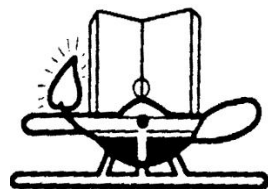




'Ain Shams University



Faculty of Arts
Tourism Guidance
Department

Fireworks during the Mamlūk Sultanate in Egypt

(648 – 923 A.H / 1250 – 1517 A.D)

Thesis Submitted for the Degree of the M.A

Prepared by

Lamyā' Ya'qūp Sinūsī

Under the Supervision of

Professor Dr.

Aḥmad 'Abd al-Rāziq

Aḥmad

Professor of Islamic
Archaeology

Professor Dr.

Maḥāsin Muḥammad

al-Waqqād

Professor of Islamic
History

Cairo

1438 / 2017

Table of Contents

Acknowledgment	I
Note on Transliteration	III
List of Abbreviations	IV
Preface	V - XI
Introduction	1
Fire in Seriousness and Amusement	1
Debate about Gunpowder	4
History of Gunpowder in Islamic Civilization	7
I -Potassium Nitrate in Arabic Sources	7
II - Uses of Potassium Nitrate	10
III-Gunpowder Terms	10
Dating Gunpowder in Islamic Civilization	24
Usage of Cannons in the Islamic Civilization	26
First Chapter: Celebrations and Occasions	
Witnessing Fireworks in accordance with the	
Mamlūk Historical Sources	34
Fireworks as a Celebratory Manifestation	35
I - Religious Festivals	35
II - National Ceremonies	55
III -River Celebrations	76
IV -Family Celebrations	84
Fireworks in Entertainment	92
I – Outings	92
II - Acrobatics	100
Fireworks in Power Show-Off	102
I – Processions	102
II - Guarding Ports	106

III – Delegates	107
IV - Bedouin Tribes	113
Risks of Fireworks	115
Second Chapter : Types of Fireworks	118
First Type: <i>Naft</i> Ignitions	118
Second Type: Fire Performances	169
Third Type: Fire Tricks	177
I-Tricky Fires	177
II -Inflaming Tricks	180
III -Lighting Tricks	184
IV -Heat Tricks	188
V -Illusive Tricks	190
Third Chapter:Tools of Fireworks	193
<i>Manḡanīq</i> , Mangonel	193
<i>Mukḥulah</i> , Cannon	199
<i>Zarrāqah</i> , Hurling Tube	220
<i>Inā' al-Naft</i> , <i>Naft</i> Container	224
<i>Timṭāl Nārī</i> , Fireable Statue	231
<i>Šaḡarat al-Nār</i> , Fire Tree	233
<i>Burḡ al-Naft</i> , <i>Naft</i> Tower	233
<i>Sayf</i> , Sword	234
<i>Rumḥ</i> , Lance	238
<i>'Alam</i> , Flag	241
<i>Dabbūs</i> , Mace	242
<i>Qaws wa Sahm</i> , Bow and Arrow	244
I -Qaws al-Bayḍah , Egg Bow	247
II -Qaws al-Bunduq , Pellet Bow	248
III -Sahm Haṭṭā'ī , Chinese Arrow	249
<i>Dir'</i> , Armour	250
I -Hawzah , Helmet	250

II -<i>Dir' al-Ġasad</i>, Body Armour -----	251
III -<i>Turs</i>, Buckler -----	253
Fourth Chapter: Fireworks' Artificers -----	256
Identity of Fireworks Artificers -----	256
Tasks of Fireworks Artificers -----	259
Costumes of Fireworks Artificers -----	261
Tools of Fireworks Artificers -----	264
Fireworks Artificers on Land and at Sea -----	265
Role of Fireworks Artificers in War and Peace -----	269
Fireworks Artificers and Celebrations -----	269
Work Risks of Fireworks Artificers -----	274
Shielding Fireworks Artificers from Fire -----	275
Social Status of Fireworks Artificers -----	275
I – Mamlūks -----	276
II – Sons of the Mamlūks -----	282
III - Black Slaves -----	284
III -Non-Mamlūks -----	289
Salaries of Fireworks Artificers -----	289
Subordination of Fireworks Artificers -----	293
Conveying <i>Naft</i> Art for the Other Countries -----	295
Conclusion -----	297
List of Figures -----	303
List of Plates -----	306
Appendix -----	315
Bibliography -----	394
Summary -----	434
Arabic Summary -----	438

Acknowledgment

I would like to extend my deepest appreciation, utmost respect and tremendous honour to my role model **Professor Dr. Aḥmad ‘Abd al-Rāziq Aḥmad**. I am eternally grateful to him for his bright and patient guidance. This dissertation is inspired by his precious wealth of knowledge and experience. My task would have never been accomplished without his professional instructions and advice. It is an honour to be one of his students who follow his creative footprints.

I would like to express my deep gratitude to my supervisor **Professor Dr. Maḥāsin Moḥammad al-Waqqād** whose encouragement, inspirational words, known kindness and wise guidance enhanced me a lot.

Words cannot describe my immense thanks and appreciation for **Professor Dr. Ḥusayn ‘Abd al-Raḥīm ‘Ilīwah** who afforded this long journey to enrich this dissertation with his profound experience. I would like also to express my extreme appreciation and sincere thanks for **Dr. Nādir Maḥmūd ‘Abd al-Dāyim** for virtuously and kindly accepting discussing this dissertation.

I am extremely grateful to **Professor Dr. Moḥammad Ibrāhīm, Dr. Amānī ‘Abd al-Raḥīm, Dr. Saḥar al-Qaṣrāwī, Dr. Raniā Usāmah, Dr. Nivīn Rātīb and Dr. Walīd Ṣalāḥ al-Dīn** who were encouraging and helping me all along. I greatly

appreciate the generous support and assistance of **Dr. ‘Abbās Zouache, Dr. Ḥusām Ṭanṭāwī, Dr. Aḥmad al-Šūkī, Mr. Muḥammad Ibrāhīm and Mr. Bišīr al-Damāṭī.**

I am also truly grateful to **Major Rāmī Anwar** the manager of the library of the Egyptian National Military Museum and the whole staff of Dominican Institute for Oriental Studies Library who patiently helped me during the course of my research.

I feel proud for having such dear colleagues and friends whose sincere advice helps me a lot in overcoming difficulties, especially: Rabāb Aḥmad, Yasmīn Ašraf, Šaymā’ Mus‘ad, Suhaylah Mušṭafā, Injī Adham, Marīnā Magdī, Rafīq Ramzī and Dalyā Sayyid. I really cannot repay the support Berlant Aḥmad, ‘Alyā’ al-Babāwī, Ālā’ Bikīr, Amīrah Aḥmad, Asmā’ Barakāt, Aḥmad Daḥrūġ and ‘Abd al-Ḥamīd ‘Abd al-Salām during the long course of this dissertation. I cannot find enough words to repay my beloved family especially my parents who really supported me during the journey of my research. This thesis is considered a testament to their favor, sacrifice, unconditional love and encouragement.

Note on the Transliteration

The system of transliteration of Arabic characters in the thesis follows as far as possible those used in both the second edition of the Encyclopaedia of Islam and the Annales Islamologiques. However, certain discrepancies in transliteration inevitably appear, particularly in the citation of secondary sources.

Consonants

ء	'	ز	z	ق	q
ب	b	س	s	ك	k
ت	t	ش	š	ل	l
ث	t̤	ص	ṣ	م	m
ج	ǧ	ض	ḍ	ن	n
ح	ḥ	ط	ṭ	هـ	h
خ	ḫ	ظ	ẓ	و	w
د	d	ع	‘	ي	y
ذ	ḏ	غ	ġ		
ر	r	ف	f		

Short vowels are transcribed as follows: *fathah* – a, *ḍammah* – u, *kasrah* – i. **Long vowels** are transcribed: ā – ا , ū – و , ī – ی . The *tā’ marbūṭah* as terminal is written as "ah" . The **definite article** in compound names is always given as "al " .

List of Abbreviations

AnISL: Annales Islamologiques, Institute français d'archéologie Orientale (Cairo)

AnISL suppl.: Suppléments aux Annales islamologiques. Institut français d'archéologie orientale (Cairo)

BACPSI: Bulletin of Ain Shams University Centre for Papyrological Studies and Inscriptions (Cairo)

BEO : Bulletin d'études orientales

BIE : Bulletin de l'Institut d'Égypte (Cairo)

BSRGE: Bulletin de la société royale de géographie de l'Égypte

IFAO : Institut français d'archéologie orientale

IJMH : International Journal of Maritime History

MEPS : The Mamlūks in Egyptian Politics and Society

MESPS : The Mamlūks in Egyptian and Syrian Politics and Society

MMS: The Mamlūk Military Society

MSR : Mamlūk Studies Review

NSI : Natural Science in Islam

SME : Studies on the Mamlūks of Egypt

WTSME : War, Technology and Society in the Middle East

PREFACE

Preface

There is a special kind of magic in "fireworks", that term which always has strong correlation with joy and excitement. "Fireworks during the Mamlūk sultanate in Egypt (648 – 923 A.H / 1250 – 1517 A.D)" is an interesting and rich topic that deserves to be discussed with studious care and attention. It connects the past to the present as humanity has been enjoying its thrilling displays for quite a long while. A question mark frequently hangs over the usage of fireworks during the Mamlūk period. Did the Mamlūks really know fireworks?! Answering this question needs further searching the historical roots of fireworks during this era.

Despite the key historical and civilizational significance of this subject, researchers did not tackle it with due attention. The topic of this study has not been tackled in a detailed study before. It is only mentioned in few researches; The most important of them is "*al-Naḥḥ istiḥdāmuhu wa taṭawwuruḥu 'inda al-muslimīn (64 – 923 A.H / 684 – 1517 A.D)*"¹ as its authors, Ṭāriq Maṣṣūr and Maḥāsīn al-Waqqād, specified a considerable part about the usage of *naḥḥ* in the celebrations and ceremonies which occurred in the Mamlūk period. The second part of "*al-Malā'ib fī 'aṣr salāṭīn al-mamālīk*"² for Nabīl 'Abd al-'Azīz is also a very appreciated reference as it presents a full discussion of playing with fire during this period. It also mentions many historical citations that are clearly evident in the usage of fireworks under the Mamlūk rule.

The importance of fireworks during Mamlūk period emerges the need for a specialized study. That was the reason behind the

¹ Ṭāriq Maṣṣūr and Maḥāsīn al-Waqqād, *al-Naḥḥ istiḥdāmuhu wa taṭawwuruḥu 'inda al-muslimīn (64 – 923 A.H / 684 – 1517 A.D)*, Cairo, 2006

² Nabīl 'Abd al-'Azīz, *al-Malā'ib fī 'aṣr salāṭīn al-mamālīk, ḥaṣl fursān al-ḥayl wa ba'd mā yunazzih nufūsum wa abdānuhum qabla yawm al-ḥaqā'iq*, Cairo, 2006, II.

researcher's selection of this topic to be her subject matter to get the Master Degree from Tourism Guidance Department of the Faculty of Arts at 'Aīn Shams University.

There have been several valuable studies that assisted this work. No study about fireworks can be made without a thorough use of the Mamlūk military manuscripts. They were indeed the foundation and the cornerstone of this thesis. They provided it with technical information such as the types and recipes of fireworks. The manuscript of Nağm al-Dīn Ḥasan al-Rammāḥ (died in 695 A.H / 1295 A.D), "*al-Furūsiyyah wa-l-manāṣib al-ḥarbiyyah*",¹ is the most prominent one. Anonymes "*Qīṭa' mubtada'ah*"² and "*Iyārāt al-naft al-muḥtāğ ilayhā fī-l-ḥurūb*"³ which are dated at 774 A.H / 1372 A.D as well as anonyme "*al-'Adīm al-maṭal al-rafi' al-qadr*"⁴ which is dated at 871 A.H / 1466 A.D were also useful for attaining some essential information about the various types of fireworks which are the main topic of the second chapter.

Dictionaries played a crucial role in elucidating the ambiguous terminology of fireworks. "*Al-Ğāmi' li-mufradāt al-adwiyah wa-l-ağḍiyah*"⁵ for Ibn al-Bīṭār (died in 646 A.H / 1248 A.D) is one of the most important dictionaries. Dāwūd Ibn 'Umar al-Anṭākī (died

¹ Ḥasan al-Rammāḥ, *al-Furūsiyyah wa-l-manāṣib al-ḥarbiyyah*, released by Aḥmad Yūsuf al-Ḥasan, Aleppo, 1998

² Anonyme, *Qīṭa' mubtada'ah li-irhāb al-'aduww*, manuscript no. 40 Military Techniques, Institute of Arab Manuscripts.

³ Anonyme, *Iyārāt al-naft al-muḥtāğ ilayhā fī-l-ḥurūb*, manuscript no. 28 *funūn ḥarbiyyah*, Institute of Arab Manuscripts.

⁴ Anonyme, *Mağmū' fī-l-furūsiyyah wa-l-ḥayl wa-l-ramy, al-'adīm al-maṭal al-rafi' al-qadr*, manuscript no. 47 Military Techniques, Institute of Arab Manuscripts

⁵ Ibn al-Bīṭār, *al-Ğāmi' li-mufradāt al-adwiyah wa-l-ağḍiyah*, I - IV, Baghdad, 1960.

in 1008 A.H / 1599 A.D) put a very precious dictionary entitled "*Tadkirat ulī al-albāb wa-l-ğāmi' li-l-‘ağab al-‘uğāb*"¹. Besides, the unique dictionary of Dozy, "*Supplément aux dictionnaires arabes*"².

In addition, Mamlūk historical sources are one of the richest of their kind in the whole Muslim world. They were very significant in dealing with the first chapter of this thesis which is entitled "celebrations and occasions witnessing fireworks in accordance with the Mamlūk historical sources". The chronicle of al-Maqrīzī (died in 845 A.H / 1441 - 1442 A.D), "*al-Sulūk li-ma‘rifat duwal al-mulūk*", is one of the vital sources in this concern.³ Moreover, "*Inbā' al-ğumr bi-anbā' al-‘umr*"⁴ for Ibn Ḥağar al-‘Asqalānī (died in 852 A.H / 1448 A.D), "*Iqd al-ğumān fī tāriḥ ahl al-zamān*"⁵ for al-‘Aynī (died in 855 A.H / 1451 A.D), "*al-Nuğūm al-azāhirah fī mulūk miṣr wa-l-qāhirah*"⁶ chronicle for Ibn Tağrībīrdī (died in 874 A.H / 1470 A.D) in addition to "*Tarīḥ al-*

¹ Al-Anṭākī, *Tadkirat uli-l-albāb wa-l-ğāmi' li-l-‘ağab al-‘uğāb*, I, Egypt, 1952.

² R. Dozy, *Supplément aux dictionnaires arabes*, I – II, Allemagne, 1927.

³ Al-Maqrīzī, *Kitāb al-sulūk li-ma‘rifat duwal al-mulūk*, I – II, released by Muḥammad Muṣṭafā Ziyādah; III - IV, released by Sa‘īd ‘Abd al-Fattāḥ ‘Āšūr, Cairo, 1934 - 1973.

⁴ Ibn Ḥağar al-‘Asqalānī, *Inbā' al-ğumr bi-anbā' al-‘umr*, released by Ḥasan Ḥabašī, I - IV, Cairo, 1969 - 1998.

⁵ Al-‘Aynī, *Iqd al-ğumān fī tāriḥ ahl al-zamān*, I – IV; released by Muḥammad Amīn, (815 - 824 A.H), (825 - 850 A.H), released by ‘Abd al-Rāziq al-Ṭanṭāwī, Cairo, 1985 - 1992.

⁶ Ibn Tağrībīrdī, *al-Nuğūm al-zāhirah fī mulūk miṣr wa-l-qāhirah*, released by Ğamāl Miḥriz and Fahīm Šaltūt, VII - XVI, Cairo, 2005 - 2006.