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The Ancient Egyptian Origin of a Transcultural Trope, across Classical, Islamic, and Jewish Traditions

The First Attestation of the Crocodile Bird in Egyptian, or Why Herodotus Is Not a Liar (with the First Edition of P. Vienna D 6104)

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Summary: The article studies the trope of the crocodile bird in its evolution from antiquity to the present day. The story tells of the mutualistic behaviour between the Nile crocodile and an Egyptian bird, typically known as the *trochilus*. The trope has a complex history: primarily known from classical writers, it spread in fact to Jewish and Islamic traditions, too. The story is universally thought to be an invention of Herodotus. But a demotic papyrus, here published for the first time, proves that the trope of the crocodile bird has its true origin in ancient Egyptian culture.

Keywords: Arabic literature – bird – classical literature – crocodile – demotic studies – Egypt, reception of – Hebrew literature – Herodotus – papyrus – textual culture – tradition, awareness of – visual culture

Have you heard of the *trochilus* bird?
Who for a quick supper preferred
To peck from the smile
Of a Nile crocodile,
Which is risky and rather absurd!
(PDW, 2020)

1 Introduction

The topic of this article is perhaps the most famed zoological anecdote concerning Egyptian fauna to be attested in sources from the ancient Mediterranean world: the symbiotic relationship between the Nile crocodile and a bird, often called, on account of said anecdote, the 'crocodile bird'. More than just a case of animal symbiosis, ethology classifies this as a case of mutualism, that is, an interspecific interaction (i. e., one between different species) that is mutually beneficial[1]. According to the main version of the anecdote—or one should really say trope, given its popularity in and after antiquity—the crocodile bird would display a unique behaviour, in that, far from fleeing the crocodile as all other inhabitants of the riverbanks, it would actively seek it, whenever it came to rest on the shores of the Nile. The bird would then enter the reptile's open mouth in order to peck parasites and/or food remains from its teeth, and, in exchange for this cleaning treatment, the crocodile would carefully avoid harming, let alone eating, the bird itself.

This story has featured in many accounts concerned with Egypt and its natural environment since classical antiquity—at least, since the fifth century BCE—and its popularity endures to this day. However, no clear reference to it is known in any ancient Egyptian source proper. This article rectifies this situation and offers the first edition of a demotic papyrus fragment preserving the first mention of the crocodile bird in an ancient Egyptian text. First, I will offer an overview of the tradition about the crocodile bird in classical authors—starting with Herodotus, supposedly the first to write about it—and visual arts. This will lead to a discussion as to how this trope persisted past the end of antiquity, surviving the Middle Ages in Jewish and, mostly, Islamic works, until the beginning of the Modern Age, when it fully re-entered European tradition, eventually to remain popular to this day. At the origin of such a long tradition, I will then present the aforementioned papyrus fragment, with its first attestation of the crocodile bird in a source written in the ancient Egyptian language. To conclude, a brief discussion of the *status quaestionis* in modern ornithology will look into whether the crocodile bird actually ever existed in nature and, if so, with what avian species scholars have suggested to identify it.

Beyond illustrating the story of the crocodile bird, one of the aims of this article is to further contribute to the critical deconstruction, if not collapse, of what has often been dubbed the 'liar school' of Herodotus, i. e., the position of

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1 For a definition of mutualism, see Bronstein 2015, 10–11.

those who believe that his accounts about Egyptian customs and antiquity hardly contain anything originally Egyptian. Rather, according to this school of thought, Herodotus' narrative is the sole result of the imposition of Greek conceptual categories onto what he saw in Egypt, if not even of his own unbridled fantasy[2]. To be exact, accusing Herodotus of disingenuousness is no modern invention. Slashing him for all sorts of reasons has been in vogue since classical antiquity, either earnestly or as a rhetorical exercise. Plutarch wrote a particularly unkind opusculum *On the Malice of Herodotus*[3]. The problem between Herodotus and Egyptology is, however, one of a kind. The second book of Herodotus' *Histories*, his Αἰγύπτιος λόγος ('Egyptian account'), was for centuries one of the West's main sources about Egyptian antiquity, along with other classical authors and the Bible. Following the decipherment of hieroglyphs and the development of Egyptology as an academic discipline in the nineteenth century, the lack of a match between many of Herodotus' accounts and the evidence provided by Egyptian sources led, however, to a radical dismissal of his work by scholars. In very recent times (one might say, the last couple of decades) the tables, however, have begun to turn again. Whilst several of Herodotus' stories may not find confirmation in monumental sources from the earlier Pharaonic Period, progress in the study of evidence from the later phases of Egyptian history, and specifically in demotic textual studies, has revealed that much of his knowledge—whether factually correct or not—is indeed derived from genuine Egyptian sources. Parallels to his stories have been identified in demotic compositions on papyri, which were copied and preserved in temple libraries by those priests whom Herodotus himself often declares to be his informants[4]. The earliest known mention of the crocodile bird also comes from Herodotus. With this article, I intend to argue that he derived knowledge of this zoological curiosity too from Egyptian sources.

This ongoing change in our appreciation of Herodotus is also a stark reminder of how integral to classical and Egyptological studies alike the evidence from Egyptian sources of the Late and Graeco-Roman Period is, such as that which is being currently produced in the fast-evolving field of demotic studies, to name but one area. This is a fundamental point, awareness of which is growing in our field; yet, it still has to be acknowledged in much mainstream scholarship[5]. If anything, in recent years colleagues in the classics have become more receptive to it than some of their counterparts within Egyptology itself, where a lamentable and misconceived iron curtain between dynastic and post-dynastic Egyptology (or—even worse—between Egyptian textual studies and demotic studies) still often endures[6]. The sooner we move on and realise that Egyptian history, including the Graeco-Roman Period, is a *continuum* and is intimately interconnected with that of its neighbouring civilisations, the greater the profit will be to our discipline.

The story of the crocodile bird is but a small case in point in connection with the scholarly narrative that I espoused above. Finally, it is also intended as a demonstration of the exciting research possibilities and far-reaching conclusions to which apparently minute lexicographical discussions can lead us[7].

2 Herodotus' Tale: The Bird in Classical Tradition

The second book of Herodotus' *Histories* contains a description of Egypt, based on the author's visit to the country around the mid-fifth century BCE. The book can be divided roughly into two parts: the first discusses the Nile Valley and its inhabitants (chapters 1–98), whilst the second focuses on Egyptian history (99–181). Within the former, chapters 68–70 are dedicated to one of the local animal wonders, the Nile crocodile (*Crocodylus niloticus*), and discuss, respectively, the animal's nature (68), the status it holds amongst the Egyptians (69), and the way it is hunted (70). The text of chapter 68, with its zoological description, deserves to be quoted in full[8]:

2 On the 'liar school' of Herodotus, see Rutherford 2016, 17.

3 *De malignitate Herodoti* (Mor. 854d–874c). See also Hershbell 1993.

4 See, for instance, Quack 2013. However, studies continue to be published that still radically doubt or misunderstand the nature of Herodotus' Egyptian sources. Most recently, see Sousa 2020, 208, 215. In the latter passage, touching only incidentally upon demotic sources, the author gives an unfortunately odd list of three examples, two of which are in fact hieroglyphic and hieratic (*Book of the Fayum* and Papyrus Salt 825) and only one is actually demotic (*Book of Thoth*, partly also surviving in hieratic manuscripts).

5 See already the cautionary words of Jasnow 2016, 319: 'Classicists or Egyptologists desiring to appreciate the intellectual universe of Greco-Roman Egypt neglect such texts as the *Book of Thoth* at their own peril'.

6 For a noticeable example, see the obliviousness to the demotic sources for the cult of Isis across the Hellenistic and Roman Mediterranean that characterises Martin Bommas' work on the topic, as already highlighted by Quack and Witschel 2017, 11 (fn. 53).

7 For another example of the great potential of lexicographical analysis of Egyptian material of a late date, see Quack 2011.

8 *Historiae*, II, 68. Herodotus 1920, 354–357. NB: all Loeb editions are cited from the Loeb Classical Library online version, available at: https://www.loebclassics.com. Some of the ancient texts in this article

Τῶν δὲ κροκοδείλων φύσις ἐστὶ τοιήδε. Τοὺς χειμεριωτάτους μῆνας τέσσερας ἐσθίει οὐδέν, ἐὸν δὲ τετράπουν χερσαῖον καὶ λιμναῖον ἐστί. Τίκτει μὲν γὰρ ᾠὰ ἐν γῇ καὶ ἐκλέπει, καὶ τὸ πολλὸν τῆς ἡμέρης διατρίβει ἐν τῷ ξηρῷ, τὴν δὲ νύκτα πᾶσαν ἐν τῷ ποταμῷ· θερμότερον γὰρ δή ἐστι τὸ ὕδωρ τῆς τε αἰθρίης καὶ τῆς δρόσου. Πάντων δὲ τῶν ἡμεῖς ἴδμεν θνητῶν τοῦτο ἐξ ἐλαχίστου μέγιστον γίνεται· τὰ μὲν γὰρ ᾠὰ χηνέων οὐ πολλῷ μέζονα τίκτει, καὶ ὁ νεοσσὸς κατὰ λόγον τοῦ ᾠοῦ γίνεται, αὐξανόμενος δὲ γίνεται καὶ ἐς ἑπτακαίδεκα πήχεας καὶ μέζων ἔτι. Ἔχει δὲ ὀφθαλμοὺς μὲν ὑός, ὀδόντας δὲ μεγάλους καὶ χαυλιόδοντας κατὰ λόγον τοῦ σώματος. Γλῶσσαν δὲ μοῦνον θηρίων οὐκ ἔφυσε, οὐδὲ κινέει τὴν κάτω γνάθον, ἀλλὰ καὶ τοῦτο μοῦνον θηρίων τὴν ἄνω γνάθον προσάγει τῇ κάτω. Ἔχει δὲ καὶ ὄνυχας καρτεροὺς καὶ δέρμα λεπιδωτὸν ἄρρηκτον ἐπὶ τοῦ νώτου. Τυφλὸν δὲ ἐν ὕδατι, ἐν δὲ τῇ αἰθρίῃ ὀξυδερκέστατον. Ἅτε δὴ ὢν ἐν ὕδατι δίαιταν ποιεύμενον, τὸ στόμα ἔνδοθεν φορέει πᾶν μεστὸν βδελλέων. Τὰ μὲν δὴ ἄλλα ὄρνεα καὶ θηρία φεύγει μιν, ὁ δὲ τροχίλος εἰρηναῖόν οἱ ἐστὶ ἅτε ὠφελεομένῳ πρὸς αὐτοῦ· ἐπεὰν γὰρ ἐς τὴν γῆν ἐκβῇ ἐκ τοῦ ὕδατος ὁ κροκόδειλος καὶ ἔπειτα χάνῃ (ἔωθε γὰρ τοῦτο ὡς ἐπίπαν ποιέειν πρὸς τὸν ζέφυρον), ἐνθαῦτα ὁ τροχίλος ἐσδύνων ἐς τὸ στόμα αὐτοῦ καταπίνει τὰς βδέλλας· ὁ δὲ ὠφελεύμενος ἥδεται καὶ οὐδὲν σίνεται τὸν τροχίλον.

> I will now show what kind of creature is the crocodile. For the four winter months it eats nothing. It has four feet, and lives both on land and in the water, for it lays eggs and hatches them out on land, and it passes the greater part of the day on dry ground, and the night in the river, the water being warmer than the air and dew. No mortal creature known to us grows from so small a beginning to such greatness; for its eggs are not much bigger than goose eggs, and the young crocodile is of a bigness answering thereto, but it grows to a length of seventeen cubits and more. It has eyes like pigs' eyes, and great teeth and tusks answering to the bigness of its body. It is the only animal that has no tongue. Nor does it move the lower jaw. It is the only creature that brings the upper jaw down upon the lower. It has also strong claws, and a scaly impenetrable hide on its back. It is blind in the water, but very keen of sight in the air. Since it lives in the water, its mouth is all full within of leeches. All birds and beasts flee from it, except only the *trochilus*, with which it is at peace, because this bird does the crocodile a service; for whenever the crocodile comes ashore out of the water and then opens its mouth (and this it does for the most part to catch the west wind), the *trochilus* goes into its mouth and eats the leeches; the crocodile is pleased by this service and does the *trochilus* no harm.

Herodotus did not derive his description of the crocodile from earlier Greek authors who had written about Egypt, such as Hecataeus of Miletus[9]. His knowledge was directly acquired in Egypt. He does not tell his reader whether he observed a crocodile in the wild or if his information was second-hand, i. e., provided by locals. Even if Herodotus did observe Nile crocodiles in nature and/or captivity—which is very likely—it is, however, highly improbable that his account was based exclusively on direct observation (consider, for instance, his observation about the crocodile not feeding over the four winter months). Rather, like much of the content of his second book, it seems to owe much to his Egyptian informants, who included—by his own admission—members of the Egyptian priesthood (see, e. g., Hdt. II, 2)[10]. This, I believe, also applies to chapter 68's final digression on saurian ethology, the earliest and perhaps best-known discussion of the crocodile bird, which Herodotus names the *trochilus* (ὁ τροχίλος).

Following this account in the *Histories*, the Egyptian *trochilus* was featured in the zoological writings of many later Greek authors, all of whom derived knowledge of it—directly or indirectly—from Herodotus[11]. First and foremost is Aristotle (fourth century BCE). Undoubtedly, the retelling of this Egyptian story by the Stagirite granted it a dramatic increase in visibility and popularity, not only during classical antiquity, but also later, in the Middle Ages. The story is included in his *History of Animals*, within a passage discussing examples of natural enmity and sympathy between species[12]:

Τῶν δὲ κροκοδείλων χασκόντων οἱ τροχίλοι καθαίρουσιν εἰσπετόμενοι τοὺς ὀδόντας, καὶ αὐτοὶ μὲν τροφὴν λαμβάνουσιν, ὁ δ᾽ ὠφελούμενος αἰσθάνεται καὶ οὐ βλάπτει, ἀλλ᾽ ὅταν ἐξελθεῖν βούληται κινεῖ τὸν αὐχένα ἵνα μὴ συνδάκῃ.

> When crocodiles gape, the *trochili* fly in and clean their teeth, and while they themselves are getting their food, the crocodile perceives that it is being benefited and does not harm them; but, when it wants them to go, it moves its neck so as not to crush them in its teeth.

Note that Aristotle leaves the object of the bird's feeding and of the crocodile's dental treatment unspecified, contrary to

are reproduced with occasional, minor modifications from the referenced editions.

9 Lloyd 1975–1988, 2.305.

10 See also *infra*, fn. 112.

11 I say 'Egyptian *trochilus*', in that Greek knows of at least two birds with such a name: one is the Egyptian avian, our crocodile bird; the other, extraneous to Egypt, is the Eurasian wren. Sometimes, it can be unclear to which of the two species a Greek author is referring. See Pantelia 2014, *s. v.* τροχίλος.

12 *Historia animalium*, IX, 6 (612a). Aristotle 1991, 246–247; note that this edition renumbers book IX (according to the traditional order) as book VIII.

Herodotus, who mentions leeches or other blood-sucking parasites (βδέλλαι).

The story of the *trochilus* features twice more in the Aristotelian corpus. The philosopher makes mention of it, *en passant*, in his *Eudemian Ethics*, a tract about ethics, rather than zoology[13]. Its inclusion in this work is to showcase instances of natural friendship in the animal world, before discussing its manifestation amongst humans. In this passage, Aristotle explicitly mentions Herodotus as his source; this is a welcome addition, since no reference is given in the excerpt from *History of Animals* offered above. The other occurrence is in a work attributed to the Stagirite, but in fact compiled by a disciple of his, commonly known as *On Marvellous Things Heard*[14]. In this text probably lies the origin of a slightly different tradition in the story, for the bird is said to be removing not parasites from the crocodile's mouth, but 'bits of flesh' (σαρκία) attached to its teeth, that is, food leftovers[15].

But, a much more significant variation of Herodotus' tale—one that was bound to spread widely—is expounded by later authors and involves a third animal, the ichneumon (or Egyptian mongoose). Some ancient writers, such as Aristotle, presented the ichneumon as the natural foe of the Egyptian asp, a species of snake[16]. Others pictured it as the sworn enemy of the crocodile, either instead of or in addition to the asp. Thus, the historian Diodorus Siculus (first century BCE) states that the ichneumon destroys the eggs of the crocodile, hence keeping its population numbers in check[17]. The geographer Strabo (first century BCE to early first century CE) narrates, instead, that the ichneumon destroys the eggs of the asp, not of the crocodile. As for the latter, the ichneumon reserves for it a grislier treatment: when the crocodile basks in the sun with its mouth open, it quickly dashes into it, and kills the reptile by disembowelling it from the inside[18].

It is the latter version of this story that was merged with that of the *trochilus* to create a complex adaptation of Herodotus' tale. In this tradition, the crocodile and the bird are typically pictured as allies against the ichneumon. Plutarch (first to early second century CE)[19] and Aelian (late second to early third century CE)[20] tell this story in detail. According to them, the bird is so faithful to the crocodile for providing its livelihood that it guards over its sleep and protects it from the ichneumon's ambushes. Whenever the latter tries to stealthily approach the sleeping crocodile and its open jaws, the *trochilus* makes a lot of commotion and even pecks at the crocodile, to awake and alert it of the impending danger[21]. In the words of Aelian's *On the Characteristics of Animals*, VIII, 25:

Καὶ ἐκεῖνος αὐτὸν ἀμείβεται καθεύδοντος προμηθῶς ἔχων καὶ ὑπεραγρυπνῶν αὐτοῦ· κειμένῳ μὲν γὰρ καὶ ὑπνώττοντι ἐπιβουλεύει ὁ ἰχνεύμων, καὶ ἐμφὺς τῇ δέρῃ πολλάκις ἀπέπνιξεν αὐτόν· ἀλλ᾽ ὅ γε τροχίλος βοᾷ, καὶ παίει κατὰ τῆς ῥινὸς αὐτόν, καὶ ἀνίστησι καὶ πρὸς τὸν ἐχθρὸν ὑποθήγει.

> And the bird repays the crocodile by taking care of it and keeping watch on its behalf while it sleeps. For as it lies asleep the ichneumon has designs upon it, and fastening on its throat has often throttled it. But the *trochilus* utters its cry, beats the crocodile on the nose, rouses it, and eggs it on against its enemy.

In other accounts, like that of Timotheus of Gaza (late fifth to early sixth century CE), the bird protects the crocodile not only from natural enemies such as the ichneumon, but also from human danger, warning it against approaching hunters[22].

But, the *trochilus* is not always the crocodile's saviour. In the reports of other authors, the bird is in fact the ichneumon's unwitting accomplice in bringing about the crocodile's downfall. Such writers include Latin authors, notably the polymath Pliny the Elder (first century CE)[23] and the his-

13 *Ethica Eudemia*, VII, 2 (1236b). Aristotle 1935, 372–373.

14 *De mirabilibus auscultationibus*, 7 (831a). Aristotle 1936, 242–243.

15 For example, this motif resurfaces in Plutarch, who talks of 'scraps', λείψανα, in *De sollertia animalium*, 31 (see *infra*, fn. 19).

16 Treatment of the ichneumon and the asp is in *Historia animalium* IX, 6, where it immediately precedes that of the crocodile and the *trochilus*. The proximity of the two tales in Aristotle might be what led later authors to conflate the two into a single narrative.

17 *Bibliotheca historica*, I, 35.7. Diodorus Siculus 1933, 118–119.

18 *Geographia* XVII, 39. Strabo 1932, 108–109. In other authors, the ichneumon chokes the crocodile by implanting itself into its throat, as, e. g., in Aelian, *De natura animalium* VIII, 25 (see *infra*, fn. 20).

19 *De sollertia animalium* (Mor. 959b–985a), 31 (980d). Plutarch 1957, 446–449. Plutarch's anecdote is seemingly misunderstood by Malkiel (2016, 119), who accuses the *trochilus* of siding with the ichneumon against the crocodile.

20 *De natura animalium*, III, 11; VIII, 25; XII, 15. Aelian 1958–1959, 1.166–169, 2.212–213, 3.30–31. Aelian is unique amongst all his contemporaries in that, at XII, 15, he specifies that there are various species of *trochilus*, of which only one is welcome to the crocodile. He calls this the κλαδαρόρυγχος (literally, 'quivering-beak'; translated by Scholfield as 'Clapperbill'); on this bird, see Arnott 2007, 100–101 (*s. v.* Kladarorhynchos).

21 The description of the *trochilus* as a crocodile's bodyguard of sorts is sometimes mistakenly ascribed to Herodotus himself in modern literature. See, e. g., Kockelmann 2017, 1.2.

22 *On Animals*, 42.13–14. Timotheus of Gaza 1949, 42–43. Closely dependent on earlier natural history writers such as Aristotle and Pliny, Timotheus' zoological work was originally written in verse, but is now known through the prose abridgement of a Byzantine paraphrase.

23 *Naturalis historia*, VIII, 37. Pliny 1940, 64–67.

torian Ammianus Marcellinus (fourth century CE)[24]. In his encyclopaedic *Natural History*, at VIII, 37, the former writes:

Hunc saturum cibo piscium et semper esculento ore in litore somno datum parva avis, quae trochilos ibi vocatur, rex avium in Italia, invitat ad hiandum pabuli sui gratia, os primum eius adsultim repurgans, mox dentes et intus fauces quoque ad hanc scabendi dulcedinem quam maxime hiantes, in qua voluptate somno pressum conspicatus ichneumon per easdem fauces ut telum aliquod inmissus erodit alvom.

> The crocodile, when sated with a meal of fish and sunk in sleep on the shore with its mouth always full of food, is tempted by a small bird (called there the *trochilus*, but in Italy the king-bird)[25] to open its mouth wide to enable the bird to feed; and first it hops in and cleans out the mouth, and then the teeth and inner throat also, which yawns open as wide as possible for the pleasure of this scratching; and the ichneumon watches for it to be overcome by sleep in the middle of this gratification and darts like a javelin through the throat so opened and gnaws out the belly[26].

There is at least even one Greek author, Theophilus of Alexandria (late fourth to early fifth century CE), who took this idea of the *trochilus*' responsibility in the crocodile's death even further. He confused the bird with the ichneumon, merging them into one hostile creature, and described the enemy of the crocodile, which kills it by disembowelling it from the inside, as τὸ ὄρνεον ὔλλος, 'the ichneumon bird'[27].

As we saw, starting from Herodotus' brief but memorable anecdote, successive classical authors have retold the story and further elaborated it. In the process, the story turned from a zoological anecdote to an actual literary trope, so much so that it no longer had to be included exclusively in natural history discussions or travel accounts about Egypt. The first example of such a process of popularisation is seen quite early on in time, approximately just a century after Herodotus. This is the already mentioned reference to the *trochilus* by Aristotle in his *Eudemian Ethics*, as a case *par excellence* of natural friendship[28]. Amongst Latin authors, the rhetor Apuleius (second century CE) used the story of the *trochilus* in his *Self-defence*[29]. Thereby, he ridicules his accuser Aemilianus, portraying him as a slanderer and implicitly accusing him of being even more foul-mouthed than a 'colossal monster' (*belva immanis*) like the crocodile, which at least has a 'friendly bird' (*amica avis*) to look after its dental hygiene.

Indeed, it is possible that the humble crocodile bird might have even made it into classical Athenian theatre. The comic playwright Aristophanes (fifth to early fourth century BCE) mentions the *trochilus* in three of his plays. In *The Acharnanians* and *Peace*, he associates it with the Greek region of Boeotia, which excludes any identification with the Nilotic avian, pointing instead to the Eurasian wren. However, in *The Birds* (first performed in Athens in 414 BCE) a bird named *trochilus* appears again in a more ambiguous context. At the beginning of the play, the two protagonists, the Athenians Euelpides and Peisetaerus, are on a search for Tereus, the mythical king who, once a human, was turned by the gods into a hoopoe. In their quest, they run into Tereus' servant, who is labelled in the play the 'Hoopoe's Servant' (Θεράπων Ἔποπος, introduced at l. 60). Indeed, this character, who also metamorphosed into an avian alongside his master, introduces himself to the two Athenians as a servant bird ('I am a slave-bird', ὄρνις ἔγωγε δοῦλος, at l. 70), one who runs around all the time to please the gluttonous whims of his master the Hoopoe ('I run', τρέχω, repeated twice, at ll. 77, 79). Following this introduction, Peisetaerus ironically christens him a *trochilus*, with a wordplay on the verb τρέχω, 'to run'[30]. In fact, this pun is particularly apt, for it is likely that the etymology of τροχίλος is actually related to the verb τρέχω, to indicate a bird characterised by a hasty gait when moving on land, a 'running bird'.

There is nothing in this scene of *The Birds* to confirm that the *trochilus* here is the Egyptian bird, as opposed to the wren. However, a number of circumstantial elements and allusions point, in my opinion, in this direction. First comes the characterisation of this bird as a servant: from an anthropomorphising perspective, serving is indeed a characteristic of the crocodile bird, which provides its reptile 'master' with its dental toiletry[31]. Note, also, that the

24 *Rerum gestarum*, XXII, 15.19. Ammianus Marcellinus 1940, 288–289.

25 Pliny is aware that the Greek noun τροχίλος does not indicate only the Nilotic bird (see above, fn. 11). However, rather than realising that the same word can indicate two distinct bird species, he equals the Egyptian avian with what he calls the Italian 'king-bird' (*rex avium*).

26 This tale is related in virtually the same terms in the *Collectanea rerum memorabilium* (or: *mirabilium*), 32.25, of Solinus (third or fourth century CE), a Latin compiler who derives much of his material from Pliny (Solinus 2014, 234–235). Solinus (or, at least, his manuscript tradition) slightly modifies the bird's name, calling it *strophilos*.

27 Υ̓́λλος and ἰχνεύμων are both names for the ichneumon. On this passage of Theophilus, see Haupt 1869, 24 (commentary to l. 19).

28 See above, fn. 13.

29 *Apologia*, 1.8. Apuleius 2017, 28–29.

30 *Aves*, 79. Aristophanes 2000, 24–25; here, Henderson perfectly renders the pun in his translation (forgoing any attempt at an actual ornithological identification): 'this one's a roadrunner' (τροχίλος ὄρνις οὑτοσί). By means of a commentary, see also Aristophanes 2018, 64 (l. 79, with commentary).

31 As we will see, the relationship between the bird and the crocodile was characterised as one of servitude—or, at least, of service—by the ancient Egyptians too, as the newly-identified Egyptian name for this bird clearly reveals (see *infra*, § 4).

errands run by Aristophanes' *trochilus* for Tereus/Hoopoe are connected with his greed for food. Again, this may be a significant parallel with the equally greedy crocodile's mouth problems (even more evident in the tradition that sees them connected with food remains, rather than with parasites) and the crocodile bird's help in solving them. If Aristophanes is indeed referring to the Nile *trochilus* in *The Birds*, then he is doing so by means of his knowledge of Herodotus' *Histories*, which, at that time, contained the only mention of this bird. As it happens, *The Birds* contains several allusions to Herodotus' books, including a clear parody of the historian's description of Babylon in his book I[32]. This makes it all the more likely, in my opinion, that Aristophanes' comical *trochilus* is inspired by Herodotus and, via him, by the Egyptian avian[33]. The *trochilus* would not be the only reference to an exotic bird in Aristophanes' play. Just before the characterisation of Hoopoe's Servant as such a bird, in fact, Peisetaerus jokingly claims to be a 'Libyan bird' (Λιβυκὸν ὄρνεον, at l. 65); another part of the world, Libya, which Herodotus discusses in his *Histories*.

Fast-forward approximately one and a half millennia, and the crocodile bird is there again, making yet another appearance—fleeting but, this time, unequivocal—in a Greek, or, to be exact, Byzantine poetic work, the *Chronicle* in verse of Constantine Manasses (twelfth century CE), a history of the world composed on imperial commission at the court of the Comneni. The mention is all too brief. The relationship between the young Byzantine emperor Constantine VII Porphyrogenitos and his guardian (soon usurper) Romanus I Lecapenus is compared to that binding together the crocodile and the *trochilus* for mutual advantage[34]:

Ὁ βασιλεὺς τὸν Ῥωμανὸν ὡς φίλον οἰκειοῦται | καὶ τῆς ζωῆς καὶ τῆς ἀρχῆς φύλακα καθιστάνει, | [...] | τροχίλον ὁ κροκόδειλος.

> The emperor befriends Romanus | and appoints him guardian of his life and empire, | [...] | as the crocodile does with a *trochilus*.

The emperor Constantine finds a protector in Lecapenus, as the crocodile has a sentinel in the bird; and the ambitious Lecapenus can access power and wealth through his royal protégé, as the bird finds sustenance aplenty in the reptile's food scraps or parasites. Surely, the fleeting mention of the *trochilus* in this lengthy poem is not a remarkable attestation of this trope per se, nor is it the only occurrence of this motif in Byzantine literature[35]. What is significant is its very presence in a literary work written at the Byzantine imperial court some three centuries before the fall of Constantinople, for it shows that, even in the heart of the Byzantine Middle Ages, the *trochilus* was still very much a productive trope, which could even be evoked in just a few words to serve as a poetic metaphor.

To conclude this overview of the crocodile bird in classical sources, one last author should be mentioned: Horapollo. The Late Antique tract on hieroglyphs attributed to him discusses a number of hieroglyphic signs depicting the crocodile. Specifically, in *Hieroglyphica*, II, 80, it is explained how, to indicate a person who eats, the Egyptians supposedly used the hieroglyph of a crocodile with its mouth wide open. The manuscript tradition, unfortunately, is here gravely corrupted, and the text lacunose. In his critical edition, Francesco Sbordone restored the passage, *exempli gratia*, with a reference to the crocodile's habit of resting with its mouth wide open and its teeth covered in the remains of its meal[36]. He thus supposed that Horapollo might have originally included here a reference to the tale of the *trochilus*, albeit an indirect one, in which the bird was not necessarily featured[37]. This, however, remains pure conjecture. If correct, it would be a significant occurrence of this trope in a Graeco-Egyptian cultural milieu, such as that from which Horapollo's work originated.

If Greek and Latin literatures are so generous with examples of the crocodile bird, this is not the case when we look at material culture and, specifically, the visual arts. There are instances where the *trochilus* is probably depicted or its story alluded to, but in no case can this be proven categorically. A quick overview will illustrate the issues at hand.

32 These allusions have even been used to argue for a publication date of Herodotus' *Histories* close to 414 BCE, the year of the first production of *The Birds*. See Fornara 1971, 28–30.

33 *Pace* Arnott (2007, 247 [*s. v.* Trochilos (2)]), who gathers all attestations of the *trochilus* in Aristophanes under one entry distinct from the Egyptian bird.

34 *Breviarium chronicum*, 5448–5451. Greek text in Manassas 1996, 1.294. For a modern translation with commentary, see Manasses 2018, 216.

35 Another example of a Byzantine author writing about the *trochilus* is George of Pisidia (seventh century CE) in his *Hexaemeron*, a didactic poem about the creation of the world that enjoyed much popularity in the Byzantine world. At ll. 983–993, he presents the story of the crocodile bird. He also tells how it warns the reptile against the ichneumon's ambushes (following the already seen tradition proposed by Plutarch and Aelian), and lyrically concludes that the *trochilus*, 'anticipating the slaughter, | as a herald of death gives life' (πρὸ τοῦ φόνου | κήρυξ ὀλέθρου γίνεται ζωηφόρος, ll. 990–991). Greek text from Migne 1865, 1509–1510.

36 Horus Apollo 1940, 189–190.

37 On this passage, see Van de Walle and Vergote 1943, 226–227; Horapollo l'Egiziano 2002, 131, 150, 168 (n. 98).

A peculiar type of Romano-Egyptian artefact from Egypt are the so-called 'Mendesian maze' libation tables[38]. These limestone objects are typically dated to the second and third century CE and originate exclusively from the eastern Nile Delta, typically from the sites of Mendes (hence their name) and Thmouis. They were probably utilised for ritual purposes connected with the inundation, for they all feature complex decorative patterns, which consist of a stylised Nilotic landscape, on which water had to be poured. The depiction of the riverine landscape includes specimens of its fauna, starting with one or two crocodiles, and also extending to include fish, aquatic mammals (dolphins), frogs, and birds. The presence of birds would not, per se, be suggestive of the *trochilus*, since small fowl have been a traditional element in the representation of marshy Nilotic scenes since the beginnings of Egyptian monumental art, in the Old Kingdom. However, the presence of said bird(s) alongside crocodile(s) has led scholars to suggest that the motif may in fact be a visualisation of the *trochilus* trope[39]. This seems to be a plausible suggestion. For example, on the libation table Louvre E 25551, one can see a central pool, which is filled with different animals and vegetation: at the centre is a crocodile, flanked on either side by a bird, a rosette, a frog, and another rosette (bottom to top); note, particularly, how the two birds are oriented (possibly flying?) in the direction of the crocodile's jaws (Figure 1)[40]. Even more telling, the table Berlin ÄM 21789 displays in its central basin two intertwined dolphins, two crocodiles, a bird, a fish, and a frog, all together. Remarkably, the bird is perched on the back of one of the crocodiles, which is shown in profile whilst chasing—its jaws agape—the fish (Figure 2)[41]. Particularly in the case of this last libation table, with its representation of the intimate and friendly relationship between the crocodile and the bird, I find it quite reasonable to recognise in it at least an echo of the *trochilus* trope.

The Mendesian maze libation tables are, to my knowledge, the only case from Egypt of a possible reference to the crocodile bird in the visual arts of Graeco-Roman antiquity. Another and, in fact, earlier example originates from modern-day Israel, namely from Idumaea—at a time, however, when this region was probably part of the Ptolemaic empire and, therefore, of the ancient Egyptian state. It consists of a painted scene from one of the famed rock-cut tombs at Marisa/Maresha. The monument in question is Tomb I (approximately, late third century BCE), whose main hall (chamber D) is decorated with a painted frieze depicting a scene of hunting and wild animals[42]. Amongst these creatures, on the north wall's frieze, are animals pertaining to the traditional Nilotic fauna: in sequence, from right to left, two large fish, a crocodile, a bird, and a hippopotamus[43]. Many, if not all, of the other animals found in this painting also pertain—whenever real, since the repertoire also includes mythical creatures—to African wildlife (which Idumaean observers would have considered 'exotic'), though not necessarily to fauna that was specifically Egyptian. Nevertheless, the association of crocodile, birds, and fish is typical for Egyptian Nile scenes, as already noted apropos of the Mendesian libation tables. What is particularly remarkable in this frieze, however, is the close association between the crocodile and the bird: all other animals occur individually, one after the other, yet, in this case only, the two creatures are coupled, with the bird depicted right above the reptile (Figure 3)[44]. This pairing brings the *trochilus* trope to mind. There is, however, an issue. The animals in the frieze come with original captions in Greek, and the two here are labelled ΚΡΟΚΟΔΙΛΟC, 'crocodile', and IBIC, 'ibis'. Overall, the appearance of the bird also matches that of an ibis. This is a substantial obstacle to an identification of this scene with the story of the *trochilus*, for in no version of the textual tradition is this avian ever assimilated with the ibis: they are, without any doubt, two different birds.

Therefore, interpreters have traditionally taken this scene in Marisa at face value, as a plain representation of a crocodile with an ibis, two quintessentially Egyptian

38 Hibbs 1985; Aufrère 1992a, 76–78 (§§ 176–184); Blouin 2014, 136–138; Kockelmann 2017, 2.516–517.

39 A suggestion first advanced by Hibbs (1985, 109), and welcomed by Aufrère (1992b, 158 [no. 55]). Kockelmann (2017, 2.517 [fn. 203]) disagrees, and sees in the bird(s) simply a generic element reminiscent of the Nilotic landscape and alluding to fertility.

40 Hibbs 1985, 23–24, figs. 31–32 (no. 16); De Meulenaere and MacKay 1976, 208 (no. 132), pl. 34.a–b. Published again by Aufrère (1992b, 157–158, 202 [no. 55]), who assigns it—and this whole category of artefacts—not to the Roman, but to the Ptolemaic Period (see also Aufrère 1992a, 77 [§ 177]). In this, he follows the tentative suggestion of De Meulenaere and MacKay (1976, 207–209 [nos. 123–141], pls. 32–35), who propose a 'Hellenistic' (in the captions to the plates) or 'Ptolemaic Period (?)' (in the text, with an explicit query) date. Such a dating is, however, unlikely, as convincingly argued by Hibbs 1985, 191–192.

41 Hibbs 1985, 20–21, figs. 26–27 (no. 13); De Meulenaere and MacKay 1976, 209 (no. 135), pl. 34.e–f.

42 Jacobson 2007; Meyboom 1995, 44–46, figs. 56–65. Note that a slightly later (Seleucid) date for the decoration of Tomb I is suggested by Gera (2017, 211–212), who adds, however, that the influence of 'artistic fashions from Ptolemaic Egypt […] need not have evaporated immediately after the Seleucid conquest'.

43 On the specific Nilotic origin of these fish, see Jacobson 2007, 32 (no. 10).

44 Jacobson 2007, 32–33 (no. 11), pls. 22, xii. Note that pl. xii is a reprint of that in the original publication of the tomb, which was significantly retouched and is thus not fully faithful to the original, as instead depicted in the black and white photograph of pl. 22. The large, bold Greek writing superimposed to the animals belongs to a later inscription.

animals populating a Nilotic scene[45]. I am, nonetheless, inclined to believe that, although we are dealing with an ibis, this scene can be understood in a more complex key. As a well-known Egyptian bird—in fact, perhaps the bird considered Egyptian *par excellence* in the Hellenistic world—the ibis may here be intended to stand for the *trochilus*[46]. The artist, understandably ignoring what a *trochilus* looked like, might have chosen the more familiar and more immediately recognisable ibis, still wanting, however, to allude to the story of the crocodile bird. Three details may support this interpretation. First, the crocodile's mouth is wide open, with its sharp teeth on display. Secondly, the bird is pointing, perhaps even moving, towards the reptile's mouth, with its beak turned in its direction, something that only a *trochilus* would do. And, finally, the fact that all these animals are part of a hunting scene is perhaps also significant, for, as we have seen before, the *trochilus* was also wont to warn the crocodile against approaching hunters, according to a secondary variant of the tradition[47]. Overall, whilst there is no way to definitely prove that this ibis is meant to stand for a *trochilus*, I believe that this can be argued in a plausible fashion.

As was the case with the textual sources, the theme of the crocodile bird is not limited to strictly classical (Hellenistic or Roman) material in the visual arts either. Thus, it is attested as a decorative motif, again as part of a Nilotic scene, in the mosaics adorning an early Christian building, the East Church in modern-day Qasr Libya, in Cyrenaica (eastern Libya). The church's mosaics are precisely dated to the year 539 CE, when the city—earlier Olbia—was founded anew as Nea Polis Theodorias, following Justinian I's Vandalic War and Byzantine reconquest of the region[48]. Here, in one of the panels of the nave (panel D5), the artist chose to represent a crocodile, resting in shallow water amidst marshy vegetation (Figure 4)[49]. Perched on its back and standing guard over it is a bird, here portrayed as a poised duck[50]: the pose of the two animals is reminiscent of that in the libation table Berlin ÄM 21789 discussed above. On account of the coupling of the two creatures, and of their harmonious relationship as shown in this mosaic, I believe there can be little doubt that these are a crocodile and its matey *trochilus*[51].

As we saw, material sources from the eastern Mediterranean world (Egypt, Israel, Libya) quite likely make use of the *trochilus* trope, further vouching for its popularity. However, it is important to remember that, when assessing potentially ambiguous sources as the visual arts, caution is imperative. For example, Nilotic scenes are very commonly found in classical and Late Antique mosaics, and, within them, birds and crocodiles are both often present[52]. Needless to say, the association between the two creatures needs to be a close one and show significant features in common with the *trochilus* trope before the latter can be invoked as its inspiring motif. To give an example, in a Roman mosaic from third century CE Diocaesarea (modern-day Sepphoris, Israel), a scene includes a crocodile and a large bird in close proximity, both about to be attacked by two hunters. In theory, one might think of this as an image of the *trochilus* warning the crocodile of incoming danger. However, both stylistic parallels and the appearance of the bird in question suggest that this is a completely unrelated episode. What is instead shown here is a hunting party of pygmies, attacking a crocodile and a crane—another common iconographic

45 There appears to be no special connection between crocodiles and ibises in either Egyptian or classical tradition, beyond the fact that the two shared the same natural habitat. See, however, Horapollo's *Hieroglyphica*, II, 81, a passage associating the two animals, and Van de Walle and Vergote 1943, 226–227. To be sure, crocodiles and ibises easily feature together in Nilotic scenes: a well-known example is the mosaic with Egyptian wildlife from the Casa del Fauno in Pompeii (approximately 90 BCE; Naples, Museo Archeologico Nazionale 10323). Here, Nilotic species include an ichneumon fighting a snake (as in Aristotle's account), a hippopotamus, a crocodile, and two ibises. Note, however, how there is no visible connection between the crocodile and the ibises in this mosaic: the two species appear to belong to separate units within the scene's composition. On this mosaic, see, for instance, Meyboom 1995, 17–18, fig. 28; Versluys 2002, 121–123 (no. 047).

46 As first proposed, but without any arguments, by Malkiel 2016, 125.

47 As testified by Timotheus of Gaza (see above, fn. 22).

48 On the church's mosaics, see Alföldi-Rosenbaum and Ward-Perkins 1980, 33–40, 121–139; Maguire 1987, 44–48; Versluys 2002, 196–197 (no. 098).

49 Notwithstanding the imprecision of some of the anatomical details in its portrayal—such as the flappy ears—this is no doubt a crocodile, as many parallels from similar mosaics attest. For another crocodile with less than naturalistic (in fact, rabbit-like) ears, see the Sepphoris mosaic, in Hachlili 1998, 112 (fig. 5) (for more on this mosaic, see *infra*, fn. 53). On crocodiles and other Nilotic fauna in Byzantine mosaics, see Hachlili 2009, 104–106.

50 Alföldi-Rosenbaum and Ward-Perkins 1980, 47–49, 126–127, pl. 8.4. On ducks in Nilotic scenes, see Versluys 2002, 265–266.

51 On this, see already Maguire 1987, 45. Nilotic scenes were a popular subject in early Christian art, being also well-attested in Coptic Egypt. A good example is a set of carved wooden friezes now in Cairo's Coptic Museum, probably originating from a monastic complex in Middle Egypt and dating to the sixth or seventh century CE. One of its sections (Coptic Museum 7211) pictures a crocodile, with a (damaged) fish beneath its mouth. Sadly, the frieze's incomplete state makes it impossible to tell if a bird also accompanied this crocodile (in other sections of this Nilotic scene, birds are well-represented, and perhaps an ichneumon is present too). See Auber de Lapierre 2018, 31 (fig. 3; crocodile), 32–33 (fig. 7; ichneumon?).

52 Consider, for instance, the already discussed mosaic from the Casa del Fauno in Pompeii (see above, fn. 45).

theme in classical art[53]. This being said, in the case of yet other Nilotic scenes, a degree of ambiguity may remain, with consequent hesitancy about their ultimate interpretation[54].

3 Beyond Greece and Rome: The Crocodile Bird in Islamic and Jewish Medieval Traditions, and Its Transmission into Modern Times

Starting with Herodotus, the theme of the *trochilus* enjoyed great fortune in the classical tradition, both in Graeco-Roman antiquity and in medieval Byzantium, as the discussion above has shown. With the end of antiquity, however, and particularly in the Latin West, knowledge of the story somewhat dwindled, mostly as a consequence of a loss of familiarity with the Greek classics and those authors—more Greek than Latin—who had written about it. Accounts of this tale in medieval western Europe become scarcer and, when they do occur, are often muddled. Perhaps, a further blow to the tale of the crocodile bird was brought about by religious factors, namely by Christianity's adoption and spiritual interpretation of competing zoological traditions about the crocodile. In the Christian Middle Ages, much classical knowledge about the animal world had been incorporated into a variety of bestiaries, in which the description of animals and their behaviour was interpreted allegorically in a Christian key. As part of this process, the story of the crocodile and the ichneumon of classical tradition was typically revisited as an allegory of Christ (= the ichneumon) laying down his own life (= entering the crocodile's mouth) in order to defeat death and sin (= kill the crocodile)[55]. Comprehensibly, the *trochilus* was incompatible with such a narrative, in which, had it been included, it would have risked figuring as an antagonist of Christ.

Nonetheless, writers from other cultural traditions of the Mediterranean Middle Ages embraced and propagated the story of the crocodile bird: these were mostly Islamic, but also Jewish, authors. The presence of the crocodile bird in writers of these two traditions can probably be ascribed to a concurrence of two factors, one empirical and the other bookish. The first one is that, overall, Egypt and the crocodile's habitat would have been a much more familiar and/or accessible reality to Islamic and Sephardi Jewish intellectuals, than to their Christian European counterparts. The second is the conversancy with ancient, and particularly Greek, authors that characterises medieval Islam (much more so than medieval western Europe), with its translations into Arabic of classical writers such as Aristotle. Through the Stagirite, Herodotus' account is therefore still at the origin of an active and uninterrupted tradition about the *trochilus* in the Islamic and Jewish worlds[56].

To be sure, Islamic and Jewish traditions about the *trochilus* are not necessarily slavish reproductions of their classical predecessors. New elements, sometimes radical changes, enter the trope. Thus, many Islamic authors signal an exceptional feature in the crocodile's anatomy: according to them, this species has no anus. This, in their opinion, is the reason for its mutualism with the bird, which flies inside the crocodile's mouth to empty its belly from the food waste with which it is full. If the classics knew the crocodile bird as a dental cleaner, the Islamic tradition makes its cleaning job one of a more heavy-duty and unsavoury kind. Additionally, many of these accounts also point out a peculiar physical characteristic in the bird too: a bony spike on its head (alternatively, one on each wing), which the bird uses to prick the crocodile's palate or interior and thus make sure not to be swallowed, should the crocodile close its mouth too soon. The relationship between the two animals is therefore no longer as perfect and harmonious as it was portrayed in classical tradition. After visiting Egypt, the traveller Abu Hamid al-Gharnati, from twelfth century Andalusia, writes in his *Tuḥfat al-albāb* (*The Gift of Spirits*):

وليس له دبر [...] ولا يتغوّط [...] واذا شبع وامتلات معدته خرج الى بعض الجزائر واستقبل الشمس وفتح فاه فيدخل في معدته انواع من العصافير كالقنبر في

53 On the Sepphoris mosaic, see Versluys 2002, 232–233 (no. 129). On the motif of pygmies fighting cranes, see Versluys 2002, 275–276.

54 As an example, I can quote a wall painting from the Casa del Medico in Pompeii (around 70 BCE; Naples, Museo Archeologico Nazionale 113195). It shows another Nilotic hunting scene, on the left of which is a pygmy attacking a crocodile. A bird, whose appearance is that of a black ibis, flies over the reptile, seemingly intent on looking at—or even alarmed by—the scene unfolding underneath it. Surely, the bird is an ibis, not a crane, and is therefore not to be understood as another target of the pygmy's assault. But is it just a passing ibis, added to animate the scene further? Or could the *trochilus* story have inspired the painter here, the bird having flown up in a commotion so as to alert the crocodile of the incoming attack? If so, the artist would have represented the enigmatic *trochilus* with the likeness of an ibis, a quintessentially Nilotic bird, exactly as I suspect to be the case in the Marisa painting. On this Pompeian picture, see, for example, Versluys 2002, 138–140 (no. 059, A); Barrett 2018.

55 On this allegory and its use in the *Physiologus* (the Late Antique predecessor of many medieval bestiaries), see Miller 2001, 66–69. On the *Physiologus* and ancient Egypt, see Brunner-Traut 1968.

56 Part of the following overview is indebted to Malkiel (2016, 125–148), to whose treatment I refer the reader.

رؤسها عظام كالمناقير فياكلون ما في معدته فاذا شبعت خرجت ودخل غير ها حتّى لا يبقى في معدته شئ وربّما اطبق فمه على بعضها فيطعن في معدته برؤسها الّتي فيها [تلك] العظام حتّى يفتح فاه فيخرج [...] وهو كثير في نيل مصر.

> Lacking an anus, [...] the crocodile does not evacuate [...]. When it is sated, with its stomach full, it comes out of the water and lies in the sun on some island, face up, with its jaws open. Certain birds, which resemble the lark and which have bones like spikes on their heads, enter its stomach to eat its contents. When they have satisfied their appetite, they leave so that others can enter, and thus they take turns until nothing remains in the stomach. Sometimes the crocodile closes its mouth when these birds are still inside. The birds, then, proceed to peck the walls of the stomach with these bones like spikes that they have on their heads, until the crocodile opens its mouth and allows them to leave [...]. This species is abundant in the Nile of Egypt[57].

Similar reports are given by several other medieval Islamic authors, including geographers and naturalists such as the Syrian al-Dimashqi and the Egyptians al-Damiri and Ibn Mangli, all three active in the fourteenth century[58]. These sources, at times, also provide us with a specific name for the crocodile bird. This is not the name popularised by Herodotus, *trochilus*, which is passed down to European languages, but which typically is not attested in Arabic. Instead, the names that Islamic authors often use for this bird were, at least in part, probably utilised locally, in contemporary Egypt, such as *qaṭqāṭ* (قطقاط), *saqsāq* (سقساق) or *zaqzāq* (زقزاق), and *tawram* (تورم), along with the more generic *ṭā'ir al-timsāḥ* (طائر التمساح), meaning 'the crocodile bird' and still in use to this day[59].

Nor was al-Gharnati the first Islamic author to write about the crocodile bird. Long before, in ninth century Baghdad, al-Jahiz included the tale in his tract *Kitāb al-ḥayawān* (*The Book of Animals*). In a later copy of this work, a lavish manuscript produced in Mamluk Egypt or Syria around the year 1315, detailed illustrations accompany the text, one of which depicts the crocodile with the bird planted in its open mouth (Figure 5). Here, a minor inconsistency emerges between text and image. The tradition attested by al-Gharnati, according to which the bird has a spike on its head, clearly influenced the illustrator, since he included such a feature in his artwork. However, al-Jahiz's original text sticks closer to the letter of the Graeco-Roman tradition, for it does not linger on the threat posed by the crocodile to the bird, extolling instead their perfect mutualism. Further, the text relates that the bird cleans the crocodile's teeth, rather than eating its waste. In the words of the original:

وايّ شئ اعجب من طاير ليس له رزق الا ان يخلّل اسنان التمساح فيكون ذلك رزقاً له وترويحاً عن التمساح.

> What is more extraordinary than a bird earning a livelihood only by means of cleaning a crocodile's teeth? This is a means of living for the bird and a relief for the crocodile[60].

Close to the tradition of the classics is also the Persian scholar Sharaf al-Zaman al-Marwazi (late eleventh to early twelfth century), who wrote in Arabic his *Ṭabā'i' al-ḥayawān* (*The Natures of Animals*) at the Seljuk court of Merv, in modern-day Turkmenistan (incidentally, this is the easternmost attestation of the *trochilus* bird trope known to me, further vouching for its popularity across the Islamic world). Through familiarity with Aristotle and his epigones such as Timotheus of Gaza, al-Marwazi perfectly exemplifies that part of the Islamic tradition that remains faithful to the classical account. Thus, not only does he state that the bird cleans the crocodile's teeth, but also that it protects it from its natural enemy (in his text, the otter, a close alternative to the ichneumon that al-Marwazi derives from Timotheus of Gaza). He even gives the bird's name as *ṭrūsilus* (طروسلس), an uncommon but clear phonetic rendering in Arabic of Greek τροχίλος[61]. However, as in the case of the manuscript of al-Jahiz discussed above and its slightly discordant illustration, al-Marwazi also shows at least partial awareness of the Islamic tradition proper. Thus, he tells how the crocodile's teeth are infested by maggots developed from meat leftovers, which the 'crocodile bird' (the technical name *ṭrūsilus* does not appear in this passage) eats away. Once its mouth is clean, the crocodile's instinct would be

57 Based on the Spanish translation in Abū Ḥāmid al-Garnāṭī 1990, 75 (also reproduced, with minor omissions, in Malkiel 2016, 132). Arabic text in Ferrand 1925, 111. On the crocodile in al-Gharnati, see also Bejarano Escanilla 2017, 26.

58 Malkiel 2016, 133–135.

59 Viré 2012. For some of the bird's Arabic names, see also Ad-Damîrî (1906–1908, 1.356, 362), who further presents two competing traditions about the bird's appearance (i. e., with a spike on its head, or with a spike on each wing). For a rare example of the name *trochilus* being included, as a loanword, in an Arabic source, see *infra*, fn. 61.

60 Löfgren 1946, 32–33 (no. 32), pl. xxiv.b; Löfgren and Traini 1975–2011, 1.76 (no. cxxx) (tentatively assigning this codex to the fifteenth century), pl. 2.xiv; Malkiel 2016, 135 (incorrectly dating the manuscript to the thirteenth century). The illustrated manuscript is in the collection of the Biblioteca Ambrosiana, Milan, Ms. Ar. A.F. D 140 inf. (the crocodile and the Arabic text here reproduced are on fol. 51r). A full digital scan of it can be retrieved online, at: https://ambrosiana.comperio.it/biblioteca-digitale/ (this webpage misdates the codex to 1615, which is in fact an acquisition date). For an indication of this manuscript's original date as the early fourteenth century, see Contadini 2012, 110 (fn. 23), 112, 142.

61 Kruk 1999, 121 (257b5); Kruk 2001, 376 (no. B18). In the latter publication, Kruk transliterates the name differently, as *trūsilus*, but, given the foreign origin of this word in Arabic, I suppose the writing with *ṭ* is the original one.

to swallow the bird, but the latter avoids this thanks to a spike found on its head, with which it pricks the crocodile's palate, thus freeing itself[62].

This being said, the chief tradition concerning the crocodile bird in the Islamic Middle Ages was and remained the one exemplified by al-Gharnati, centred on the crocodile's faulty excretory anatomy. This also features in the works of several Jewish authors, and, although some of the elements may be re-elaborated even substantially, the story's essentials endure (i. e., the reptile's lack of an anus and its need for help from another animal to empty its mouth/stomach). In thirteenth century France, Gerson ben Solomon of Arles included such an account in his *Šaʿar ha-Šamayim* (*The Gate of Heaven*), a Hebrew text mostly based on Arabic sources. However, he described the crocodile's helpers that remove the waste from its body as insects such as flies, rather than birds[63]. In the meantime, Gerson's fellow countryman and contemporary Menachem ben Peretz of Hebron reports, from a visit to Palestine, about a beast—not specifically identified as the crocodile and whose description is rather confused—that has no anus and whose waste is removed by birds, whenever it visits the shores of a river or the sea[64]. An original blend of the Arabic and the classical versions of the trope is instead found in another Jewish author and traveller, this time from Tuscany, Meshullam (or Buonaventura) da Volterra, who embarked upon a journey to the Holy Land, via Egypt, in 1481. He reports the usual features of the Islamic story's variant: the crocodile's lack of anus, the bird's feeding on its excrement, and its 'horn' used as a safety tool. But he is also conversant with the (Latin) classics, and thus recognises in this Egyptian bird Pliny's *trochilus*. He thus declares that the bird's name is, in Arabic, *ʿapêś* (transcribed עפיש in his Hebrew text), and, 'in the Roman tongue [of] Pliny', *ṭôrqêlô* (טורקילו)—a clear rendering of *trochilus*, with a metathesis perhaps influenced by the phonology of Meshullam's other language, Italian (accordingly, Malkiel transcribes it *torchello*)[65].

Perhaps the most remarkable account, however, is that of another Italian Jew, rabbi Ovadiah (or Servadio) da Bertinoro, who also left a record in Hebrew of his own visit to Egypt, in 1488. The unicity of his report stems from how Ovadiah integrates his experience of the Nile crocodile—and, alongside it, our bird—into a specifically Jewish tradition. He writes:

ועל הנילוס ראיתי הצפרדע הנקרא אלתמסח בערבי, והיה גדול יותר מדוב [...] ; והוא מן הצפרדעים שנשארו מימי משה, כמו שמזכיר הרמב״ן בפירושיו. ואמת הוא המסופר עליו שמכניס ואינו מוציא, והעוף אוכל המותרות שיעשה בהיותו פותח פיו לשמש, ונכנס העוף בפיו ואוכל המותר ההוא.

> On the Nile I saw the *ṣefardeaʿ* called *al-timsaḥ* in Arabic, and it was larger than a bear [...]. And it is of the *ṣefardeʿim* that survive from the time of Moses, as Ramban mentions in his commentaries. And it is true what is told of it, that it takes in but it does not take out, and the bird eats the residue that it makes, when it opens its mouth towards the sun and the bird enters its mouth and eats that residue[66].

Quoting the authority of Nachmanides—the thirteenth century rabbi and kabbalist also known by the acronym of Ramban—and his commentary on the Torah, Ovadiah links his travel experience to an obscure and exclusively Jewish exegetical tradition concerning the Biblical account of *Exodus*. According to this, the animals sent upon Egypt by God as the second of his seven plagues, indicated in the original Biblical text as *ṣefardeʿim* (צפרדעים), were not, as generally understood, 'frogs' (the standard translation for this Hebrew word), but 'crocodiles', which were left to infest the Nile waters forever after, even beyond Moses' time. Nachmanides himself referred to earlier midrashic literature, which included a remarkable explanation about how this name for the crocodile came into being. According to it, the Nile used to be inhabited by birds endowed with wisdom. These birds enjoyed a special relation with the crocodiles: they would call out to the saurians, and these would join the birds by the river. Thus, the crocodile was named after its wise avian companion and, from the combination of the radicals constituting the Hebrew names for 'bird' (*ṣippôr*, ציפור) and 'wisdom/knowledge' (*deʿâ*, דעה), the crocodile's own name came into being

62 Kruk 2001, 383 (no. C31).

63 Malkiel 2016, 133 (with 145–146 [fn. 116]). Such a drastic modification in the animal identity of the story's protagonist is rare, but not unique. For instance, in twelfth century Palestine, the Frankish priest Rorgo Fretellus wrote about worms entering the crocodile's mouth to consume the food with which the anusless creature is stuffed (Malkiel 2016, 137).

64 Malkiel 2016, 137–138. Note that the attribution of the text to Menachem himself may be spurious.

65 Malkiel 2016, 115; Mešullam da Volterra 1989, 44–45. Hebrew text in Meshulam mi-Ṿolṭerah 1948, 51–52. As regards the name *ʿapêś*, which finds no parallel in the Arabic terms attested for this bird (see above, fn. 59), Malkiel (2016, 115 [fn. 1]), highlights its phonetic similarity with 'ibis'. This is surely a point worth considering, but it should also be remembered that the ancient Egyptian name of the bird,  *hby* (from which Greek ἴβις and, thence, modern European equivalents such as English 'ibis' originate), though still attested in Coptic (Sahidic ϩⲓⲃⲱ), has no confirmed outcome in Arabic; see, for instance, Černý 1976, 274–275 (*s. v.* ϩⲓⲃⲱ). In Arabic, the standard name of this bird is *abū-minjal* (أبو منجل)—literally, 'father of sickle', with reference to its curved beak—which, etymologically, is unrelated to 'ibis'.

66 Malkiel 2016, 115–116; 'Ovadyah Yare da Bertinoro 1991, 31–32. Hebrew text in Obadiah of Bertinoro 1997, 52.

(*ṣefardea‘* ← *ṣpr-d‘*, צפרדע ← צפר-דע)[67]. Naturally, this etymology is a fanciful result of midrashic speculation, but it has important implications with regard to the transmission of the *trochilus* trope. Indeed, the friendly connection between birds and crocodiles along the Nile, as well as the idea that such birds, in a way, looked over their reptilian mates, can hardly be a coincidence, and rather plausibly points at a connection with our story. The crocodile bird's tale was thus incorporated into Jewish intellectual history too, by means of an esoteric etymological play[68].

As we saw, the tale of the crocodile bird had somewhat faded in the memory of the Latin West, following the end of antiquity. Already during the High and Late Middle Ages, however, some authors had begun a process of re-appropriation of the tradition, by referring to the classics or, less frequently, accessing contemporary Arabic sources. An excellent example is the German philosopher Albertus Magnus (thirteenth century), who, in his tract *On Animals*, makes use of both Latin and Islamic authors (the latter of whom he read in Latin translation). Naming Pliny and the Persian polymath Avicenna amongst his sources, he thus tells the story of the crocodile bird according to either tradition. Following the classical version, he points out that the bird—whose name he records, slightly adulterated, as *crochilos* in Greek and *strofilus* in Latin[69]—eats scraps from the crocodile's teeth, giving it relief. But, supplying this with the Islamic tradition (*dicit tamen Avicenna*: 'Avicenna, however, says'), he also remarks that sometimes the crocodile, if hungry, may swallow the bird (note that no mention is made about the bird's bony spikes, or of any other defence mechanism). Albertus even specifies that this mutualism with the *trochilus* occurs with 'a certain species of crocodile' (*species quaedam cocodrilli*), which he calls, in Latin, *tenchea*—a rendering of Arabic *timsāḥ*, as a further, linguistic testimony of his Islamic sources[70].

But, it is with the Renaissance and the transition to the Modern Age that a new chapter begins in the history of the European reception of the crocodile bird trope. This new phase is brought about by a series of factors, both empirical and intellectual: on the one hand, the increase in international exchanges and travel, with a renewed interest in geographical and natural studies; on the other, the widening of cultural horizons through a (critical) reacquisition of the classics, but also through an increased acquaintance with extra-European traditions[71]. The intellectual history of the crocodile bird in the Modern Age, with it re-entering the imagination of European culture, is another complex story, one the full treatment of which lies beyond the scope of the present article. In the following pages, I will limit myself to offering only a quick sketch of it.

Scientific literature on the topic continued to be produced in an ever-growing number. Often, it incorporated layer upon layer of traditions dating back to ancient and medieval times[72]. Crucially, however, it included empirical observation, too. In fact, one of the most important studies of its time on the Nile crocodile and, with it, on the crocodile bird coincides with an event that lies at the origin of the birth of Egyptology as a modern academic discipline: Napoleon's Egyptian expedition (1798–1801) and the ensuing publication of the *Description de l'Égypte*. It is here, within the section about natural history, that naturalist Geoffroy Saint-Hilaire published what may arguably be considered, by modern standards, the first scientific discussion of the problem of the *trochilus*[73].

67 Malkiel 2016, 142–145.

68 Incidentally, note that a paretymology concerning the name of the crocodile is attested in Arabic too (though, in this case, it does not involve the *trochilus*). The Arabic noun for this reptile, *timsāḥ* (تمساح), originates from its ancient Egyptian counterpart, probably with inclusion of the feminine definite article: () (*tȝ*) *msḥ*, '(the) crocodile' (note that ancient Egyptian *msḥ* entered not only Arabic, but also Greek, through the loanword χάμψα, in Hdt. II, 69). See, for instance, Westendorf 1965–1977, 103 (*s. v.* мсаг); Vernus and Yoyotte 2005, 210 (*s. v.* crocodile). Since *timsāḥ* is also a name used for indicating a liar (the connection between crocodiles and hypocrisy being one recurrent across cultures), some would have it, however, that *timsāḥ* stems from the Arabic root *m-s-ḥ*, expressing the concept of falsehood. On this paretymology, see Bejarano Escanilla 2017, 28.

69 To be compared with *strophilos* in Solinus (see above, fn. 26).

70 *De animalibus*, VIII, 46 and XXIV, 24. Latin text in Albertus Magnus 1916–1920, 1.589, 2.1528. For a modern translation with commentary, see Albertus Magnus 2018, 1.686, 2.1675–1676. On Albertus and his contemporary sources (particularly *De natura rerum* by Fleming Thomas of Cantimpré), see Aiken 1947, 211–212. Aiken argues that, in XXIV, 24, Albertus derived the idea of the crocodile swallowing the bird from Thomas of Cantimpré, who had misunderstood Pliny's ichneumon story (he had also used the same name *crochilos* in lieu of *trochilus*). However, note that Albertus must have independently come across this story also in his Arabic sources, as his mention of Avicenna in VIII, 46 confirms unquestionably.

71 Early on in the sixteenth century, for instance, both tendencies are well exemplified in the *Description of Africa* (composed in Arabic, but published in Italian and, thence, in other European languages) of diplomat Leo Africanus. See Malkiel 2016, 140–141.

72 Such is the case, for instance, with the Jacobean Era work of Englishman Edward Topsell, *The History of Serpents* (1608). His account of the *trochilus* (which includes mention of the spike on the bird's head) is directly contrasted with Herodotus' supposedly more 'discriminating' tale and all too easily dismissed as 'most interesting rubbish' and 'embroidery of fiction' by Wells (1923, 209), who deliberately ignores the long cultural history of this trope.

73 Geoffroy-Saint-Hilaire 1809, 198–205. On Saint-Hilaire and his identification of the *trochilus* with the Egyptian plover, see also Cocker and Tipling 2013, 216.

The *trochilus* now also enjoys new popularity in the visual arts. Early modern examples are found in the Quattrocento already, as in the medal of the Doge of Genoa Battista II di Campofregoso (also known as Battistino Fregoso), designed by artist Battista d'Elia da Genova (circa 1480). The medal's obverse shows the profile of the Doge, whilst its reverse contains the animal imagery: the bird hovering above the crocodile's mouth, picking its teeth, surrounded by the Latin inscription *PECVLIARES AVDACIA ET VICTVS*, 'exceptional valour and sustenance' (Figure 6). The use of this image as a form of neo-Egyptian 'hieroglyphic' heraldry finds its *raison d'être* not only in the trope per se, which was probably known to Di Campofregoso through the classics, but also in the interest for all things ancient Egyptian that characterises the Renaissance[74].

Unsurprisingly, in modern times, too, travel literature remained one of the main genres to feature the crocodile bird, as had already been the case in antiquity and in the Middle Ages. At the height of European colonialism, in the nineteenth century, travel accounts of supposed sightings of the *trochilus* along the Nile often retain much of a Herodotean flavour to them. A very popular account in Victorian times was that of Robert Curzon, who, on a visit to Egypt in the 1830s, claims to have experienced a 'fact in natural history which […], although it is mentioned so long ago as the times of Herodotus, has not, I believe, been often observed since'. Talking with usual bravado of his 'strong predilection for crocodile shooting', Curzon tells how he once spotted a particularly large specimen of this reptile resting on the riverbank:

> I was on the point of firing at his eye, when I observed that he was attended by a bird called a ziczac. It is of the plover species, of a greyish colour, and as large as a small pigeon. […] suddenly it saw me, and instead of flying away, as any respectable bird would have done, he jumped up about a foot from the ground, screamed "Ziczac! ziczac!" with all the powers of his voice, and dashed himself against the crocodile's face two or three times. The great beast […] dived into the river and disappeared. The ziczac, to my increased admiration, proud apparently of having saved his friend, remained walking up and down, uttering his cry, as I thought, with an exulting voice, and standing every now and then on the tips of his toes in a conceited manner, which made me justly angry with his impertinence. […] I got up […], threw a clod of earth at the ziczac, and came back to the boat, feeling some consolation for the loss of my game in having witnessed a circumstance, the truth of which has been disputed by several writers on natural history[75].

Outlandish as the account of the 'impertinence' of this Egyptian bird versus the loss of sangfroid of a member of the English gentry may be, two elements of it are particularly remarkable. First, Curzon—like many others before and after him—misremembers Herodotus' tale, for the Greek historian characterised the mutualism between the two creatures as based on the bird's eating parasites out of the crocodile's mouth, not on the bird standing guard over the saurian[76]. As we saw, the latter is a later version of the story, which, as far as classical tradition is concerned, originates out of the tale of the enmity between the crocodile and the ichneumon. Secondly, Curzon does not call the bird *trochilus*, but gives its local Arabic name, 'ziczac', a name which, as previously mentioned, is already attested in medieval Islamic sources, chiefly as *saqsāq* or *zaqzāq*[77].

The popularity of the crocodile bird continues to this day. In the world of mass media, this trope has become part of collective imagination. The connection between the crocodile and the bird is so immediate, it is often no longer made explicit, but merely implied. At the visual level, this is well exemplified in a series of postage stamps released by Israel Post in 2005, as part of a series *Animals of the Bible* by designer Tuvia Kurtz. Here, the Nile crocodile—officially the sole subject of the stamp in question—is escorted by a spur-winged lapwing as its companion (Figure 7)[78]. Even humorous literature and cartoons play with the story, taking for granted its knowledge amongst the general public. A good, recent example is a cartoon from 2016 by illustrator and author Scot Ritchie, in which the bird stars as an unlikely

74 Wittkower 1977, 121–123 (fig. 175). For a high-resolution colour image of the medal, see the online catalogue of the National Gallery of Art, Washington DC (Samuel H. Kress Collection, 1957.14.794): https://www.nga.gov/collection/art-object-page.44680.html. Sadly, the treatment devoted to this medal and its 'neohieroglyphische Bildrhetorik' by Morenz (2003) is a work of fiction, and is best avoided. Morenz builds his arguments on the idea that the medal celebrates Battista II di Campofregoso for his diplomatic success in concluding the Treaty of Constantinople (1479), which put an end to the war between Venice (which Morenz sees represented in the *trochilus*) and the Ottoman Empire (the crocodile). What Morenz fails to realise is that Di Campofregoso never had anything to do with any of the above, for he was the Doge of Genoa, not of Venice.

75 Curzon 1849, 138–140.

76 See also above, fn. 21.

77 See above, fn. 59.

78 On this bird, see *infra*, fn. 122. Note that the stamp's caption quotes a passage from *Exodus* (the episode of the rods of Aaron and Pharaoh's magicians turning into serpents) that features the Hebrew word *tannin* (תנין). In modern Hebrew, this indicates a crocodile, but it was also used to describe a serpent or other reptile, as in the story of Aaron's rod. The ambiguity in terminology of the Biblical text is reflected, for instance, in the description of the Nile crocodile by Meshullam da Volterra (see above, fn. 65), whose original account swings between different Hebrew terms for serpent and crocodile—including *qôqôdrilô* (קוקודרילו), a remarkable loanword from Italian *coccodrillo* that Meshullam uses to render Pliny's Latin *crocodilus* (for a comparable metathesis, see his previously discussed spelling of *trochilus*).

yet accomplished dental hygienist (Figure 8). And, with a dark spin, the crocodile bird also stars in 'Nordic noir' fiction, as the title of an internationally bestselling detective story set in Copenhagen, *Krokodillevogteren* by Katrine Engberg (2016)[79].

Before concluding this brief overview of the evolution of the crocodile bird trope in modern times, I should like to spend just a few words on one re-elaboration of it which, I believe, has never been discussed, one in which the textual and visual aspects are deeply intertwined: the featuring of the *trochilus* in children's literature. In this genre, the crocodile and the bird are characterised by a strong anthropomorphism: they speak with one another, and they are connected by a strong emotional bond. Indeed, their interaction is not seen as a form of natural mutualism, through the eyes of zoology, but as friendship, through a moralising filter. Early examples of the inclusion of this trope in children's literature purposefully employ it to teach young readers about the value of friendship and loyalty. This is the case, for instance, in *Zic-Zac the Crocodile Bird*, by American activist and Montessori educator Rita Kissin (1942, with illustrations by Charles E. Bracker), as is made already evident by its subtitle, *A Good Neighbor Story from the Nile* (Figure 9)[80]. Kissin's tale focuses particularly on the theme of the protection provided to the crocodile by the bird, within the tradition also witnessed by Curzon's account.

In recent decades, the story's moralistic use for a children's audience has found new inspiration through a return to the original Herodotean tradition, whilst still maintaining a focus on the bond of friendship between the two protagonists. Thus, the role of the bird in cleaning the crocodile's teeth has come to the fore, with children's books about the *trochilus* almost transformed into a *protrepticus* to dental hygiene, which they aim to depict as something inherently fun[81]. Some books present the story from the bird's perspective, others from the crocodile's[82]. The trope even gave birth to two famous characters in the work of a giant of contemporary children's literature, the American Tomie dePaola (1934–2020): the little crocodile William 'Bill' Everett and his avian 'toothbrush' Pete (Figure 10). To the original *Bill and Pete* (1978), there followed other tales about the couple's adventures, including one with an Egyptological twist, set amongst the monuments of the ancient Egyptian civilisation, *Bill and Pete Go down the Nile* (1987)[83].

To this day, be it on the printed page, on the stage, or on the internet, the story of the crocodile bird continues to inspire children and the authors addressing them. For her children's show *Misunderstood Monsters* (2012–2014), poet and novelist Aoife Mannix composed the poem *The Bird Crocodile*, which stages the story of an Egyptian plover adopting a baby crocodile still in the egg, a twist on the classic Ugly Duckling motif. Thanks to the inclusion of this work in the online library of the UK Centre for Literacy in Primary Education (CLPE), children can now learn to read and develop a love for poetry with the help of the *trochilus*, too[84].

4 An Egyptian Trope with an Egyptian Origin: The First Attestation of the Crocodile Bird in an Egyptian-language Source, P. Vienna D 6104

As evident from the foregoing discussion, the story of the crocodile bird—whether we call it a *trochilus*, a ziczac, or something else altogether—has enjoyed a long and uninterrupted tradition through various human cultures across the millennia, beginning with its first written mention by Herodotus, in the mid-fifth century BCE. An obvious question arises, however: since this trope deals with the wildlife of the Nile, should it not also be attested in (and, in fact, originate from) a local, ancient Egyptian tradition? We already saw how several Islamic authors wrote about the crocodile bird, including some who happened to live in medieval Egypt and were therefore fully familiar with its natural landscape. So, what about ancient Egypt?

79 Engberg 2016 (published, however, in English translation under the plainer title *The Tenant*).

80 Kissin and Bracker 1942. Note, however, that the book is not devoid of problematic aspects, particularly in its stereotypical and racist portrayal of the African hunters who, in the story (set along the Nile in sub-Saharan Africa), happen to be the antagonists of Zic-Zac and his friend Crocsy.

81 In fact, beyond the domain of children's books, the crocodile bird is very commonly featured in advertisements aimed at children across dental surgeries worldwide, as the reader will easily be able to confirm through a quick Google search. In this respect, see also the cartoon published in this article as Figure 8.

82 For instance, see, respectively, Brandon 2011; Usher and Lewis 1997. The latter is particularly emblematic of the whole genre. Mamba was a cheeky little crocodile, who, unwilling to listen to her parents, did not want to make friends with the crocodile bird—in fact, she even tried to eat him! But, after experiencing a bad toothache from which only the crocodile bird was able to save her, she eventually saw reason. Πάθει μάθος.

83 DePaola 1978; DePaola 1987.

84 The text and a video of a 2015 author's performance of *The Bird Crocodile* are available on the website of the CLPE, at: https://clpe.org.uk/poetry/poems/bird-crocodile.

Birds feature prominently in ancient Egyptian culture, and they are attested in virtually all aspects and vestiges of ancient Egyptian life: material remains (from foodstuff to animal mummies), representations in the visual arts, mentions and descriptions in texts, and more[85]. For all we know, however, no attestation of the crocodile bird has been found in any ancient Egyptian source, with the partial and only possible exception of the Romano-Egyptian Mendesian maze libation tables. Until now.

P. Vienna D 6104 is a small, unpublished fragment from a papyrus scroll, held in the collection of the Österreichische Nationalbibliothek, Vienna (Figure 11). It measures just 7.6 × 4.5 cm (height by width), and is inscribed on one side with the remains of fourteen lines of a demotic text; its back is blank. It originates from the Fayum, where it was likely preserved in the library of one of the region's Egyptian temples, and can approximately be dated, on palaeographical grounds, to the second century CE. It bears part of an *oneirocriticon*, or handbook for dream interpretation, which is known from additional fragments of the same papyrus manuscript to which this Vienna item belongs, as well as by other manuscripts[86].

The ancient Egyptians believed in the prophetic power of dreams. Thus, they developed a complex divinatory art for their interpretation. Ancient Egyptian dream books are attested over almost one and a half millennia, from the late second millennium BCE through to Roman times. The typical dream book listed hundreds of possible dream scenarios or topics, each followed by a prediction detailing what would befall the person who had experienced said dream. Specifically, demotic *oneirocritica*, which survive in good numbers from the Ptolemaic and Roman Period, adopt the reader-friendly solution of ordering dreams in thematic chapters, for ease of consultation. Thus, one finds chapters, each introduced by a heading, that list dreams about alcoholic beverages, sexual acts, implements of various kinds, and so forth, offering an almost encyclopaedic catalogue of Egyptian dreams and, through them, of Egyptian life. Understandably, dream books therefore have a huge value for modern scholars, not only as they illustrate the mechanisms of ancient Egyptian oneiromancy, but also as they list names and words for Egyptian realia that are, otherwise, scarcely attested or just unknown to us.

This is exactly the case with P. Vienna D 6104, which bears a section of the dream book listing dreams about birds. Despite the poor condition of the fragment and the loss of most of its predictions (contained in the second half of the text lines), almost all of the birds' names can be read, and this offers us an almost unique insight into an ancient Egyptian ornithological list of sorts, which I present in the following edition[87].

P. Vienna D 6104: Transliteration and Translation

x+1.	*n*]ʳ*r*˥*y*(*?*) ʳ*i*˥[*w*]ʳ=*f*˥ [*r*] ʳ*ir nb n*˥ . . . [. . .	A vul]ture(?): he wi[ll] become owner of . . . [. . .
x+2.	*tr*].*t*(*?*) *r s-ḫm.t rmṯ*(.*t*)-*ʿ*3.*t r ti* ʳ*n=f nke*˥ [. . .(*?*)	A ki]te(?): a rich woman will give him property [. . .(?)
x+3.	. . .] . *iw=w r ms n=f*ʳ*šr iw*˥*=f r* ʳ*rš*˥[*y*	. . .] . : a son will be born to him, he will rejoi[ce.
x+4.	. . .] . *iw=f r ir nb n* ʳ*q*˥3*y* [. . .(*?*)	. . .] . : he will become owner of high land [. . .(?)
x+5.	*g*]ʳ*r*˥*mpy* ʳ*r s-ḫm.t*˥ *rmṯ*(.*t*)-ʳ*ʿ*3.*t r ti n=f*˥ [*nke*(*?*)	A d]ove: a rich woman will give him [property(?).
x+6.	*ḳ*]ʳ*w*˥*ḳwpt* ʳ*i*˥[*w*=. . .] . [. . .	A h]oopoe: [. . .] will [. . .] . [. . .
x+7.	*ṯ*]ʳ*rp iw=f r ir*˥ [. . .	A goo]se: he will do/become [. . .
x+8.	. . .] . *iw*ʳ*=f r*˥ . . . [. . .	. . .] . : he will . . . [. . .
x+9.	. .] . ʳ*ṯy*˥ *r-ḥ*(.*t*)-*n*ʳ*n*˥	. .] . . . : ditto.
x+10.	ʳ*ib*˥*nini*(*?*) *r rmṯ ʿš*3[*y* . . .	An *ibnini*-bird(?): man[y] people will [. . .
x+11.	ʳ*kymy*˥ *iw*ʳ*=w r*˥ . [. . .	A hen: they will . [. . .
x+12.	ʳ*b*3*k*˥-*msḥ* [. . .	A crocodile-servant bird: [. . .
x+13.	ʳ*ny*˥*ny iw*ʳ*=f*˥ [. . .	A *nyny*-bird: he will [. . .
x+14.	. .]ʳ*b*˥ . [. . .	. .] . . . [. . .

85 On birds in ancient Egypt, see Houlihan 1986. More recently, see the collected essays in Bailleul-LeSuer 2012.

86 On ancient Egyptian *oneirocritica*, see Prada 2012. The dream book in question and its manuscripts are studied in Prada 2014. Another fragmentary manuscript of it is included in Quack and Ryholt 2019, 1.195–217 (no. 13), pls. 2.13–15.

87 The focus of this article is on the problem of the crocodile bird. This text edition is therefore offered purely in this capacity, as a way to provide additional primary evidence. I include only an abridged textual commentary to justify my reading choices (thus, particularly problematic bird names, such as those in ll. x+10 and x+13, are only quickly discussed), with no accompanying glossary of demotic words and writings. A full treatment will be found in the final publication of this whole *oneirocriticon*, which I am currently preparing.

Essential Textual Commentary

Line x+1:

(a). *nry*: This appears to be the likeliest restoration to the text, though other bird names are also possible, in theory—hence my query.

Line x+2:

(a). *tr.t*: The restoration, which is proposed *dubitanter*, would fit the size of the lacuna well. However, other bird names concluded by a feminine ending may just as well be possible.

(b). [. . .(*?*): In many cases, dreams could be followed by more than one prediction, as can be seen, for instance, in l. x+3. Here and in other lines, I therefore signal the possibility that at least another prediction may have followed the one still preserved.

Line x+4:

(a). *qꜣy*: That is, a field of high land, above the Nile's inundation level[88].

Line x+5:

(a). *nke*: The end of the prediction is restored *exempli gratia*, reproducing that of l. x+2.

Line x+6:

(a). *ḳwḳwpt*: In the transliteration of this noun, I deliberately use the character *ḳ* as opposed to *q* (compare *qꜣy* in l. x+4), in order to mark its writing in the papyrus with the demotic sign , which originates from *kꜣ*[89].

Line x+8:

(a). *iw=f r* . . . : A possible partial restoration might be *iwˁ=f rˀ* [*r*]ˁ*ke*ˀ 'he will [s]top/[r]emove', but the damage to the papyrus is too extensive to propose it with any degree of certainty.

Line x+9:

(a). . .] . *ṯy*: One could perhaps restore this bird name as *ḥ*]ˁ*yṯy*ˀ (or, for an easier fit within the space allowed by the lacuna, *ḥ*]ˁ*ṯy*ˀ), and see in it a variant of *ḥyṯꜣ.t*, which is attested in demotic as the name of an unknown bird; this is, however, no more than an educated guess[90]. An alternative restoration, proposing ˁ*rṯy*ˀ as a variant for attested *rt* (possibly a kind of heron or crane), is excluded, as incompatible with the extant ink traces[91]. A radically different proposal would be to read *ny* in lieu of *ṯy*, thus suggesting a different bird name altogether, such as *b*]*ny* or *by*]*ny*, for either 'swallow' or 'phoenix, heron'[92]. Choosing a reading *n* over *ṯ* seems, however, undesirable, and the ensuing proposals for alternative bird names unlikely.

(b). *r-ḥ*(*.t*)*-nn*: Following *r-ḥ*(*.t*) is the sign  . I transliterate it here phonetically, as the old demonstrative *nn*, but it is also possible that said sign was used as a symbol, with no specific phonetic value, as in the case of our modern ditto mark ("). Either way, the meaning of this phrase as 'ditto' is unquestionable. Here, it is used to let the reader know that dreams about the bird at hand in this line result in the same prediction given for the previous omen, in l. x+8[93].

Line x+10:

(a). *ibnini*: An unknown bird name, of uncertain reading. Whilst the reading of the sequence *nini* (transliterated preferably so, rather than *nene*) seems straightforward, that of the sign preceding it is problematic: . As it can hardly be read as ˁ, an identification of this noun with the ˁ*nini* bird attested in other demotic sources is excluded[94]. Instead, I propose to consider it a hieraticising writing of the heart sign  *ib*, and to tentatively read this bird name as *ibnini*. In turn, this might possibly be linked with an avian name attested in earlier Egyptian, *ꜣbnn* or  *ibnn*[95]. Other reading suggestions are possible, but they all seem less likely than the one proposed. Amongst them is the option of considering the first sign as a logogram for *swḥ*(*.t*) 'egg', and read the whole as *swḥ*(*.t*) *nini* 'an egg of a *nini*-bird' (on a *nyny*-bird, see commentary to l. x+13). A series of reasons (including the writing of the supposed egg sign, which would not match other, confirmed writings of this sign elsewhere in this manuscript) speak, however, against this proposal.

Line x+11:

(a). *kymy*: Surely to be translated as 'hen, chicken', or similar small fowl, and not as 'black ibis'[96]. This demotic noun is at the origin of Sahidic Coptic ϭⲁⲓⲙϵ 'hen'[97]. It is also found in Greek, as the Egyptian loanword καίμιον, attested in P. Oxy. XIV 1656, l. 14. Demotic *kymy* and Coptic ϭⲁⲓⲙϵ have

88 See Johnson 2001–2014, *Q*.6–7 (*s. v. qy*).

89 On such writings, see Vittmann 1996.

90 About this bird name, see Johnson 2001–2014, *Ḥ*.56 (*s. v. ḥyṯꜣ.t*).

91 On *rt*, which is attested in P. Dem. Saq. I 27 (but not included in Johnson 2001–2014), see Smith and Tait 1983, 200–201 (n. h); Gaudard 2012, 66 (ns. c–d).

92 Concerning these two bird names, see Johnson 2001–2014, *B*.50 (*s. v. bny*), 51–52 (*s. v. bnw*), respectively.

93 On the ditto sign, see Vleeming 1993, 60–61 (§ 16); Osing 1998, 1.34, 43; Johnson 2001–2014, *M*.44–45 (*s. v. mi-nn*).

94 Found also in P. Dem. Saq. I 27, l. 12 (see Smith and Tait 1983, 205–206 [n. ap]), a reading established by Quack 1993, 144 (no. 16). See also Gaudard 2012, 66 (ns. z, aa, bb).

95 On *ꜣbnn*, see Erman and Grapow 1926–1931, 1.8 (*s. v. ꜣbnn*). The writing *ibnn* (not recorded in Erman and Grapow 1926–1931) is in P. Jumilhac iv, t. b., 6; published in Vandier 1961, 136, 228 (n. 865), pl. iv/v (no. iv). See also Wassell 1991, 1.136, 2.521 (n. 141).

96 For the correct translation, see Erichsen 1954, 560 (*s. v. kymy*); see also Smith and Tait 1983, 202 (n. s).

97 Crum 1939, 818a (*s. v.* ϭⲁⲓⲙϵ).

been linked with earlier Egyptian  *gm.t* 'black ibis'[98]. This etymological connection is, however, uncertain[99]. Even if one were to accept it, this would still be no sufficient reason to suggest that demotic *kymy* maintained the meaning 'black ibis', either primarily or along with that of 'hen'[100]. The aforementioned Coptic and Greek parallels vouch for the contrary. The case of the Greek attestation in P. Oxy. XIV 1656 is particularly telling, since this papyrus contains an account of expenses for food (for human, not animal consumption): here, poultry—not the hardly edible ibis—is clearly intended by the word in question, within a list that also includes meat, vegetables, cheese, fruit, and honey. Note also that this papyrus dates to the late fourth or fifth century CE, not exceedingly long after the one preserving our dream book and its list of birds.

Line x+12:

(a). *bꜣk-msḥ*: For this bird name, see the main text below, past this textual commentary.

Line x+13:

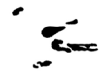
(a). *nyny*: The reading seems certain, but the identification of this bird is far from it. A similar noun, apparently also a bird name, is found in the compound name *sm-nyn* 'herb of the *nyn*-bird', which is attested in P. Vienna D 6257, col. x+11/19, 21[101]. The two terms may indicate one and the same avian. Perhaps—but this is highly dubious—this demotic bird name may be linked with the (much) earlier Egyptian noun  *nn.t*, also indicating a bird[102].

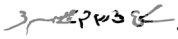
Line x+14:

(a). . .]*b* . [. . . : Perhaps, a restoration as ꜥ]ꜥ*bꜣq* or ꜣ]ꜥ*bꜣq* 'raven' could be proposed, but this is highly tentative.

Of the bird names that can still be read, we surely have mention of a dove, a hoopoe, a goose, and a hen, to which one can probably add a vulture and a kite, as well as the enigmatic *ibnini-* and *nyny*-birds. The most eye-catching entry, however, is in line x+12. Here, where we expect another bird name, one can distinctively read three 'alphabetic' signs resulting in the sequence *msḥ* (the demotic word for 'crocodile'), which are preceded and followed by other ink traces. Such traces can confidently be interpreted as what remains of the word *bꜣk* 'servant' and of the crocodile determinative, respectively. Comparison with better preserved examples of these two signs in another fragment from this same manuscript, written by the same scribal hand (P. Vienna D 6644), confirms this, as Table 1 illustrates.

Table 1: Compared writings of *bꜣk* and *msḥ* in the Vienna manuscript.

	bꜣk	*msḥ*
P. Vienna D 6104, l. x+12		
P. Vienna D 6644, col. x+2/35 (*bꜣk*) and 30 (*msḥ*)		

Therefore, the full name of this bird was undoubtedly *bꜣk-msḥ*, 'crocodile-servant'. Originally, it must have been concluded by a bird determinative, like all other bird names in this chapter[103]. The whole lemma, which can be rendered as  in a standardised hieroglyphic transcription of the demotic[104], must have originally looked so in our demotic papyrus:  .

This compound noun is unknown[105]. Yet, it is easy to tell to which bird it must refer. The inclusion of the noun 'crocodile' in our bird's name is common in modern languages too. To English *crocodile bird* compare, for instance, Arabic طائر التمساح ('crocodile bird'), German *Krokodilwächter*, Italian *guardiano dei coccodrilli*, or Russian крокодилов сторож (all three meaning 'crocodile guardian'). As is the case with the examples from modern languages, the Egyptian noun too is based on the singling out of a peculiar behavioural feature that distinguishes this bird: its relationship with the crocodile. Such an expedient is paralleled in the naming of several other bird species in the ancient Egyptian language[106]. The identification of the original ancient Egyptian name of this bird as *bꜣk-msḥ* is also a conclusive argument against the idea proposed in some scholarship,

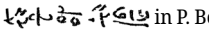
98 For this noun, see Erman and Grapow 1926–1931, 5.166 (*s. v. gm.t*).

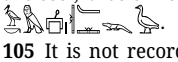
99 It is, for instance: accepted by Černý 1976, 331 (*s. v.* ϭⲁⲓⲙⲉ); queried by Westendorf 1965–1977, 448 (*s. v.* ϭⲁⲓⲙⲉ); and left unmentioned by Erichsen 1954, 560 (*s. v. kymy*).

100 *Pace* Gaudard 2012, 66 (n. r).

101 Reymond 1976, 265 (no. 83), pl. 4. Note, however, that Reymond's translation of *nyn* as 'ostrich' cannot be accepted.

102 Erman and Grapow 1926–1931, 2.272 (*s. v. nn.t*).

103 The presence of two (or even three) determinatives in compound nouns is normal. For a parallel in another section of this dream book (from a different manuscript written, however, in an almost identical hand to ours), see  in P. Berlin P 15683, col. x+2/6, which writes the word *ꜥnḫ-n-mꜣꜣ-ḥr* 'looking glass' or, literally, 'mirror-for-seeing-(one's)-face'. Here, each element maintains its own determinative (a mirror after *ꜥnḫ*, a flesh determinative after *ḥr*), with the whole compound being concluded by the metal determinative, to indicate the material of which this tool is made. On P. Berlin P 15683, see Zauzich 1980, 92–96, fig. 7.

104 My standardised rendering does not account for the original syllabic hieroglyphic equivalents of some of the demotic signs. If so, a closer, albeit hieroglyphically most peculiar, rendering would be  .

105 It is not recorded in Wassell (1991), nor in any general or subject-specific lexicographical repertoires for any phase of the ancient Egyptian language.

106 Wolterman 1991–1992, 123–124 (no. 6).

according to which Herodotus' name for this bird, τροχίλος, was not Greek, but foreign in origin, being most likely an Egyptian borrowing[107]. Τροχίλος is certainly a Greek term, with a meaning to the effect of 'runner' and etymologically derived—as already discussed above, concerning the cameo played by the *trochilus* in Aristophanes' *Birds*—from the verb τρέχω 'to run'[108].

Unfortunately, the dream book only recorded this bird's name in Egyptian. It did not include (even when the papyrus was intact) any details about the original ancient Egyptian version of the trope. Did the indigenous tradition present the bird as the crocodile's hygienist, as in Herodotus' account, or did it tell of the bird's heroism in standing guard over its reptilian fellow, as applies to many treatments of the *trochilus* trope after Herodotus? If one has to choose, I believe the former hypothesis is somewhat likelier, on account of at least two reasons. First, one would expect the original Egyptian tradition to be better reflected in the text of Herodotus, for he visited the country in person, deriving much of his information from local sources. We already saw, instead, how the tale of the bird's watching over the crocodile seems to be only a secondary development in the classical sources, derived from independent accounts about the ichneumon. More tellingly, I think the bird's Egyptian name itself better fits the tale about dental cleaning, by its inclusion of the noun *bꜣk* 'servant' in the compound noun. Were the Egyptian trope focused more on the idea of protection, one would perhaps expect another term, for instance, *rs* 'guard, watchman'. This being said, I am aware that both of my arguments are only circumstantial and, unless more Egyptian material about the *trochilus* becomes available, no definitive answer to the question above can be given.

One last point remains to be discussed: the chronological relationship between the bird's attestation in Herodotus, which is the first in Greek and classical tradition, and that in P. Vienna D 6104, the first in the Egyptian language. Herodotus' account, which can be traced back to the publication of his *Histories* in the second half of the fifth century BCE, predates by approximately five hundred years the attestation in our demotic papyrus, which stems from the second century CE. Note, however, that here one risks comparing apples with oranges, i. e., the composition date of a literary work (Herodotus) with the date of a specific manuscript witness (our demotic papyrus). Indeed, whilst P. Vienna D 6104 happens to be a Roman copy of a dream book, the *oneirocriticon* in question had, in all likelihood, originally been composed centuries earlier, in the Late or Ptolemaic Period, possibly before Herodotus' time[109]. Regardless of the precise date of composition of our dream book, it should be borne in mind that oneirocritic literature in Egyptian typically includes mention of standard realia of ancient Egyptian life in its listing of potential dream topics. Thus, a *bꜣk-msḥ* could hardly have been an outlandish creation somehow borrowed from Herodotus (not to mention the unlikeliness of a scenario in which Egyptian language/culture borrows a story concerning a bird of the Nile from a Greek writer). Rather, it must have been an Egyptian name of an Egyptian bird rooted in Egyptian tradition. It is therefore fair to say that the mention of the crocodile bird found in P. Vienna D 6104 is not only the first textual mention of the crocodile bird trope in an Egyptian source, but is also witness to the first and original tradition of said trope, that is, its ancient Egyptian incarnation.

This is not the only case of an Egyptian story whose mention in Herodotus happens to predate its earliest surviving manuscript attestation in an Egyptian source. Another example—which involves here an entire narrative, rather than a trope such as that of the *trochilus*—is the story of Pheros (Hdt. II, 111), which tells about the divine chastisement of an impious pharaoh, which resulted in his blinding. The same story is found, with only minor differences, in a demotic narrative that is mostly preserved in manuscripts from the second century CE, but also in one from the fourth or third century BCE[110].

In conclusion, I believe that P. Vienna D 6104 and its Egyptian attestation of the crocodile bird confirm beyond any reasonable doubt that this trope, which has enjoyed so much success since the time of classical Greece to this day, has its roots in ancient Egypt, and should no longer be dismissed by Egyptologists as a Graeco-Roman invention[111]. Far from making it up, and regardless of whether or not

107 See, for instance, Thompson 1936, 220 (*s. v.* ὄρχιλος), 287 (*s. v.* τροχίλος).

108 See, e. g., Arnott 2007, 247 (*s. v.* Trochilos).

109 Incidentally, when we look at the issue from a purely material (papyrological) point of view, P. Vienna D 6104 is indeed the oldest manuscript attestation of the textual tradition of the crocodile bird. As the Mertens-Pack 3 Online Database (available at: http://web.philo.ulg.ac.be/cedopal/database-mp3/) confirms, none of the classical accounts of the story of the crocodile bird survives in any Greek or Latin manuscripts predating or contemporary to our demotic papyrus (second century CE). To be sure, part of Hdt. II, 68—the chapter including the original description of the *trochilus*—survives in P. Oxy. XLVIII 3376, frag. 5, which dates to the second century CE (now in the Sackler Library, Oxford). However, the fragment breaks off before the final section of the chapter, which would have included mention of the bird.

110 Ryholt 2006, 13, 16–17, 41. The early manuscript is P. Petese Saq. (= P. Dem. Saq. I 4), on which, see Ryholt 1999, 11, 88–91, pl. 10. On the story of Pheros between Herodotus and its demotic version, see also Quack 2013, 66–69 (at 66, for 'av. J.-C.', read instead 'ap. J.-C.').

111 *Pace*, for instance, Vernus and Yoyotte (2005, 411 [*s. v.* pluvier]), who call it 'une tradition gréco-romaine'.

he observed the bird in nature, Herodotus is likely to have heard of it from the Egyptian priests from whom he sourced much of his Egyptian material—clearly, material that concerned not only Egyptian history and antiquities, but also Egyptian nature[112]. As the Vienna papyrus proves, this information too was codified in the scholarly manuscripts, such as our dream book, that these priests preserved in their temple libraries.

5 From Art to Nature: Is the Crocodile Bird for Real?

If there is no doubt about the popularity of the crocodile bird as a cultural trope across the ages, the same does not hold true when it comes to the actual existence of such a bird in nature. The scientific literature on the topic—of which I will here offer only a brief summary—is extensive[113]. Scholars in both the humanities and the natural sciences have deliberated over the veracity of the trope, and tried manifold times to identify the crocodile bird with one (or more) actual bird species. One chief obstacle in these investigations is the radical changes that the natural environment of the Egyptian Nile Valley has experienced since antiquity, leading to the disappearance of crocodiles anywhere north of Lake Nasser (i. e., in most of the Egyptian territory), as well as to significant changes in Egypt's avifauna[114]. This means that most studies of possible mutualistic behaviour involving the Nile crocodile and birds now have to be based on observations of animal populations primarily in sub-Saharan Africa. The resulting studies include both general and technical publications[115], with the latter spanning disciplines such as Egyptology[116], classics and ancient history[117], as well as—more relevantly—herpetology[118] and ornithology[119].

When looking for a confirmation of the tale of the crocodile bird in the realm of nature, however, many of the above studies fail to trace an important distinction between the two main patterns of mutualism reflected in the trope as we have seen it: on the one hand, the bird protecting the crocodile from danger; on the other, the bird feeding out of the crocodile's mouth (be it on parasites or food scraps). With regard to the first type of behaviour, there can hardly be any doubt that the story is rooted in reality. The tales about the ichneumon and its savaging of the crocodile told in classical authors are, no doubt, fanciful, but there is truth in those accounts that describe the bird as the crocodile's guardian. Indeed, in a perfect manifestation of animal mutualism, some bird species are known to nest on the riverbanks in close proximity to crocodiles' nests. They can thus use their fearsome neighbours as a deterrent against their own predators. At the same time, the birds reciprocate by providing active protection not only to their own nest, but, by association, also to the crocodiles', mostly against small-scale predators of crocodile eggs (such as monitor lizards), which they directly confront and drive away, whilst also causing a commotion that can alert the crocodiles to the danger. Such a behaviour is well-documented, for instance, in the case of the water thick-knee or water dikkop (*Burhinus vermiculatus*) (Figure 12)[120]. It is not unlikely that Curzon's account about the ziczac, which I previously quoted, should fall in the same category, and that the bird's kerfuffle was caused not so much by the man's intent to shoot the crocodile, but, rather, by his encroachment on its nest.

As for the story of the crocodile bird eating parasites or scraps out of its host's mouth, this is a more contested issue. To begin with—leaving aside, for now, the problem of the animals' mutualism—it should be pointed out that some of the versions of the trope that describe peculiar physical features in the bird's appearance are no literary invention, but are unquestionably based on natural observation. Specifically, the Islamic tradition that talks about

112 For a useful overview of Herodotus' own references to his Egyptian sources, see Lloyd 1975–1988, 1.89–116 (particularly 89–91, 114). The priests are mostly singled out as his informants in historical and cultural matters. In some cases, however, they are also said to have shared with him knowledge concerning the natural history of the country. Topics include the alluvial origin of the Delta, the inundation, but also a subject of avian/religious *curiosa* such as the mythical phoenix.

113 Ornithological (and herpetological) scholarship is beyond my specialism. The information I present here is therefore derived from secondary literature. References will enable the interested reader to delve into the matter further.

114 On Egypt's changing bird population, see Baha el Din 2012.

115 For general/introductory works, see, e. g., Hünemörder 2006; Rafferty 2018.

116 For instance, Keimer 1930, 3–6, 184; Lloyd 1975–1988, 2.307; Vernus and Yoyotte 2005, 411 (*s. v.* pluvier); Kockelmann 2017, 1.2 (fn. 9).

117 E.g., Thompson 1936, 288–289 (*s. v.* τροχίλος, β); Arnott 2007, 248–249 (*s. v.* Trochilos [3]). To these, add studies in the history of science, such as Egerton 2012, 2, 21.

118 For instance, Anderson 1898, 18–23; Cott 1961, 313–316, pl. 9; Trutnau and Sommerlad 2006, 233–234.

119 E.g., Meinertzhagen 1930, 2.528, to be supplemented with Meinertzhagen 1959, 224–225; Howell 1979, 3–5; Houlihan 1986, 97 (no. 49), 156; Urban, Fry, and Keith 1986, 207.

120 Attwell 1966. In recent years, the phenomenon has been documented on camera on many occasions (see, for instance, the BBC production *Spy in the Wild*, series 1, episode 3, *Friendship*, premiered on BBC One, 26 January 2017—video clips can easily be found online).

the presence of spikes on the bird's body as a protection against the crocodile closing its jaws is clearly inspired by the anatomy of existing water birds. Thus, the (northern) lapwing or green plover (*Vanellus vanellus*) is characterised by a fabulous feathery crest, which medieval writers could easily have thought of as a spike (Figure 13)[121]. As for the other tale in Islamic tradition, according to which the bird did not have one spike placed on its head, but two, one on each wing, it accurately matches the anatomy of the spur-winged lapwing or spur-winged plover (*Vanellus spinosus*, also known as *Hoploterus spinosus*), which has two small claws projecting out of its wings (Figure 14)[122]. Whether either of these birds actually picks food from the crocodile's mouth is another matter. Further to this, other common birds often put forward for identification with the crocodile bird, and specifically Herodotus' *trochilus*, include the Egyptian plover (*Pluvianus aegyptius*) and the common sandpiper (*Actitis hypoleucos*), or similar sandpipers of the *Tringa* genus, such as the marsh sandpiper (*Tringa stagnatilis*) (Figures 15 and 16)[123].

Whilst a number of natural history studies categorically deny that birds would peck food out of a crocodile's teeth, others confirm that this occurrence has been observed and can reasonably occur, though it would not appear to consist of the eating of food scraps. Rather, the behaviour would be connected with the pecking of insects and parasites, which birds clear from the entire body of crocodiles, including in proximity with their mouths. Thus, whilst birds may not actually place themselves inside a crocodile's mouth—as the trope is wont to tell—they can easily be seen approaching it, to peck at flies and suchlike delicacies[124]. In this respect, all of the bird species listed above—common and spur-winged lapwing, Egyptian plover, sandpiper—exhibit such a mutualistic behaviour and can therefore be considered *de facto* crocodile birds.

With specific regard to the situation in ancient Egypt and to the bird that gave origin to the trope then picked up by Herodotus, John Wyatt informs me that the likeliest candidate is the Egyptian plover (personal communication). Not only does it exhibit, to this day, the occasional mutualistic feeding behaviour described above and share the same habitat as the Nile crocodile, nesting on sand banks. It is also unique amongst birds for the way in which it incubates its eggs, for it lays them in the riverbank, actually burying them under a thin layer of sand[125]. In this respect, it is a crocodile bird not only due to its mutualism with the reptilian, but also because it appears to tend to its eggs in the same fashion as a crocodile. Finally, looking specifically at Herodotus' *trochilus*, I believe that a bird of small size such as a plover or a sandpiper is likely the best candidate for yet another reason, i. e., the very name that the Greek historian chose to give it. As seen above, τροχίλος in Greek could indicate the Eurasian wren (*Troglodytes troglodytes*), a rather small bird. It seems therefore plausible that the choice of this name was based on a similarity of sorts between this avian and the Egyptian bird, which might have extended to include not only their frenzied gait (*trochilus* = 'runner'), but also their wee size.

To sum up, the trope of the crocodile bird has its origin in the observation of nature. Birds display guarding behaviours towards neighbouring crocodile nests, if not the crocodile itself. Additionally, birds are characterised by feeding behaviours that attract them to crocodiles, to eat the parasites (namely, insects) that pester them. Though they do not actually enter a crocodile's mouth with their entire body, they can be observed feeding near its jaws and teeth. And whilst the original crocodile bird—the *bꜣk-msḥ* or τροχίλος—might have been the Egyptian plover, it is also clear that the trope, in its development over the centuries, was inspired by and could be applied to not just one single bird type, but an entire host of species pertaining to the Nilotic avifauna.

6 Epilogue

This article will hopefully have achieved the goals I laid out at its beginning. As a warning against the compartmentalisation of our discipline, it shows how studies of Late and Graeco-Roman Egypt are not an accessory to Egyptology, but are an integral part of it, without which our understanding of anything ancient Egyptian remains only partial, at best. It also reminds us of the importance of lexicography (including, in the specific case, demotic lexicography), and how its study, far from obsessing about pointless minutiae, can shed

121 Houlihan 1986, 93–96 (no. 48).

122 Houlihan 1986, 96–97 (no. 49). This is the Arabic ziczac, known also by other names (see above, fn. 59), including *abū-šūka* (أبو شوكة), 'father of spine'; see Anderson 1898, 21. Its Middle Egyptian name is attested in the tomb of Baqet III at Beni Hasan (eleventh dynasty), as  *tnt*; see Gaillard 1934–1961, 2.465–478.

123 Respectively, Houlihan 1986, 97 (no. 49), 97–98 (no. 50).

124 The main reference for these conclusions remains the paper by Cott 1961, 313–316. Note, however, that, despite all the written reports confirming it, the phenomenon—to the best of my knowledge—has yet to be documented on camera (unlike the aforementioned guarding behaviour of the water dikkop). All images and videos supposedly showing it, which I was able to retrieve on paper and online, are clearly adulterate; one such example is reproduced in Mynott 2018, 194 (fig. 4.2).

125 Howell 1979, 65–67.

light on entire cultural topics. Moreover, it further helps avenge Herodotus on his ancient and modern detractors.

Championing an integrated approach to the study of the ancient world, the present article also aimed to demonstrate how far an investigation can reach, taking its first step from a demotic papyrus fragment and a passage of Herodotus, by means of moving across disciplines and beyond traditionally Eurocentric approaches (Egyptology, classics, Jewish and Islamic studies), bringing together different materials and methodologies (textual and visual manifestations of the trope), having a *longue durée*-based approach (from Egyptian antiquity to the present day), and bridging humanities and natural sciences (ornithology and herpetology).

The crocodile bird is an Egyptian trope with indigenous roots in ancient Egyptian culture. Its popularity in the classical world—and, consequently, in European tradition—should not obscure that there is much more to it. From the demotic *bȝk-msḥ* to the Arabic ziczac, via Herodotus' *trochilus* and the avian companion of Ovadiah's *ṣefardea'*, this little bird stands for a truly transcultural trope, which has thrived across centuries and human societies.

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Abbreviations

ÄA = Ägyptologische Abhandlungen, Wiesbaden.
AfP = Archiv für Papyrusforschung und verwandte Gebiete, Leipzig.
AIΩN = Quaderni di AIΩN (Dipartimento di Studi del Mondo Classico e del Mediterraneo Antico), Napoli.
AnIsl = Annales Islamologiques, Le Caire.
ASAE = Annales du Service des Antiquités de l'Égypte, Le Caire.
BARIS = British Archaeological Reports International Series, Oxford.
BGPM = Beiträge zur Geschichte der Philosophie des Mittelalters, Münster.
CBC = Cahiers de la Bibliothèque Copte, Paris.
CdE = Chronique d'Égypte, Bruxelles.
CFHB = Corpus Fontium Historiae Byzantinae, Athenis.
CMO/Litt. = Collection de la Maison de l'Orient et de la Méditerranée/Série Littéraire et Philosophique, Lyon.
CNIP = Carsten Niebuhr Institute Publications, Copenhagen.
CTAIHS = Collection de Travaux de l'Académie Internationale d'Histoire des Sciences, Paris and Leiden.
EdAnt = Edition Antike, Darmstadt.
EPRO = Études Préliminaires aux Religions Orientales dans l'Empire Romain, Leiden.
Erranti = Gli Erranti: Collana di Viaggiatori Ebrei, Rimini.
FA = Fontes Ambrosiani in Lucem Editi Cura et Studio Bibliothecae Ambrosianae, Vicenza and Cinisello Balsamo (Milano).
FAH = Fuentes Arábico-hispanas, Madrid.
Hermes = Hermes: Zeitschrift für Classische Philologie, Berlin.
HPSMB = Hieratische Papyri aus den Staatlichen Museen zu Berlin, Berlin.
JA = Journal Asiatique: Recueil de Mémoires et de Notices Relatifs aux Études Orientales Publié par la Société Asiatique, Paris.
JEOL = Jaarbericht van het Vooraziatisch-Egyptisch Genootschap Ex Oriente Lux, Leiden.
JHS = The Journal of Hellenic Studies, London.
LCL = Loeb Classical Library, Cambridge MA.
MAL = Monografie di Archeologia Libica, Roma.
MFA = Monographs on the Fine Arts, University Park and London.
MIFAO = Mémoires Publiés par les Membres de l'Institut Français d'Archéologie Orientale, Le Caire.
ML = Mediaevalia Lovaniensia (Series I, Studia), Leuven.
MPER = Mitteilungen aus der Papyrussammlung der Österreichischen Nationalbibliothek (Papyrus Erzherzog Rainer), Wien.
Muséon = Le Muséon: Revue d'Études Orientales, Leuven.

ODFA = Outstanding Dissertations in the Fine Arts, New York.
OIMP = Oriental Institute Museum Publications, Chicago.
ORA = Orientalische Religionen in der Antike, Tübingen.
OSEO = Oxford Scholarly Editions Online, Oxford.
OSRE = Oxford Studies on the Roman Economy, Oxford.
Ostrich = The Ostrich: Journal of African Ornithology, Cape Town.
PEFA = The Palestine Exploration Fund Annual, Leeds.
PEQ = Palestine Exploration Quarterly, London.
PG = Patrologia Græca, Paris.
RdE = Revue d'Égyptologie, Paris.
RGRW = Religions in the Graeco-Roman World, Leiden, New York, and Köln.
RhM = Rheinisches Museum für Philologie, Frankfurt am Main.
SAW = Storyworlds Animal World, Oxford.
SEAP = Studi di Egittologia e di Antichità Puniche, Pisa.
Speculum = Speculum: A Journal of Medieval Studies, Chicago.
SYEY = Sifriyah li-yedi'at Erets-Yiśra'el [ספריה לידיעת ארץ־ישראל], Yerushalayim [ירושלים].
TAWAZ = The Ancient World from A to Z, London and New York.
TfE = Texts from Excavations, London.
TTB = Translated Texts for Byzantinists, Liverpool.
TZSL = The Transactions of the Zoological Society of London, London.
UCPZ = University of California Publications in Zoology, Berkeley, Los Angeles, and London.
UDA = Upside Down Animals, Santa Monica CA.
UUÅ = Uppsala Universitets Årsskrift, Uppsala and Leipzig.
WdO = Die Welt des Orients: Wissenschaftliche Beiträge zur Kunde des Morgenlandes, Göttingen.

Figure 1. Mendesian maze libation table, Louvre E 25551. From the eastern Nile Delta, second or third century CE, limestone. Note the two birds facing the crocodile. Source: courtesy of the Musée du Louvre, Département des Antiquités Égyptiennes.

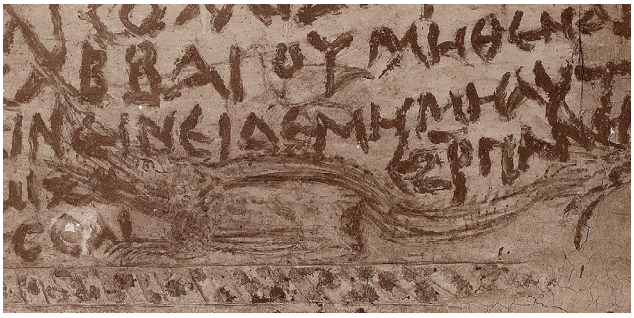

Figure 3. From the painted frieze of Tomb I, chamber D. *In situ*, Marisa, approximately late third century BCE. Two Greek captions (very faint and hidden beneath a later text) identify the crocodile and the bird, labelling the latter as an ibis. Photograph taken at the time of discovery (1902). Source: courtesy of the Palestine Exploration Fund (Photographic Archive, PEF-P-Marisa–17).

Figure 2. Mendesian maze libation table, Berlin ÄM 21789. From the eastern Nile Delta, second or third century CE, limestone. Note the bird perched on the back of the crocodile in the centre. Source: courtesy of the SMB Ägyptisches Museum und Papyrussammlung.

Figure 4. Mosaic panel with Nilotic scene, Museum of Qasr Libya. From the nave of the Byzantine church of Qasr Libya, 539 CE. Source: Science Source Images.

Figure 5. Illustration in al-Jahiz's *Book of Animals*, from Biblioteca Ambrosiana, Ms. Ar. A.F. D 140 inf., fol. 51r. From Egypt or Syria, circa 1315, paper. Source: courtesy of the Veneranda Biblioteca Ambrosiana.

Figure 6. Reverse of medal of the Genoese Doge Battista II di Campofregoso, National Gallery of Art, 1957.14.794. From Genoa, circa 1480, bronze. Source: courtesy of the National Gallery of Art.

Figure 7. Nile crocodile and spur-winged lapwing on an Israeli postage stamp. From the series *Animals of the Bible*, 2005. Source: courtesy of the Israel Philatelic Federation.

Figure 8. "I got the idea watching David Attenborough". Cartoon by Scot Ritchie, 2016. Source: courtesy of the artist.

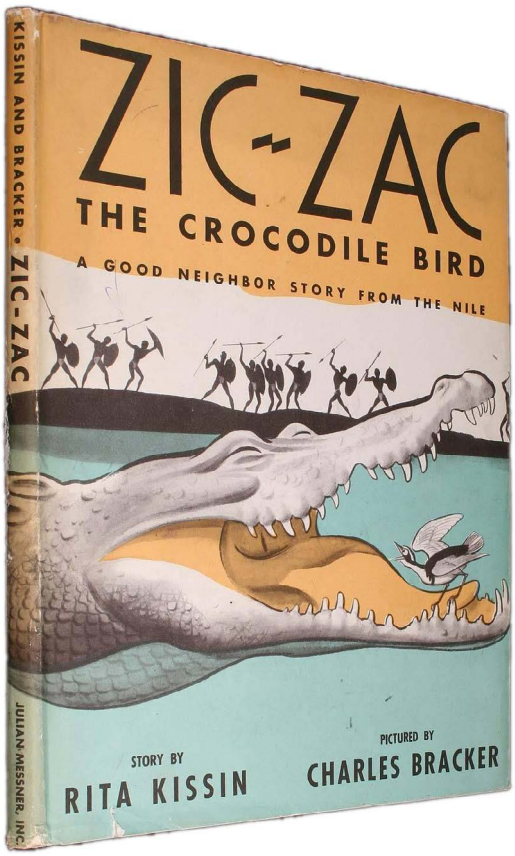

Figure 9. Zic-Zac and Crocsy. Front cover (dust jacket) illustration from the children's book *Zic-Zac the Crocodile Bird*, by Kissin and Bracker, 1942. Source: private collection.

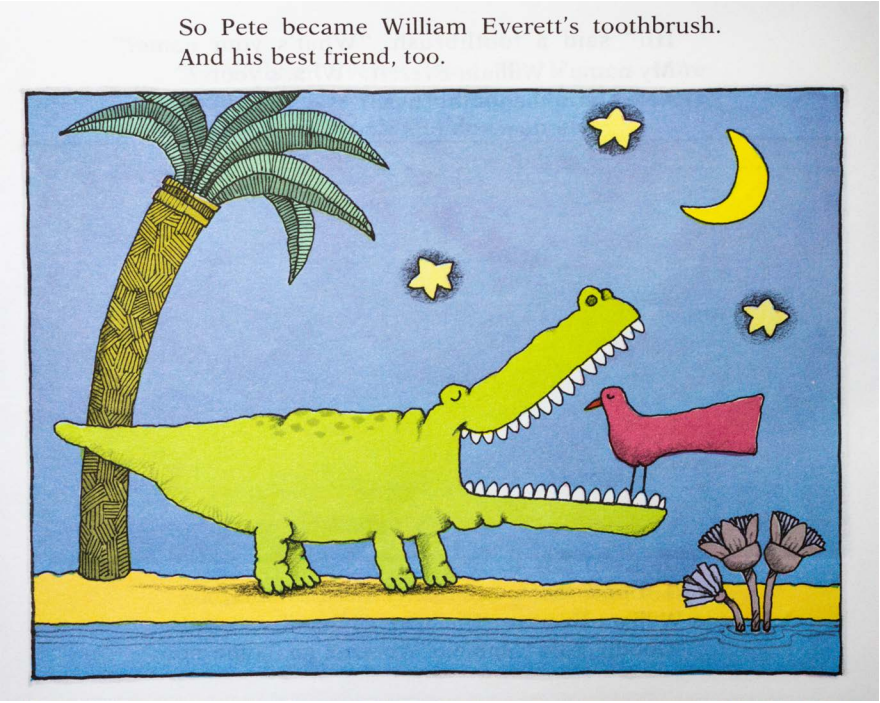

Figure 10. Bill and Pete make friends. Page 8 (unnumbered) from the children's book *Bill and Pete*, by DePaola, 1978. Source: private collection.

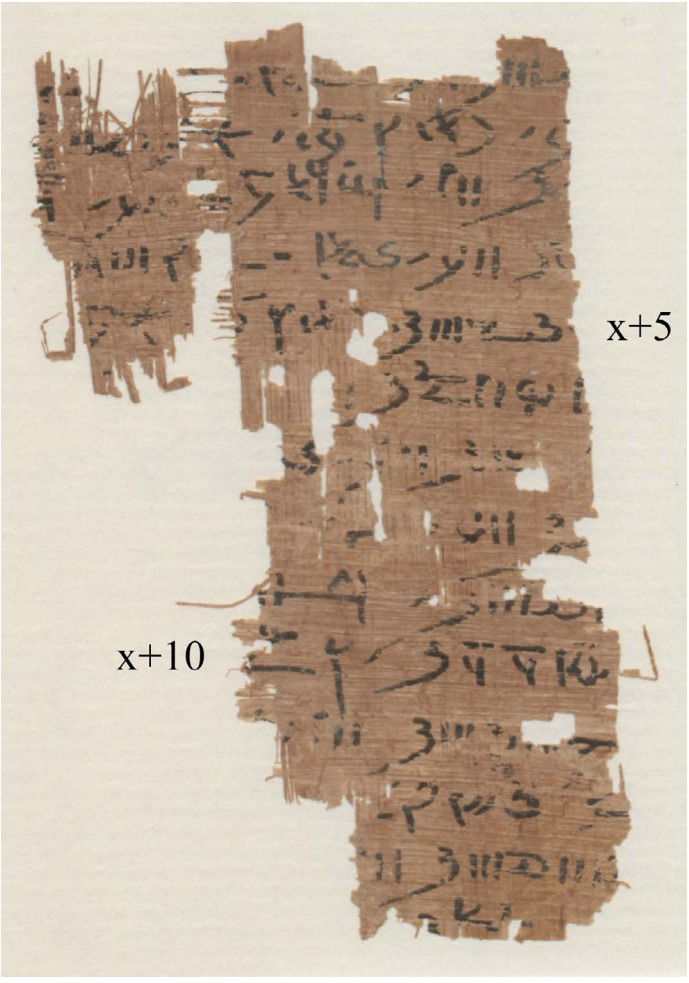

Figure 11. P. Vienna D 6104. From the Fayum, approximately second century CE, papyrus. Source: courtesy of the Papyrussammlung der Österreichischen Nationalbibliothek.

Figure 12. Water thick-knee or water dikkop (*Burhinus vermiculatus*), specimen photographed in Uganda. Source: Creative Commons, photograph by Greg Miles.

Figure 14. Spur-winged lapwing or spur-winged plover (*Vanellus spinosus*), specimen photographed in The Gambia. Note the spurs on its wings. Source: Creative Commons, photograph by Charles J. Sharp.

Figure 13. Northern lapwing or green plover (*Vanellus vanellus*), specimen photographed in Germany (NB: it is a migratory species!). Source: Creative Commons, photograph by Andreas Trepte.

Figure 15. Egyptian plover (*Pluvianus aegyptius*), specimen photographed in The Gambia. Source: Creative Commons, photograph by Steve Garvie.

Figure 16. Marsh sandpiper (*Tringa stagnatilis*), specimen photographed in Thailand (NB: it is a migratory species!). Source: Creative Commons, photograph by John J. Harrison.