

# Contents

<b>PREFACE</b> .....	7
<i>Deborah Howard</i>	
<b>BIOGRAPHICAL NOTES OF THE AUTHORS</b> .....	8
<b>OVERVIEW AND SIGNIFICANCE OF THE STUDY</b> .....	11
<i>Anna Contadini</i>	
<b>SECTION 1</b>	
<b>STRUCTURE AND FUNCTION</b>	
1.1 - Presenting the Pisa Griffin and the Mari-Cha Lion.....	19
<i>Richard Camber and Anna Contadini</i>	
1.2 - Aspetti Conservativi ed Archeometallurgici del Grifone del Museo dell’Opera del Duomo di Pisa.....	35
<i>Massimo Vidale, Stefano Ferrari e Mirco Bassi</i>	
1.3 - Il Grifone di Pisa: tecniche costruttive e modalità di decorazione.....	47
<i>Mirco Bassi</i>	
1.4 - Acoustics of the Griffin and Lion .....	59
<i>Maurice Merrell (interviewed by Anna Contadini and Farouk Yahya)</i>	
1.5 - Acoustic Automata .....	63
<i>Richard Camber and Anna Contadini</i>	
1.6 - The Mari-Cha Lion: Did It Once Roar? .....	77
<i>David B. Sharp</i>	
<b>SECTION 2</b>	
<b>TECHNOLOGY</b>	
2.1 - Preface to the Technical Analyses .....	83
<i>Anna Contadini</i>	
2.2 - Technical Studies of the Mari-Cha Lion and the Pisa Griffin .....	85
<i>Peter Northover</i>	
2.3 - Analysis of the Alloy of the Pisa Griffin.....	105
<i>G. Lorenzetti, E. Grifoni, S. Legnaioli, S. Pagnotta and V. Palleschi</i>	
2.4 - Tenth to Twelfth-Century Copper-Alloy Metalwork from Spain, Turkey and Palestine .....	113
<i>Matthew Ponting</i>	

2.5 - Copper on Cyprus .....	129
<i>Walter Fasnacht</i>	
2.6 - Compositional XRF Analyses of Islamic Metallic Objects from the Museo Arqueológico Nacional (MAN) in Madrid .....	139
<i>Marc Gener and Ignacio Montero-Ruiz</i>	
2.7 - Using Digital 3D Technology for Documenting and Studying the Griffin .....	145
<i>Marco Callieri, Roberto Scopigno and Matteo Dellepiane</i>	

### **SECTION 3**

#### **HISTORY AND ART**

3.1 - Pisa, le imprese e le prede: il contributo delle fonti narrative per un'ipotesi sulla provenienza del Grifone .....	161
<i>Gabriella Garzella</i>	
3.2 - The Mari-Cha Lion in the Context of Apulian Romanesque Sculpture .....	179
<i>Richard Camber</i>	
3.3 - The Pisa Griffin and the Mari-Cha Lion: History, Art and Technology .....	197
<i>Anna Contadini</i>	
3.4 - Metalwork of the Caliphal period of Spain. Piezas metálicas suntuarias del periodo califal de al-Andalus .....	257
<i>Antonio Vallejo Triano</i>	
3.5 - Arqueología de la metalistería islámica de al-Andalus durante los reinos de Taifa (s. V HG/XI DC) .....	281
<i>Rafael Azuar</i>	
3.6 - The Animal Medallions on the Pisa Griffin and the Mari-Cha Lion .....	293
<i>Rachel Ward</i>	
3.7 - The Inscriptions on the Pisa Griffin and the Mari-Cha Lion: From Banal Blessings to Indices of Origin.....	305
<i>Julian Raby</i>	

### **SECTION 4**

#### **COMPARATIVE**

4.1 - The Cagliari Peacock: Considerations on its Origin and Discovery .....	363
<i>Damiano Anedda</i>	
4.2 - The 'Doha Hind' and the Bronze Menagerie .....	379
<i>William Greenwood</i>	
4.3 - Une bouche de fontaine en forme de lion et un mortier découverts à Monzón de Palencia en Espagne .....	389
<i>Claire Déléry</i>	

4.4 - Eagles, Cockerels and Other Birds: The Mount Sinai Aquamanile in Context.....	395
<i>Anna Ballian</i>	
4.5 - The Lucca Falcon .....	419
<i>Anna Contadini</i>	
4.6 - Analysis of the Alloy of the Lucca Falcon .....	449
<i>G. Lorenzetti, E. Grifoni, S. Legnaioli, S. Pagnotta and V. Palleschi</i>	
4.7 - Falco di San Frediano (Lucca): osservazioni preliminari.....	451
<i>Massimo Vidale e Stefano Ferrari</i>	
4.8 - Il Falco di Lucca: osservazioni sul rivestimento .....	455
<i>Mirco Bassi e Gabriella Garzella</i>	

## **SECTION 5**

### **APPENDICES**

5.1 – Introduction to Tables 1, 2a and 2b: Compositions of Eleventh-Twelfth Century Copper Alloy Castings .....	457
<i>Peter Northover</i>	
5.2 - Risultati delle datazioni con il radiocarbonio .....	485
<i>Lucio Calcagnile</i>	
5.3 - Grifone islamico esposto nel Museo dell’Opera del Duomo di Pisa. Indagini xilotomiche su frammenti di legno carbonizzato provenienti dall’interno dell’ala destra .....	489
<i>Giulia Galotta</i>	
5.4 - Terre di fusione del Grifone di Pisa.....	493
<i>Lucia Conti</i>	
5.5 - Distribution of Decorative Tools on the Griffin .....	496
<i>Stefano Ferrari and Massimo Vidale</i>	

<b>BIBLIOGRAPHY OF THE WORKS CITED.....</b>	<b>499</b>
---	------------