

A BESTIARY TALE: TEXT AND IMAGE OF THE UNICORN IN THE *KITĀB NA‘T AL-HAYAWĀN* (BRITISH LIBRARY, OR. 2784)

In 825 the Caliph al-Ma'mun fell gravely ill. His physicians, among them Yuhanna ibn Masawayh, were unable to cure him, and he was advised to summon Jibra'il ibn Bakhtishu' ibn Jurjis, who "changed the treatment completely," after which the illness diminished so rapidly that in three days the caliph was cured. Al-Ma'mun rewarded Ibn Bakhtishu' with "a million dirhams and a thousand measures (*kur*) of grain."¹

Like Yuhanna ibn Masawayh, Jibra'il ibn Bakhtishu' was a Nestorian, and despite the contrast in their approaches to this particular case, both had received their training at the famous School of Medicine at Jundishapur.² In fact, Jibra'il ibn Bakhtishu' belonged to an illustrious dynasty of doctors several generations of which were associated with the School, and he was by no means the only one to serve an Abbasid caliph, having been preceded by his grandfather Jurjis ibn Jibra'il (d. ca. 771), who was personal physician to al-Mansur (r. 754–75).³ Of the later members of the family, 'Ubayd Allah ibn Jibra'il may be singled out for his intellectual accomplishments as much as his skill as a physician, and it is with the textual tradition related to one manuscript of his works, together with its attendant miniatures, that we are here concerned.

Ibn Abi Usaybi'a (ca. 1203–1269) provides us with the following biographical notice:⁴

Abu Sa'id 'Ubayd Allah ibn Jibra'il ibn 'Ubayd Allah ibn Bakhtishu' ibn Jibra'il ibn Bakhtishu' ibn Jurjis ibn Jibra'il. He was a distinguished physician, renowned for the practice of medicine, skilled in its principles and branches, and one of the most prominent figures among those in this profession. He was also very knowledgeable in Christian science and its schools. He wrote several books on the art of medicine. He lived at Mayyafariqin. He was a contemporary of Ibn Butlan⁵ and very close to him: indeed, there was a great friendship between them. 'Ubayd Allah ibn Jibra'il died sometime during the 450s [1058s].

There follows a list of nine works written by 'Ubayd Allah—who is usually known simply as Ibn Bakhtishu'—among which we may note a *Kitāb tabā'i' al-hayawān wa-khawāṣṣihā wa-manāfi' a'dā'iḥā* ("Book of the Characteristics of Animals and Their Properties and the Usefulness of Their Organs") written for the Amir Nasir al-Dawla.⁶

Although other Nestorian medical centers existed, most were influenced by Jundishapur, particularly in the organization and administration of hospitals, and the important hospital (*bimāristān*) founded by Harun al-Rashid in Baghdad was also designed and staffed by Jundishapur physicians.⁷ Medicine itself still remained within the dominant Greek-derived Galenic tradition, but it is possible to detect at Jundishapur the beginnings of a shift, first articulated in another treatise by Ibn Bakhtishu', the *Risāla fī al-tibb wa-al-aḥdāth al-nafsāniyya* ("Treatise on Medicine and Psychological Phenomena"),⁸ towards a more empirically based approach. The *Risāla* argues against tutelage to philosophy of medicine and can be considered the earliest work in which an independent status is claimed for it, on the grounds that philosophical theory is incapable of dealing with medical questions.⁹ But Galenic orthodoxy was never seriously challenged, forming as it did the basis for the authoritative works of Ibn Bakhtishu''s celebrated contemporaries Ibn Sina (d. 1037), the influence of whose *Qānūn fī al-tibb* can hardly be overestimated, and Ibn Ridwan (998–ca.1067–68), the great physician who lived in Cairo. Considered a follower of the school of Alexandria, Ibn Ridwan was the author of the famous *Kitāb daf' madarr al-abbān*¹⁰ and was in dispute with the Iraqi physician Ibn Butlan, who as we have seen was a friend of Ibn Bakhtishu'.

Nevertheless, the likelihood that the medical expertise and the particular approach of the Jundishapur School as represented by Ibn Bakhtishu' were to remain influential, at least in Iraq, is suggested not only by

the textual tradition to which his name is attached but also by the continuing importance of Christian physicians at the caliphal court in Baghdad.¹¹ The ca. 1220 *Kitāb naʿt al-hayawān* (henceforth *Naʿt*),¹² the earliest surviving bestiary containing material derived from Ibn Bakhtishuʿ, was produced during the reign of the Abbasid caliph al-Nasir li-Din Allah (r. 1180–1225), under whom the most celebrated physician, and the caliph’s favorite, was the archdeacon Mari Abu al-Khayr ibn Hibat Allah ‘Abd al-Baqa’ ibn Ibrahim al-Mu’ammal, of the al-Masihi family.¹³ After him other members of the al-Masihi family also served al-Nasir and ran the famous al-ʿAdudi hospital in Baghdad.¹⁴ The influence of Ibn Bakhtishuʿ’ s medical works could still be felt at this time, and it may be conjectured that the *Naʿt* could well have been compiled and illustrated precisely at the instigation of such learned Christian families, especially given that the cultural environment in which it was produced was one that encouraged the production of such scientific, medical texts in the scriptoria of Mesopotamian and, in particular, North Jaziran monasteries.

SCHOLARLY APPROACHES

Despite their importance for the history of Arab and early Persian painting, the illustrated Ibn Bakhtishuʿ manuscripts have hitherto only barely caught the attention of historians of art.¹⁵ The reason may be sought straightforwardly within the fundamentally Eurocentric bias of the methodologies of art history as hitherto applied to Islamic art. This is not to say that no adequate methodological approaches exist; one might cite, in particular, the research on the Western medieval bestiary tradition fostered by the Warburg Institute, which integrates the study of iconography within a wider examination of textual transmission.¹⁶ But traditional scholarship on early Islamic miniature painting has been dominated by different approaches: either the miniatures have been regarded as subservient to the text they illustrate,¹⁷ or they have been brought to the foreground and studied in isolation from the surrounding text.

In this latter case, attention has been focused especially on late miniatures and, in particular, on Persian and Indian examples. As such paintings often illustrate literary subjects, scholars have certainly attended to their narrative content, but the Eurocentric search for masterpieces has still resulted in a concentration on content at the expense of context and a disregard of

the function of paintings within an integrated, text-based series.

As Charyar Adle has pointed out, the interest of specialists has been mainly in “aesthetic effect” rather than in the causes of this effect.¹⁸ This tendency has been further reinforced by what might be termed an evolutionary approach, in which a selected spread of isolated pictures is arranged chronologically to give an idea of stylistic development.¹⁹ One of the unfortunate consequences of this approach is its influence on dealers and collectors, with the result that many manuscripts have been mutilated, their miniatures taken out and sold as separate items. As a result, miniatures from the same manuscript are now often dispersed in public and private collections all over the world, thus confronting the art historian with problems that are sometimes insurmountable and at best require painstaking and time-consuming study. This is true not only for “masterpieces” of Persian painting such as the so-called Demotte and Houghton *Shāhnāmas*, but also for certain earlier scientific Arab manuscripts, such as the 1224 Dioscorides.

The category of illustrated scientific manuscripts into which the Ibn Bakhtishuʿ bestiaries fall has thus been triply disadvantaged. Not regarded as “masterpieces,” their miniatures have been largely neglected, so that their pictorial conventions are still insufficiently understood and appreciated; the crucial and intimate relationship between miniatures and text has not been taken into consideration, let alone adequately studied; and in cases where a manuscript has been dismembered and its miniatures dispersed, the possibility of such essential study has been severely inhibited. It should be further underscored that a significant aspect of scientific works is the occurrence of their miniatures in thematically related groups. Each one has a particular function within the group, and the failure to study it not only as an individual entity but also as a member of a complex series may be seen as a further form of neglect.

Even if we now have a rather better understanding of later Persian painting because it has been the object of considerable scholarly attention, it remains the case that painting from the early periods has been relatively neglected. Topics requiring further investigation include the nature of its relationship with earlier Arab painting, concerning which one may query the commonly implied assumption that early Persian painting somehow represents an evolutionary step.²⁰ In fact, what survives of early Persian painting exhibits

a variety of stylistic inputs, not all of which survive in later material, so that lines of development are difficult to map. Early Arab painting has been investigated even less,²¹ so that caution is all the more necessary. Fortunately, the study of illustrated Arabic scientific literature is now gradually being accorded greater weight, with increasing attention paid to individual manuscripts.²² Furthermore, recent scholarship has started to develop an approach that is new in two important respects: its insistence on the necessity of an integral study of both text and accompanying pictures; and its consideration of the manuscript as a whole, taking into account not only the textual tradition of the manuscript but also the socio-historical factors governing its production. The present article seeks to contribute to this development by examining text and image in relation to a specific narrative complex.

TITLE AND CONTENTS

Although the designation "Ibn Bakhtishu' bestiary" is now conventional, it disguises the fact that the text in question is actually a composite. It may safely be assumed to contain material derived or directly quoted from Ibn Bakhtishu', but this is juxtaposed with other material of ultimately Aristotelian origin.

The earliest illustrated bestiary, British Library Or. 2784, lacks an incipit, but refers to the title of the work on folio 94r, where the colophon of the end of the first part of the manuscript reads *tamma al-juz' al-awwal min Kitāb na't al-hayawān* (end of the first *juz'* of *Kitāb na't al-hayawān*). This therefore confirms two nineteenth-century annotations at the beginning of the text, one on folio 1r and the other on folio 2r, which refer to the manuscript as a *Kitāb na't al-hayawān*. The word *na't* (characteristics) is also used throughout the text to designate the first, Aristotelian, part of the entry for each animal, while the second part, in contrast, is defined as *manāfi'* (usefulness). Implied, one might therefore suggest, is the subtitle *Kitāb na't al-hayawān wa-manāfi'ihā*, a compressed equivalent of Ibn Bakhtishu's own *Kitāb tabā'i' al-hayawān wa-khawāssihā wa-manāfi' a'dā'ihā*, but one in which the preference for *na't* over its near-synonym *tabā'i'* points towards the Aristotelian origins of this segment of the text, since Aristotle's *Kitāb al-hayawān* is mentioned by Ibn Abi Usaybi'a²³ under the title *Kitāb na't al-hayawān (al-ghayr nāṭiqā wa-mā fihā min al-manāfi')*, and by Hajji Khalifa as *Na't al-hayawān* and *Nu'ūt al-hayawān*.²⁴ The term

na't, further, may point to the affiliation of our manuscript with a pseudo-Aristotelian work entitled *Kitāb nu'ūt al-hayawān*.²⁵

It should be noted, however, that none of the later illustrated Ibn Bakhtishu' bestiaries use the word *na't*, either in the title or in the text. The title, when present, is invariably *Kitāb manāfi' al-hayawān*, thus giving precedence to the Ibn Bakhtishu' material, while in the text the part derived from Aristotelian tradition is introduced by the anonymous *al-qawl min...* (concerning...) or *dhikr min...* (mention of...). The British Library *Kitāb na't al-hayawān*, on the other hand, makes explicit both the composite nature of the text and its dual origin, for it contains several passages specifying that the text concerning the characteristics (*na't*) is based on Aristotle and that concerning the usefulness (*manāfi'*) is from Ibn Bakhtishu'. Reference is also made to the inclusion of Ibn Bakhtishu's observations about a certain animal, which supply information not found in Aristotle.²⁶

The following four conclusions may be drawn: First, contrary to what has hitherto been believed, neither the *Na't* nor any of the later bestiaries within the same tradition consists of a text by Ibn Bakhtishu' preserved in its original form. Either no such text is extant, or else it has not yet been identified. Second, the compiler of the composite text is unknown. He may have been named in the missing final colophon or in the incipit of the *Na't*, but there is no mention of him in the later manuscripts, which refer only to Ibn Bakhtishu'. Third, that the compilatory nature of the text of the *Na't* is explicitly recognized when such recognition is effaced in the later bestiaries suggests that the *Na't* might represent the original version within this textual tradition (see note 25). Fourth, the two later illustrated Arabic Ibn Bakhtishu' bestiaries are not copies of the *Na't*, but separate redactions. All three exhibit a strong family resemblance, however, and in certain passages they are identical.

THE TEXTUAL TRADITION AND ITS SOURCES

The various manuscripts always begin with Man and Woman and then proceed to domestic quadrupeds and beasts of prey, birds and birds of prey, fish, reptiles, and finally insects. The average number of animals treated is ninety, and the largest category is that of quadrupeds, followed by birds. The entries tend to be longer for the individual quadrupeds and also for some of the most common birds and fish but are

quite short for the insects. The range of animals treated includes species found over a geographic area ranging from India to Northeast Africa, but some mythical animals such as the unicorn are also present.

The treatment of each animal is divided into two sections, of which the first is a discussion of its principal characteristics, habits, and reactions in different situations, and the second deals with the different parts of the animal and how they may be used to cure various human illnesses. As we have seen, these sections are clearly separate, one deriving ultimately from Aristotle, the other from Ibn Bakhtishu'.

Concerning the Aristotelian element, there is no direct correspondence of the *Na't* with the Arabic translation of Aristotle's *Zoology*,²⁷ let alone with the original Greek text.²⁸ It is therefore obvious that, despite the mention of the name of Aristotle in the *Na't* and the inclusion of a miniature representing him (on folio 96r), transmission must have been through one or more pseudo-Aristotelian intermediaries. One likely candidate for this role is the tenth-century *Kitāb na't al-hayawān* (Book on the Characteristics of Animals), which seems to have a link with Timotheus of Gaza's book on animals, the *Peri Zoon*. This text,²⁹ usually referred to by its Arabic title, *Kitāb al-hayawān al-qadīm*, was written at Gaza in the sixth century, during the reign of the Emperor Anastasius. It is also possible, however, to recognize as a source for the *Na't* a late classical text known as the *Physiologus*, for which an exact provenance, date, or author cannot be established but for which an Aristotelian affiliation is now accepted.³⁰

The material derived from this pseudo-Aristotelian tradition not only explains the various characteristics of animals but also reflects a complex moralizing attitude towards them and what might be called their psychology (real or alleged),³¹ which the text itself terms *akhlāq*. The wolf is not sociable; the bear is timid; the cat is very sociable; the jerboa is deceitful and astute; the partridge is jealous and proud of its voice; the pheasant is a coward who does not fly so as not to show itself and hides in trees and spiky bushes; the heron is naturally cautious and attentive. Other characteristics, such as intelligence, sagacity, good memory, courage, or incompatibility with other animals are variously stressed according to species. On the other hand, there are animals to which amazing characteristics are ascribed, such as the *arghūn*, which has a large beak with numerous holes that produce different sounds

and beautiful melodies with the power to charm those who happen to hear them.³²

The direct source for the Ibn Bakhtishu' material is, according to the *Na't*, Ibn Bakhtishu' himself, but the original sources are unknown. It is highly likely, however, that the material derives from a lengthy experimental (and textual) tradition going back at least to the beginning of the Jundishapur School, especially since one of the sources mentioned in the bestiaries themselves is the ninth-century zoological work of 'Isa ibn 'Ali,³³ which can be related to the Nestorian Christian tradition of Jundishapur. There are no surviving texts through which the evolution of the *manāfi'* part of the *Na't* can be traced, however, for despite the existence of numerous references to medical works by Ibn Bakhtishu''s forbears, none of these are extant, and it is only distantly related to the Arab tradition of zoological enquiry as represented, for example, in the *Kitāb al-hayawān* of al-Jahiz.³⁴

The *manāfi'* material consists of a series of recipes explaining the use of different parts of Man, Woman, and all the other animals in order to cure illnesses and diseases. When, for example, the elephant's meat is cooked with water and salt and its gravy sipped, it provides relief from chronic asthma. Drinking the stewed and dried brain of the jackdaw combined with vinegar of squill relieves pain of the spleen. There are also remedies for psychological illnesses, such as phobias. A man who hangs over himself the eyes of the bat does not fear scorpions. Dried, pounded, and imbibed, the testicles of the deer make the penis rise and prevent it from falling.

But although the majority of the benefits mentioned are strictly medical, others are magical: when, for example, the spleen of the ass is dried in the shade, pounded, and put in the skin of a domestic gazelle, the person on whose body it is hung acquires glory and love.

Other animals have cosmetic uses. The deer's marrow, boiled with laurel vinegar and mixed with water of trefoil and honey, is a scented ointment for the body. The excrement of the donkey, mixed with cow's bladder and pulverized, can be used as an ointment for the hair, which then becomes thicker and more beautiful.

THE UNICORN IN THE *KITĀB NA'T AL-HAYAWĀN*

The lore of the unicorn in the *Na't* is interesting both for the questions that it poses about the relationship between miniatures and text, and for the rich and complex array of sources called on by that text.³⁵

The many animals treated in the *Na't* are grouped into broad categories: quadrupeds, birds, fish, and insects. These categories may be subdivided, and in fact the Unicorn appears within that segment of the quadrupeds specifically devoted to the Wild Quadrupeds (*al-qawl fī al-hayawān al-wahsh*, folio 162v).

Each animal is usually represented by one miniature. For the unicorn, however, there are three miniatures, in two separate chapters. The second chapter concludes the block treating both domestic and wild quadrupeds, and its position, as we will see, is justified by the nature of the narrative it contains. But it is not immediately preceded by the first unicorn chapter, which is located within the segment specifically devoted to wild quadrupeds (*al-qawl fī al-hayawān al-wahsh*); the two are separated by seven intervening chapters treating other animals. This apparently curious arrangement may be best accounted for on the supposition that the compiler of the *Na't* was actually unaware that the animal discussed in the later chapter was to be associated with the unicorn. In fact, only the earlier chapter is explicitly related to the unicorn, and it is solely through external evidence that a connection between the two can be established. Whereas the first actually names the unicorn, *kardunn*,³⁶ the second, despite containing a narrative identifiable as unicorn lore, refers only to a generic *dābba*.³⁷ Both chapters, it may be noted, are structurally atypical; each one provides us with a fascinating and unusually extended narrative, and the first is also exceptional in that it contains two miniatures.

The beginning of the first chapter is deceptive, since the heading (folio 196r) makes no mention of the unicorn but instead reads, "Characteristics of the animal (*dābba*) called [*wa'*]³⁸ (mountain goat) in Syriac. Some people call it *rīmā* (white gazelle)." There follows immediately the first miniature (fig. 1), which depicts a hooved quadruped without horns. The ensuing text (fig. 2) begins prosaically enough with a comparative definition of its size. But soon there is mention of the telltale horn, and after the ensuing account of the method used to capture this animal, it is referred to as the *kardunn* (fig. 3). The second



Fig. 1. Fol. 196r: The *rīmā* (white gazelle), part of the lore of the unicorn, folio 23.5 × 16 cm; miniature 11.1 × 13 cm. Ibn Bakhtīshū', *Kitāb na't al-hayawān*, North Jazira (?), ca 1220. London, British Library, Or. 2784. (Photo: courtesy of the British Library)

miniature, which is placed after this reference, is accordingly captioned "Representation of the *kardunn*" and depicts a unicorn (fig. 4). The complete text following the first miniature reads as follows (figs. 1–5):

[Folio 196r] This animal is, in bulk, as small as a kid, which it resembles. It is very quiet, but it has such strength and speed [folio 196v] that the hunters cannot capture it. It has a single long horn in the middle of its head, erect and straight, with which it butts other animals and fights with them. Nothing can defeat it. The strategy used to hunt it is that a young pure virgin is put in its path. When the animal sees her it jumps into her lap as if it wants to suckle, this being a natural inclination in this

مِنَ النُّومِ فِيهَا تَأْتِيهَا النَّعْصُ وَهِيَ عَلَى مَلِكِ إِحْيَاك
 مُشَدُّونَهَا وَتَأْتِيهَا هِيَ عَلَى مَلِكِ إِحْيَاك وَهِيَ إِحْيَاك
 تَصَادُ هَذِهِ الدَّابَّةُ وَنَحْمُ نَوْمُهَا وَنَحْمُ نَوْمُهَا
 كَثُرَ فِي بِلَادِ النُّبُوَّةِ وَالْحِشَّةِ وَقَالَ مُحَمَّدُ بْنُ
 مُوسَى الْمُزَنِّيُّ فِي كِتَابِ الْمَمَالِكِ وَالْمَسَالِكِ أَنَّ كَرْدَنَّ
 يَشْتَرُ كَمَا يَشْتَرُ الْبَعِيرَ وَالْبَقْرَ وَالغَنَمَ وَهُوَ
 قَوْقُ الْجَامُوسِ وَكَهْ قَرْنٌ وَاحِدٌ طَوْلُهُ ذِرَاعٌ
 وَغَلْظُهُ قُبْحَانٌ إِذَا شَقَّ رَأْيَ فِي بَاطِنِهِ
 يَهْدِي فِي بَاطِنِهِ

الْحَصْرُ مَا يَجْرَعُهُ الْقَنَاصُ ثُمَّ يَأْتِيهَا فِي
 وَسْطِ رَأْيِهَا قَرْنٌ وَاحِدٌ طَوِيلٌ مُسْتَعِيمٌ
 يَدْبُرُ بِطَرَفِهَا سَائِرَ الْجِيَانِ وَتَجَاهِدُهَا فَلَا
 يَغْلِبُهَا شَيْءٌ وَأَحْيَلُ لِحَيْدِهَا بَارِعَةٌ لَهَا
 فَتَاةٌ عِدْرَاءُ وَصِيَّةٌ فَاذَا رَأَتْهَا الدَّابَّةُ رَتَبَتْ
 إِلَى جِجْرِهَا كَمَا تَأْتِي بِدِرْضَاءِ وَهِيَ مَحْبَبَةٌ
 فِي هَذِهِ الدَّابَّةِ طَبِيعَتُهُ فَاذَا صَارَتْ فِي جِجْرِ
 الْفَتَاةِ رَضَعَتْهُ مِنْ ثَدْيِهَا عَلَى غَيْرِ وَجُودِ اللَّيْلِ
 فِيهَا حَتَّى تَصْرُبَ كَمَا تَصْرُبُ مِنَ الْخَمْرِ وَاسْتَوْدَعْتُ الْوَسْطَانَ

Figs. 2 (right) and 3 (left). Fols. 196v and 197r: Text of the chapter on the Unicorn, folios 23.5 × 16 cm. Ibn Bakhtishū', *Kitāb na'ī al-hayawān*. London, British Library, Or. 2784. (Photo: courtesy of the British Library)

beast. And when it is in her lap it suckles her breasts, even though there is no milk in them, until it becomes like someone drunk from wine or someone drowsy with [folio 197r] sleep. The hunters come to it when it is in that condition and tie it up securely. It is by means of this stratagem that this animal is hunted. People say that it is widespread in the regions of Nubia and Abyssinia. Muhammad ibn Mūsā al-Munajjim, in the *Kitāb al-mamālik wa al-masālik* said that the *kardunn*...has one horn a cubit long and two fists thick. When split it is possible to see inside it a blackness within its whiteness, [folio 197v, with the heading "Representation of the *kardunn*" followed by a miniature] and shapes like the figure of a man or an animal or a fish or other things. The Chinese make belts out of it, and one belt can reach the value of a hundred [folio 198r, fig. 5] to a thousand and even three

thousand dinars, and even more. It can kill the elephant. Usefulness of the *kardunn*: If part of its horn is heated it exudes smells and it is a protection against magic and things of that sort. The Chinese kings hang it on themselves as a protection against all evil things. This animal is not mentioned in the Book of Characteristics (*Kitāb al-na'ī*), but it is found in the Book by Ibn Bakhtishū' so I have mentioned it here.

The second section devoted to the unicorn follows after intervening material on seven other "wild quadrupeds": the gazelle, the hedgehog, the mountain sheep, the steinbock, the skink, the lion, and a beast called *jamūmūn*. Uncharacteristically, the title of this second section (folio 211v, fig. 6) defines the animal to be discussed not by name but by habitat: "Characteristics



الى الف دينار الى ثلثة الف دينار وما زاد
 على ذلك ومن يشك الفيل
 والكار
 انه ان حزن منه طرد الريح وهو حزين
 السور وغيره من اهل الصين يعلقونه
 عليهم جزرا من جميع الاشياء التي
 هذا الحيوان لم يكن له ذكر
 في كتاب النعت بل هو في كتاب
 ابن حنبل وشيوخه وذكره هاهنا

Fig. 4 (right). Fol. 197v: The *kardunn* (unicorn), 12 × 13.5 cm. Ibn Bakhūshū', *Kitāb na'ī al-hayawān*. London, British Library, Or. 2784. (Photo: courtesy of the British Library)

Fig. 5 (left). Fol. 198r: Text of the chapter on the unicorn, folio 23.5 × 16 cm. Ibn Bakhtishū', *Kitāb na'ī al-hayawān*. London, British Library, Or. 2784. (Photo: courtesy of the British Library)

of the animal (*dābba*) that lives in the *Shahrūs*³⁹ desert in the Oriental region." The ensuing text can be considered one of the most attractive pieces of narrative in medieval Arabic scientific literature:

This beast is small, with two horns similar to the horns of the antelope. It lives in this desert, in which dwell predatory animals, wild animals, and birds that are accustomed to it. It [folio 212r, fig. 7] lives off the herbage, green parts, and trees of the desert. In the desert there are valleys through which water flows in winter and spring, only to dry up in summer. Then, throughout the whole length and breadth of this desert, there is no watercourse or place with water in it, except

for one pool into which these rivers flow when they contain water. There the water collects, but when it has done so it becomes a deadly poison, and any animal that drinks it dies immediately. So the animals in that desert avoid it and do not [folio 212v, fig. 8] drink it at all. They continue in this manner until, thirst-stricken, they are at the point of death, with no escape from that desert and nowhere in it where they may seek water. Then they all gather around this animal and beseech it submissively and humbly in order to appeal to it. In this appeal are united all the carnivores and herbivores, which are naturally hostile to one another. When it sees them acting thus it responds and proceeds to lead them like their Prince with them as followers [folio 213r: miniature titled

تَعِيشُ مِنْ عَشْبِ الصَّحْرَاءِ وَرِاضَتِهَا وَأَجْرَاهَا
 وَفِي الصَّحْرَاءِ أَوْدِيَةٌ تَحْتَرِقُ فِيهَا الْمِيَاهُ أَيَّامَ
 الشَّتَاءِ وَالرَّبِيعِ ثُمَّ تَجَفُّ أَيَّامَ الصَّيْفِ فَلَا مَقَرَّ
 فِي تِلْكَ الصَّحْرَاءِ عَلَى طَوْلِهَا وَعِزِّضِهَا وَادٍ
 وَلَا مَوْضِعَ مَاءٍ إِلَّا عَذِيرٌ وَأَجْدٌ تَنْصَبُ فِيهِ تِلْكَ
 الْأَوْدِيَةُ أَيَّامَ تَجَرُّي فِيهَا الْمِيَاهُ فَجَمَعَ الْمَاءُ
 فِيهِ مَاذَا اجْتَمَعَ الْمَاءُ فِيهِ صَارَ سَمًّا فَاثَانًا
 لَا تَشْرَبُهُ شَيْءٌ مِنَ الْحَيَوَانِ إِلَّا مَاتَ مِنْ سُمِّهَا
 فَخْتَبَهُ الْحَيَوَانُ الَّذِي فِي بِلْدَانِ الصَّحْرَاءِ وَلَا

وَيَسْتَلِذُّهَا بِذَنبِهِ لِكَيْ لَا تَدْخُلَ فِيهِ الْحَيَّةُ
 ثُمَّ يَأْخُذُ الْحَيَّةُ مِنْ قِبَلِ رَأْسِهَا حَتَّى يَقْطَعَهَا
 بِأَيْسَانِهِ فَاذَا قَتَلَهَا غَسَلَ عَنْهُ الْعَذِيرُ

مِنْ دَابَّةٍ صَغِيرَةٍ لَهَا قَرْنَانِ كَهَرْنِي الظُّبْيِ
 وَهِيَ تَسْكُنُ مَاءَ الصَّحْرَاءِ فِي الصَّحْرِ اسْتَبَاحَ
 وَوَحُوسٍ وَطَيْرُ الْفَنَاءِ لَهَا مَقْعَةٌ فِيهَا وَهِيَ

Figs. 6 (right) and 7 (left). Fol. 211v and 212r: Text of the chapter on the *dābba* that lives in the *Shahrūs* desert, folios 23.5 × 16 cm. Ibn Bakhtishū', *Kitāb na't al-hayawān*. London, British Library, Or. 2784. (Photo: courtesy of the British Library)

"Representation of the animal (*dābba*), with all the wild animals behind it, and the pool," fig. 9] behind it, and when it reaches that pool it bathes in it [folio 213v, fig. 10] and bathes its horns repeatedly in its water. Then it begins to drink the water, and after that the wild beasts and predatory animals go down to the water and drink and bathe in that poisonous pool, the water of which has become fresh and good. It remains sweet and good to drink for thirty nights, and then it reverts to its previous state, so they avoid it. Then, they go back to the *dābba* to beseech it to do the same again. Things continue in the way we have described until winter comes and there is abundant water, when they can dispense with all that.

It is clear that this section, with its single, unified dramatic story and its absence of any medicinal pre-

scriptions, conforms not at all to the normal bipartite expository pattern of *na't* plus *manāfi'*. But the previous section, too, only partially conforms, for its brief *manāfi'* part is followed by a frank admission that the preceding narrative does not derive from the *na't* material. In exploring the ramifications of the textual tradition within which both may be situated, we should first turn to the ancestor of medieval bestiaries, the *Physiologus*, where we find the basic outline of unicorn's capture, but with the suckling virgin already identified with the Virgin Mary. Much later, we encounter, at the opposite extreme from this Christianized and moralizing version, a fascinating reworking of the narrative, projected onto real ani-



تَشَبَّ مِنْهُ شَيْئًا لِأَنْزَالِ كَذَلِكَ حَتَّى يَصْرَفَ نَهْجَهَا
 بِمِطْسٍ وَتَشْرَفُ عَلَى الْهَلَاكِ وَتَقِرُّ لَهَا مَذْمُومَةٌ
 عَنْ نَأَى الْحَجَرِ وَلَا مَوْضِعَ تَطْلُبُ الْمَاءَ فِيهِ
 بِأَجْمَعِيًّا لِأَيْدِي الدَّابَّةِ مُتَصَرِّعَةً حَائِضَةً
 ذَلِيلَةً حَتَّى تَطْلُبَ إِلَيْهَا فَيَشْتَرِكُ فِي
 لِبْسَانِهَا كُلُّ ذِي عَرَاوَةِ حَوْسَرَةٍ
 مِنْ سَبْعِ صَارِ أَوْ أَكِلِ عَشْبٍ فَإِنَّمَا
 إِذَا رَأَتْ ذَلِكَ مِنْهُمْ أَجَابَتْهُمْ قَمَضِيَّةً
 لَهُمْ وَهِيَ لَهُمْ نَائِيَةٌ وَمِنْ الْأَنْبَاءِ

Fig. 8 (right). Fol. 212v: Text of the chapter on the *dābba* that lives in the *Shahrūs* desert, folio 23.5 × 16 cm. Ibn Bakhtīshū', *Kitāb na't al-hayawān*. London, British Library, Or. 2784. (Photo: courtesy of the British Library)

Fig. 9 (left). Fol. 213r: The *dābba* that lives in the *Shahrūs* desert, with the wild animals behind it and the pool (part of the lore of the unicorn), 15.5 × 15.5 cm. Ibn Bakhtīshū', *Kitāb na't al-hayawān*. London, British Library, Or. 2784. (Photo: courtesy of the British Library)

mals. This appears in Urreta's *Historia ... de los Grandes y Remotos Reynos de la Etiopia*,⁴⁰ written in 1610:

The first wild animal we are going to discuss is the most wild, the rhinoceros: on the top of the nostril there is a horn, very big, large, sharpening towards the point, hard, and so sharp that it can penetrate anything... This animal is so strong, brave, and wild that it is not possible to hunt it alive, but it is possible to kill it with a stratagem ... They live in the province of Goyame at the bottom of the Mountains of the Moon, at the sources of the river Nile. When the hunters hear that a rhinoceros is near at hand, they prepare their guns and take a female monkey, trained for this specific purpose, and bring her

to the place where the rhinoceros has been reported to be. When the monkey sees the rhinoceros she begins to jump, dance, and play a lot of tricks to attract him. The rhinoceros likes this entertainment, and the monkey is able to throw one leg over his back. Then she begins scratching and rubbing his hide, giving him great pleasure. Finally, she jumps on the ground again and starts to rub his belly, and the rhinoceros is so pleased that he stretches himself out upon the ground, overcome with pleasure. At this point the hunters, who have been hidden in some safe place, come up with their weapons and shoot him in the navel, which is the most delicate part of the animal, and kill him.

وَتَقْبَلُ قَرَابَهَا بِمَاءٍ مَرَارًا ثُمَّ تَشْرَبُ
 مِنَ الْمَاءِ ثُمَّ تَزِدُ تَعْدَدَ ذَلِكَ الْوَجْهَةِ وَالسَّبَاعُ
 تَشْرَبُ وَتَقْبَلُ عَلَى ذَلِكَ الْعَدِيرِ الْبَيْتِ
 وَيَصِيرُ مَاءُ وَهُوَ عِدَابٌ طَيِّبًا فَلَا يَزَالُ عِدَابًا
 شَرُوبًا حَتَّى يَأْتِيَهُ ثَلَاثُونَ لَيْلَةً ثُمَّ يَعُودُ
 كَأَجَلِهِ الْأَوَّلِ فِي مَجْمُوعَتِهِ ثُمَّ يَعُودُ تَطْلُبُ
 أَيْضًا حَتَّى تَعْبُدُ مِثْلَ ذَلِكَ الصَّنِيعِ وَلَا يَرَاكَ
 عَلَى مَا وَصَفْنَا حَتَّى يَكُونَ أَشْتَأَ وَكَثُرَ الْمِيَاهُ
 فَإِذَا بَسَّتْ عَمْرُكَ

في نورد
 في الدابة

Fig. 10. Fol. 213v: text of the chapter on the *dābba* that lives in the *Shahrūs* desert, folio 23.5 × 16 cm. Ibn Bakhtishū', *Kitāb na't al-hayawān*. London, British Library, Or. 2784. (Photo: courtesy of the British Library)

In his study, *Lore of the Unicorn*, Shepard is clearly correct in thinking that this tale is closely related to the virgin-capture story.⁴¹ But he fails to relate how Urreta's account of the rhinoceros ends: "This animal is not to be confused with the unicorn (*monoceros* in Greek) as some people claim, because they are in fact two completely different animals." This statement is followed immediately by an account of the unicorn:

The unicorn, in fact, is a symbol of a loving heart, noble and amiable. This animal, one of the most fierce and brave beasts bred in the mountains, becomes tame when it sees a virgin, and falls at her feet. These unicorns are

found in the same province of Goyame, at the bottom of the Mountains of the Moon...

We thus have a paradox: a pseudo-naturalistic transformation of the legend is juxtaposed with a reduced version of it, while the author explicitly denies any relationship between the two and at the same time emphasizes identity of location. Although the legend of the virgin-capture was well known in the West and was repeatedly told over the centuries by authors dealing with the unicorn, what is particularly puzzling is that there is no earlier source, as far as I have ascertained, for Urreta's "naturalistic" version of it.⁴²

In any case, it can hardly be fortuitous that the East African—or more precisely Ethiopian/Abyssinian—locus given by Urreta is the same as that specified for the unicorn in the *Na't*. On the other hand, it may be no more than a pleasing coincidence (or more likely the reflection of an Orientalist convention) that Marcel Devic relocates to Ethiopia another unicorn narrative,⁴³ substituting that setting for the vague "Moorish-land" where his source, Laurens Catelan, a French author of the seventeenth century, situated a version of the legend that forms the second major narrative in the *Na't*.⁴⁴

This likewise presents us with intriguing problems of transmission. It too can certainly be traced back to the Greek *Physiologus*, in which the animal in question is again the unicorn, and not, as in the *Na't*, an antelope-like creature with two horns. In the *Physiologus*, when the animals assemble in the evening beside the great water, they find that a serpent has left its venom floating upon the surface. They see or smell the venom and do not drink, but wait for the unicorn. At last it comes, steps into the water and, in another Christianizing gesture, makes the sign of the cross over it with its horn, thus rendering the water drinkable again.

The link between this version and that in the *Na't* remains to be investigated, but as yet no intermediary has come to light. There is evidence, however, that this legend was known in learned circles in western Europe long before Catelan, for it appears—alongside the theme of the virgin-capture—in a well-known Latin poem written by Natalis Comes around 1550.⁴⁵ Here, interestingly, the story of the water is set in India, on the banks of the Ganges. But there is also an earlier, if more obscure, reference, which appears in the form of an eyewitness account. One John of Hesse, a priest of Utrecht, visited the Holy Land in 1389 and reported:

Near the field of Helyon, there is a river called Marah, the water of which is very bitter, into which Moses struck his staff and made the water sweet so that the people of Israel might drink. And even in our times, it is said, venomous animals poison that water after the setting of the sun, so that the good animals cannot drink of it; but in the morning, after the sunrise, the unicorn comes and dips his horn into the stream, driving the poison from it so that the good animals can drink there during the day. This I have seen myself.⁴⁶

In view of the fact that all these versions follow the *Physiologus* in identifying as the unicorn the animal that purifies poisonous water, it is difficult to avoid the conclusion that the version in the *Na't* also derives from the lore of the unicorn. But how the identification of the animal was lost must remain a matter of conjecture, although it is relevant to note that, unlike "unicorn," the Arabic term *kardunn* contains no etymological indication of the animal's appearance. Thus it is hardly surprising to find al-'Awfi, in the early thirteenth century, asserting that it has two horns.⁴⁷ The text of the *Na't* appears to have anticipated this, and to have taken the further step of discarding the appellation *kardunn* in favor of the virtual anonymity of *dābba*. A similar blurring of identity may be observed in the related Escorial and Paris bestiaries, despite the retention in each of them of the heading *karkadann* (a variant of *kardunn*) above the section containing the virgin-capture legend.⁴⁸ The *karkadann*, their text explains, is an animal called by the Arabs *harīsh* and by Syriac speakers (*suryāniyyūn*) *rīmā*. In these two later bestiaries the names *karkadann* and *rīmā* are associated with the same animal, whereas in the *Na't* they are clearly distinguished, each being illustrated by a separate miniature. (Similar problems of identification occur in the West, where the unicorn may be confused with the gazelle, the oryx, the ass, the rhinoceros, or even the hippopotamus.)⁴⁹

But the other illustrated manuscripts of the Ibn Bakhtishu' tradition also differ from the *Na't* in more significant respects, the most striking of which is that they all omit the narrative of the poisoned water, as does the later Arabic bestiary tradition represented by al-Kahhal and al-Damiri; the *Na't* is thus unique among the various Arabic and Persian versions in including it. On the other hand, all contain the legend of the capture of the unicorn, but with one significant difference: in the *Na't* it is specified that the unicorn wants to suckle a virgin's breasts, but in the Morgan *Manāfi*⁵⁰ the paradox of the suckling virgin is avoided by sub-

stituting a beautiful girl from a brothel, who tempts the animal with her breasts. The animal (represented as a small kid with two horns) suckles for about an hour and then falls asleep from the milk, upon which the story ends with the exclamation, "Allah knows best" (folio 54r and v). In its overt rather than muted sexuality, this version could be viewed as a transition to the monkey-and-rhinoceros version, with its amusing and explicit parody of seduction and male subjugation.

There is also some distance between the source version of the legend of the water and the version in the *Na't*. In the *Na't*, the elision of the unicorn is reinforced by the separation of the section in question from the preceding unicorn narrative by the accounts of seven other animals. But the position of the water narrative, it may be argued, is by no means random. It concludes the treatment of all quadrupeds, domestic and wild (being followed by the opening of the second section of the manuscript, on birds), and it seems hardly fortuitous that it should harmoniously assemble in its text "all the animals—carnivores and herbivores—that are naturally hostile to one another" (folio 212v). Just as the unicorn generates layers of Christological significance, so this concluding *dābba* stands for the leader of the community of animals; it "proceeds to lead them like their Prince (*amīr*) with them as followers," and its ability to render the poisonous water sweet and drinkable may be readily associated with the standard collocation of water and princely munificence. In this *madīhī* (panegyric) topos, a general parallel is established between the bounty of the Prince and the sea or the rain,⁵¹ while in the particular pre-Islamic instance of the extended simile by which al-A'shā praises Qays, the association culminates in a "fluvial" generosity that the people may count on in times of dearth,⁵² as do the animals in the *Na't*.

Despite the central role of the unicorn in the earliest extant version, it is difficult not to think that the narrative in the *Na't* was adopted ready-made—in other words, that the unicorn had been discarded at some earlier stage in transmission. Accordingly, as a matter of authorial intention, the composition of the *Na't* cannot be regarded as manifesting a deliberate separation of related material. Equally, the elision of the unicorn from the water legend means that the miniature illustrating it cannot be regarded as forming part of a unicorn cycle, and it therefore needs to be considered separately.

THE MINIATURES

Initially, the two miniatures included within the *kardunn* section (figs. 1–5) also appear quite unrelated, in the obvious sense that they depict very different animals. At the same time, however, they may be viewed as forming a complementary pair, directly related to the text they enclose, but differing radically due to their positions with respect to the core narrative of capture. The first (fig. 1), which precedes the narrative, echoes the *waʿl/rimā* of the title above and the beginning of the text beneath, which defines the animal in question as resembling a kid in size. Accordingly, the artist provides a homely depiction of a hooved quadruped that is typologically in full accord with the preceding and following miniatures of such related animals as the antelope or deer and is placed in a familiar relationship with vegetation and the ubiquitous band of grass beneath. Everything points to a modest herbivore with no extraordinary attributes, and the animal is, moreover, depicted as hornless, thereby creating in the reader a sense of zoological familiarity, which is about to be abruptly contradicted in the text by the mention of a single horn and by the onset of the description of the capture stratagem. Assuming, as we surely must, that the painter did not produce this miniature in ignorance of the following text, it is difficult to avoid the conclusion that he is consciously contributing to the dramatic plotting of the narrative by visually thwarting its line of development and thereby creating false expectations in the reader. By suggesting a continuation with the quotidian rather than introducing the extraordinary, the first miniature enhances the reaction of surprise and astonishment at what follows.

The second miniature (fig. 4) follows the conclusion of the capture narrative as soon as the page layout permits, at the top of folio 197v. Here the painter exults in the imaginary, providing the legendary animal not only with a single horn but also with wings.⁵³ Furthermore, the composition of this image is explicitly contrasted with that of the preceding miniature; its subject is given special emphasis by being depicted alone, without any trammels of landscape to impede flight. The legs and tail of the creature indicate dynamic movement, in contrast to the stillness of the animal in the first miniature, and its mythical aspect is emphasized by the long, pointed horn angled dramatically back from its forward-thrusting body and by the sweeping curve of its arched wings. The heading

above this image is a bold *ṣūrat al-kardunn* (image of the *kardunn*), with no descriptive or narrative addition (and an incidental felicitous punning aspect: The miniature is positioned so that the first word of the text beneath it is *surā*, referring to the various images revealed in a cross-section of the horn).

The two miniatures thus form a considered counterpoint to the text that they enclose; their connection to it is at once clear and oblique, neither one being simply an illustrative appendage. Indeed, they are both singularly devoid of narrative elements; their function is to frame rather than to paraphrase, unless the stark contrast in content between them can be said to comment on the intervening textual transformation of the mundane into the fabulous. Ultimately, however, their relationship is one of a dynamic opposition directed more to each other than to the text they purport to serve, and to the extent that this is so, their artist consciously stakes out an autonomous pictorial domain.

These two miniatures could even be termed iconic in relation to the confusion of the sources regarding the unicorn and its identification. In contrast, the miniature of the *dābba* in the water legend reflects no such ambiguity, nor does it stand outside the narrative (fig. 9). Rather, it represents the particular moment in the lore of the fantastic beast in the desert of *Shahrūs* when all the different animals wait for it to transform the poisonous water into good water. From a Western perspective, illustrating this moment of stasis could be seen as inappropriate for a highly dramatic text. One might rather expect that the most obvious passage for illustration would be that describing the beast actually dipping its horn into the water. Indeed it is this moment that is illustrated in an iconographic tradition in the West, albeit one that is neither widespread nor very well known. A splendid example is provided by a sixteenth-century tapestry—one of a series in the Cloisters Museum in New York representing the hunt of the unicorn. It shows the exact moment when the unicorn dips its horn into the water and all the animals around the pool watch and wait for their turn to drink.⁵⁴ But a fundamental difference between a tapestry and a miniature is precisely that the tapestry has to internalize the narrative pictorially and render it explicit, while accompanying text allows the miniature to omit as well as to include—to select more freely the moments and motifs to be illustrated.

In the case of the *dābba*, the narrative begins on folio 211v and the miniature comes on folio 213r.

exactly at the point where the text says that the *dābba* is arriving at the pool. Clearly the layout is carefully planned, and it is difficult to imagine that the painter was not instrumental in deciding where the scribe should leave space for the miniature, that is, in selecting precisely what he wanted to illustrate. But the fact that he chooses the instant before the lifesaving act of purification is not totally surprising; it is a moment of keen anticipation, intrinsically no less dramatic than that in the tapestry. He stresses, rather, the suspense—the pause before resolution with all its attendant tension. That tension is immediately resolved as the eye passes over the miniature to the one crucial line of text below it, which informs us that the *dābba* does indeed enter the pool.

If, in this case, the miniature is fully integrated within the text and explicitly represents a climactic moment of it, it also adds, by means of its visual narrative, a gloss on the textual equation of the *dābba* with the princely savior of the community. Larger than the norm and centrally placed on the page, with just a one-line title above it and one line of text below it, the miniature has at its midpoint the dominant figure of the *dābba*, the animal-prince, flanked on each side by another animal. These two may be taken as representatives of the carnivores and herbivores, and they certainly stand for “all the wild beasts” (*al-wuhūsh jamī'an*) in the title above them. As portrayed, they may be identified respectively as a somewhat less-than-ferocious carnivore, the fox, and an auspicious herbivore, the hare; smaller and subordinate in relation to the *dābba*, they know their place. In addition, it can hardly be fortuitous that the *dābba* is centrally positioned on the vertical axis, even if it is perhaps fanciful to read the conventional compositional elements of tree, grass strip, and pool as untamed counterparts of the palace garden. In any event, the moment is not just anticipatory but expresses of the power, status, and authority of the prince as he dominates both his subjects and his environment.

Were the *Na'ṭ* to have been a gift for a princely patron, the presence of his metaphorical equivalent in the miniature could well have been read not just as homage but also as a prompt to the performance of comparable acts of succor and generosity. By being identified with the *dābba*-deliverer, the patron is tacitly encouraged to act with appropriate munificence. But this interpretation points beyond the relationship of text and image to that of image and reader, and hence to cultural codes as determinants of meaning; bringing

such factors into play allows for further interpretative possibilities. Consideration of the Ibn Bakhtishu' corpus as a whole, for example, might suggest that behind the equation of *dābba* and prince lies a more complex social world with various centers of production and consumption, one in which such manuscripts were not necessarily presented to, or produced at the behest of, the ruler but represented the incorporation of facets of court culture within the intellectual world of scholarship. The location of the *Na'ṭ* within such a milieu would give particular meaning to the visual discourse of the prefatory illustrations that deal with the transmission of knowledge and accord prominence to the sage as well as to the prince.

The individual paintings discussed here thus illuminate and are illuminated by the texts, to which they relate in simultaneously bold and subtle ways. But even if the two narratives in question are exceptionally extended and vivid, giving ample scope for visual invention, the discussion above nevertheless relates methodologically to the need, increasingly recognized in current scholarship, to pay constant heed to the dynamics of the relationship between text and miniature. Concerning the *Na'ṭ*, some of the remainder of its text is different in nature, so that other forms of text-miniature interaction need to be considered. Narrative elements, for example, may be added in a miniature and verbalized in its heading, as with the “Representation of the tortoise, which has just caught a bird that has fallen into the water” (folio 82r); more generally, we find careful positioning of the miniature in relation to its text environment. Titles, in particular, have the effect of inserting the figural reading of the miniature within the literal reading of the surrounding text; at the same time a title itself may be visually integrated within the miniature. In the case of the tortoise, the title runs along the left side of the miniature, thereby framing it, while in other miniatures it serves to provide a horizontal upper border, a counterpart to the strip of grass that delimits the bottom. But in addition to marking it off, the title may be included within the miniature, threaded between the branches of the tree to give tangible form to the constant interweaving of textual and visual readings that the study of such illustrated manuscripts requires.

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NOTES

Author's note: Although I have studied the so-called Ibn Baktishu' bestiaries for several years, this article has been inspired by the research I conducted while a Research Fellow in the Aga Khan Program for Islamic Art at Harvard University, from February to May 2001, and it has been conceived as a prelude to my forthcoming book on the bestiaries. My warm thanks to Professor Gülru Necipoğlu for her gracious welcome and assistance. My gratitude also goes to Professor Michael Rogers, who has read and commented on a draft of this article. I should also like to thank the staff in the various libraries where the manuscripts discussed are kept: the British Library in London; the Bibliothèque nationale de France in Paris; the Biblioteca Real in San Lorenzo del Escorial; and the Pierpont Morgan Library in New York.

1. Ibn Abi Usaybi'a, *'Uyūn al-anbā' fī tabāqāt al-atibbā'*, 2 vols. (Cairo, 1299/1882): vol. 1, pp. 128–29.
2. The site is now called Shahabad, in the province of Khuzistan in Southwest Persia. See E. G. Browne, *History of Arabian Medicine* (Cambridge, 1921), p. 19, note 1; C. Huart and A. Sayili, "Gondēshāpūr," *Encyclopaedia of Islam*, 2d ed. Yuhanna ibn Masawayh would later become the director of the *Bayt al-hikma*. Hunayn ibn Ishaq was his pupil. In addition to his more famous books, he also wrote a *Kitāb al-hayawān*, which seems to survive in excerpts in the Latin manuscript *Liber de naturis animalium ex eis quod [sic] filius Messye dixit in libro de animalibus*. Oxford, Bodleian Library Digby 69. See C. Brockelmann, *Geschichte der arabischen Literatur*, 2d ed., 2 vols. (Leiden, 1945–49); *Supplement*, 3 vols. (Leiden, 1937–1942), vol. 3, pp. 231–36; J. and C. Vadet, "Ibn Māsawayh," *Encyclopaedia of Islam*, 2d ed.; D. de Lacy O'Leary, *How Greek Science Passed to the Arabs* (London, 1949), pp. 163–64; M. Ullmann, *Die Natur- und Geheimwissenschaften im Islam*, 2 vols. (Leiden, 1970–72), vol. 2, p. 19.
3. Ibn Abi Usaybi'a, *'Uyūn al-anbā'*, vol. 1, pp. 122–25. For a translation into English of the accounts given by Ibn Abi Usaybi'a of the Baktishu' family members, see A. Contadini, "The Ibn Baktishu' Bestiary Tradition: The Text and Its Sources," in *Medicina nei Secoli: Arte e Scienza*, 6.2 (1994): 349–64.
4. Ibn Abi Usaybi'a, *'Uyūn al-anbā'*, vol. 1, p. 148.
5. Abu al-Hasan al-Mukhtar ibn Butlān (d. ca. 1065) was a celebrated Christian physician in Baghdad, known for his *Taqwīm al-sihha* (Almanac of Health), the Latin version of which was published in 1531 at Strasburg under the title *Tacuinum sanitatis*. See J. Schacht, "Ibn Butlān," *Encyclopaedia of Islam*, 2d ed.
6. Nasir al-Dawla may be identified with Amir Nasir al-Dawla Abu Nasr Ahmad ibn Marwan, the third and most important prince of the Marwanid dynasty of Diyarbakr, who succeeded his brother to the provincial sovereignty in 1011 and died in 1061. See E. von Zambaur, *Manuel de généalogie et de chronologie pour l'histoire de l'Islam* (Hanover, 1927), p. 136; H. F. Amedroz, "The Marwanid Dynasty at Mayyāfāriqīn in the Tenth and Eleventh Century A.D.," *Journal of the Royal Asiatic Society* (1903): 123–54, here 131–42. The dates during which this prince reigned correspond to Ibn Baktishu's lifetime (we know that the latter died around 1058). The fact that this Amir was established at Mayyāfāriqīn, where Ibn Baktishu' died, and that under his reign it became a center of learning with a vigorous cultural life (see Amedroz, "The Marwanid Dynasty," and V. Minorsky, "Caucasica in the History of Mayyāfāriqīn," *Bulletin of the School of Oriental and African Studies* 13, 1 (1949): 27–35), also contributes to this identification. It is, however, contradicted by M. Meyerhof, "An Arabic Compendium of Medical-Philosophical Definitions," *Isis* 10 (1928): 340–49, p. 342, note 13: "Amir Nasir al-Dawla was a descendant of the Hamdānid princes of Mosul, governor of Damascus in 1042 and later on vizier and commander of the Turkish troops to the Fatimid Caliph al-Mustansir in Cairo, where he was assassinated in 1074." There are, for example, problems linked to the name: Ibn Abi Usaybi'a cites him as Nasir and Zambaur as Nasr, while Meyerhof's Hamdanid prince is called Nasir by Zambaur. But these differences may be due to defective transcriptions, and the identification I have proposed, though not definitive, may be preferred. A further confusion has been created by the overzealous ascription by Brockelmann of the *Kitāb tabā'ī' al-hayawān wa-khawāssihā wa-manāfi' a'dā'ihā* to two members of the Baktishu' family, for in addition to its citation (in the form *Kitāb al-khawāss mujarrab al-manāfi'*) in the entry for Abu Sa'id 'Ubayd Allah ibn Jibra'il ibn Baktishu' (*Geschichte*, 1, p. 483), for which Ibn Abi Usaybi'a is cited as authority, it is also included (in the same form, with a reference to the same manuscript, Paris 2782) in the entry for 'Ubayd Allah ibn Jibra'il, physician to the Caliph al-Muttaqi, for whom he is said to have written another work in 330/941 (*Geschichte*, 1, p. 236). Ibn Abi Usaybi'a is not cited as a source.
7. See D. M. Dunlop, "Bimāristān," *Encyclopaedia of Islam*, 2d ed.
8. This text is extant in a manuscript in Leiden, no. 1332= Cod. 584, 2 Warn., dated 617 (1221). It has been edited and translated by F. Klein-Franke, *Abū Sa'id Ibn Baktishū': Risālah fī tibb an-nafsanīyah (Über die Heilung der Krankheiten der Seele und des Körpers)*, *Recherches*, n. s., *Orient chrétien*, vol. 4 (Beirut, 1977).
9. *Ibid.*, p. 17; see also F. Klein-Franke, *Vorlesungen über die Medizin im Islam*, *Sudhoffs Archiv*, Beiheft 23 (Wiesbaden, 1982), p. 103.
10. See M. W. Dols, *Medieval Islamic Medicine: Ibn Ridwān's Treatise "On the Prevention of Bodily Ills in Egypt"*, trans. with an introduction by M. W. Dols; Arabic text ed. A. S. Gamal (University of California Press, 1984), which has the Arabic text and a translation with a comprehensive introduction and bibliography on medicine in Islam. For Ibn Ridwan, see Ibn Abi Usaybi'a, *'Uyūn al-anbā'*, 2, p. 99.
11. We know that Christian physicians were still employed at the caliphal court in the thirteenth century: J. M. Fiey, *Chrétiens syriaques sous les Abbassides surtout à Bagdad (749–1258)* (Louvain, 1980), pp. 251–55.
12. British Library, Or. 2784.
13. Abu al-Khayr is the author of a medical work called *Al-Iqtidāb* and of poems in Syriac. Ibn al-Qifti, *Tarikh al-hukamā'* (Leipzig, 1903), pp. 332–33; J. Baumstark, *Geschichte der syrischen Litteratur* (Bonn, 1922), p. 306; A. Hartmann, *An-Nāsir li-Dīn Allāh (1180–1225)* (Berlin and New York, 1975), pp. 298–300.
14. Described by Ibn Jubayr in 1184: "Entre al-Shari et le quartier

- de la Porte de Basra se trouve la Suq de l'Hospice, qui est une petite cité où est situé l'hospice célèbre de Baghdad, sur le Tigre. Les médecins le visitent le lundi et le jeudi, y examinent l'état des malades et prescrivent le traitement qui leur veillent à la préparation des remèdes et aux régimes. C'est un grand édifice, avec des salles isolées (*maqasir*), des chambres, et toutes les commodités des constructions royales. L'eau y pénètre, venant du Tigre." Quoted in Ficy, *Chrétiens syriaques*, p. 255.
15. In 1942 the *Na't* was discussed in relation to the so-called Baghdad school in H. Buchthal, "Early Islamic Miniatures from Baghdad," *The Journal of the Walters Art Gallery* 5 (1942): 19–39.
 16. The literature on the Western bestiary is vast. The problem of text and image was approached at an early stage, such as in the 1942 work by S. A. Ives and H. Lehmann-Haupt, *An English Thirteenth-Century Bestiary: A New Discovery in Technique of Medieval Illumination* (New York, 1942). There are many studies on specific manuscripts, e.g., T. H. White, *The Book of Beasts: Being a Translation from a Latin Bestiary of the Twelfth Century* (London, 1954) and R. Barber, *Bestiary: Being an English Version of the Bodleian Library, Oxford, M.S. Bodley 764* (Woodbridge, 1999; first ed. The Folio Society, 1992), both of which include reproductions of the miniatures. More recently, studies have also focused not only on the relationship between text and image, but also on socio-historical context. See, for example, D. Hassig, *Medieval Bestiaries: Text, Image, Ideology* (Cambridge, 1995) and R. Baxter, *Bestiaries and Their Users in the Middle Ages* (London, 1998). See also note 29 for further bibliographical references.
 17. As, for example, in K. Weitzmann, *Illustrations in Roll and Codex: A Study of the Origin and Method of Text Illustration* (Princeton, 1947).
 18. C. Adle, "Recherche sur le module et le tracé correcteur dans la miniature orientale," *Le monde iranien et l'Islam*, vol. 3 (Geneva and Paris, 1975) pp. 81–105.
 19. As an important early work on Islamic painting that exhibits this approach, one may cite F. R. Martin, *The Miniature Painting and Painters of Persia, India, and Turkey from the Eighth to the Eighteenth Century*, 2 vols. (London, 1912). Note that although Martin includes a few examples of early Arab painting, he does not mention it in the title.
 20. On the relationship between the two, especially with regard to the 1295–99 *Kitāb manāfi' al-hayawān* in Persian (Pierpont Morgan Library, M 500), see A. Contadini, "The Horse in Two Manuscripts of Ibn Bakhtīshū's *Kitāb manāfi' al-hayawān*," in D. Alexander, ed., *Furusīyya: The Horse in the Art of the Near East*, 2 vols. (Riyad, 1996), vol. 1, pp. 142–47.
 21. The most important previous studies relate to the various illustrated manuscripts of the *Maqāmāt*. See, for example, O. Grabar, *The Illustrations of the Maqāmāt* (Chicago and London: University of Chicago Press, 1984) and D. James, "Space-Forms in the Work of Baghdad *Maqāmāt* Illustrators, 1225–58," *Bulletin of the School of Oriental and African Studies* 37 (1974): 305–20. But while these may discuss the relationship between miniatures, they do not consider in any detail the relationship between miniatures and text. For this we must turn to the excellent, integrated study of an early manuscript in Arabic (probably produced in a Persian environment, however) by P. Soucek, "An Illustrated Manu-
- script of al-Birūnī's *Chronology of Ancient Nations*," in P. J. Chelkowski, *The Scholar and the Saint: Studies in Commemoration of Abū'l-Rayhan al-Birūnī and Jalāl al-Dīn al-Rūmī* (New York, 1975), pp. 103–168.
 22. See, for example, O. Pancaroğlu, "Socializing Medicine: Illustrations of the *Kitāb al-Diryāq*," *Muqarnas* 18 (2001): 155–72.
 23. Ibn Abi Usaybī'a, *'Uyūn al-anbā'*, vol. 1, p. 69.
 24. Hajji Khalifa, *Kashf al-zunūn, Lexicon bibliographicum et encyclopaedicum*, 7 vols. (Leipzig, 1837), vol. 3, p. 121, and vol. 6, p. 362 respectively.
 25. This is mentioned by various sources including al-Damiri; see Ullmann, *Die Natur*, vol. 2, p. 23 and note 4.
 26. The passages in question are the following (square brackets indicate my reconstruction of a missing or faded word or passage): Fols. 94r–v: "Here ends the first part of the *Kitāb Na't al-hayawān* by Aristotle and [the *Kitāb*] *Manāfi' al-hayawān* by 'Ubayd Allah ibn Jibra'il ibn Bakhtīshū'." (This is the end of Man, Woman, and Quadrupeds. Birds follow.) Fols. 95r–v: "The author of this book says: when I read what the sage Aristotle said in his book on the characteristics of animals and found that he had not mentioned their usefulness, I wanted to [add what has been mentioned by the sage 'Ubayd Allah ibn Jibra'il] ibn Bakhtīshū' on the usefulness of animals, to make this book complete. I began it with the book of Aristotle and I [finished] it with the book by Ibn Bakhtīshū'. (That is, for the treatment of each animal, the Aristotelian material precedes that derived from Ibn Bakhtīshū'.) Everything quoted from Aristotle is *na't*, and everything quoted from Ibn Bakhtīshū' is *manfa'*. These two indications enable us to dispense with repeating their names. It is Allah who grants success." Fol. 198r, at the end of the treatment of the unicorn: "This animal receives no mention in the Book of Characteristics, but it is found in the Book by Ibn Bakhtīshū', so I have mentioned it here."
 27. As in British Library, Add. 7511.
 28. See I. Bekker's edition of Aristotle's *Historia Animalium: Aristoteles Opera*, 5 vols., (Berlin, 1831–70). See also *Aristotelis Opera Omnia, Graece et Latine*, ed. A. Firmin-Didot, 5 vols. (Paris, 1874–78), where the Greek version is based on Bekker; in particular see vol. 3: *De Animalibus Historia*, pp. 1–217. For recent editions, see D. M. Balme, *Aristotle: Historia animalium, Books 1–10* (Cambridge, 2000), and J. G. Lennox, *Aristotle: De partibus animalium, Books 1–4* (Oxford, 2001).
 29. For Timotheus of Gaza, see M. Haupt, "Excerpta ex Timothei Gazaei libris de animalibus," *Hermes* 3 (1869): 1–30; F. S. Bodenheimer and A. Rabinowitz, *Timotheus of Gaza's Book on Animals: Fragment of a Byzantine Paraphrase of an Animal-Book of the Fifth Century A.D.* (Leiden, 1949). See also Ullmann, *Die Natur*, vol. 2, p. 15. For a general view of the Arabic transmission of pseudo-Aristotelian texts, see C. E. Dubler, "Über arabische Pseudo-Aristotelica," *Asiatische Studien* 14 (1961): 33–92; see also R. Kruk, *Aristoteles semiticus-latinus: The Arabic Version of Aristotle's Parts of Animals: Book XI–XIV of the Kitāb al-hayawān* (Oxford, 1979). For general studies on the Arabic transmission of Greek science, see M. Steinschneider, *Die arabischen Übersetzungen aus dem Griechischen* (Leipzig: Académie des Inscriptions, 1897); F. Gabrieli, "L'eredità classica nel medioevo musulmano," *Scientia* (Jan.–Feb. 1949): 15–18, and de Lacy O'Leary, *Greek Science*. For

- science and medicine, in addition to the fundamental and scholarly work by Ullmann, *Die Natur*, see C. Elgood, *A Medical History of Persia and the Eastern Caliphate from the Earliest Times until the Year A.D. 1932* (Cambridge, 1951); M. Plessner, "Storia delle scienze nell'Islam," *Le Civiltà dell'Oriente* 3 (1958): 449–92; V. F. Wüstenfeld, *Geschichte der arabischen Ärzte und Naturforscher* (Hildesheim, 1963); M. Ullmann, *Islamic Medicine* (Edinburgh, 1978).
30. Various places from Egypt to Syria and a date between the second and the fourth century have been suggested. The literature on the *Physiologus* is vast. The text has been studied in the different editions of the Greek and Latin versions. The classical works on it, still fundamental, are: F. Lauchert, *Geschichte des Physiologus* (Strasburg, 1889), with an edition of the Greek *Physiologus* in the appendix (pp. 229–79), based on a still limited number of manuscripts; E. Peters, *Der griechische Physiologus und seine orientalischen Übersetzungen* (Berlin, 1898); J. Strzygowski, *Der Bilderkreis des griechischen Physiologus* (Leipzig, 1899); F. Sbordone, *Ricerche sulle fonti e sulla composizione del Physiologus greco* (Napoli, 1936), based on the collation of some 70 codices. The "physiological" material is subdivided into three fundamental redactions: the original, the Byzantine, and the pseudo-Basilian. See F. Zambon, *Il Fisiologo* (Milan, 1982; 1st ed. 1979), which contains an exhaustive bibliography concerning the different editions and studies of this text. For the Greek *Physiologus* see also Sbordone, *Ricerche*; F. J. Carmody, *Physiologus: The Very Ancient Book of Beasts, Plants, and Stones, Translated from Greek and Other Languages* (San Francisco, 1953); D. Offermanns, *Der Physiologus nach den Handschriften G und M* (Meisenheim am Glan, 1966), where the very important cod. G, Pierpont Morgan Library, Ms. 397, not known by Sbordone, is published together with the already-known cod. M. See also D. Kaimakis, ed., *Der Physiologus nach der ersten Redaktion* (Meisenheim am Glan, 1974). For the Latin *Physiologus* see also G. Heider, ed., *Physiologus. Nach einer Handschrift des XI Jahrhunderts* (Vienna, 1851); F. J. Carmody, *Physiologus Latinus, versio B* (Paris, 1939); F. J. Carmody, *Physiologus Latinus, versio Y* (University of California, Publications in Classical Philology 12, 1941); F. Maurer, ed., *Der altheutsche Physiologus: Die Millstätter Reimfassung und die Wiener Prosa* (Altdeutsche Textbibliothek 67, 1966); M. J. Curley, *Physiologus* (Austin and London: University of Texas Press, 1979), with an important introduction. On the history of the *Physiologus* in the Middle Ages, see N. Henkel, *Studien zum Physiologus im Mittelalter* (Tübingen, 1976); also H. Wirtjes, *The Middle English Physiologus* (Oxford, 1991), which is a critical edition of British Library MS Arundel 292, datable to 1300. For integrated studies on the *Physiologus* tradition and the European bestiaries see, e.g., W. B. Clark and M. T. McMunn, eds., *Beasts and Birds of the Middle Ages: The Bestiary and Its Legacy* (Philadelphia, 1989); D. Hassig, ed., *The Mark of the Beast: The Medieval Bestiary in Art, Life, and Literature* (New York and London, 1999), with an appendix listing bestiary and *Physiologus* manuscripts.
 31. This tendency has its first bases already in al-Jahiz (d. 868), who can be considered the Islamic precursor of animal psychology. For al-Jahiz's biography see Taha al-Hajiri, *Al-Jahiz, hayātuh wa-āthārüh* (Cairo: Dār al-Ma'ārif, 1962); also C. Pellat, "al-Djähiz," *Encyclopaedia of Islam*, 2d ed.; M. Asin Palacios, "El 'Libro de los animales' de Yāhiz," *Isis* 14 (1930): 20–54. For a general study of al-Jahiz's work, see M. Nefti bel-Hakh, *La psychologie des animaux chez les arabes, notamment à travers le Kitāb al-hayawān de Jāhiz* (Paris, 1977), focused on the psychological-intuitive character of the *Kitāb al-hayawān*.
 32. For this animal and its related tale and miniature, see A. Contadini, "Musical Beasts: the Swan-Phoenix in the Ibn Bakhṭishū' Bestiaries," in B. O'Kane, ed., *Festschrift for Robert Hillenbrand*, forthcoming.
 33. 'Isa ibn 'Ali, a Nestorian physician educated at Jundishapur, pupil of Hunayn ibn Ishaq, and physician to the Caliph al-Mu'tamid (r. 870–892). He wrote a *Kitāb manāfi' a'dā' al-hayawān* ("Book on the usefulness of the organs of animals"), of which several manuscripts survive. See a list in Ullmann, *Die Natur*, vol. 2, pp. 21–22; Ibn al-Nadim, *The Fihrist of al-Nadim*, ed. Bayard Dodge, 2 vols. (New York and London, 1970), p. 699: "Isa ibn 'Ali. He was one of the pupils of Hunayn [ibn Ishaq] and an excellent man. Among his books there was "The Benefits That Made Use of the Organs of an Animal." I have examined the manuscript in Berlin, Staatsbibliothek, Ahlwardt 6240, 18th c. (?), and it is clear that there is much material in common with the Ibn Bakhṭishū' bestiary; but at the same time the text is fundamentally different in its organization.
 34. Even further removed is the zoological classification of Ibn Abi al-Ash'ath (10th c.), as recently discussed in R. Kruk, "Ibn Abi l-Ash'ath's *Kitāb al-hayawān*: a Scientific Approach to Anthropology, Dietetics, and Zoological Systematics," in *Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften*, (Frankfurt-am-Main, 2001), vol. 14, pp. 119–68. The Aristotelian material in the *Na't* is again unrelated to that recorded by Marwazi; see R. Kruk, "On Animals: Excerpts of Aristotle and Ibn Sinā in Marwazi's *Tabā'i' al-hayawān*, in C. Steel, G. Guldentops, and P. Beullens, eds., *Aristotle's Animals in the Middle Ages and Renaissance* (Leuven University Press, 1999), pp. 96–125.
 35. The general bibliography on the relationship between text and image is vast, but that for text and image in Islamic representational art less so. One may recall, for example, Weitzmann, *Illustrations*, and F. Rosenthal, "Poetry and Architecture: The Badhanj," *Journal of Arabic Literature* 8 (1977): 1–19. More recently, however, there has been a growing interest in the subject. Among recent studies, see, for example, the collection of articles in O. Grabar and C. Robinson, eds., *Islamic Art and Literature* (Princeton, 2001).
 36. A variation of *karkadann*.
 37. According to Lane, the meaning of *dābba* is "anything that walks [or creeps or crawls] upon the earth. Its predominant signification is 'a beast that is ridden,' especially a beast of the equine kind." See E. W. Lane, *An Arabic-English Lexicon*, 8 vols. (London, 1863–93), vol. 3, p. 842.
 38. The manuscript has 'l, which in this context yields no sensible meaning in either Arabic or Syriac. Presumably (Arabic) *wa'l* was intended (or possibly a Syriac cognate form with initial y). But it is not certain that *sur'yāniyya* here denotes a language rather than the speech of a presumably bilingual confessional community. Other bestiaries fail to attest *wa'l* or a cognate form but do reflect a similar linguistically confused situation in equating Arabic *harish* (kid) with

- what "Syriac speakers" (*suryāniyyūn*) call *rīmā*.
39. It has not been possible to identify the form of this name in the classical language, nor a specific place called *Shahrūs* in the geographical dictionaries. It is most probably a mythical place.
 40. Fray Luys de Urreta, *Historia Ecclesiastica, Politica, Natural, y Moral, de los Grandes y Remotos Reynos de la Etiopia, Monarchia del Emperador, llamado Preste Juan de las India* (Valencia, 1610), chap. 25, p. 245.
 41. O. Shepard, *The Lore of the Unicorn* (Boston and New York, 1930), pp. 67–68. This fundamental work on the legend of the unicorn and its transmission in the West was the source of inspiration for R. Ettinghausen, *The Unicorn*, Freer Gallery of Art Occasional Papers 1, 3 (Washington, 1950).
 42. Apparently it is not reported among the legends about the Abyssinian unicorn—legends that could have an Indian origin: Europeans relocated some of the tales that had been once told of India to a nearer land, Ethiopia, which in any case had been confused with India since Virgil's time. Most of these tales moved westward with Prester John, a legendary figure who begins to take on definite shape in the mid-twelfth century, and whose fabulous court had originally been located somewhat vaguely in India. See L. Thorndike, *A History of Magic and Experimental Science*, 4 vols. (New York, 1923), vol. 2, bk. 4, pp. 236–45; also E. Ullendorf and C. F. Beckingham, *The Hebrew Letters of Prester John* (Oxford, 1982).
 43. M. Devic, *Le Pays des Zendjis ou la côte orientale d'Afrique au moyen-âge (d'après les écrivains arabes)* (Paris, 1883), p. 184.
 44. L. Catelan, *Histoire de la nature, chasse, vertus, propriétés, et usage de la Licorne, par Laurens Catelan, maistre apotiquaire de Montpellier* (Montpellier, 1624), p. 11, where the story of the water is still more similar to the version in the *Na't*, again with the exception that the animal is specified as a unicorn. He says that these animals live in the Moorish lands, and specifically in the areas conquered by Alexander. This is related to the legend of the "hero" Alexander, who, as the *Shāhnāma* tells us, when in the land of Habasha (Abyssinia or Ethiopia) was able to kill the unicorn.
 45. N. Comes, *De Venatione* (Venice, 1551), 4, 1, pp. 298 ff. These lines treat both the water and the virgin-capture themes in an unusual way, as though with rationalizing intent. In the first, it is not the "dragons" or the "serpents" that have poisoned the waters, but *veneniferae gentes*. In the second, there is no suggestion of religious allegory or of anything that would seem supernatural to the author. The virgin-capture is explained in terms of sexual attraction—an explanation carefully avoided by the clerical writers for obvious reasons. Natalis Comes ignores any prudery, asserting: *Virgin amplexum cupiūt fera bellua*.
 46. *Itinerarium Joannis de Hese presbyteri ad Hierusalem*, first printed in 1499. There are several texts of it, with unimportant variations between them. See F. Zarncke, *Der Priester Johannes*, Abhandlungen der philologisch-historischen Classe der königlichen Sächsischen Gesellschaft der Wissenschaften, vol. 7, no. 8: 2 (Leipzig, 1879), pp. 162 ff.
 47. In a passage by al-'Awfi, as reported by Hamdullah al-Mustawfi al-Qazwini, *The Zoological Section of the Nuzhatu al-Qulūb*, ed., trans., and annot. J. Stephenson (London, 1928), pp. 48–49 (translation pp. 33–34).
 48. Ibn Bakhtishu', *Kitāb manāfi' al-hayawān*, dated 755 (1354), probably Damascus, now in the Royal Library of San Lorenzo del Escorial, Ar. 898; see A. Contadini, "The *Kitāb manāfi' al-hayawān* in the Escorial Library," *Islamic Art* 3 (1988–89): 33–57; and another illustrated copy of the same text dated 700 (1300), probably Egypt, now in the Bibliothèque nationale in Paris, Ar. 2782; see A. Contadini, "The *Kitāb na't al-hayawān* (Book on the Characteristics of Animals), British Library Or. 2784, and the 'Ibn Bakhtishū' Illustrated Bestiaries" (Ph.D. thesis, SOAS, University of London, 1992), pp. 166–70; also *À l'ombre d'Avicenne: La médecine au temps des califes*, exhibition at the Institut du Monde Arabe, Paris, 1996, no. 32 with col. pls. on pp. 125–26 and 232. For the various names for the unicorn, see F. Viré, "Karkaddan," *Encyclopaedia of Islam*, 2d ed., and Ettinghausen, *The Unicorn*, p. 6, note 2.
 49. See Ettinghausen, *The Unicorn*, with a chapter entitled "The Identification of the Animal" dedicated to this problem, pp. 6–11. For the identification of the animal in the Western tradition, see Shepard, 1930, pp. 70–89.
 50. *Kitāb manāfi' al-hayawān*, in Persian, dated between 1295 and 1299, produced in Maragha, now in New York, Pierpont Morgan Library, M. 500, fol. 54r. See Contadini, *The Kitāb na't al-hayawān*, pp. 153–61 and B. Schmitz, *Islamic and Indian Manuscripts and Paintings in the Pierpont Morgan Library* (New York, 1997), cat. no. 1. The relationship of this manuscript with the tradition of the Ibn Bakhtishu' bestiaries is not as evident as hitherto thought. I have always wondered why this manuscript has a cycle of miniatures that differs from the others; the answer is that other textual sources have been used for the text, and I hope soon to publish the result of my investigation.
 51. See, e.g., the anonymous *huwa shams wa-asad wa-bahr jūdan wa-bahā' wa-shajā'ah* (He is a sun, a lion, and a sea, in generosity, beauty, and valor), quoted in J. Wansbrough, "Arabic Rhetoric and Qur'anic Exegesis," *Bulletin of the School of Oriental and African Studies* 31, 3 (1968): 469–85, p. 471. See in general S. Sperl, "Islamic Kingship and Arabic Panegyric Poetry in the Early Ninth Century," *Journal of Arabic Literature* 8 (1977): 20–35, which also ends with two lines by al-Buhturi beginning *mā zīla bahran li-'āfnā* (You are forever a sea of sustenance to the needy among us!).
 52. *wa-mā muzbidun min khatiji al-furāti jānunun ghawāribuhu taltatim... bi-ajwada minhu bimā 'indahu idhā mā samā'uhumu lam taghim* (The black foaming mouth of the Euphrates with its wave tops dashing against one other ... does not give more copiously than he of what he possesses when their skies withhold rain).
 53. The wings relate the *Na't* unicorn to Seljuk iconography, but its iconographical and stylistic analysis is beyond the scope of this article.
 54. *The Unicorn Purifies the Water*, the second tapestry in the series. Illustrated in color in B. Young, *A Walk Through The Cloisters* (New York, 1990), p. 69.