

Idit Sagiv, **Representations of Animals on Greek and Roman Engraved Gems.**

**Meanings and Interpretations**

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*Review by Shua Amorai-Stark & Malka HersHKovitz*

Idit Sagiv's 2018 monograph, a modified version of her 2015 PhD thesis, is a fine example of the scholarship we have come to expect from Archaeopress Academic Publishing on specialized archaeological classical subjects. It is a welcome book addition to the growing interest in the present field of classical glyptics, and all the more so because it discusses the vital sub-subject of animals in the field of glyptics throughout the Greco-Roman period as an important aspect of an ongoing developing culture. Many modern publications deal with the appearances, meanings and interpretations of specific groups of animals or with that of a single animal in Greek and Roman visual art or in texts throughout the ancient world or in a specific region. Some of them include also important discussions on depictions of animals in glyptics of both periods or in one period only. Yet, the subject of all major species of animals depicted in ancient engraved gems, while concentrating on their meaning, has rarely before been treated as a unified whole. S. discusses the glyptic depictions of all the major animal species (mammals, insects, etc.), underlines that of certain animals, mentions their manifestations in ancient sources and at the same time compares them to their depictions in various other ancient art media, attempting to identify the historical, cultural and religious concepts behind the themes depicted on the engraved gems.

The monograph comprises 66 engraved gems illustrated in more than 100 photos and drawings. These are very good, enlarged colour photographs of most gems' surface devices; some excellent colour photos of the scarabs' top and sides, and of the bezel and sides of most of the intaglios still set in ancient finger rings. The photos are an important addition for the dating of the gems and their usage. Also represented are great colored or black and white clear photos of the impressions of most engraved surfaces and/or their drawn illustrations. The overall quality of plates is good, though a few drawings are interpretations and not exact replicas of the originals. All plates are professional, high quality products of the photographic department of the Israel Museum. This combined approach of photographing, illustrating, and drawing is clearly the best modern academic way to illustrate pieces of this small media art. It positively presents not only the images but also their stones, range of colours, engraving styles, forms and settings for further research and impresses on their viewers their deferring qualities, some ancient trends in glyptics, and the beauty of many.

The study starts with an 'Introduction' which presents a solid, coherent summarized history of Greek and Roman gemstones (scaraboids, intaglios, and cameos), the influences of ancient Mesopotamian, Near Eastern and Egyptian glyptics and addresses the most recent research issues, debates and problems encountered in the field. It also emphasizes the problems associated with depictions of animals on gems, such as their diverse iconography and styles, covering the nearly 1000 years (Archaic Greek to late Roman periods) discussed in the book.

The author explains here the aims of research:

»[It] focuses on a group of about 70 gems (intaglios only) kept at the Israel Museum, Jerusalem, and which has not yet been published. This group will serve as a test group for the broader subject of animal representations on Greek and Roman gems.... for this purpose comparison will be made with other gems kept in international collections. The characteristics and meanings of animal depictions in the ancient world will be examined within various media .... [She asks] whether the miniature media allowed for the selection of symbols that did not appear in the larger media, and if so what were the reasons for this... The question of what happened when the depictions of animals were transferred to other media and whether the gems convey other meanings is a weighty methodological question. The study seeks to examine what was the uniqueness of animal imagery on ancient gems compared to other media, and what is the significance of this distinction.... In addition, an attempt will be made to address the question of whether there is a connection between the choice of a certain gemstone and the image portrayed on it« (pp. 4–5). Indeed, the book does address all these aims and questions, but in varied length, depth, and success.

The study is divided into two major parts, with additional smaller parts, summary, abbreviations and an extensive bibliography of ancient sources and of modern research centered on animals in ancient times, on ancient gems in general and on animals in Greek and Roman glyptics in particular.

The first main part is entitled ›Engraved Gems: a survey«. It is a concise survey of Greek and Roman glyptics in general; an up-to-date summary of the basic concepts and problems related to ancient glyptics. The survey is divided into seven chapters:

1. ›The Uses of Engraved Gems« (as seals, amulets and jewellery). This admirable discussion could have benefitted from mentioning some of the more recent publications (mainly post-2014 ones) in order to arrive at a more nuanced picture of the relative uses of gems in the Greek world (for example on gems as amulets) and the Roman World (for example, the up-to date notions on uses of intaglios at the end of the Roman and the early Byzantine periods).

2. ›The Materials used for ancient gems« (chalcedonies or non-crystallising quarts; crystallising quarts; harder, more precious stones; inferior varieties). On the whole, this survey is adequate. However, in its explanations of the popular appearance of some colored stone sub-types, it is at times too brief, or incomplete. For instance, the information given on the use of black jasper or agate for gems during specific periods is partial and at times based too much on early publications<sup>1</sup>. In other cases, the infrequent use of other stones for gems, such as turquoise, black jet or sapphire during specific periods and in certain regions is not mentioned.

3. ›The Themes depicted on gems«. In the past, identifying and researching the iconography of the gems' devices was the major scholarly effort in glyptics. Here, the presentation of this aspect of ancient intaglios is commendable, and though very short and summary, it is sufficient for a survey on the major themes within a monograph with the focal purpose on the study of animals represented on ancient gems. The opening general conclusion in this section, such as the statement that representations of animals on engraved gems derive their major influences from the fauna observed in the real world and from Greco-Roman mythology, is correct. The author's following observations are likewise truthful and very relevant to the chief topic of this monography: that our present-day ability to interpret correctly and to the full each animal depiction on gems, but also on larger art media, is rooted in the long time period that stretches from the date/s of their engraving to our time, from our incomplete knowledge, the ambiguous ancient information that came to us, and from the fact that usually each visual animal representation had more than one meaning, often entailing varying ancient representations with sometimes opposing meanings.

4. ›References to gemstones in ancient literary sources«. This part is a first-rate, complete and helpful survey.

1 Such as RICHTER 1956.

5. ›Dating methods‹. Here, the limitations of our knowledge and modern methods are discussed. The author deals with the importance, usefulness and problems of each of the five dating methods presented:

A. ›The archaeological context‹. The discussion would have benefitted from more examples from excavated sites. While the evidence from excavations on the British Isles, particularly the finds from Bath, is presented, the scholarly conclusions derived from excavations and collections in Near Eastern countries are absent, in particular Turkey, Israel and Jordan, likewise studies from Egypt, Greece, Hungary and France.

B. ›The type and shape of the gemstone‹;

C. ›The technique and style of the gemstone‹;

D. ›The choice of themes‹.

The collected and studied information from the ancient engraved gemstones themselves has been paramount to the dating of ancient gems in scholarly research especially since the second half of the 20th cent. S. rightly stresses these typological, and iconographical aspects for dating, including the setting of gems in diverse types of jewels, especially in rings. Her elaboration on the stylistic modules developed by prominent glyptic scholars, above all M. Henig<sup>2</sup> and M. Maaskant-Kleibrink<sup>3</sup>, is very helpful to all scholars of ancient gemstones.

E. ›Comparison to works in other media‹. The information discussed is obtained mainly from the field of Art History, presenting the major general conclusions arrived by scholars of this field with regard to the overall changing influences of different art media on the art of gemstones during different periods. This short, condensed survey is an opening to further studies, particularly helpful to archaeologists, general historians and researchers of ancient religions who are interested in the general trends of ancient art and those within specific media, and their relationship to the art of gemstones.

The last two sub-subjects discussed in the survey deal with the actual, practical ways ancient gemstones were produced, and our insufficient knowledge of them:

6. ›Carving technique‹;

7. ›The comparison to works in other media‹.

In these chapters the prevalent subject is the influence of large sculpture and especially of coins on gemstone artists, artisans and workshops. The author accurately explains that coins, like gems, are small products of similar sizes and mentions that some scholars have suggested that at certain periods gemstones were even produced in the same workshops as coins. However, on the whole the author refrains from addressing the influence of other small or medium size media on gemstone artists and workshops, for example of metal and stone statuettes, of images portrayed on ceramic lamps and statuettes, tesserae and tokens. S. also omits discussing the strong connections between engravers of stone gemstones and engravers of devices on bezels of all-metal finger rings and other metal jewel artifacts such as medallions and earrings. She ignores the links between producers of glass intaglios and the fewer figural depictions on other ancient glass products such as the small number of glass beads and medallions depicting figural motives and symbols. Recent research considers it is most likely that, especially during Roman times, the engravers of these small to medium size artifacts often produced their objects in the same workshops, or in workshops located in close proximity, and at times perhaps these small artifacts were even made by the same artisans.

Notwithstanding the voiced criticism the first main part of the book is a fine survey, presenting the major developments, research results, methods and problems of the Greco-Roman field of gemstones in a constructive way. It could well be a useful introduction text for students interested in Greek and Roman glyptics, for scholars from other fields, and for members of the general public curious about this specialized field.

2 HENIG 1988; HENIG 1992.

3 MAASKANT-KLEIBRINK 1979; MAASKANT-KLEIBRINK 1992.

The second main part of the book, entitled ›Animal images and their meanings‹ does not purport to be a corpus of animal depictions on all gems but states clearly that the chosen animal gems are part of a collection based on a chance group of gems, derived from three collections bequeathed to the Israel Museum, Jerusalem in the 70's of the last century. These collections are haphazard. The overall number of ancient gems donated are neither given nor discussed. Not referred to are the groups of other common ancient glyptic subjects (such as divinities, portraits, humans, symbols, ›magical gems‹ etc.) in these collections; the information on the broad origins of some gems (for example, those said to come from the Near East, from Britain, Italy and so forth, or bought in Lebanon, Syria, Egypt etc., or coming from older collections); and the interests of their collectors.

In the introduction S. rightly elaborates on the everyday life and mythical origins of animals mentioned in texts and depicted in artistic media; on the ambivalent descriptions of animals in ancient literature stating that »on one hand [animals were] resembling human beings and expressing the same feelings...., and on the other expressing the impulse instincts and the irrational aspects of the soul« (p. 38). She also lists the varied associations with animals in antiquity: »Animals have been associated with deities, often accompanying them, and sometimes the gods used animals as their envoys, to intervene in life on earth and to communicate with humans... Various animals served as attributes of different gods, sharing with them similar qualities, mythology cult...« (p. 38). All these and other aspects of animals portrayed in art and their importance and significance in ancient sources are discussed.

Here, the author explains the breath and major topics discussed in the core chapters of her monograph regarding the major possible representation of animals on gems »as attributes of gods; as participants of gods and heroes; as symbols of victory, wealth and fertility; as participating in pastoral scenes; as bearers of apotropaic, magical and healing meanings; as astrological signs; as participating in pastoral scenes; and as bearers of political propaganda« (p. 39). All these aspects of animals in ancient literary and artistic sources have been suggested and dealt with in former publications, but the way S. explains the animal motifs engraved on the intaglios in the Israel Museum, bringing many references for each discussed animal in ancient sources, is refreshing.

The animals depicted on scarabs and gemstone intaglios in the Israel Museum collection are grouped according to their zoological nature:

- Mammals (cattle, deer, goats, horses, boars and sows);
- Predatory animals (panthers and lions);
- Birds, Birds of Prey and Fowl (eagles, parrots, roosters, geese, swans);
- Insects (ants);
- Marine creatures (dolphins, seashells);
- Hybrids (sphinx, Pegasus, Capricorn, hippocamp, Gryllos [Hippolectryon]).

The given explanations, the meanings and interpretations elaborated with regard to the specific glyptic device found on the Israel Museum gems are perspicuous, wide-ranging and full. The elaboration on the plausible meanings of many other sub-motifs and scenes of each animal species that do not occur in the Israel Museum collection but are known from the corpus of Greek and Roman gems (and often also from other artistic media) is important, as they relate to the much larger group of the sub-motifs of the discussed animals. Hence, by presenting the larger, broader picture of the discussed glyptic animal representations, the different or close meanings of their sub-motifs and their popularity or rarity within the general corpus of animals in different periods and cultures are discussed in this study. The glyptic comparisons for each of the discussed species, and the references to their typological sub-devices missing from the Israel Museum collection expands the study of animals on gems and helps to understand the fuller picture of this subject. The factors for the dating of each animal depiction on the gems in the Israel Museum are explained. On the whole, this part of the study, defined as its core, is both clear and detailed.



The last two sections, entitled ›Interpretations between animal depictions in various media and their depictions on gems‹ and ›Associations between animal depictions and the types of gemstone and its believed qualities‹ are an important and useful contribution to the overall study of gemstones depicting animals. The discussions in these two parts are both clear and very helpful.

Finally, certain drawbacks need to be pointed out. Not included in the study are many animal species which occur in the general published corpus of gems. If after the title ›Representations of Animals on Greek and Roman Engraved Gems‹ the words ›from the Israel Museum Collections‹ would have been added, it would have been clear to the readers that only a limited number of animal depictions are discussed.

Most of S.'s comparanda are taken from some excavations in Europe, above all Britain, and mainly from published European collections with largely unknown provenance. Taking into account that at least some of the gems in the Israel Museum may have originated from Roman Palestine and various other regional sites, and that a substantial group of published gems comes from sites and excavations in the Levant and other Mediterranean countries, references to excavated or collected finds from sites in Eastern Mediterranean countries such as Greece, Macedonia (the Balkans at large), Turkey, the Levant and from Egypt and North African sites are missing. For instance, the animal depictions on the gems from the Israel Museum hardly include references to excavated and published parallels in the Levant, in particular sites in present-day Israel like Gamla (lion attacking a deer [or gazelle] the female crouching sphinx, Capricorn, butterfly), Masada (a lion, grazing horse, goddess with bird, boar head)<sup>4</sup> and in excavations in Jerusalem<sup>5</sup>, at Dora<sup>6</sup>, Jericho<sup>7</sup>, Caesarea<sup>8</sup>, and other sites<sup>9</sup>.

Furthermore, while including some surface collected gems from Gadara<sup>10</sup> and from Caesarea Maritima<sup>11</sup>, references to the more than 20 gems depicting animals within the overall 267 gems and seals collected from Egypt, Near Eastern countries, above all Lebanon, Syria,

4 HERSHKOVITZ – AMORAI-STARK 2007; HERSHKOVITZ – AMORAI-STARK 2016a.

5 Few animal gems see HERSHKOVITZ 2003; PELEG-BARKAT 2011.

6 For example, a horned leaping antelope (or deer) on a red stone intaglio (STERN 1994, 314 fig. 221 is similar to S.'s fig. 9, a–b, horned antelope leaping (or deer on an earlier red-orange carnelian scarab).

7 HERSHKOVITZ – AMORAI-STARK 2013, 130 fig. 4.1. The gem depicts a rider driving a quadriga. This carnelian is a sub-type variant of S.'s figs. 20; 21, a–b; 22, a–b depicting three different deities driving a quadriga (two carnelians and one heliotrop).

8 PATRICH – RAFAEL 2008, 422 no. 22. The excavated agate set in an iron ring depicting a grazing horse is a fine comparanda to S.'s fig. 17 (agate) in its motif, stone and elongated ovoid shape, even though the smaller motifs of a lion and ram (?) head appearing next to the grazing horse on S.'s fig. 17 are absent from the Caesarea gem.

9 AMORAI-STARK – HERSHKOVITZ 2011. The animal subjects of nos. 18, hound chasing a hare from Hagoshrim, and no. 19, a leaping hare from Caesarea do not appear in S.'s work. No. 21 winged she-sphinx sitting in profile from Gamla is an excellent comparison to S.'s figs. 52, a–b; 53, a–b; 54, a–b of the same subject. No. 20, a walking sphinx from Hagoshrim is a variation. No. 30, a–b, the shrimp motif from Manahat, Jerusalem is absent from the Israeli Museum collection. No. 31, a standing or walking elephant from Nahal Raqafot, Jerusalem represents a parade elephant, a political propaganda motif, while S.'s fig. 51 shows an elephant head emerging from a large sea-shell, it belongs to the group of combination gems with apotropaic meanings. No. 32, a goatherd milking a goat from Nahal Raqafot, Jerusalem and no. 33, the same motif from Bab el Hawa, near Jerusalem are excellent comparanda to S.'s fig. 14. As can be seen from the publications listed in notes 5–9, most excavated sites in present-day Israel brought to light one or two gems representing an animal. Further examples of single gems depicting an animal found at other sites are registered in the IAA.

10 HENIG – WHITING 1987.

11 HAMBURGER 1968.



and present-day Israel included in the two collections in Jerusalem is minimal<sup>12</sup>; and to the circa 53 gems representing animals in the more than over 200 gems and cameos surface collected from Caesarea published after 1968<sup>13</sup>, and to the three animal gems among the 12 gems in the Hecht Collection<sup>14</sup> are lacking. Among them are many identical animal motifs or the same motif with an additional symbol, such as a star or a wreath, to those discussed by S.; to some of the typological sub-types discussed by her in the elaborations on animal types within the Israel Museum collection, but to which no drawing or photos are given. In these collections there is also a large number of representations of animals which are not included at all in S.'s work or are just mentioned in her discussions of other animal types. Other gems appearing are sometimes depicted on the same gemstone type in the same or in close engraving styles, but occasionally in other, well documented styles. In these post-1968 and 1987 publications of excavated and collected gems from present-day Israel<sup>15</sup> there are very good comparanda to S.'s fig. 2, a: bull<sup>16</sup>; fig. 11, a–b: a goat browsing from a tree<sup>17</sup>; fig. 14: a countryman milking goat<sup>18</sup>; fig. 17: a grazing horse<sup>19</sup>; fig. 18: a horse galloping behind a palm-branch<sup>20</sup>; fig. 21, a–b: Helios/Sol riding a quadriga<sup>21</sup>; nos. 25, a–b; 26; 30: female panther with thyrsos<sup>22</sup>; fig. 33, a–b: a lion

- 12 AMORAI-STARK 1993. Although this book appears in S.'s bibliography she frequently refrains from mentioning fine comparanda from it. To mention just one example: for her fig. 49, a–b, an ant with a grain of wheat, S. prefers to send the reader to comparanda in British museums, neglecting the same motif engraved on a 1st c. BCE to 1st c. CE garnet in the Jerusalem collections (SBF no. 121). This gem originates in Egypt or in a region in the Levant.
- 13 AMORAI-STARK 1999; AMORAI-STARK – HERSHKOVITZ 2016b.
- 14 HERSHKOVITZ 1994. This collection's no. 7, representing a shepherd with a goat and tree, is a sub-type of S.'s fig. 15, shepherd with a dog, nursing goat and tree. No. 10 depicts an eagle, a variation of S.'s figs. 37–39, although the Hecht collection eagle does not stand on a pedestal yet his wings are spread like that of the eagle on S.'s fig. 38, and it holds a wreath in his beak like the eagles in her figs. 37. 39. No. 11, a bull pacing to the right represents – but for the absence of the star – the same stone (carnelian), motif and style as S.'s fig. 2, a, side a, a bull and a star, and is of a similar early date.
- 15 HAMBURGER 1968; AMORAI-STARK 1993; STERN 1994; PATRICH – RAFAEL 2008; AMORAI-STARK – HERSHKOVITZ 2011; HERSHKOVITZ – AMORAI-STARK 2013.
- 16 See HERSHKOVITZ 1994.
- 17 See AMORAI-STARK 1999; AMORAI-STARK – HERSHKOVITZ 2016b, no. 128.
- 18 See AMORAI-STARK – HERSHKOVITZ 2011, nos. 32–33; AMORAI-STARK – HERSHKOVITZ 2016b, no. 120.
- 19 See PATRICH – RAFAEL 2008; AMORAI-STARK 1993, no. 116, the grazing horse is again depicted without the lion and ram (?) head in the field, but the gem's stone (agate), engraving style and date are the same as those of S. fig. 17.
- 20 S. identifies this horse as a galloping horse. This is not certain since its legs' posture suggests a walking or standing horse. She compares it to a similar horse with a winner in a race portrayed with a palm-branch on a gem in a German collection (p. 66). She does not mention that on gems other animals such as deer, goats and rams are depicted standing in front of a palm-branch. Such comparisons appear to us to be very relevant to S. fig. 18. See HENIG – WHITING 1987, no. 350; AMORAI-STARK 1993, no. 115. See also the variation of a walking horse turning its head backward, with a star above its head, AMORAI-STARK 1993, fig. 6.
- 21 S. mentions in her elaboration on this motif (p. 70) beside comparisons from European collections also a comparison from Caesarea (HAMBURGER 1968, no. 21), however she does not send the reader to this same motif similarly depicted on a carnelian in two collections in Jerusalem, AMORAI-STARK 1993, no. 80; in HENIG – WHITING 1987, nos. 62–65; in AMORAI-STARK – HERSHKOVITZ 2016b, no. 24 and to variants relevant also to her fig. 20 in PELEG-BARKAT 2011, 265–268.
- 22 AMORAI-STARK 1999, fig. 13. It is a fine, slightly earlier comparison to S. fig. 30. S. compares the female panther with a thyrsos to several gemstones in European collections but refrains for some reason to include the gem from Caesarea, although this article appears in her bibliography.

attacking a deer<sup>23</sup>; figs. 37–39: an eagle standing on a pedestal<sup>24</sup>; fig. 41: a rooster<sup>25</sup>; fig. 48: Ceres (-Demeter) holding ears of corn with an ant below<sup>26</sup>; fig. 49, a–b: an ant with a grain of wheat<sup>27</sup>; figs. 52–54: she winged sphinx seated in profile<sup>28</sup>; fig. 57, a–b: Pegasus<sup>29</sup>; fig. 59: capricorn<sup>30</sup>; fig. 60–61: Eros on hippocamp<sup>31</sup>; fig. 63: combination (gryllos)<sup>32</sup>.

These and other collections from Egypt, the eastern Mediterranean and Balkans<sup>33</sup> give concrete examples to many motifs and sub-motifs mentioned in S.'s book, but they too are not referred to in her study.

As minor miscalculated aspect of the research is S.'s choice to include and discuss the few modern gems (mainly 18th century pieces) depicting animals haphazardly included in the Israel Museum Collection (for example figs. nos. 22, a–b; 46, a–b; 62, a–b). We think that even though the relationship between ancient Greek and Roman gemstones and their influence on Renaissance and post-Renaissance European glyptic is an important part of the overall revival of ancient art, it is a separated subject much discussed in recent publications on modern gems. These gems are treated in the book in the same length and detail given to the Greek to Roman animal subjects and specific gems, even though their subject does not pertain to S.'s study, outlined in the introduction. It would have sufficed to mention them in the introduction, explain why they are not to be discussed and perhaps only refer to each of them while discussing the ancient representations of horse, goose, and hippocamp, and their appearance in the Israel Museum Collections.

### Summary

In all of its sub-subjects the book's first part is a good to excellent survey, while its second part's focus on animals on ancient gems gives a concise, detailed and interesting picture of the animals depicted on the Israel Museum gems with a broadening review related to the aims of this book.

- 23 The gem should have been compared also to an earlier yellow jasper from Gamla, AMORAI-STARK – HERSHKOVITZ 2016a, no. 2; AMORAI-STARK – HERSHKOVITZ 2016b, no. 122 (same) and a variant to S. fig. 34, a–b, there no. 123.
- 24 Identical comparisons to these three gems beside those from Gadara (and European collections) that S. lists (p. 104) are absent from the above-mentioned publications of excavated gems and sites in present-day Israel. However, because S. discusses other sub-motifs of the eagle standing on a pedestal, with vexilla and wreath, mentions the involvement of eagles in dynastic narrations of emperors, coins etc. and hence in their propaganda, examples of an eagle standing on a pedestal with spread wings and a wreath could have been brought (see AMORAI-STARK – HERSHKOVITZ 2016b, no. 136, eagle with outstretched wings standing on a cista or pedestral, upper part of gem broken). See also HERSHKOVITZ 1994.
- 25 AMORAI-STARK – HERSHKOVITZ 2016b, no. 147, and for S. fig. 42, a pair of roosters engaged in a fight, see the comparison in AMORAI-STARK 1993, SBF no. 108, two roosters confronted after a fight.
- 26 AMORAI-STARK – HERSHKOVITZ 2016b, no. 50.
- 27 HENIG – WHITING 1987, no. 387; HAMBURGER 1968, no. 160; AMORAI-STARK 1993, SBF no. 121; AMORAI-STARK – HERSHKOVITZ 2016b, no. 132.
- 28 AMORAI-STARK – HERSHKOVITZ 2011, no. 21, a–b.
- 29 AMORAI-STARK – HERSHKOVITZ 2016b, no. 158.
- 30 AMORAI-STARK – HERSHKOVITZ 2016b, no. 155, and for S. fig. 58, capricorn with crab, see another sub-type of capricorn with animals and object, there no. 156 and AMORAI-STARK 1993, PBI nos. 64–65.
- 31 AMORAI-STARK – HERSHKOVITZ 2016b, no. 101.
- 32 AMORAI-STARK 1993, PBI no. 25, a very similar combination to S. fig. 63 (of same type, stone [carnelian] and date). Other combinations depicting different types of combinations are known, see AMORAI-STARK 1993, SBF no. 60, PBI nos. 21–24; AMORAI-STARK – HERSHKOVITZ 2016b, nos. 159–161.
- 33 See, for example, the comparanda of animal gems, and of animal sub-motifs from Egypt in EL-KHACHAB 1963, from Turkey in KONUK – ARSLAN 2000 and from Hungary in GESZTELYI 2000.

One of the best aspects of this study is the literary evidence it provides for all the subjects and for most questions (some are pre-Greek and post-Roman texts, even Medieval ones, others are from ancient cultures bordering the Greco-Roman sphere). Such wealth of ancient sources occurs throughout the book. These detailed references include many direct quotes, some of which are hard to come by elsewhere, others are to be found scattered only in pre 1960–1970's articles and books. It is rare to find such an overall wealth of contextual information related to most aspects of Greek and Roman gemstones and to representations of animals on gems grouped together in a single monograph. These references to ancient texts and quotes, both to literary sources and to actual art works, will please specialists and will be extremely helpful to scholars of many ancient fields, but particularly to students of the glyptic field.

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