state was greatly lessened, and soon unable to resist its encroaching enemies.

¹²⁴ Dale, "The Islamic World in the Age of European Expansion: 1500-1800," 74.

¹²⁵ Dale, "The Islamic World in the Age of European Expansion: 1500-1800," 74.

¹²⁶ Roemer, "The Safavid Period," 423.

The Safavid emergence quite closely resembled the model outlined by Ibn Khaldun for interpreting the cyclical development of fifteenth century North African Muslim dynasties. According to Ibn Khaldun, nomadic, militaristic tribes "become especially formidable when unified by a charismatic religious leader, which Muhammad had accomplished in the Hijaz in the seventh century."¹²⁷ The dynasties would always decline within three to four generations, since their very driving impetus deteriorated with the establishment of bureaucracy. Their fervour and vitality would steadily dissolve until being overthrown by the next cyclical emergence of a tribal power. Though the Safavid state lasted longer than the predicted number of generations, both its entrance onto and exit from the world scene can be seen to fall within Ibn Khaldun's model. However, though the intricacies of such postulating can be intriguing, they lie beyond the reach of this thesis; instead, we must remain with our questions on Safavid firearms. And after dealing first with a few matters of terminology and literature, it is that question which will be finally addressed.

¹²⁷ Dale, "The Islamic World in the Age of European Expansion: 1500-1800," 71.

Chapter IV: Relevant Terminology

We must now include a brief note about the language and terms of the subject at hand in order to illustrate two issues. First, as alluded to in the introductory investigation of gunpowder, the same terms were frequently applied to very different substances and weapons (e.g. fire-lances, rockets, and early firearms were often grouped together and it was difficult to differentiate between them), thus confusing the later historian as to what point in time certain innovations actually came about. This being said, the differences between 'bow' or 'sword' rather than 'gun' are quite distinct and the problem is thus lessened when viewed from a less specific stance. It must also be remembered that the timeframe of the discussion at hand is the early to mid-sixteenth century, a time when the debate between the early quasi-firearms and the actual items was no longer so much at stake.

The second concern derives from the numerous languages at hand. Though Arabic was the tongue of Muhammad and the majority of the successive Islamic dynasties, the Safavid sources were in fact written either in Turkish, the language of their forbearer residents in the Azerbaijani hills, or Persian, which was the language employed for administration of the Empire. Luckily, though, the relevant terms revolving around gunpowder and its

associated weaponry were often transferred from one language to the next, with either a readily identifiable alteration or no alteration at all.

One must first look to the Arabic word *naft* (same in Persian), originally denoting the purest of Mesopotamian bitumen, which when mixed with various substances greatly enhances its combustive and adhesive properties; thus, it was a basic component of Greek fire. With the appearance of saltpetre and, consequently, true gunpowder, *naft* was retained as the term for this new substance. *Barud*, Arabic for saltpetre, was simultaneously being used to indicate gunpowder; and in Turkish, and borrowed from this language by the Persians, the term was *barut*.¹²⁸ Both *naft* and *barud* remained commonplace during the early years of gunpowder weaponry; however, "it would appear that the final victory of *barud* over *naft* took place after the Ottoman conquest [of the Mamluks]" and *barud* would henceforth remain dominant.¹²⁹ This process has been explained in detail in David Ayalon's *Gunpowder and Firearms in the Mamluk Kingdom*, which goes into depth on the synonymity of the two terms and their respective travels through the literature. The legacy of *naft* can be seen in its preservation as a common, albeit somewhat obsolete, term for 'gun' in the modern Ethiopian tongue.¹³⁰ The Arabic term *dawa*, or 'remedy' also denoted gunpowder; in fact, this was the first Arabic word for the

¹²⁸ Ayalon et al., "Barud," 1056.

¹²⁹ Ayalon et al., "Barud," 1059.

¹³⁰ Ayalon, *Mamluks*, 23.

substance.¹³¹ Both *barud* and *dawa* made their initial appearance in the Persian sources sometime in the late fifteenth century, thus corroborating the theory that firearms did not make their arrival in Iran until that time.¹³²

Even as the substances suffered from a tendency in the sources to apply the same word at a number of different places in the developmental spectrum (e.g. as mentioned above, *naft* was applied to both Greek fire and the later gunpowder); likewise did the implements. By way of example, the *zanburak*, originally a crossbow, later came to signify also a small cannon-style gun carried on the back of a camel. The associated verb forms were also affected: *qawwasa*, 'shoot with a bow', became 'fire', as in a handgun.¹³³

In Egypt, the weapons themselves soon gained the terms *midfa* and *mukhula* as commonplace out of a number of early names for firearms; however, the sources are unclear as to whether these two denote distinctly different weapons or not. Persia, on the other hand, used *tup* to indicate artillery, and *tufang* for handguns.¹³⁴ The latter is a later development, which appeared originally as *tofik*, before the arrival of gunpowder denoting a "hollow wooden tube used to hunt small birds by blowing pellets through it"; this, itself, was onomatopoeically derived from *tof*, or 'spit'.¹³⁵ The earliest

¹³¹ Floor, "Barut," 838.

¹³² Floor, "Barut," 838.

¹³³ Ayalon, *Mamluks*, 24-25.

¹³⁴ Ayalon et al., "Barud," 1066.

firearms supposed by Alessandro Bausani in Iran were labelled as *ra'd-andaz*, or 'thunder thrower,' but the likelihood of these being true firearms rather than an explosive grenade-style implement is dubious.¹³⁶

The usual gun indicated by *tufang* would have been the European-style arquebus (or harquebus – from the German 'Hakenbuchse' or 'hook-gun'), a light handgun fired without the aid of a stand, with either a matchlock (where a slow match is pressed into a pan of priming powder by a trigger), or a wheel-lock, where the trigger turns a wheel with iron pyrites around it to create a spark, to ignite the main charge. *Tup* could imply almost any size of cannon, though it would most often denote those used for siege purposes, rather than field artillery; the largest cannon possessed by the Safavids was also known as the *qalakub*, or 'fortress pounder.'¹³⁷

It is thus important to keep in mind that, given the aforementioned concerns, a certain imposition by the translator might already have occurred. These complexities also account for the fact that scholars may disagree on certain points, and why the Safavid question remains murky.

¹³⁵ Matthee, "Firearms in Persia," 1.

¹³⁶ See Elgood, *Firearms of the Islamic World*, 113.

¹³⁷ Matthee, "Firearms in Persia," 2.

Chapter V: Safavid Sources on Firearms

The extant primary sources for the Safavid period in question fall into two overall categories: the written accounts of traveling Europeans, and the contemporary work by the inhabitants of Iran. The latter includes histories, diaries, and administrative records, particularly the *furusiya* military treatises upon which the majority of early work in this field was concentrated but appears to be of lesser value to subsequent scholars.¹³⁸ The various Muslim histories of the period, primarily glorifications upon the reigns of the Safavid monarchs, are comprehensively discussed in Sarwar's *History of Shah Isma'il Safawi*.¹³⁹ The chief works among these are as follows.

Habibu's-Siyar: Also known as 'Khwandamir,' by which name its author is most commonly recognized, this is a work of general history culminating a few months before the death of Isma'il (1524). Many dates are given, and the manner of writing is rather engaging, but a noticeable lack of accuracy is a distinct drawback; however, the work is widely held to be one of the best contemporary histories of the period.¹⁴⁰

The *Shah Nama*: Written by Qasim Qasimi Gunabadi, this is a poetical and illustrative history written during the reign of Isma'il and finished just

¹³⁸ See David Ayalon Gunpowder and Firearms in the Mamluk Kingdom (London: Vallentine, Mitchell and Co. Ltd., 1956), xi – xvi for elaboration on role of *furusiya*.

¹³⁹ Ghulam Sarwar, History of Shah Isma'il Safawi (New York: AMS Press Inc.: 1939), 3-16.

¹⁴⁰ Sarwar, History of Shah Isma'il Safawi, 8.

shortly after his death. According to Sarwar, '[t]he historical value of this work is nil. The facts are few and even those are incorrect.'¹⁴¹

The *Ahsanu't-Tawarikh*: Composed by Hasan Beg Rumlu, the translation by C.N. Seddon has been used for this thesis. This work was produced during the reign of Shah Abbas the Great, and covered the years from the initial rise of the Safavids (1494) until the arrival of Abbas. Thus, for the early years of the Safavid dynasty, the *Ahsanu't-Tawarikh* is of lesser importance than such works as *Habibu's-Siyar*; however, in the later years it can be seen to be more authoritative.

The *Tarikh-i Alamarayi Abbasi*: This is perhaps the best known of the works of the Safavid historians, due to Roger Savory's popular translation. Written by Eskander Beg Monshi, and recognizable as *The History of Shah Abbas I*, it chronicles the emergence of the Safavids and continues to the death of Abbas; thus, its faults are similar to those of the *Ahsanu't-Tawarikh*.

Prominent among the European sources are the Le Strange translation of *Don Juan of Persia* (1604),¹⁴² the accounts of the Venetian ambassador (to Persia) Vincentio D'Alessandri (1570s) and Sir John Chardin (1671-77)¹⁴³ and Thomas Herbert (1627-29)¹⁴⁴, and the writings of Anthony Jenkinson (early 1600s)¹⁴⁵, the

¹⁴¹ Sarwar, *History of Shah Isma'il Safawi*, 9.

¹⁴² This account could also be deemed a Muslim source as the author, Uruch Beg, was a Persian Muslim who later moved to Spain and was given the label "Don Juan of Persia".

¹⁴³ N. M. Penzer, ed., *Sir John Chardin's Travels in Persia* (New York: AMS Press, 1972; original edition published 1927).

French jeweller, Tavernier (1629-75)¹⁴⁶, Josef Barbaro (mid 1400s)¹⁴⁷, Ambrogio Contarini (1473-77)¹⁴⁸, Catarino Zeno (mid 1400s)¹⁴⁹, and Ludovico di Varthema (1503-08)¹⁵⁰, all of which are featured in any worthwhile bibliography of the Safavids.

Anthony Jenkinson was a member of the much-discussed Sherley party of the late 1500s/early 1600s. Jean Baptiste Tavernier, who travelled much of Asia on three extensive journeys, did a great deal to pioneer the jewel trade between East and West, and recorded his observations in a series of memoirs, in which can be found a number of enlightening comments on the courts and cultures of these eastern lands. Sir Thomas Herbert served in the entourage of the English ambassador to Persia, Sir Dodmore Cotton, in the late 1620s. Varthema, an Italian who began his career as a soldier, was apparently driven to Asia by an overwhelming passion for adventure, gained fame as the first non-Muslim to visit Mecca, and published his account upon his return to

¹⁴⁴ Thomas Herbert, Travels in Persia: 1627-29 (New York: Books for Libraries Press, 1929).

¹⁴⁵ Delmar Morgan, ed., Early Travels and Voyages to Russia and Persia by Anthony Jenkinson (London: Hakluyt Society, 1886).

¹⁴⁶ Jean-Baptiste Tavernier, Travels in India (London: Oxford University Press: 1925; original edition published 1676 by V. Ball).

¹⁴⁷ Clerk, William Thomas, trans., Travels to Tana and Persia by Josef Barbaro and Ambrogio Contarini (London: Hakluyt Society, 1873).

¹⁴⁸ Clerk. Travels to Tana and Persia.

¹⁴⁹ Grey, Charles, ed., A Narrative of Italian Travels in Persia in the Fifteenth/Sixteenth Centuries (London: Hakluyt Society, 1873).

¹⁵⁰ George Percy Badger, ed., The Travels of Ludovico di Varthema (London: Hakluyt Society, 1863).

Rome. Sir John Chardin, also a jeweller by trade, made two voyages to Persia and beyond in the late seventeenth century, both for business reasons and his own personal gratification, and was appointed court jeweller and knighted by Charles II once he settled in England following the conclusion of his travels. Zeno, Barbaro, and Contarini, all of whom served successively as Venetian ambassador to the court of the Aq Qoyunlu chieftain, Uzun Hasan, likewise recorded diary/travelogues of their postings. As such, there is no overall lack of material from the European perspective; however, a quick glance over the relevant dates of the respective voyages shows the majority to have occurred during the mid-to-late years of the dynasty, and are thus beyond the scope of this thesis, as it has undertaken to examine the earlier years of Safavid Iran. The exceptions to this rule are Barbaro, Contarini, Zeno, and the Italian Varthema; unfortunately, the discussion of Safavid artillery in these accounts is both passing and perfunctory and as such cannot be considered greatly significant. Thus, for these two reasons, the European accounts contributed little to the investigation of the issue at hand.

The first scholars to conduct work in this area were the French Orientalists Favé, Reinaud, and Quatremère. Employed in various Parisian libraries, this late eighteenth (and early nineteenth) century trio worked almost entirely from the available *furusiya* literature, completing a number of

important translations.¹⁵¹ But, like the European diaries, these works were quite general in nature, and never deal specifically with the Safavid issue.

This trend toward the general remains as we move closer to the present and are given a number of early overviews of Iranian history. The most frequently cited of these are by Sir Percy Sykes (*A History of Persia*), Alessandro Bausani (*The Persians: From the Earliest Days to the Twentieth Century*), David Morgan (*Medieval Persia: 1040-1797*), and, of course, Marshall Hodgson's multi-volume *Venture of Islam*. Indeed, for any level of true specificity we must turn to the likes of Vladimir Minorsky, Laurence Lockhart, Jean Louis Bacque-Grammont of the French Institute in Istanbul, Ann Lambton, and Hans Roemer; however, the Safavids are still but one of many concerns for this group of scholars. It is Roger Savory, until recently at the University of Toronto and now Emeritus at that same institution, who was the first to concentrate entirely upon the Safavids. Indeed, his *Iran under the Safavids* can be deemed the key work, and he is also frequently to be found as either editor or contributor to the Safavid section of any worthwhile compilation (e.g. *The Cambridge History of Islam*, the 'Safavid' portion of the 'Barud' article in *Encyclopaedia of Islam*). Nevertheless, even Savory's many and comprehensive writings simply toy with the question of firearms, providing a great deal of background information and supposition, but posing little by way of definitive answer. The same can be said of the more recent arrivals to the Safavid scene, Masashi

¹⁵¹ See Ayalon, *Gunpowder and Firearms* for comparison of works.

Haneda and Charles Melville, both of whom are well known in the area but have written little of importance for our particular concern.¹⁵²

Given the nature of the question at hand, however, there is a second avenue of approach we must consider, namely, the developmental history of the firearms themselves and the prominent names and texts of this arena. Of course, the name that immediately springs into mind is William H. McNeill, whose *Age of Gunpowder Empires* (the phrase is borrowed from Hodgson) charts the worldwide journey of firearms from the fifteenth century until the Napoleonic era. Indeed, this work, in conjunction with *The Pursuit of Power* by the same author can be considered seminal in the field of military history. There also exists a bank of slightly less well-known texts that provide additional insight into the Safavid issue. Included in this list are the following: *Guns, Sails and Empires* (Carlo Cipolla), *War and the World: Military Power and the Fate of Continents, 1450-2000* (Jeremy Black), *Islamic Technology: An Illustrated History* (Ahmad al-Hassan), *Introduction to Islamic Arms* (Anthony North), and *Firearms of the Islamic World; in the Tareq Rajab Museum, Kuwait* (Robert Elgood).¹⁵³ Once again, though, these works, in the same manner as those whose concern is first and foremost the history of the geographical area of Persia, present the mystery of Safavid firearms but never venture an answer.

¹⁵² Masashi Haneda works at the University of Tokyo, while Charles Melville is a professor at Pembroke College, Cambridge.

¹⁵³ Those texts concerning gunpowder weaponry but without any specific reference to Iran (e.g. Hime, Hogg, Partington, Pacey, Sarton) have been omitted for this reason.

Special mention must now be made of David Ayalon's *Gunpowder and Firearms in the Mamluk Kingdom: A Challenge to a Medieval Society*. It will be recalled from an earlier section that the Mamluks of Egypt presented a similar aversion to firearms as the Safavids and it is this phenomena that Ayalon thoroughly investigates in *Gunpowder*. While Ayalon's work does present a counterpart example as to what has yet to be done for the Safavids, this is not, in fact, the attempt of this thesis, as such would require a much longer work. Nevertheless, drawing from Ayalon and other key texts, it is hoped that the question can be adequately answered.

It is, in fact, two quite recent works that directly address the issue at hand and will serve as the keys to this endeavour. Interestingly, one of the authors in this group, Kenneth Chase, is a non-academic, something that could lessen the critical strength of his text, were it not for the exculpatory fact that it was published by Cambridge University Press, and includes a number of laudatory back-cover blurbs by a few of the names we have already mentioned, William H. McNeill and Jeremy Black, and also Arthur Waldron from the University of Pennsylvania. In *Firearms: A Global History to 1700*, Chase posits an ambitious and definitive answer to the Safavid reluctance, but it must also be said that this book is brief, and perhaps watered-down for its target, non-academic audience. In the author's own words:

This is not a comprehensive history of warfare across the world in the first six centuries of the existence of firearms. Such a history would require many volumes much larger than this one. This book is an attempt to call attention to one particular influence (the relationship of

nomads to firearms) on one particular facet (the successes and failures with firearms) of that history.¹⁵⁴

This same quotation also touches on another possible drawback to Chase's theory, that it only addresses one of the many pressures present in Safavid Iran. Again, Chase is noticeably aware of this problem – "I do not argue that technology and geography alone account completely for all experience with firearms."¹⁵⁵ Nor is his book in any way designed to investigate these alternative factors for the case of one particular instance. Rather, that is the role of this thesis.

On the other hand, Rudy Matthee, an associate professor at the University of Delaware, actually begins with a denial of the issue. "That Iran took to firearms with the same eagerness exhibited by the Ottomans, the Mughals and the Russians, is no longer in any doubt."¹⁵⁶ In an apparent switching of positions, however, he then proceeds to offer reasons why they did not take to firearms (e.g. the geographical nature of Iran).¹⁵⁷ He also flirts very briefly with the idea that the manner of the warfare itself could have prominent influential factors, approaching Chase with this tangent, but most definitely leaving room for further investigation. Also, Matthee has concerned himself primarily with the later period of the dynasty, in which he devotes a

¹⁵⁴ Chase, *Firearms*, xvi.

¹⁵⁵ Chase, *Firearms*, xiv.

¹⁵⁶ Matthee, "Unwalled Cities," 391.

¹⁵⁷ Matthee, "Unwalled Cities," 396.

number of paragraphs to the European accounts of the possible existence/usage of firearms rather than in the development of his explanations. Of course, the geographical theories, (e.g. the relative lack of navigable rivers for the transportation of artillery), are relatively straightforward, but for the socio-cultural factors (e.g. the marked persistence found in the opposition by military elite even unto the very fall of the dynasty) this certainly cannot be said.

Chapter VI: Analysis

Before analyzing the Safavid reluctance to adopt firearms, we must of course first provide evidence that this phenomenon actually existed. Certainly, this has been the traditional viewpoint, upheld by such stalwarts as Savory and Lockhart, but the recent assertion by Matthee that the traditional stance is in fact flawed does necessitate further investigation, and also a portion of explanation. After all, the Sherley myth was rather persistent, but eventually was proved incorrect; concurrently, is the Safavid reluctance itself equally false, or perhaps greatly stretched far beyond its true proportions?

In this case, however, the traditional viewpoint does hold true. Going beyond the near-unanimous consensus of today's scholars, an analysis of what primary literature has been available also points to a noticeable lack of firearms to be found in the Persian army. Of course, this simple omission cannot be considered incontrovertible evidence, but when the frequency of Ottoman examples of firearm usage is taken with the corresponding paucity of references from the Safavid army, the case is greatly strengthened. Examples of this contrast are most prevalent in *Don Juan of Persia*; Sir Thomas Herbert espouses similar sentiments; and Eskander Beg Monshi, through the pen of Roger Savory, repeatedly points out the instances of Turkish artillery use,

juxtaposed with little, if any, mention of Safavid use.¹⁵⁸ In fact, it is only Matthee's paper that seems to present an opposing idea. But this, too, can be resolved by looking more closely into his writings.

Matthee begins by pointing out a number of instances of Safavid requests for firearms from various European states and a scattering of instances when the Safavids did use gunpowder weaponry.¹⁵⁹ Nevertheless, a closer look at these instances does reveal them to span a rather large portion of time - approximately 150 years - and must pale when compared with the indisputably limited familiarity of the Safavids with gunpowder weaponry. Thus, when combining the two factors - the presence of gunpowder weaponry in Iran and its scarcity in warfare - we are led inescapably to the following conclusion: as Iran did not adopt an entirely 'closed-door' stance toward firearms, and hence the opportunity to adopt firearms was available, it is in the adoption process that Safavid Persia was noticeably lacking, or, as many have stated, 'failed.' This slight alteration of the issue also eliminates the opposition of Matthee as he, in fact, agrees with this distinction.

The availability of firearms is also corroborated by the various European sources denoting both offers and requests during negotiations with the Safavids. Elgood mentions a formal Portuguese offer in 1515, a delivery from the same nation of twenty cannon in 1548, and the arrival in Persia of the

¹⁵⁸ Le Strange, *Don Juan of Persia*, 52, 98, 183; Herbert, *Travels in Persia: 1627-29*, 242; Savory, *History of Shah Abbas the Great*, 70, 89, 110, 117, 126, 138, 451, 480, 697.

¹⁵⁹ Matthee, "Unwalled Cities and Restless Nomads," 391, 392.

refugee Ottoman Prince Bayezid accompanied by thirty pieces of artillery in 1559.¹⁶⁰ Atop this are the Venetian offers, both to the Safavids and their predecessor rulers of Persia, the Aq Qoyunlu. Again, this eliminates the possibility that firearms were simply not available to the Safavids, and implies additional opposing factors, as shall now be discussed.

To begin, the aspect of the cultural rejection of firearms, mirroring that to be found in Ayalon's Egypt, must not be forgotten. A papal emissary visiting Persia in the late sixteenth century had the following to say regarding the Safavid relationship with artillery:

The people of Persia are afrayde of Artillery beyond measure, and yet sometimes they haue not beene afraide with suddaine assaultes to assaile their enimies trenches, and lodgings in their Campes. And although they be so timorous and fearefull of that Engine, and yet know of what moment it is in a battel; yet haue they not hitherto receiued the use thereof, being rather obstinate in their blind ambitious conceite, that it is a sinne and shame to exercise so cruell a weapon against mankind, then (sic) ignorant how to make it, or destitute of matter to cast it.¹⁶¹

But while this report, though perhaps stretching the situation, may contain a certain insight into the Safavid mindset, neither must this aspect be overemphasized, as the situation in Persia involved far more factors than simply a social 'distaste'.

For starters, the Safavid Qizilbash were lords of the land like the Mamluks in Egypt, but they were under the control (in varying degrees) of a central authority, that of the Shah. Therefore, the decisions regarding the

¹⁶⁰ Elgood, *Firearms of the Islamic World*, 116, 117.

¹⁶¹ Lockhart, "The Persian Army in the Safavid Period," 90.

adoption (or not) of firearms would rest primarily before a single individual, as in the Ottoman Empire, rather than in the hands of a ruling body strong bound by traditional mores. Certainly, any of these ruling individuals could easily also be 'traditionalist', but common sense recognizes the fact that innovation to save one's state is more likely to arise from a single, central ruler with the entire resources of that state in his palm and its fate tied to his own than from a squabbling elite often more concerned with their own pecking order. Ottoman Turkey, under its sultan, adopted gunpowder weapons; Mamluk Egypt, ruled by the slave-soldiers, rejected the weapons. And while Safavid Persia did have a system of ruling shahs, the Qizilbash elite was not always a secondary societal force. The reader must recall that following the debacle at Chaldiran, Isma'il greatly withdrew from the helm of leadership and the star of the Qizilbash was firmly in the ascendancy throughout the remainder of Isma'il's reign and well into the minority of Tahmasp; therefore, Safavid Iran was not unlike Mamluk Egypt for much of the early sixteenth century, and gunpowder weaponry received the brunt of a socio-cultural grudge. But, as mentioned, the Safavid case is far more encompassing than this. And it is again to Chaldiran that we must travel in order to investigate further.

Chaldiran, in fact, was a monumental turning point in the Safavid story. Before Chaldiran, Shah Isma'il was practically worshipped by his Qizilbash lords, who beheld him as well nigh invincible. And prior to 1514 this was practically true. The astonishing rise of the Safavids to the pre-eminent spot on

the Iranian plateau had been marked by nothing but good fortune, and a victory at Chaldiran would have only furthered this climb. However, the Safavids chose not to use what gunpowder weaponry they possessed and suffered for it, as it was indisputably the Ottoman artillery that won the day.¹⁶²

Quickly summarized, the events of the Battle of Chaldiran are as follows: after advancing slowly through the western Safavid province, Selim's forces arrived at the battlefield plain on 22 August 1514, to find the Safavids arrayed on the surrounding hills. At this point, as the Turks began quickly to assemble their defensive *laager* (wagons and artillery pieces bound together with chains, with musket-wielding infantry positioned behind), the watching Isma'il foolishly listened to the advice of one of his commanders that they should wait until Selim had completed his preparations - according to Savory, "presumably on the ground that it would not be sporting to attack them sooner."¹⁶³ In later years, Isma'il is said to have cursed the name of Durmish Khan, the commander in question, whenever the word 'Chaldiran' arose.

Thus, that afternoon the Safavid cavalry wings flew into battle against a fully prepared Ottoman army. The Safavid right utterly routed the Ottoman left, killing its commander in the process, and Isma'il's left also made devastating progress. However, the Ottoman centre, where the core of its artillery strength was located, was little affected; with the wings falling back,

¹⁶² Savory, *Iran under the Safavids*, 44; Morgan, *Medieval Persia: 1040-1797*, 117. The latter also ascribes the victory to the numerical superiority of the Ottomans.

¹⁶³ Savory, *Iran under the Safavids*, 41.

this centre now unleashed a devastating hail of cannon fire. Throughout the day, the Safavid forces were cut apart by the deadly Ottoman artillery; Isma'il himself led valiant charges, but in vain. Instead, watching his army being steadily cut into ragged tatters, Isma'il, for the first time in his career, was forced to accept defeat, and flee from an engagement. Selim, thinking the withdrawal was a ruse, did not pursue. Estimates on the sizes of the two opposing armies vary widely, as does the magnitude of the defeat; but the marked lack of Safavid firearms, and the importance of this factor in Isma'il's defeat, is unquestioned by any of the sources.¹⁶⁴

Why, one might ask, did the Safavids not use gunpowder weaponry if they possessed the technology? For a number of quite simple reasons. Before Chaldiran, the Safavid military machine had seen only victory, and obviously suffered no flaws that needed to be fixed, a situation that might have prompted the inclusion of firearms. And, in the consequent reversal of this logic following Chaldiran, Isma'il did, indeed, make attempts to increase his small complement of firearms. Basely put: 'If it ain't broke...'

Secondly, the Safavid expansion that was so resoundingly stopped at Chaldiran bore every mark of being a holy war. The Persians allowed the Ottomans to pick the battleground; they allowed them to assemble their forces instead of attacking while the Turks were disarrayed; many of the Safavid

¹⁶⁴ Savory, "The Consolidation of Safavid Power in Persia," 87. Savory himself appears to agree with a figure of 100,000 Turks versus 40,000 Safavids. Even if this is incorrect, 'the majority of the sources agree that the Ottoman army was at least twice as large as that of the Safavids.'

horsemen scorned even to wear armour; and the Qizilbash battle-cry itself - 'My spiritual leader and master, for whom I sacrifice myself!' - speaks volumes for the religious nature of the Safavid sweep to power.¹⁶⁵ It was their destiny to defeat the Sunni infidels; God was firmly behind their cause. That is, until the cannons of Selim said otherwise.

Thirdly, and most importantly, firearms did not fit easily into the rapid, loose-flowing Safavid style of warfare. In the words of Laurence Lockhart:

...the Persian forces of those days depended so much on extreme mobility and the ability to carry out swift tactical manoeuvres. The cannon of those days were extremely heavy and cumbersome weapons. [A] heavy cannon had to be carried in a waggon (sic) drawn by 10 horses, while a lighter weapon, which was also carried in a waggon, required 10 horses to draw it along.¹⁶⁶

Obviously, artillery moved only with great difficulty, if at all, and tied down the swift cavalry wings, hitherto the success story of the Safavids. Muskets and arquebuses, too, were heavy and cumbersome implements that could be fired only with difficulty from horseback, again necessitating slow, foot-bound infantry, something scorned by the Qizilbash lords.

Before Chaldiran, there was little pressuring the Safavids toward gunpowder; afterwards, there most certainly was. But now, other factors came into play. The withdrawal of Isma'il and consequent rise of the Qizilbash has already been remarked; but even had Isma'il remained his bold and vigorous self, the tables could not have been easily turned on the Ottomans. The

¹⁶⁵ Roemer, "The Safavid Period," 214; Sykes, *A History of Persia*, 164.

¹⁶⁶ Lockhart, "The Persian Army in the Safavid Period," 91.

Ottoman Empire was vastly superior to that of the Safavids in wealth, population, number of soldiers, and economic might. Therefore, even had they wanted to, the Safavids could never have simply cast hundreds of cannons, trained thousands of musketeers, and bested the Turks at their own game.¹⁶⁷ And well Shah Tahmasp knew this. During the 1533 Ottoman invasion, Tahmasp was only able to muster 7,000 men in response, the loyalty of many of



Figure 4 - Battle of Chaldiran (Sykes, *A History of Persia*, 163. From a copy of a Persian picture in the Chehel Sutun Palace. No date given.)

¹⁶⁷ In the words of Chase: “During the reign of Isma’il... the Safavid army as a whole could probably field no more than 20,000 men.” *Firearms*, 119.

whom was dubious at best.¹⁶⁸ When he acceded to the throne in 1524, Tahmasp was faced with the following situation: an unsteady throne surrounded by ambitious and unruly lords, and a powerful enemy rampaging through his western provinces.

Yet, while Chaldiran had in no insignificant way provided an example of what course of action not to be taken, it also showed Tahmasp what he could do. Or, rather, it was the immediate aftermath of the battle that proved so illustrative, during which time the Safavid forces had retreated in disarray and the Turks had advanced to occupy Tabriz. Only eight days later, however, a small mutiny on the part of the Turkish officers forced the army to retreat and relinquish the city. This western portion of Persia lay a great distance from the heartland of the Ottoman Empire, necessitating long and vulnerable supply lines for any army with an eye to invasion – and this weakness was not lost on Tahmasp. The Safavids had long proven themselves masters at cutting supply lines, and it was to this style of warfare that Tahmasp now turned. In his memoirs, while estimating a possible Ottoman invasion force of 300 000, he presented the following argument:

...And if each had one servant that number should be doubled, each has a mount, and as mount and man consume two man (approx 3 kgs) of food per day it would amount to 10000 hundred-man kharvars (e.g. 1500000 man) even if they have brought along 500000 or 600000 camel-load of food it would only last for a month and since we have burnt everything how can they survive?¹⁶⁹

¹⁶⁸ Savory, "The Consolidation of Safavid Power in Persia," 94.

Following Chaldiran, the Safavids, partly through weakness, partly by design, adopted a scorched-earth policy, refusing to meet the Turks in open battle, skirmishing and harassing, even giving up cities when necessary. The terrain itself proved greatly favourable to the strategy according to Matthee: "This country has a unique advantage with regard to its power and defense in having mountains surround it on all sides as well as having abundant deserts which are almost waterless."¹⁷⁰ Large cannons were only moved with great difficulty; these and the supply wagons made any Ottoman advance a laborious task indeed, especially when compared with the swift Safavid cavalry, able to strike practically at will. And, as such, the mountainous terrain also provided an additional suppression of any Safavid move toward firearms. Tahmasp's policy would prove remarkably successful, as the Ottoman forces were never able to progress far into Iran, and rarely were they able to hold what they took. The exception to this was the city of Baghdad, one of the only Persian cities to lie athwart a navigable river and upon a self-supportive and fertile plain; Baghdad remained firmly in Turkish hands until its reconquest by Abbas the Great.¹⁷¹ The Ottoman army, by fully incorporating both handheld gunpowder weapons and artillery into its makeup, had accepted both severely reduced

¹⁶⁹ Original source given as: Shah Tahmasp, Tazkereh. ms. OR5880 of the British Library, London, folio 52a, as quoted in Abolala Soudavar, "The Early Safavids and their Cultural Interactions with Surrounding States," in Iran and the Surrounding World: Interactions in Culture and Cultural Politics, edited by N. Keddie and R. Matthee (University of Washington Press, 2002), 95.

¹⁷⁰ Matthee, "Unwalled Cities and Restless Nomads," 400.

¹⁷¹ Chase, Firearms, 125.

mobility and massively exaggerated supply train as the trade-off. Its strength was firearms, its weakness was logistics, and it was toward this weakness that the Safavid scorched-earth tactic was directed, with excellent results.¹⁷²

Supportive of this theory was the marked decline in walled cities in western Persia, as also documented by Matthee. A walled city was far more difficult to retake once the main occupying Ottoman force had withdrawn, as even a small garrison behind stout walls could provide a fair measure of resistance. Thus, if the Safavids were going to withdraw regardless before an Ottoman advance, the walls were of little help, and if they were only a hindrance in the latter part of the scheme, they served no purpose. Also, since the Turks demonstrated a marked preponderance for attacking the walled cities rather than their unwalled counterparts, the inhabitants were less drawn to such supposed defences. Consequently, through both neglect and deliberate policy, walled Persian cities were soon a dying breed.¹⁷³

Overall, then, the great battle on the plain beside Chaldiran was a significant turning point in Safavid fortunes. Before and after, different forces were acting against the adoption of gunpowder weaponry by the Safavids. Added to this is the fact that such a change would have necessitated a massive reorganization of the Persian military system, something that neither the post-

¹⁷² Chase, *Firearms*, 125.

¹⁷³ Matthee, "Unwalled Cities and Restless Nomads," 397.

Chaldiran Isma'il nor the youthful Tahmasp would have been powerful enough to accomplish, even had the situation pressured them to do so.

The Uzbeks

The western front was not the only battlefield upon which the Safavids were forced to venture. Their eastern front, in fact, was a source of even greater strife, the blame for which can be laid at the feet of the Uzbeks, a confederation of nomadic tribes much like an under-developed version of the Safavids themselves. The Uzbeks were making constant incursions into Khurasan, the easternmost province of the Empire. And here, quite interestingly, the situation was a complete reverse from that in the west. In the west, the Turks were the dominant power, unable to bring the Safavids to battle; in the east, the Safavids found the weaker Uzbeks a slippery enemy, one that adopted guerrilla tactics, and withdrew at first glimpse of a strong opposing army. The contemporary correspondence between the three parties well illustrates the prevailing situation. Suleiman rebuked Tahmasp for his evasive style of warfare, stating: "Your father Shah [I]sma'il fought me, if you have any claim on bravery let us fight and if you don't want to fight stop pretending to be brave"; to which was replied: "God has said: 'don't throw thyself unnecessarily into death when fighting the infidels' (quoting Quran II: 195), and if such an action is forbidden against infidels how then can I justify

fighting against a Moslem army ten times larger than mine."¹⁷⁴ Tahmasp also reproached Suleiman for hiding 'like a veiled woman' behind his wall of artillery.¹⁷⁵ However, the Turks were always regarded with a certain respect; contrary to this was the obvious sense of superiority the Safavids harboured toward their eastern neighbours, the Uzbeks, whom they looked down upon with the same scorn and contempt that the Ottomans looked upon the upstart Safavids. Tahmasp employed his poetic skills to insult not only Ubeidollah's (the leader of the Uzbeks) tactics:

When I left, you raised an army,
and when I came back, you rapidly fled;
If you wish to be a king, come to the battlefield,
God shall determine whom among the two of us merits the throne.

But also his physical attributes:

O impatient lowly deaf man
Beware of me and my good fortune
You are deaf and your fortune is blind
How can a deaf and blind wield power
It is time to fight like a man¹⁷⁶

Obviously, when considering this two-front situation from a strategic perspective, the Safavid situation was not an enviable one. Their straits were worsened by the fact that the Uzbeks quite often made their incursions close on the heels of an Ottoman invasion, as events drew the Safavids scampering westward. The Uzbeks conducted no less than five major invasions between

¹⁷⁴ Original source given as: Shah Tahmasp, *Tazkereh*. ms. OR5880 of the British Library, London, folio 27a, as quoted in Soudavar, "The Early Safavids," 9.

¹⁷⁵ Original source given as: Shah Tahmasp, *Tazkereh*. ms. OR5880 of the British Library, London, folio 27a, as quoted in Soudavar, "The Early Safavids," 9.

¹⁷⁶ Original source given as: Navai, *Shah Tahmasb*, 38, as quoted in Soudavar, "The Early Safavids," 7.

1524 and 1538; the Ottomans four times between 1533 and 1553. Uzbek pressure eased somewhat after 1540, with the death of Ubeidollah.

The Safavids were unquestionably a stronger state than the scattered Uzbeks, who had ceased to be a fully cohesive unit since the death of Shibani Khan at the hands of Isma'il I in 1510, regardless the attempts of the aforementioned Ubeidollah. But invasions were frequent and battles did occur, however, most particularly at Jam in 1528, another clash that would prove important in the development of Safavid tactics. In the summer of that year, an Uzbek force of overwhelming numbers confronted a much smaller Safavid army marching to the relief of Herat. In the ensuing conflict, both Qizilbash wings were badly beaten, and only the middle, where Tahmasp had aligned his artillery in the manner of the Ottomans, chaining together his cannons and wagons, held firm. A counterattack from this middle, combined with the artillery fire, won the day for the Safavids, many of whom had already accepted the day as a defeat. The quite marked mirroring of Chaldiran is obvious; and like its predecessor, Jam taught an important lesson. According to Soudavar: "[Understanding] the effectiveness of firepower against the Uzbeks who lacked firearms, from then on [Tahmasp] carefully husbanded his artillery for the eastern front and refused to waste it against the superior Ottoman forces on the western front."¹⁷⁷ However, while the example of Jam does corroborate Soudavar's reasoning, it is, in fact, "the one occasion on which

¹⁷⁷ Soudavar, "The Early Safavids," 6.

the sources specifically record the use of artillery in the field by Tahmasp."¹⁷⁸ When fighting against the Uzbek tribes, both infantry and field artillery would suffer the same disadvantages against a fast moving enemy wary to commit to battle. As such, on the eastern front as well as in the west, it can be seen that there was little impetus to force the inclusion of large numbers of gunpowder weapons into the ranks of the Safavid army, and necessitate the overhaul of their entire military system. The Safavids were stronger and more numerous than the Uzbeks; the Uzbeks had but meagre numbers of firearms and were unable to produce them domestically; and, again, the predominant style of warfare did not provide any great advantage to firearms.¹⁷⁹

Classes of Firearms

We have examined geography. Now, we must take some time to differentiate between what could be termed the three main classes of firearms at the time: field artillery, handheld weapons, and siege artillery. Field artillery, or more specifically, the use of cannons on the battlefield, was most shunned by the Safavids. Incorporating such into their military force would have greatly reduced, if not completely eliminated, the main strength of the

¹⁷⁸ Ayalon et al., "Barud," 1067.

¹⁷⁹ Morgan, *Medieval Persia*, 125.

army, the great speed and mobility of their cavalry wings.¹⁸⁰ Field artillery would have served no purpose during the scorched-earth policy conducted against the Ottomans and been a severe impediment in the mountainous territory of the west; nor would it have helped bring the Uzbeks to battle in the east. Thus, it is no great surprise that the single instance at Jam is the sole example to be found in the sources.

Siege artillery, of course, was a different story. Used for dismantling the walls of a fortress or fortified city, siege artillery filled a noticeable hole in the Safavid army, as even the cannons found at the time were better than existing siege machinery (though not by a great deal). As such, the use of cannons for reducing fortresses did find greater purchase in the Safavid military, and thus more numerous mentions in the sources. In the 1507 siege of Hisn Kayfa, Isma'il made use of "a mortar of bronze, of four spans, which they brought from Mirdin."¹⁸¹ Later in the same year, the siege of Wan featured "two moderate-sized cannons."¹⁸² The cities of Gulistan and Darband (1547) were battered by Safavid cannons, also Kish (1551-2), Damghan (1528), and the earlier 1488 siege of Gulistan has already been mentioned as the first incontrovertible example of Safavid use of gunpowder weaponry.¹⁸³

Simultaneous to these examples, however, are Tahmasp's review of troops as

¹⁸⁰ Elgood, *Firearms of the Islamic World*, 117.

¹⁸¹ Ayalon et al., "Barud," 1067.

¹⁸² Ayalon et al., "Barud," 1067.

¹⁸³ Ayalon et al., "Barud," 1066.

recorded by Eskander Beg, during which not a single mention is made of artillery;¹⁸⁴ Matthee's assertion that the Safavid siege artillery was "under-used"¹⁸⁵; and Savory's claim that "the number of guns available was small, and the gunners were as yet inexperienced."¹⁸⁶ From this, we must surmise that a certain prejudice against firearms still existed beyond the tactical/logistical considerations as previously discussed. Again, an innate dislike for firearms in the manner of the Mamluk Egyptians must necessarily play a role; also the fact that there were increasingly fewer walled cities to require sieges; and that sieges were also of less frequency on the eastern front as the Uzbeks normally withdrew at the arrival of the Safavid army.

Hand-held firearms, one might assume, would suffer least from the tactical/logistical disadvantages of gunpowder weapons. Indeed, this is a valid assumption, but handguns did suffer their own particular drawbacks, also. The reader must recall the awkward process of loading an arquebus, the difficulty of which must be multiplied ten-fold if completed while on horseback. Such weapons, it must also be said, were extremely long: "The barrels of the arquebuses are generally six spans..."¹⁸⁷ - a measurement equalling 54 inches, or almost five feet; most certainly, this would be a difficult implement to use when mounted. Figure 5, though the full length of the barrel

¹⁸⁴ Savory, *History of Shah Abbas the Great*, 129.

¹⁸⁵ Matthee, "Unwalled Cities and Restless Nomads," 394.

¹⁸⁶ Ayalon et al., "Barud," 1067.

¹⁸⁷ Ayalon et al., "Barud," 1067.

is cropped from the frame, shows this significant length, and Matthee agrees with such sentiments: "Firearms were clumsy in weight and size, were therefore cumbersome to handle and... often contributed little to the outcome of wars."¹⁸⁸ It was not until the invention of the flintlock (circa 1612) that firearms could be operated from horseback with any degree of competence.

Of course, in addition to practicality, pride also entered the equation. Like in Egypt, the cavalry warrior ethos of the Safavid Qizilbash scorned any weapon that required dismounting. They were quite expert with their bows and riding skills and expressed a great resistance to any technology that threatened to undermine this strongly ingrained tradition – a system that had also proven rather successful. The idea of non-mounted cavalry was anathema to the Safavid lords, the cavalry force that had conquered the entire Persian plateau in but a single decade. Nevertheless, there are indications from both Safavid and European sources that handheld firearms were in use in Persia: D'Alessandri describes the use of the Safavid arquebus in 1571; Eskander Beg writes of the killing of an attacking Uzbek lord by a shot from one of the defenders; and firearms are known to have constituted at least a portion of the garrisons at Herat and Mashad.¹⁸⁹ We must add to this the known creation of a small corps of riflemen in 1516, and also the appearance of the office of

¹⁸⁸ Matthee, "Unwalled Cities and Restless Nomads," 393.

¹⁸⁹ Ayalon et al., "Barud," 1068; Savory, *History of Shah Abbas the Great*, 195; Robert D. McChesney, "The Conquest of Heart 995-6/1587-8: Sources for the Study of Safavid/Qizilbash – Shibanid/Uzbek Relations," in *Etudes Safavides*, edited by Jean Calmard. (Paris: Institut Francais de Recherche en Iran, 1993): 100.

tufangchi-bashi, or rifleman commander. It must be pointed out, though, that the use of these firearms was always in defence of a city or fortress, and from the marked lack of mention in the sources, it must be surmised that they played but little role in the main Safavid army, limited as they were by their particular impediments.

Reorganization of the army

Although the main concern of this paper is the time before Abbas's reorganization of the Safavid military, a brief look at this development is both necessary and illuminating. Around the turn of the sixteenth century, Abbas created many new *ghulam* (slave) regiments. *Ghulam* had been around since Tahmasp first created this 'third force' from captured Circassians, Georgians, and Armenians who were then placed either in the army or within some branch of administration; but it was Abbas who would mould several regiments from the ranks of the *ghulam*, creating the first Safavid standing army. Before this move, the shah could only rely on the loyalty of his Sufi bodyguard, a body of but a few hundred men; the new *ghulam* regiments placed the throne on a much firmer footing. Obviously, the purpose of Abbas's move was to assert the power of his office, and reduce a marked dependence on the Qizilbash for military endeavour. The new force consisted of three main corps: mounted musketeers,



Figure 5 - Persian carrying matchlock. c. 1600 (Elgood, Firearms of the Islamic World, 112.

From the Tareq Rajab Museum, Kuwait, circa 1600.)

infantry musketeers - which later also were mounted - and an artillery corps; each of these was around 12,000 strong. Evidently, this manoeuvre would also imply a significant move toward gunpowder weapons, and this it certainly was; it was a determined attempt to fight the Ottomans at their own game, one that proved quite successful. When war was resumed with the Ottomans, Abbas quickly conquered much of Mesopotamia, including Baghdad, Najaf, Karbala and Mosul, in addition to Diyarbekir in Anatolia.¹⁹⁰

However, old and ingrained habits can be difficult to overcome. It is interesting to notice that during the next Ottoman advance (1604-1605), the Safavids remained with their scorched-earth policy. According to Eskander Beg, Abbas aimed to harass the Turks as they marched toward Tabriz, wishing to avoid battle. Later, when the snows had arrived and the Ottoman supplies had grown scarce, he planned to attack, and deliver "the crucial blow."¹⁹¹ However, one of his detachments fell afoul of the Ottomans, and the main Safavid force was required to come to its aid. The ensuing battle was won decisively by the Safavids after a powerful Qizilbash cavalry charge, and resulted in Abbas's great gains in territory on his western front. Later, when the Turks were besieging Baghdad, Abbas again declined risking his new army in battle, but decided instead to simply cut the Ottoman supply lines and wait them out, the same method the Safavids had used since Chaldiran, now almost

¹⁹⁰ Lockhart, "The Persian Army," 94.

¹⁹¹ Savory, History of Shah Abbas the Great, 889.



Figure 6 - Persian hunting scene (c. 1590). Only the non-mounted soldiers possess firearms.

(Chase, *Firearms*, 118. From the *Shahnama*, 344b circa 1590.)

a century past.¹⁹² Thus, we see the lasting influence of traditional Safavid warfare. Also harkening back to our previous discussion, when this overhaul did happen, it came at the hands of a single authority, and not from the ruling class. Ironically enough, the transition to a 'modern' army proved greatly damaging to the Safavids. Not only was it very expensive for the regime to support a centralized standing army, but also the resulting decline in Qizilbash power, while satisfying the shah, reduced the true military strength of the dynasty.

As a result, after a succession of ineffective rulers slowly allowed the standing army to lapse - the 1638 Peace of Zuhab had ended hostilities on the western front - the state was no longer in a position to resist the Afghan tribes that came swarming from the hills at the beginning of the eighteenth century.

¹⁹² Chase, Firearms, 122.

Conclusion

That world history has had its path significantly shaped by firearm technology is an unquestioned fact, and the devastation of today's gunpowder weapons is awesome in the extreme; therefore, it is readily assumed that such technology has always given a great advantage to its user. Those states that reject it are deemed 'backwards' and 'non-modern', with an assumption that they will soon fade from the historical scene. However, this is not always the case.

The Safavids, while admittedly affected by a cultural bias against firearms, made but limited use of firearms for reasons both deliberate and geographically determined. Before 1514, an all-out cavalry charge was a supremely successful method of warfare for the Safavids, who had followed their charismatic and inspiring leader to the paramount position in Persia; that this style would not work against the Ottoman artillery-based army was a lesson struck firmly home by the debacle at Chaldiran. Thus, Shah Tahmasp adopted his scorched-earth policy to target the most fragile part of the Ottoman military machine, aiming for its logistical heart. Certainly, the economic and political weakness of the Safavid state had a role to play in such a tactic, but it was also tactically driven, and quite successful.

Of the three main 'branches' of gunpowder weapons, handheld firearms were difficult to use from horseback, which style of warfare made up by far the

majority of the Safavid army; field artillery was appallingly limited in its mobility, and thus anathema to both the prevailing style of warfare and also Tahmasp's policy; and siege artillery, though ostensibly filling an important hole in the Safavid arsenal, most likely suffered from its own immobility, the fact that a deliberate trend against walled cities was prevalent, and the previously mentioned bias.

The eastern war against the Uzbek tribes also had an inherent resistance to the adoption of firearms beyond the factors of the western front, as in this instance, the enemy was also fast-moving, and difficult to bring to battle. Thus, the same difficulties the Ottomans experienced against the Safavids on the western front were mirrored in the east, and would have been magnified were the Safavid army to have adopted a slow-moving, artillery-based force. Of course, contradicting Chase, there does exist in the primary sources a number of instances of firearm usage against the Uzbeks.¹⁹³ However, this can again be attributed to a deliberate policy of the insightful Tahmasp. Though firearms were of little use in chasing down and bringing the Uzbeks to bay, they did, in fact, prove quite useful as a defensive weapon. This can be seen in the Battle of Jam, and also in the numerous instances of garrisons being mentioned as firing their arquebuses against an attacking enemy. Thus, a small contingent of firearms was useful in preventing the Uzbeks from ever getting the upper hand, or pressing any advantage should the traditional Safavid force be tripped

¹⁹³ Chase, *Firearms*, 126.

up, or simply not present in great number, as was the common situation due to the two-front situation of the Safavid state.

It is therefore interesting to note that it was primarily an adaptive process that was functioning in Safavid Iran, rather than the same resistive process as was seen in Mamluk Egypt. Nor is it singly this strategic reason that created the Safavid bias against gunpowder weaponry, but, as is most often the case in historical questions, the accumulation of a number of factors that provides our answer.

In the sixteenth century, armies consisting of mounted cavalry had long been a potent force; they had experienced their greatest victory under Genghis Khan three hundred years earlier, and their moment had not yet come to a close. Ironically enough, the reorganization undertaken by Abbas the Great, signalling the arrival of the Safavids as a 'modern' state, also marked the beginning of its decline. And continuing in such an ironic vein, it was not to be displaced by a powerful nation, such as the Ottomans, or a colonial power, such as Britain and France with their extremely high-powered arsenals, but a primitive bunch of nomads. In fact, it would require the powerful flintlock rifle and other developments in gunpowder technology before the mounted warrior was forced into retirement from the world's military stage.

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