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Lamiaa Yaqup Senosy

Introduction

Importance of Fire Tricks during War

Fire is considered one of the primordial forces of nature(1). It is one of the most crucial elements of which man makes use in various aspects of life. It was used in peace as well as war during the Mamluk period(2). Ibn Mankalī presented patent evidence of the usage of fire during war, saying “It is essential for soldiers to know about zarrāqah(3), hurling if it is possible”(4). He also said “How grand the reward the zarrāqah artificer got! Lots of people invoke Allah for him. Ḏū al-Qarnayn did not conquer forts except by using fire. Most forts cannot be taken except by using fire. We seek refuge in Allah from fire”(5).

Fire tricks are one of the most important tricks that were used in the Mamluk wars. The Mamluk military manuscripts emphasize that the Mamluks utilized fire in their military tactics, saying, “The kings of old times did not engage in war except by stratagem. The Prophet, peace and blessings be upon him, said, “War is trickery”. This was the practice until the time of Halāwūn(6) when the people of Egypt used this trick and defeated the Tatars (Mongols). The Akādīš(7) dare not face fire and the horse will run away with its rider”(8). (pl.1) These vivid narratives speak for themselves; they need no further comment. In the wars of the Mamluks, fire tricks played a great role in frightening the enemy’s cavalry and horses so as to cause disorder in their ranks(9).
Fire Tricks in Mamluk Military Manuscripts

The Mamluk military manuscripts present detailed descriptions for one of the most famous tricks, which was known as “Fire Performances on Horses”. Performing this trick required precise preparations. The Mamluk horseman had to cover his costume as well as his horse’s cuirass with special non-flammable coating(10). The next step was to provide the costume and the cuirass with naft. The Mamluks were keen on being sure that the whole bodies of the horseman and his horse were totally covered before enkindling the naft. Thereby, they succeeded in having a flaming horseman mounting a flaming horse(11).

In the following lines, this research presents some of the different recitations of this trick. Al-Ṭarsūsī tackled it under the title “Using Fire on Horses”, saying “Take tağāffī(12) lined with felt. Cover horses with them after overlaying them with a fireproofing coat […] Stain these tağāffī well with this [coat] until they become wholly saturated. After that, use hanks(13) of oakum as bells and wet them with naft. Wrap them up with fine iron strings. Tie them to the forepart, the back, and around the rump of the horse; all these are put over the tağāffī, felt-lined attire, hessian mail, and pants. All these [clothing] should be thoroughly saturated in the aforementioned coat. Put oakum bells—similar to those bells of the horse’s tağāffī—around the arms and the back [of the horseman clothing]. Wear a helmet made of felt and overlaid with the coat over your head. Put some of these bells around the helmet and on its head. Mount the horse and be careful that none of its limbs come out. Ride it back and forth as this scares the enemy. If it is performed at night, it will be horribly terrifying”(14). (Fig. 1, pl. I)

Al-Aqsirāʾī described it as follows: “Utilizing a Sword, Leather Shield, and Fire”. He says, “If you want to do this, prepare fire equipment like felt, silk, iron, and suchlike. Make a kaffieh; one whose lower part is made of silk while its upper part is made of rusty iron in the form of šawārik(15), pierced, and sewn to the lower part. Then, put it [the kaffieh] on […] and keep the iron uncovered. Be ready with three pieces of felt; two of them are of the length and width of your finger and the third is the same as your hand size. Then, take ornithogalum and stain one side of the felt...
well. After that, sew oakum on the other sides till it becomes attached. Wet them well with white naft and sandarac. Prepare a bottle full of white naft. Order the boy [sic] to bring out all this equipment with him along with a lit candle or a murawbas(16) rope or suchlike. The boy should stand on the right-hand side. As for you, enter and start playing with the sword and the leather shield until you reach the nāward(17) entrance. Rotate the nāward until you reach the boy, who is at the right side. Take the three [pieces of] felt from him. Stick the circled one at the middle of the leather shield. Stick the one crosswise on the iron of the helmet and the other on the tip of the sword. At this time, it is more suitable to incline this felt to the candle rather than the others. Consequently, the oakum of the felt, which is wet with naft, is kindled. After that, let the tip [of the sword] touch the felt that is at the middle of your helmet and it will kindle. Then, let the tip touch the felt that is at the middle of the leather shield. Do this as if you are practising the strokes of the sword and the leather shield, which you are trained to do. Consequently, all of them [felt pieces] will become inflamed. Then, take the bottle of naft, fill your mouth with naft and work. Blow—out of your mouth—upon the tip of the sword and it will ignite. Blow upon the tip of the sword(18) and a grand fire will come out of its center. Pour the rest of the bottle upon your head. Great fire will break out of it. If the fire is extinguished […] move away from the procession lest anyone know your secret. If you are reluctant to put the naft in your mouth, be ready with some colophony(19). So, when you ignite the three pieces of felt, sprinkle colophony over them as this is safer for you […] You can follow this method if you do not know the tarābiṣ(20) and hate naft*. (21) (Fig. 2, pls. II–III)

Moreover, Ibn Mankaļ showed the possibility of using a sword, a flammable lance and a fire-flag in this trick, which he tackled under the title “Acting with Fire on Horses”, saying, “Make hessian tağāfi. Cover it with felt and overlay it well internally and externally with the coat. Make hanks of oakum and use them as bells. Then, wrap them up with mamṭūl(22) and tack them at the martingale [of the horse]. At the crupper around the rump [of the horse], tighten them with the mamṭūl and hang them like nooses. Then, wear felt-lined hessian mail and pants. Do not take your legs out of the pants. Overlay the mail and the pants


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well with the coat. Put on a similar burnoose too. After that, mount [the horse] and kindle the hanks. Use the lance or the flag that were described as aforementioned. Be aware that this terrifies the enemy at night. Moreover, if you want to use the sword, coat the mail, the burnoose, the thimble, and the forearm well as I told you before. Overlay the burnoose internally and externally, put oakum on it and interlace it with the mamṭūl. Then, light it and play as I explained for you. Whoever masters this work can develop a lot of wonderful and good arts out of it”(23). (Fig. 3, pls. IV/A, IV/B)

This trick is also mentioned in the Al-‘Adīm al-miṯl manuscript under the title “Playing with Naft on a Horse while Its Horseman is Lighting Fire” as follows: “Cut out a qarqal [body armor] and its burnoose from black balāṣ(24). Put in it a string wrapped with oakum, which is wet with...
naft or linseed oil. Equip the head and the end of your lance with darkāwiyyah\(^{(25)}\) firecrackers\(^{(26)}\). Wrap them up with ḥismāniyyah\(^{(27)}\) felt. Put firecrackers at the legs and body of the horse. The horse should have a birkistiwān [horse-armor] of balās with the mentioned naft bells. You should be preceded with two infantrymen having two sprinkling maces filled with colophony and wrapped with firecrackers and felt. They should put on turunḏah\(^{(28)}\) ḥismāniyyah on their heads. So, if you want the horses to escape, take ten men wearing clothes like you, put in front of everyone two infantrymen and attack the troops. No horse dares to stand before you. Kings did so\(^{(29)}\). (Fig. 4, pl. V)

Furthermore, Al-Maḫzūn ģāmiʿ al-funūn manuscript explained this trick, saying “Explaining How to Act with Fire on Horses: Make the qarqal, helmet, and birkistiwān out of black felt lined with taḡāfīf. Let part of the birkistiwān [of the horse]—which is in the form of pants—down its thigh after being overlaid with anti-fire coating […] Mix it well with taḡāfīf. Then, make hanks of oakum amounting to bells. Wet them with naft, wrap them up with the fine iron string and put them in the birkistiwān line-by-line until it is totally covered. Put all these [bells] on the taḡāfīf after being dyed black. You should wear qarqal made of hair balās with a hood and loose sleeves. Its [the horse] limbs and hooves should be dried by the way shown before so as not to get burned. Make dried trousers—with legs—so as to protect its legs from fire. Dry its [the horse] body. Put bells in the qarqal all over the head and the body as done before with the birkistiwān. Equip the two heads of your lance. The boys should be ready with water mixed with vinegar as well as kerchiefs wet with it [this mixture] in order to put it [the fire] out. So, he can put it out by using kerchiefs if he wants. If ten of these horsemen attacked one hundred horsemen or more, they will escape as horses do not approach and cannot bear this. This is a great secret […] \(^{(30)}\). (pls. VI/A–VI/B)
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Fire Trick Artificers

The artificers of fire tricks are those responsible for nafṭ known as: zarrāqūn, naffāṭūn, nafṭiyyah, and bārūdiyyah. In this regard, Ibn Miniklī said “Concerning Zarrāqūn: Zarrāqah, hurling is an honorable science and humorous joy. The thrower is delighted with its light in peace and is triumphed with its sparks in war.” Although the Mamluk historical sources present the zarrāq as the one responsible for naff, many researchers defined him as the one who hurls nafṭ by using zarrāqah, hurling tube. In fact, it is a correct but not an accurate definition as it limits his tools only to the hurling tube (pls. I–VI).

Tools of Fire Tricks

The Mamluks employed various armories in performing fire tricks during their wars. The following lines elucidate some of the arms and armor that were used in these tricks.

Sayf (Sword)

The sword was considered to be the master of cold steel weapons as it was the noblest and the most honorable one. Prophet Muhammad (peace and blessings be upon him) said “Know that Paradise is under the shades of swords.” This bears witness to the dignity of the Islamic sword.

The Mamluks used the sword in war and peace. Therefore, they were so keen on learning its arts. In this concern, the Mamluk military manuscripts played a significant role in clarifying the training methods for both infantry and cavalry as it was a necessity for the Mamluks to know how to fence with it, whether on foot or on horse. These manuscripts also elucidate the various arts of using swords in seriousness and amusement.

The most important question in this context is “How did the Mamluks use the sword in fire tricks?” They mastered converting a normal sword into a fiery one by fixing a piece of oakum wet with naff on the tip of the sword and kindling it. They used these fiery swords to demonstrate the various arts they innovated in sword play. (Fig. 2, pls. II–III)
**Rumḥ (Lance)**

Prophet Muhammad (peace and blessings be upon him) said “Whoever carries a lance intending to Fight with it in the cause of Allah, then Allah will save him from the punishment due for his sins on Judgment Day”⁴⁵. The lance had a great significance for Muslims in general and the Mamluks in particular⁴⁶.

It is worth noting that the Mamluks used the lance in peace and war⁴⁷. Mastering its use was an indispensible demand for every Mamluk⁴⁸. Moreover, the prowess in using it represented the zenith of furūsiyyah⁴⁹. The Mamluk military manuscripts expatiate in mentioning the training ways of its usage for both the infantryman and horseman. These manuscripts also clarify the various techniques of using the lance either in seriousness or amusement⁵⁰. In this context, Al-Ḥasan Ibn ʻAbdullah said “[...] Playing with it [lance] in hippodromes and before sultans differs from its use in war⁵¹[...]”.

The Mamluk military manuscripts mention many techniques of flammable lances. These techniques are entitled tarsīm al-rimāḥ. In other words, it is the equipping of lances with fire pieces in order to become flammable⁵². For instance, Ibn Mankalī entitled one of his techniques “A Technique for a Lance, which Throws Fire More than 20 Cubits Forward”⁵³.

As for the usage of lances in fire tricks, Mamluk military manuscripts present clear evidence that flammable lances played an important role during fire performances on horses as aforementioned. (pls. I, IV/A, V, VI/A)

**ʻAlam (Flag)**

The Mamluks knew the flag, which is a banner that is tied to a lance⁵⁴. As for the fire flag, Ibn Mankalī explained the method of preparing such a flag involving cutting a piece of raw leather in the form of a flag, fixing it on a lance, covering it with a special coat, then fixing the oakum in order to be kindled. In this context, he said “[...] Wet it [the flag] with naff, sprinkle sulfur on it and set it afire [...].” It is worth noting that Ibn Mankalī also cited evidence of using flammable flags in both war and peace by entitling his technique “The Flag, the Lance and al-taǧāfīf to Play with”. Moreover, fire flags were used during fire performances on horses as mentioned before⁵⁵.

**Dabbū (Mace)**

A mace is a club that consists of a shaft featuring a head that has different forms⁵⁶. The great importance of the mace in the Mamluk period⁵⁷ led to excelling its manufacture⁵⁸. It is worth mentioning that the Mamluk military manuscripts are replete with the description of the properties of good maces⁵⁹.

The Mamluks were keen on using maces in war and in peace⁶⁰. Manuscripts explain the training ways of using the mace for both the infantry and the cavalry, and discuss the various arts of its usage in either seriousness and amusement⁶¹.

It is worth noting that these manuscripts present many techniques for tarsīm al-dabbūs, which means equipping the mace with flammable pieces⁶². In this respect, the author of al-ʻAdīm al-miṯl manuscript inscribed “A Technique for a Mace that Sets a Green Tree Afire and Cannot Be Extinguished Except by Using Vinegar”⁶³.

In this concern, Al-Rammāḥ proved that flammable maces were used during war. This is shown in the technique of dabbūs raš⁶⁴; sprinkling mace. He said “[...] Set fire to the mace and attack your enemy by sprinkling. Evade wind to be safe from sparks”⁶⁵. Moreover, the Al-Maḥzūn manuscript in St. Peterburg⁶⁶ tackles a fire trick in which maces were used: “[...] Before them, there were chosen men having dabābīs al-raš, sprinkling maces, iệuviarΗ, firecrackers, and madāfī’, cannons, marching in front of the army”⁶⁷. (pls. I, IV/A, IV/B, V, VI/B)

**Dirʿ (Armour)**

The Mamluks used various sorts of armor in fire tricks. They not only equipped their arms—swords, lances, maces, and suchlike—with fire but their armor as well. These armories that were used in fire tricks are tackled hereinafter.

1. **Ḥawzah (Helmet)**

The helmet is a hard protective covering for the head that is usually made up of iron and lined with substances that absorb and disperse hits. The various types of Mamluk helmets that are conserved in several museums are concrete evidence on the skillfulness and proficiency in manufacturing and decorating helmets⁶⁸.
The Mamluk military manuscripts clarify that flammable helmets were made out of different materials such as felt or iron lined with silk. It is worth noting that the Mamluks succeeded in converting the ordinary helmet to a flammable one through fixing pieces of oakum wet with nafṭ and setting them afire.

Flammable helmets were used in war and peace during that period. The Mamluk military manuscripts elucidate the usage of these helmets during fire performances on horses as aforementioned. (pls. I–V)

2. Dir' al-Ğasad (Body Armor)

The Mamluks used body armor to protect the infantry, cavalry, as well as horses. They perfected the making of hard armor unaffected by any weapon.

The Mamluk military manuscripts show that flammable armor was made out of different materials such as canvas, felt, or balās.

The Mamluks used different types of flammable body armor in seriousness and amusement. The question that poses itself is: How did they obtain flammable body armor? The Mamluk military manuscripts answer this question by tackling fire performances on horses. Simply, the costumes of the infantryman and the horseman as well as the armor of the horse were provided with nafṭ. It is worth mentioning that before the fire performances this armor was covered with a special anti-fire coat in order not to be kindled (pls. I, V).

It is worth noting that the Mamluks excelled in making flammable armor to the extent that they used gunpowder in this art. In this context, the author of al-'Adīm al-miṯl said “[…] Then, turn to the horse’s armor: Make a birkistiwān of hair covering its rump, thorax, neck up till the hock. Make an iron chamfron. Clothe it with all that was mentioned and use lots of firecrackers in the armor […]”.

3. Turs (Buckler)

The buckler is a plate made out of wood, leather, or iron that soldiers used to protect themselves against different weaponry. The Mamluks knew different types of bucklers such as rectangular, circular, domed, and flat. They were proficient in making very strong bucklers unaffected by any kind of arms.

The author of Al-Ĝihād wa-l-Furāsiyyah manuscript noted neither the wooden nor the leather bucklers were used for fire; but the iron buckler, saying “[…] The question is: When is the iron buckler considered beneficial? The answer is: When confronting the fire iron sprinkler […]”.

The Mamluk military manuscripts mention various techniques of flammable bucklers. For instance, Al-Rammāḥ clarified the way of providing a buckler with fire under the title “A Technique for Equipping a Military Buckler”. In this regard, Ibn Mankalī cited that the army ought to have special tools filled with fire under their iron bucklers.

As for bucklers and fire tricks, it is worth mentioning that the Nihāyat al-su’l manuscript along with its illustrations confirm the usage of the flammable buckler in the fire performances on horses. The Mamluks rendered the buckler fiery by fixing a piece of felt wet with nafṭ to it. Thus, this manuscript presents patent evidence of using fiery bucklers in fire performances during the Mamluk period. (pls. II–III)

Hence, the Mamluk military manuscripts presented patent evidence that the Mamluks made use of various arms in fire tricks such as swords, lances, flags, and maces, as well as armor such as helmets, body armor, and bucklers in their wars. The Mamluk success in converting their arms and armor to fiery ones cannot be discarded. The manuscripts’ illustrations make perfectly evident that fire tricks artificers did use these various tools in performing their tricks. (pls. I-VI)

In addition, Mamluk historical sources mention some tools used by fire trick artificers in the following quotation: “Zarrāqūn threw nafṭ containers […] Arrows and lances were equipped with nafṭ and distributed to zarrāqūn […]”.

Costumes of Fire Tricks

Regarding the costumes of fire trick artificers, they were fireproof to suit the nature of their work. They had nothing special, but were coated with a non-flammable substance that protected them from fire.
The Mamluk military manuscripts involve many techniqués of fireproofing coats. For instance, Al-Ṭarsūsī mentioned various types of these techniqués, entitling one of them as “A Techinque of another Coat Protecting Whoever so Anointed from Being Harmed by Fire”(86).

Ḥasan al-Rammāḥ enumerated many of them. He said in one of these techniqués “A techinque about tarbīṣāt […] Coat your body and clothes, or any clothes you want. If a hundred [fire] pieces are broken on it [this coat], it does not catch fire as it is thoroughly well [protected]”(87). In another technique, he said “A techinque of a coat for bodies, arms, ships, and horses […] which protects them from catching fire […] Coat anything you like with it. It is very well-examined in hindering fire […] If you even coat wood and throw it into fire, it will not burn. Use it in coating whatever you need and fire will not affect it”(88). He also entitled some techinques “Preventing Fire from Burning” and said in one of them, “Stain whatever you want with it, leave it to dry and toss it into fire; it will not be burnt”(89).

Furthermore, Ibn Mankalī mentioned some of these techinques(90) and said in one of them: “A Coat for a Non-flammable Cloth: Coat material with it, let a man wrap himself in it and set it afire. It will inflame but the man will not feel its hotness […] Coat a cloth inwardly or outwardly, dry it then let a man wrap himself in it. After that, cook naft with sulfur and goat fat […] then sprinkle it on the cloth outwardly, then inflame it. The fire will keep lighting while you keep sprinkling naft over it every now and then throughout a whole day. The inside part of the cloth will not catch anything. If a man does so, he should protect his face from the flames of fire”(91).

The coat is also described in the Maḫzūn manuscripts as follows: “The Techinque of taḡāǰīf Serving as a Lining of qarqal and birkistiwān: Take felt and provide it with taḡāǰīf, which will be a lining for the qarqal and the birkistiwān. These taḡāǰīf are vinegar of wine, ochre, mica solution, fish glue, and sandarac. The qarqal, which is balās, is wet well before sewing the bells. The lining, which is the dried felt that is put over the balās, is wet […]”(92).

These coats provided shelter from fire in war(93). In this regard, it is worth mentioning that they were the hidden secret that fire tricks artificers used in most of their tricks. They succeeded by using these coats in attaining a blazing horseman on a blazing horse(94).

The descriptions of the costumes of the fire trick artificers, as well as the horses’ birkistiwānāt mentioned in the Mamluk military manuscripts, show that they were usually covered with fireproofing coats and provided with naft. They were demonstrated precisely in the magnificent illustrations of these manuscripts (pls. I, V). To sum up, these manuscripts ensured that these costumes and birkistiwānāt played a great role in carrying out various naft arts especially the trick of “Fire Performances on Horses”(95) as shown before.

Training Horses on Fire Tricks

In this respect, it is worth mentioning that horsemanship(96) was the pivot round of which the whole way of life of the Mamluk upper class revolved on and derived its courtly pride and feeling of superiority. Horsemanship was considered a prerequisite for the Mamluk, without which life was dull and meaningless. The Mamluk’s close tie with his horse was not only forged in the military schools of the capital; it had much deeper roots. It began in early childhood while he was still amid the steppes of wild mountains of his country of origin, where the horseman was the backbone of society(97).

The horse had great value for the Mamluk horseman. It played an indispensable role in his life in seriousness and amusement(98). Concerning fire tricks, Al-Aqṣirāʾī proved that there were infantry and horsemen among naft artificers, saying “[…] The third [line] are unarmed, who are […] zarrāḍūn and naffāṭūn. These three lines are infantry. The fourth line is composed of horsemen who are armed with lances; and some of them are zarrāḍūn […]”(99). Furthermore, the illustrations of the Mamluk military manuscripts confirm this through portraying naft artificers as being cavalrmen and infantrymen(100) (pls. I- VI).

Nafṭ artificers should necessarily have well-trained horses. Ibn Mankalī clarified that, saying “The well-trained horse […] should have the ability to be steady at hearing screams of cannons and at seeing hurled fire […] and nufsūṭ”(101).
Hence, the Mamluks paid great attention to breeding and training horses on the different arts of naft. Al-Aqsirā’ī highlighted the importance of such trainings, saying “Train [horses] on such things […] Make firecrackers and dahāšāt and suchlike for them [horses] so as to get them used to such things before experiencing them”. In this regard, the Al-Maḫzūn ģāmi‘ al-funūn manuscript said “He [the horseman] should train the horse before performing any of the naft arts in order not to bolt and hinder him [the horseman]. If he [the horseman] did not train it [the horse], it would refrain and never approach […] If the rider is not a horseman, it will fling him. Hence, he should sit steady on the horse and train it well […]”.

The Mamluk military manuscripts present the way of these trainings in detail as follows: “[…] Horses should get accustomed to all this attire, or else they will refrain and throw their horsemen. How to train the horse: Plug its ears well with cotton. Make darkāwiyyah firecrackers along with bells, maces, and lances. Crack a small cannon and firecrackers before the horse. Get the plug out of the horse’s ears successively […] Thereby; the horse gets familiar and habituated to this.”

It is worth mentioning that these trainings were carried out in secrecy as stated in the coming quotation: “[…] The horses […] should not be trained except in the desert in order not to be seen by anybody […] The horses should not be attired except in a retreat so that no one would see them.”

The Mamluk military manuscripts clarify that the Mamluks mastered training horses in naft arts while some coeval countries were not even aware of this art; thus, their horses bolted at seeing fire and at hearing cannons and firecrackers, unlike the Mamluks’ trained horses. In this respect, Ibn Mankalī said “If fire is extinguished […] go far away from the procession lest anyone know your secret […]”. Moreover, the Al-Maḫzūn ģāmi‘ al-funūn manuscript confirmed this, saying “[…] If ten of these horsemen attacked one hundred horsemen or more, they will escape as horses do not approach and cannot bear this. This is a great secret […]”. In addition, the Al-Maḫzūn li-arbāb al-funūn manuscript asserted that, saying “[…] That is the way of frightening Allah’s enemy especially at night […] This is a magnificent secret […]”.

Unfortunately, the secret did not last long. For instance, the Mamluk Prince Qarā Sunqur rebelled against Sultan al-Nāṣir Muḥammad Ibn Qalāwūn and sought protection from Ḥadābandāh, the King of the Tatars in 711 AH/1311 CE. The rebellious prince taught the Tatar troops all about war equipment and naft arts. In this regard, Ibn Aybak al-Dawādārī said, “The Egyptian princes informed him [Ḥadābandāh] about all the war equipment that Halāwūn’s dynasty would had never known before […]”. Elsewhere, he added that “[…] Qarā Sunqur also put five hundred zarrāq at the vanguard of King Ḥadābandāh’s army after teaching them how to play with naft and its equipment […]”.

Therefore, the Mamluks took enormous care of training horses during naft arts so as not to bolt during such tricks. The significance and necessity of such training during the Mamluk period thus becomes patent.

Secrecy of Fire Tricks

The Mamluk military manuscripts confirmed that fire tricks were considered to be a profound secret. The Mamluks had to maintain the science of zarrāqah, hurling in a shroud of secrecy. Concerning this matter, Ibn Mankalī said “The zarrāqah industry should not be revealed to those lacking trusty religion and good manners. Kings in the past were disapproving those who divulge it to anyone other than kings and those chosen to be taught it [...]”. In this respect, Al-Aqsirā’ī assured that these tricks, which were performed during fire performances on horses, were kept secret. He said “[…] If fire is extinguished […] go far away from the procession lest anyone know your secret […]”. Moreover, the Al-Maḫzūn ģāmi‘ al-funūn manuscript confirmed this, saying “[…] If fire is extinguished […]”. If ten of these horsemen attacked one hundred horsemen or more, they will escape as horses do not approach and cannot bear this. This is a great secret […]”. In addition, the Al-Maḫzūn li-arbāb al-funūn manuscript asserted that, saying, “[…] That is the way of frightening Allah’s enemy especially at night […] This is a magnificent secret […]”.

Unfortunately, the secret did not last long. For instance, the Mamluk Prince Qarā Sunqur rebelled against Sultan al-Nāṣir Muḥammad Ibn Qalāwūn and sought protection from Ḥadābandāh, the King of the Tatars in 711 AH/1311 CE. The rebellious prince taught the Tatar troops all about war equipment and naft arts. In this regard, Ibn Aybak al-Dawādārī said, “The Egyptian princes informed him [Ḥadābandāh] about all the war equipment that Halāwūn’s dynasty would had never known before […]”. Elsewhere, he added that “[…] Qarā Sunqur also put five hundred zarrāq at the vanguard of King Ḥadābandāh’s army after teaching them how to play with naft and its equipment […]”.

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In this respect, Al-Maqrīzī said “[…] One of the Circassian Mamluks, who was zardakāš in Egypt, came to him [the King of Abyssinia] and stayed at his country. He made him a zaradhānah, which included different sorts of arms: swords, lances, body armor, and suchlike; their only weapon had been the bayonet. Moreover, a Mamluk amīr called al-Ṭanbuġā Mafraq(119), who was deputized on some regions in Upper Egypt, fled the country to him [the King of Abyssinia]. He had knowledge about the techniques of war equipment and the arts of horsemanship. He was honored by Al-Ḥaṭā. (120) He taught his soldiers [of the King of Abyssinia] to throw arrows, play with lances and fight with swords. He made naft for them as well. That is how they knew war industries […]”(121). Hence, it became obvious that the Mamluks conveyed naft art—which reached its zenith under their rule—to some other nations who had known nothing about it.

Fire Tricks in Mamluk Wars

The fact that Mamluk Sultans cared about this art can be derived from an important historical remark of Ibn ‘Abd al-Ẓāhir who said that in the reign of Sultan al-Ẓāhir Baybars (658 – 676 AH/1260 – 1277 CE): “Upon the Sultan’s orders, full equipment were made for princes, soldiers and their Mamluks […] A great number of ẓāhiriyyah Mamluks learnt how to play with fire on horses […] People embrace their king’s approach […]”(122).

The Mamluk military manuscripts affirm the use of fire tricks in 658 AH/1260 CE at the battle of ‘Ayn Ğālūt between the Mamluks and the Mongols(123). For example, the Al-ʻAdīm al-miṯl manuscript states “Kings of old ages used tricks in all their wars […] Egyptians used this trick in defeating the Tatars [Mongols]. The way to do this: […] Men furnished with sprinkled maces(124) are in front of them [cavalry]. These men should throw plentiful crackers by using cannons and march before the army”(125). (pl. I) The Al-Maḥzūn ǧāmiʻ al-funūn manuscript states: “[…] The art or trick that conquered Halāwūn is the sprinkling mace that burns green trees followed by the cannon and al-sahm al-ḫaṭṭāʻ(127), the Chinese arrow […] This art is a royal one that kings who are knowledgeable about tricks and enemy deception do and store inside their treasuries until the time of usage”(128).

In addition, the Mamluk historical sources confirm that the Mamluks used fire tricks at the battle of Wādī Ḥazindār, which took place in 699 AH/1299 CE. Al-Maqrīzī presented a detailed account of this battle, saying “[…] They placed at the head of the army five hundred Mamluk zarāq […] While all this was going on, Gāzān remained in his place and did not move. He ordered all his troops not to move until he himself would attack; only then should all of them move as one man. Then the Muslim army started into motion and the zarāqūn kindled the naft and attacked Gāzān; but he still did not move. They believed that the moment they moved, Gāzān would move, too in order to meet them. Thus the horses of the Mamluks by-passed the enemy by the force of their gallop; after having covered along distance they slowed down their pace, and the fire of the naft was extinguished. At that moment Gāzān attacked with all his men as one body.”(129). Al-ʻAynī also gave a vivid narrative about this battle. He said “[…] The zarāqūn kindled the naft […] The zarāqūn’s naft, at the head of the army, was extinguished […] The Muslim army proceeded a long distance to meet the enemy, who remained in their place and did not move. Consequently, the burūd went out […]”(130)

It is worth noting in this connection that Ayalon did not accept that it was naft(131), which decided the battle of ‘Ayn Ğālūt. He justified his premises, saying “[…] This testimony is not hard to refute […] Numerous Mamluk sources give the account of the battle, some of them in great detail; yet none of them so much as mentions the use of naft. Decisive weapons are by no means overlooked in those sources, and where naft did play a leading part, they neither ignored it nor minimized its importance. Why, then, the unanimous conspiracy of silence in this particular case?”(132).
Furthermore, he went beyond that, saying “In reality throughout their history the Mamluks employed nafṭ on the battlefield only once, and even that single experiment ended in total failure. This was at the battle of Wādī al-khāzindār between Sultan an-Nāṣir Muḥammad b. Qalāūn and Ilkhān Ghāzān (699 AH/1299 CE) […] The Mamluks learnt their lesson, and naphtha as a weapon in the open field was abandoned forever […]”(133). In other words, he believed that nafṭ was not the reason for the Mamluks’ victory over the Mongols at ‘Ayn Ğālūt battle, and that it was only used once on the battlefield of Wādī Ḫazīndār. However, Ayalon’s point of view cannot be a sufficient reason for omitting or refuting what is mentioned in the Mamluk military manuscripts and the Mamluk historical sources(134).

To sum up, the Mamluks mastered prominent fire tricks to the extent that they attained a flaming horseman mounting a flaming horse. The purpose of these fabulous tricks during wars was frightening and deceiving the enemy’s cavalry and horses so as to cause disorder amongst them.

The fire trick artificers were skillful in rendering their arms and armor into flammable equipment so as to make use of them in the fire tricks. These tricks of course require special costumes covered with fireproof coats so as to protect those artificers as well as their horses, from fire. The Mamluk military manuscripts are replete with various techniques of those fire-proofing coats.

These tricks were strongly correlated with horsemanship, which was considered a cornerstone in the Mamluk society. Therefore, Mamluks paid great attention to training horses in nafṭ arts so as not to bolt during such tricks. The Mamluk military manuscripts present the way of such training in detail.

It is worth noting that the art of fire tricks was considered to be a sublime mystery. The Mamluks were keen on maintaining these tricks in a shroud of secrecy. Unfortunately, the secret did not last long as this art, which reached its zenith during the Mamluk period, was conveyed to other nations who had known nothing about it.
Endnotes

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(11) Hānī Faḫrī, Al-Nizām al-asari fī dawlat al-mamlāk (Master’s thesis, Gaza University, Faculty of Arts, History Department, 2007): 139.

(12) Taqāfī is the plural noun of tiqāf. In this context, it is a synonym of bikristuwwān, which refers to the horse’s armor. About it, see Al-Rammāḥ, Al-Fi ḡr, 1973): 200; ‘Abd al-Raḥmān Zakī, Aḥmad ʻAbd al-Rāziq, Al-ʻUbaydī, “Al-Silāḥ al-ʻarabī  wa dawruhu fi-l-ḥarb”, vol. 2 (PhD diss., Cairo University, Faculty of Arts, History Department, 1974): 36.

(13) Claude Cahen misunderstood in reading the word kubab, hans, is the correct word, see Cahen, “Un traité d’armurerie”.

(14) Al-Țarsūsī wrote down the technique of this coat that hinders it from being formed by fire, see Murḍī Ibn ‘Aṣūr. ‘Abd al-Raḥmān Zakī, Aḥmad ʻAbd al-Rāziq, Al-ʻUbaydī, “Al-Silāḥ al-ʻarabī  wa dawruhu fi-l-ḥarb”, vol. 2 (PhD diss., Cairo University, Faculty of Arts, History Department, 1974): 36.

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(15) Ṣawārik is the plural form of ṣawrak. It looks like a pointed-head lance. Its bottom is broad while its top is very much pointed, see Nabīl ‘Abd al-‘Azīz, Nihāyat al-su’l wa-l-umniyyah fī ta’allum a’māl al-furūsiyyah (Baghdad: Dār al-Šu‘ūn al-Taṣāqqiyah al-‘Āmmah 1986): 150-151; Muṣṭafā, Al-Ǧāmiʿ li-l-ḥurūb wa fatḥ al-islām, pt. 2: 36.


(17) Nāward is a sort of military movement, see Ibid., vol. 2: 632.

(18) This sentence, “Blow upon the tip of the sword”, is probably an error that occurred during copying for two reasons. First, this was written before in the previous sentence. Second, logically fire goes out from the middle of the leather shield not from the sword. Thus, it should be “Blow upon the leather shield” according to the context.


(20) Tarabs or tarafshāt are plural nouns, which mean fire-proofing coats. About them, see Al-Rammāḥ, Al-Furūsiyyah: ma’a muqaddimah tārīḫiyyah ‘an niẓām al-furūsiyyah fī ‘aṣr salāṭīn al-mamālīk (France (Manuscript no.: Arab 2824): fl. 146; online digitized manuscript, https://gallica.bnf.fr/ark:/12148/bsb10442958).


(24) Balās is a piece of cloth made of thick hair, see Arabic Language Institute, Al-Muṣṭafā Muḥammad Al-Ḫarrāṭ, The Memory of Arabs, vol. 1: 500.


(28) About turūngha, see Ibid.: 146.


(31) About zarraqūn, see Ibid., vol. 2: 588.


Dābbās Ra’s refers to sprinkling fire from inside this mace, see Al-Rammāḥ, Al-Furūṣiyah: 165; Dozy, Supplément aux dictionnaires arabes, vol. 1: 529.

Al-Rammāḥ, Al-Furūṣiyah: 98.


The mace had a significant role in guarding the Mamluk sultan as it was carried by al-ğumqādār Mamluk sultan as it was carried by, the mace holder, during official processions, see ‘Abd al-Rāziq, traité d’armurerie": 117-118; “Al-‘adīm al-miṯl": fol. 94r-94v; ‘Abd al-Rāziq, Al-Ḥadārah al-islāmiyyah: 194; ‘Abd al-Rāziq, Al-Ḡayš al-miṣrī: 139.


Mamluks knew three distinguished types of body armor: zarad, ḡawšan, and qarqal. First, zarad is a chain mail formed of interwoven metal rings joined together. Second, ḡawšan is a chainmail hardened by melting metal plates. Third, qarqal is composed of iron plates that were joined together and covered with silk. About body armors, see Cahen, “Un traité d’armurerie”: 116; Al-Nūwayrī, Nihāyat al-arab, vol. 6: 241-245; Ibn Faḍl Allah Al-‘Umarī, Al-Ta‘rīf: 302; Ibn Mankalī, “Al-Tadbīrāt al-sulṭāniyyah”: 362, 365; Ibn Huzayl, Mamluk sultan as it was carried by, the mace holder, during official processions, see ‘Abd al-Rāziq, traité d’armurerie": 117-118; “Al-‘adīm al-miṯl": fol. 94r-94v; ‘Abd al-Rāziq, Al-Ḥadārah al-islāmiyyah: 194; ‘Abd al-Rāziq, Al-Ḡayš al-miṣrī: 139.

(71) Mamluks made garsal, which is unaffected by weapons, see "Al-'adīm al-miṭl": fol. 94r; Ibn Ḥazzām, Kitāb al-maḥzūn: fol. 43v; Kitāb al-maḥzūn li-arbāb al-funūn: fols. 100r-101v.

(72) See for example: "Al-'adīm al-miṭl": fol. 67v.


(76) About these bucklers, see "Al-'adīm al-miṭl": fol. 94r; Kitāb al-maḥzūn li-arbāb al-funūn: fols. 100v–101r.


(78) Al-Rammāḥ, Al-Furūsīyyah: 83-84.


(85) Maşşūr and Al-Waqqaq, Al-Nafṭ: 10-11, 58.


(87) Al-Rammāḥ, Al-Furūsīyyah: 121-122.

(88) Ibid.: 128.

(89) Ibid.: 147-149.

(90) Ibn Mankālī, Al-Ḥiyal: 134-135, 147, 184-185, 187-188.


(92) Ibn Ḥazzām, Kitāb al-maḥzūn: fol. 81r; Kitāb al-maḥzūn li-arbāb al-funūn: fols. 102r-103r.

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of a shaft featuring that the term “

Qawmiyyah, 2006): 349.


Ibid.: 279.

Ibid.: 273.


“Aḥ-ʿadim al-miṯl”: fols. 70v-71r; Al-Ḥasan, Studies in Al-Kimya’: 269-270; Al-Ḥasan, “Gunpowder Composition”: 15-16.


Ḫaṭṭāʾī is a relative adjective that is attributed to Ḥitā which is a region near China, see Al-Rammāḥ, Al-Furūsiyyah: 164; Al-Qalqašandi, Šubḥ al-ʿaʾās, vol. 4: 483-484; Dozy, Supplément aux dictionnaires arabes, vol. 1: 381.

Kitāb al-maḥzūn li-arbāb al-funūn: fol. 102v; Al-Rammāḥ, Al-Furūsiyyah: 45-46.


After a long, vigorous defence that the term “naff” may denote gunpowder, Aybak himself contradicted this idea thinking that naff, in “Ayn Ġālāt, denotes naphtha, see Aybak, Gunpowder and Firearms: 9-30.

Ibid.: 13-14.


Ibid.: 13-14.

