

MARE CLAUSUM?

Abstract

The modern notion about navigation in antiquity is that it came to an almost complete standstill in the winter. A survey of pre Roman sources reveals that this notion is only partially correct: While coastal navigation was brought to a standstill in the winter, open water routes were open for navigation in summer and winter alike.¹

The Present State of the Problem

In his book *Ships and Fleets of the Ancient Mediterranean*, J. Rougé, summarized the problem of winter navigation as follows:

Owing to the general climatic conditions in the Mediterranean, there are two long seasons: what the Greeks called *cheimon* on the one hand, and *theros* on the other, the "bad season" and the "good season," each implying more than "winter" and "summer" respectively. Furthermore, the ends of these seasons did not coincide precisely with the ends of the four seasons as determined by astronomy. *Cheimon* was characterized by unstable weather, making the prediction of storms or their degree of violence impossible. During these period, sailing on the open seas was not possible; only coastal sailing could be undertaken, and even so, large scale, commercial shipping was avoided. It was the time the Romans quit typically called the *mare clausum*, the sea is closed --and some texts add,

'to regular sailing².

In an earlier summary L. Casson reached almost similar conclusions³. Casson differs from Rougé on one important point, though. He claimed that the run between Rhodes and Alexandria was an exception and that sailing was conducted continuously there⁴.

These observations are based on two earlier works by de Saint-Denis and Rougé, who accumulated and evaluated Greek and Latin evidence on winter navigation.⁵

When Is It Safe to Sail?

This question has to be investigated in two ways: theory and practice.⁶

The theoretical knowledge

Vegetius provides the basic theoretical discussion on this issue:

For the violence and roughness of the sea do not permit navigation all year round, but some months are very suitable, some are doubtful, and the rest are impossible for fleets by law of nature. When *Pachon* has set, i.e. after the rising of *Pleiades*, from 6 days before the *Kalends* of June (May 27) until the rising of *Arcturus*, i.e., 18 days before the *Kalends* of October (September 14), navigation is deemed safe, because thanks to the summer the roughness of the sea is abated. After this date until 3 days before the Ides of November (November 11) navigation is doubtful and more exposed to danger, as after the *Ides* of September (September 13) rises *Arcturus*, a most violent star, and 8 days before the *Kalends* of October (September 24) occur fierce equinoctial storms, and around the *Nones* of

Review this note

Is this "theory"?

October (October 7) the rainy *Haedi*, and 5 days before the *Ides* of the same (October 11) *Taurus*. But from the month of November the winter setting of the *Vergiliae* (*pleiades*) interrupts shipping with frequent storms. So from 3 days before the *Ides* of November (November 11) until 6 days before the *Ides* of March (March 10) the seas are closed. The minimal daylight and long nights, dense cloud cover, foggy air, and violence of the winds doubled by rain and snow not only keep fleets from the sea but also traffic from making journeys by land. But after the birthday, so to speak, of navigation which is celebrated with annual games and public spectacles in many cities⁷, it is still perilous to venture upon the sea right up to the *Ides* of May (May 15) by reason of very many stars and the season of the year itself--not that the activities of merchants cease, but greater caution should be shown when an army sails by warship than in hasty venture of private commerce⁸.

This four-season division appear also in Hesiod's *works and days*: According to him the sailing is safe ^{for} only fifty days after the summer solstice (June 22). This season ends in "the time of the new wine," in the season that follows, the sea is still open for sailing, but sailing becomes dangerous⁹. Like Vegetius, Hesiod begins the winter season with the setting of the constellation pleiades. In this season, the sea is closed to navigation. The ships are dragged ashore, and their fittings are taken away to be stored in a dry place.¹⁰ The last season is the spring. When the top leaves of the fig tree are as big as ^{the} a footprint of a crow, the sea is opened for sailing, but it is still dangerous.¹¹ Other ancient sources mention ~~the~~ spring as the general time of year when ^{the} sea is open~~ed~~ for sailing¹². The

closing of the sea is marked by the setting of the constellation Hydai¹³

No caps for
Pleiades ?

The Evidence: A Survey of Written Sources

*An Edict of Hattushili III of Hatti Concerning the Merchants of Ura and Ugarit*¹⁴:

(1-4) Seal of Tabarna, Hattushili, Great king, King of Hatti. Say to Niqmupa:

(5-37) Since you spoke in my presence: "The men of the city of Ura,¹⁵ the merchants, are a heavy burden upon the land of your subject."¹⁶ His majesty,¹⁷ Great King, has thus made a regulation concerning the men of Ura in their relations with the men of Ugarit.¹⁸ The men of Ura shall carry on their mercantile activities in the land of Ugarit during the summer, but they will be forced to leave the land of Ugarit for their own land in the winter. The men of Ura¹⁹ shall not live in the land of Ugarit during the winter. They shall not acquire houses or fields (in Ugarit) with their silver. Even if a merchant, a ^a ~~man~~ of Ura, should lose his capital in the land of Ugarit,²⁰ the king of the land of Ugarit shall not permit him to live in his land.²¹ If men of Ugarit owe silver to men of Ura²² and are not able to pay it off, the king of the land of Ugarit²³ must turn over that man, together with his wife and his sons, to the men of Ura,²⁴ the merchants,²⁵ and the men of Ura shall not claim houses or fields of the king of the land of Ugarit. Now His Majesty, Great King has thus made a regulation between the men of Ura, the merchants,²⁶ and the men of the land of Ugarit."

The intention of the king of Hatti in this decree is clear: He wanted to prevent merchants from Ura from settling as permanent residents in Ugarit. For this reason he permitted them to acquire movable property (even if it is Ugaritic people who were in their debt and could not pay it back), on the one hand, and forbade them to buy immovable property in Ugarit, on the other. The question that remains unanswered is Why did the king of Hatti permit the merchants from Ura to dwell in Ugarit only in the summer? This question has two possible answers: (a) the business of the merchants of Ura in Ugarit was carried out mainly in the summer; and (b) the maritime route that connected Ugarit and Ura was closed for shipping in the winter and a Hittite merchant that did not leave Ugarit in the Beginning of the winter was stranded there until its end and as a result became a permanent resident in Ugarit.

A Letter from the King of Tyre To the King of Ugarit

Explain
KTU 2.38 is letter written in Ugaritic.²⁷ It is a translation of a letter written originally in Akkadian that was sent by the king of Tyre to the king of Ugarit. The king of Tyre reported that a Ugaritic ship bound for Egypt was halted in Tyre because of heavy rain.

Lines 10-27 read:

ankn²⁸.dt

likt.mfrm

hndt.bfr

mtt.by

gvm.adr

15. nvkx.w

- rb.tmtt
 lqe.kl.DrO
 bdnhm.w.ank
 kl.DrOhm
 20. kl.npv
 kklhlm.bd
 rb.tmtt.lqet
 w.Aab.ank.lhm
 w.anyk.At
 25. by.Okyl.Oryt
 w.aey.mhk
 b.lbh.al.yvt²⁹

Your ship³⁰ which you sent to Egypt, the one in Tyre, ...³¹ found in heavy rain and the *rb tmtt*³² took all the sailors³³ that were with them,³⁴ and I took all their sailors, all the people, and all that belongs to them from the *rb tmtt*, and I caused (the sailors, the people and belongings) to be returned to them,³⁵ and your ship is (now) stationed³⁶ in Acco, unloaded, and let my brother not place care in his heart.

Interpretation Problems

of what^{is} are the ship(s) carrying

(1) *How Many Ships are Mentioned in this Letter?* The text allows for two interpretations: (a) two boats are mentioned, one in Tyre and the other in Acco; and (b)

the boat that was caught in the rainstorm in Tyre continued to Acco. Since both interpretations are grammatically possible, one has to resort to historical considerations.

The theory that two ships are mentioned in this letter was suggested already by Rainey,³⁷

A defense for this theory was given by Renfroe:

"Hoftijzer has argued that, as this tablet was among those discovered in the oven, it likely stems from the period immediately prior to the fall of Ugarit, and probably concerns a ship sent to Egypt to secure provisions, the normal procurement of which was being made difficult by the encroachment of the sea peoples. If the ship was returning from Egypt to Ugarit with a load of grain when it was stranded in Tyre, it is difficult to understand why it should subsequently have been taken to Acco. If it was seaworthy, moving it south to Acco from Tyre would have been pointless⁽³⁸⁾ ✓

This theory is based on two assumptions: (a) The letter is dated to the last days of Ugarit, and (b) the ship was carrying grain. The first of these assumptions was based on a widespread notion that this letter was found in an oven where the Ugaritic administrators baked tablets for archiving. According to that theory, the oven was destroyed with the rest of the city in an assault. Therefore, the "oven texts" give an accurate picture of the last days in Ugarit. Since it is known that Egypt exported grain to Hatti, it would stand to reason that the ship that was stranded in Tyre was part of the effort to supply Ugarit (and Hatti) with food.

This theory is deficient for the following reasons:

This needs more explanation

How do we know the grain is wet?

Unclear

- A. It is not plausible that wet grain would be still worth something and would have been returned to the Ugaritic crew.
- B. "DrO" *for this theory transl as "grain" can also be* can be translated as "hand." - or "crew"
- C. The "oven theory" is no longer valid. ³⁹ *More exp is needed*
- D. A sentence like "your ship that is idol is in GN" may be grammatically correct but it is logically deficient⁴⁰.

It seems to me that the subject of this letter is the misfortune of one ship.⁴¹

(2) *Was the ship on its way to Egypt or back to Ugarit?* The same arguments listed above are enough to conclude that the ship was on its way to Egypt.⁴²

(3) *When did the misfortune occur?* In the area of Tyre, heavy rain can occur only between September or October to May⁴³.

The Report of Wenamun⁴⁴

This is a story of an Egyptian temple clerk who was sent to buy timber in the Phoenician city of Byblos.⁴⁵

The dates and dateable events in the story are:

- A. Renaissance Era Year 5, fourth month of the summer, day 16: Wenamun departs from the temple of Amun⁴⁶.
- B. Fourth month of summer: Wenamun stayed in Tanis until that date.
- C. First month of the summer, day 1: Wenamun departed from Tanis.
- D. Five months after his departure and one month after his arrival to

Byblos; Wenammun was interviewed by the king of Byblos.

E. First month of winter: The messenger of the king of Byblos returned to Byblos after a voyage to Egypt.

F. Third month of summer: The timbers were being dragged to the seashore.

G. The seasonal migration of the migrating birds⁴⁷ --The ships from Dor came to ask for Wenamun to be extradited to them and the latter had to flee to Cyprus.⁴⁸

These dates are in apparent contradiction. Few scholars have tried to resolve it.

G. Lefebvre suggested that the first and third dates are corrupt and that the second date is accurate⁴⁹. According to him, the first date should be emended to "the second month of summer" and the third date should be emended to "the first day of inundation." (A & C ?) (B)

H. Goedicke suggested alternative translations for the second and the third dates. According to him, these are not dates at all⁵⁰. The lightness with which Lefebvre and Goedicke emended the text was criticized by Egberts.⁵¹ Egberts suggested an interpretation of the chronology of the story of Wenamun, using no emendations at all. He suggested that:

As a matter of principle, emendations should be avoided as much as possible. For this reason, any interpretation of the beginning of Wenamun that entails no emendations of the dates and yet remains within the bounds of credibility is preferable to those of Lefebvre and Goedicke.⁵²

This statement left him with a difficult task--to explain away the difficulties in the text without using emendations. This was done by elaborate explanations that are not always

convincing.

According to Lefbvre chronology,
~~In what follows I follow Lefbvre's suggestions.~~ (53)

Wenamun's voyage can be reconstructed as follows:

February 27--Wenamun departed from the temple of Amun.

May 17--Wenamun set sail from Egypt.

June (?)--Wenamun arrived at Byblos.

July 25--Wenamun was interviewed by the King of Byblos

September 13 to October 14--A messenger sent by the king of Byblos not earlier than the beginning of August returned from Egypt.

March 13 to April 11--The logs were dragged to the shore.

Mid-September to Early November--The autumn migration of birds,⁵⁴ the ships from Dor came to ask for the extradition of Wenamun.

The sea voyages mentioned in this story are as follows:

- A. Wenamun's voyage from Egypt to Byblos. This voyage began on May 12 and ended in July.
- B. The voyage of the messenger of the king of Byblos from Byblos to Egypt and back to Byblos. This voyage began sometime after July 25 and ended sometime between mid-September and mid-October.
- C. Wenamun's voyage from Byblos to Cyprus began between mid-September and early November.

A Customs Account from Egypt

This is a palimpsest written in Aramaic on a scroll from Elephantine, Egypt⁵⁵.

After questioning
"L" you
rely on the chronology
w/o expl.

and
Date (an Origin of the Text:

The date of the text is not clear. Years 10 and 11 are mentioned, but the name of the king is missing. This leaves four possibilities: 510 BCE (under Darius I), 475 BCE (under Xerxes I), 454 BCE (under Artaxerxes I) and 413 BCE (under Darius II). Porten and Yardeni, opted for Xerxes (475 BCE). Briant and Descat suggested Artaxerxes I (454 BCE) as another valid possibility.⁵⁶ Additional data can only be based on paleographic considerations, the value of which are dubious.⁵⁷ According to Yardeni the *axiqar* text that was copied on this scroll after the customs list was erased from it "was copied in about the second half of the fifth century B.C.E." As for the list itself, Yardeni suggested that "the script of the list.....fits well into the group of documents dated to the second and the third quarters of the fifth century B.C.E..... However, as most of the letters are quite faded, it is difficult to determine their precise contours⁵⁸".

The scroll was evidently removed from the customs archive in the Delta and somehow reached Elephantine where it was reused. This could have happened as part of the routine activity within the archive (in the Persian period, the Egyptian customs establishment was approximately 1,000 years old and is likely to have had an established procedure of getting rid of obsolete Papyrus) or as a result of violent activity and looting in the Delta. It is impossible to determine which of the two conjectures is correct and therefore it is also impossible to speculate on the specific date of this text⁵⁹.

As for the geographical location where this text was originated, since all the ships left Egypt loaded with natron, the port must have been somewhere on the Nile as close as possible to Wadi Natroon where natron was quarried.

The Content of the Text:

The text is divided into three parts: (a) taxes and levies imposed on incoming ships; (b) export tax; and (c) yearly summery.

Incoming ships. The following data ^{are} is listed for each of the incoming ships: date of arrival, the name of the owner/captain, classification of the ship and taxes and levies paid by the ship. The following data is listed for each month: a summary list of ships that arrived in that month and a summary of each of the taxes and levies paid by all ships that arrived in that month.

Classification of incoming ships. Incoming ships were classified upon their arrival into four different types: *vpynj l r.j*, *©vw[]hmws vpynj r.j*, *.w;y qn./rj©*, *.w;y qn./rsyry* ⁶⁰

unclear part.
The owners/captains of *vpynj l rbj* and *©vw[]hmws vpynj r.j* are listed as PN, son of PN, Ionian *pvl./rsy*.⁶¹ The owners/captains of *.w;y qn./rj©* and *.w;y qn./rsyry* are listed as PN, son of PN.

Outgoing Ships

Classification of Outgoing Ships. Before leaving the harbor, all ships were loaded with natron.⁶² Then they were approached again by Egyptian customs and classified. On the way out, the classification was a little different. Ships that were classified on their way in as *vpynj l r.j* and *©vw[]hmws vpynj r.j* were classified on their way out together as *spynh* ("ship"), while *.w;y qn./rj©* and *.w;y qn./rsyry* were classified separately. The

export tax levied on *spynh* depended entirely on the value of natron it exported. *.w;y qn./rsyry* paid another tax, "silver of the taking out (= shipping) to sea." *.w;y qn./rj©* paid, in addition to the silver of the taking out to sea, another tax, the nature of which is unclear⁶³.

Yearly Summary. This is the last part of the list. The part that had survived includes (a) the *mindh*-tax collected in year 11, and (b) the *mindh*-tax collected in year 10, which was a surplus over the *mindh*-tax collected in year 11. The original list included probably also yearly summaries of other taxes.

Interpretation Problem: the Types of Ships

Four types of ships are listed in this document. Two of them are Phoenician ships: a large one (*.w;y qn./rj©*) and a small one (*.w;y qn./rsyry*). The Greek ships are listed either as *vpynj l r.j* or *©vw[]hmws vpynj r.j* when they enter the port and as *spynh* when they leave it. The meaning of *spynh* and *vpynj l r.j* is clear.⁶⁴ In what follows, I suggest an explanation for *©vw[]hmws vpynj r.j*.

In trying to determine what is *©vw[]hmws vpynj r.j*, I consider the following factors:

- A. Incoming ships listed as either *©vw[]hmws vpynj r.j*, or *vpynj l r.j*, were listed together On their way out as *spynh*.
- B. Unlike the rest of the incoming ships, no merchandise and no finished goods were levied on *©vw[]hmws vpynj r.j*. All it paid was gold and silver.
- C. Unlike the rest of the incoming ships, *©vw[]hmws vpynj r.j* was not required to pay the "silver of the men," which was a fixed amount of silver and/or wine oil

Reference
to
Mar
Clause 2

Possibly

and finished wooden products paid only upon arrival of a ship⁶⁵. The fact that "silver of the men" was added to the import tax suggests that it was not a tax. I suggest that "silver of the men" was a payment for porters provided by the Persian authorities.

Under these circumstances, I am inclined to suggest that *Ḳvw[]hmws vpynj r.j.* is a large ship that arrived empty.

The Sailing Season for Trade Routes that Connected Egypt with the Aegean World and Phoenicia

The date on which the first Ionian ship arrived in the Egyptian harbor is not known,⁶⁶ However it is known that that same ship left Egypt on Atyr 17 (March 6) and must have arrived one or two weeks before that day.⁶⁷ It is evident that this ship left its home port in an island in the Aegean Sea or in Asia Minor in February.

The first Phoenician ship that arrived in the Egyptian harbor did so on between Payni 20 (October 5) and the end of that month (October 15). This ship left its home port either in September or in October.

Two ships, one Greek and one Phoenician, left Egypt between Mesore 25 (December 9) and the end of that month.⁶⁸

Numbers of ships that visited Egypt throughout the year

Month	Modern dates	Greek Ships	Phoenician ships
Atyr	February 18 to March 19	3	--

Choiak	March 20 to April 18	3	--
Tybi	April 19 to May 18	3	--
Mehir	May 19 to June 17	3	--
Phamenouth	June 18 to July 17	4	--
Pharamuthi	July 18 to August 16	4	--
Pahons	August 17 to September 15	5	--
Payni	September 15 to October 15	4	1
Epiph	October 16 to November 14	3	3
Mesore	November 15 to December 14	4	2

The Egyptian customs house did not operate between the middle of December to the middle February. The reason for that is unknown.

Demosthenes : Against Dionysodorus

Give date.

This is a lawsuit that took place in Athens. The speech that is attributed to Demosthenes was given on behalf of the plaintiff. According to the plaintiff, the chain of events that led to the lawsuit was as follows:

Darius and Pamphilus (the plaintiffs) loaned 3000 Drachmas to Parmeniscus and Dionysodorus. It was agreed that the recipients of the loan ^{would} sail to Egypt ^{to buy} grain there and then ^{to} sail back to Peiraeus and to pay back the loan and its interest upon their return. Parmeniscus sailed to Egypt and bought a cargo of grain there. On his return voyage, he anchored in Rhodes and was met there by messengers sent by Dionysodorus, who remained in Athens. They advised him that the prices of grain had fallen in Athens due to the arrival of ships from Sicily. Therefore, Parmeniscus decided to breach the contract. He sold the grain in Rhodes and did not sail to Peiraeus at all. Dionysodorus offered ^{to} pay the plaintiffs the principal ^{at} and the part of the interest that covered the voyage from Egypt to Rhodes. Darius refused and offered to refer the matter to arbitration. Dionysodorus refused this offer, and Darius sued him for the loan, its interest, and an additional 3,000 drachmas for failing to comply with the terms of the contract.

One of the points raised by the representative of the plaintiffs is that Dionysodorus and Parmeniscus gained additional profit by not sailing back to Athens. The argument was as follows:

When they reached Rhodes and this man [Parmeniscus] put into that port, suffered no loss, I take it, by remitting the interest and receiving the amount of their loan at Rhodes, and then putting the money to work again for a voyage to Egypt. No; this was more to their advantage than to continue the

voyage to this port [Peiraeus]. For voyaging from Rhodes to Egypt is uninterrupted, and they could put the same money to work two or three times, whereas here they would have had to pass the winter and to await the season for sailing. These creditors therefore have reaped an additional profit, and have not remitted anything to these men.⁶⁹

The Zenon Papyri

A Winter Voyage from Alexandria to Arsinoë

The Zenon papyri are documents of a Greek businessman who lived in Egypt in the third century BCE. Three of these documents deal with winter voyages in the Mediterranean.

*P. Cairo Zenon 59029*⁷⁰

This is a letter sent from Alexandria to Zenon. It reads:

Antimenes to Zenon greeting. If you are well it would be excellent. I too am in good health.

In the beginning, because of Zenon, son of Heracleides, having misled us many times and because Doris having been weak and not able to sail, we hesitated to write to you; now know that we have sent her with Ariston in Zenon's ship, and to Zenon we commanded to perform all the care of her, and to him we added together with her the things that we thought right to put on board the ship.

Be well.

Date

To Zenon from Apollonios.⁷¹

This letter was sent on 5/12/ 258 BCE.

P. Mich Zenon 10

This letter was sent ^{to} Antimenes from Alexandria, Egypt, and contains a copy of another letter sent by one Sospatros from Arsinoë to Antimenes. The letter reads

Antimenes to Zenon greeting. If you are well it would be excellent. I too am in good health.

I have written to you below a copy of the letter which came from Sosipatros, in order that you take note and enter to the account of Apollonios...no traveling allowance was delivered to them...were driven in by stormy weather...to Arsinoë.

Farewell,

Date. April 1, 257

Sosipatros to Antimenes greeting. If you are well in body and everything else is to your mind it would be excellent. We too are well.

Ariston and the sister arrived here, reporting that they have been handsomely treated by you in every way. You do well then to show yourself friendly for us; we too will try to pay you all the attention in any matter that you are keen about and write to us about. Know that they were driven in to Patara by the storms; from there they hired a boat and sailed along to Arsinoë to join us.

The fare has been paid... amounting to 35 drachmas. I have therefore written to let you know.

Farewell

Date Jan. 31, 257

(Address): To Zenon

(Docket): Antimenes about Doris, with a copy of the letter from Antipatros⁷².

Date⁷³ April 20, 257 ?

Dates:

The letter from Sosipatros to Antimenes was sent on January, 31, 257 BCE.

The letter from Antimens to Zenon was sent on April 1, 257 BCE and was received by the later on April 20, 257 BCE

Part of top of text

Dates need to be added

The Chain of Events. On December, 5 258 BCE, Doris and Ariston set sail from Alexandria bound to Arsinoë. They were driven off course and found themselves in Patara on the coast of Anatolia. In Patara they hired a boat to take them back to Arsinoë. Since Doris and Ariston had no allowance, Sosipatros paid 35 drachmas for the boat. Then Sosipatros sent a letter to Antimenes in Alexandria in order to let the latter know that Doris and Ariston had made it safely to Arsinoë and, more important, get reimbursement for his expenses. Sosipatros' letter was on its way to Egypt on January, 31 257 BCE and reached Egypt on April 1 257 BCE.

A Winter Voyage from Rhodes to Alexandria

P.
^ Lond. 1979⁷⁴

This letter was received in Zenon's archive on January 2, 252 BCE. It was probably sent from Alexandria⁷⁵, Egypt in December. The opening lines read: (give # #)

Demetrios to Zenon, greeting. It would be well if you are in good bodily health and if in other respects you are prospering. I myself am in good health. Know that your father and Arkasios have arrived safely home. For some people arriving in Rhodes bring the news that the ship of Timokrates was in Rhodes, having just arrived from Kaunos. When they sailed away, they left behind cushions and leather pillows, which they asked Kimeon to send on to Kaunos. For the moment it is impossible for him to send them, but as soon as possible, when the fair weather comes, he will send them off immediately.^(u)

This text has evidence for the following conjectures: (a) ships from Rhodes crossed the Mediterranean in December and (b) the element that kept seagoing ships in the port of Alexandria was the weather and not the calendar.

Conclusions

At first glance it seems that the theory does not coincide with the practice. According to the theory, the sea was closed for navigation in the winter. In practice, it was open for all navigation from Alexandria to Greece and back. Moreover, the open-water route from

Phoenicia to Egypt was operating from September to December and year round in the opposite direction.

The solution to this apparent contradiction is simple. There are two different kinds of navigation: open water and coastal.

*Dr - Aegean nav. was
dangerous.*

Unknown about practices to Sicily.

By coastal navigation, I mean a journey where the crew maintains eye contact with the shore most of the time. Sailing in the Aegean, for example, is essentially coastal navigation. The difference between the two is not the size of the ship or the proficiency of the crew but the route itself⁷⁶. According to Vegetius, the dangers that rendered winter navigation impossible were: (a) minimal daylight and long nights; (b) dense cloud cover; (c) foggy air; and (d) the fact that the violence of the winds was doubled by rain and snow. Catastrophe can occur in two forms: (a) a ship breaks up on a shore. (b) as a consequence of large amounts of water inside the ship, it can no longer keep afloat. The first of these catastrophes can happen only near the seashore; the second can happen in open waters and near the seashore alike. An open-water journey is vulnerable to a seashore Catastrophe only in the time of getting out of a port and getting into one. In contrast, coastal navigation is vulnerable to seashore catastrophe for the duration of the journey. Three of the four dangers of winter as counted by Vegetius relate to coastal navigation alone. They all have to do with poor visibility in winter. The consequence of poor visibility can be the breaking of the ship on the seashore. In open waters, poor visibility is not likely to put the safety of the ship at risk. Even the fourth danger, wind, rain, and snow is much greater near the seashore than in the open waters. Indeed, ancient mariners when faced with heavy weather headed to the open waters (sometimes despite the pleas of their passengers).⁷⁷

To sum up: While a journey in open waters was relatively safe in summer and in winter alike, coastal navigation was not possible in the winter at all. Among the sources surveyed above, one (the edict of the king of Hatti) relates to coastal navigation and suggests that the sea was closed for navigation in the winter. Another one (Demosthenes:

against Dionysodorus) shows beyond any doubt that the route between Rhodes to Egypt was open for navigation in summer and winter alike, while the route from Rhodes to Athens was closed for navigation in the winter. Other sources (customs account from Egypt and the Zenon Papyri) show that the route between Egypt and the Greek islands was open all year round.

Three sources (the letter of the king of Tyre, the report of Wenamun, and customs account from Egypt) supply evidence about the route between Egypt and Phoenicia. All are consistent with the following assumption: Sailing from Phoenicia to Egypt was possible only between late September and December. This is because this is the only time in the year when there are some days that the north wind blows. The North wind is essential for ships that are sailing from Phoenicia to Egypt. Therefore, ships that were based in Egypt sailed to Phoenicia in the summer (as was the case in the Wenamun story) so they could sail back in late Autumn or early winter. In contrast, ships that were based in Phoenicia would sail to Egypt between late autumn and early winter and return (as is evident from the customs account from Egypt) in the winter.⁷⁸

Some Sources from the Roman Period

Evidence from the Roman period relates to three sea routes:

- A. From Rome to Alexandria
- B. From Alexandria to Greece
- C. From Rome to Syria and Palestine

The route between Rome and Alexandria was an open-water route and therefore open for navigation in the winter.⁷⁹ The way back was much more difficult. A journey from Egypt to Rome began always by a crossing of the Mediterranean Sea from south to north. This was an open-water route and therefore was open for navigation and the winter.⁸⁰ From the Greek islands (or Asia Minor)⁸¹ the ship headed for Rome would turn west and continue its journey under restriction of coastal navigation, which meant wintering in a winter anchorage along the way.⁸²

Evidence on the route between Alexandria and Greece are all connected to those of the route between Alexandria and Rome as the former was a part of the latter. In contrast, we lack evidence on the opposite route from Greece and Asia Minor to Egypt.

The third route from Syria and Palestine to Rome and back was mainly a coastal navigation route.⁸³ As such, it was not used in winter in either direction.⁸⁴

¹ An earlier version of this paper was written as a chapter in the author's M.A. thesis, "The Sea as Economic Factor, Aspects in the Maritime Connections of the Eastern Mediterranean Populace, from the Amarna Age to the Decline of the Assyrian Empire." Tel Aviv, Tel Aviv University, 1986. In that chapter, I tried to show that contrary to the accepted view, sailing in the Mediterranean Sea did not stop entirely in winter. In recent years, new evidence has been added to support that view, but the accepted views on winter navigation have changed very little. I am thankful to Dr. Yulia Ustinova who translated P. Cairo Zenon 59029, from Greek.

² J. Rougé, *Ships and Fleets of the Ancient Mediterranean*. (Middletown, Conn., Wesleyan University Press, 1981), 15-16. For a similar observation see: F. Braudel, *The*

Mediterranean and the Mediterranean World in the Age of Philip II, vol. 1 (New York: Harper and Row, 1972), 246.

³ L. Casson, *Ships and Seamanship in the Ancient World*, (Princeton, N.J. Princeton University Press, 1971), 270-272.

⁴ *Ibid.* p. 271 note 3. Casson's opinion is accepted by other scholars. The exception is sometimes attributed to the willingness of the Rhodian sailors to make the passage outside the normal sailing season. T. C. Skeat, *The Zenon Archive* (London: British Library Board, 1974), 76, note 4.

⁵ E. de Saint-Denis, "Mare Clausum", *Revue des Études Latines* 25 (1947): 196-214; J. Rougé, "La Navigation Hivernale sous L'Empire Romain," *Revue des Études Anciennes* 54 (1952): 316-325. Other students in this field reached more or less the same conclusions. McCaslin concluded that "no one in his right mind would sail in the winter when the stormy winds might blow any which way and when the heavy clouds would obscure the sky and thus hinder navigation." E. D. McCaslin, *Stone Anchors in Antiquity: Coastal Settlements and Maritime Trade-Routes in the Eastern Mediterranean ca. 1600-1050 B.C.* Göteborg: Poul Åströms, 1980, 89-90.

⁶ Following de Saint-Denis, "Mare Clausum."

⁷ According to Millner, *Vegetius: Epitome of Millitary Science*, 138 note 1, the date of this event is March 5.

⁸ *Vegetius* 4:39. Translation: N. P. Millner, *Vegetius: Epitome of Millitary Science*, (Liverpool: University of Liverpool Press, 1993), 137-138. Modern dates given by the translator.

⁹ Hesiod, *Works and Days*, 663-678. This season is not mentioned explicitly but since the

winter season begins in mid-November and the summer season ends in early September it stands to reason that autumn is treated by Hesiod as a different season.

¹⁰ Hesiod, *Works and Days*, 620-630.

¹¹ Hesiod, *Works and Days*, 680-685.

no ital.

¹² Ovid. *Fasti* 4, 131-132; *Catullus* 46; 1-5. Pliny, *Natural History* (II), 47. According to Pliny spring begins on February 8, when the sun occupies the twenty fifth degree of aquarius. See translation by H. Rackham in *Pliny: Natural History*, London: William Heinemann, 1938, 263.

¹³ Euripides, *Ion*, 1155-1156; Manilius, *Astronomica*, 1: 364-365.

¹⁴ This text has three variants, listed here as A, B and C. Another text, listed here as D, is a later(?) variant that adds to the decree, merchants from a the town of Kutapa. The first three texts were published by J. Nougairol, *Textes Accadiens des Archives Sud; Le Palais Royal d'Ugarit IV* (Paris: Imprimerie National, 1956), hereafter abbreviated *PRU IV*.

Text A: *RS 17.130 (PRU IV, Plate XV)*.

Text B: *RS 17.461 (PRU IV, Plate LXXVI)*.

Text C: *RS 18.03 (PRU IV, Plate LXXVIII)*.

These texts were transliterated and translated in *PRU IV*, 103-104. For a recent bibliography on these texts see G. Beckman, *Hittite Diplomatic Texts* (Atlanta: Scholars Press, 1996), 178. Text D (*RS 34.179*) was published and edited by F. Malbran-Labat, in "Traité," in *Un bibliothèque au sud de la ville: Ras Shamra-Ougarit 7*, ed. P. Bordreuil, (Paris: Editions Recherche sur les Civilisations, 1991), 15-16. Here I generally follow the translation by G. Beckman, *Hittite Diplomatic Texts*, 162-163.

¹⁵ A Large Hittite town near or on the Mediterranean coast of Cilicia (perhaps modern Silifke). See A. Lemaire, "Ougarit, Oura et la Cilicie vers la fin du XIIIe s. av. J-C.," *Ugarit Forschungen* 25 (1995): 227-236.

¹⁶ Text C: "are a heavy burden in the midst of the land of Ugarit."

¹⁷ Text C: "My Majesty,"

¹⁸ Text C: "with the men of the land of Ugarit."

¹⁹ Text D adds: "and the men of Ku[tapa]"

²⁰ Text C: "and even if a merchant should lose his capital and (wishes to) stay in the land of Ugarit"

²¹ Texts B and D: "in the midst of the land of Ugarit." Text D repeats this phrase a second time, which is probably a dittography.

²² Text C adds "merchants." Text D adds "and men of Kutupa."

²³ Text C omits "of the land of Ugarit."

²⁴ Text D. adds "and [the men of Kutupa]."

²⁵ Text C omits "the merchants".

²⁶ Text C omits "the merchants".

²⁷ *KTU 2.38 (RS 18.31)* was published by C. Viroilleaud, *Textes en Cunéiformes Alphabétiques des Archives Sud, Sud-ouest et du Petit Palais*, (Paris: Imprimerie National, 1965). Hereafter referred to as *PRU V*, no. 59.

²⁸ Maybe enclitic *n*. See: J. Tropper, "Zur Grammatik der ugaritischen Omina," *Ugarit Forschungen* 26 (1994): 467. Viroilleaud, *PRU V*, 81-82 emended the text to "any *kn*" and translated it as "fort Navire;" E. Lipinski translated it as "Vaisseau solide," "Recherches Ugarit," *Syria* 44 (1967): 283; J.M. Sasson translated it as "merchant

vessel," "Canaanite Maritime Involvement in the 2nd Millennium B.C.," *Journal of the American Oriental Society* 86 (1966): 137.

²⁹ This letter contains many unsolved textual problems. Many of the words in it are ^{appear} ~~hapax~~ ^{sempala} ~~legomena~~. Because of this, translations of some lines are based on little more than guesswork. I have included some of the more plausible suggestions, but the discussion here is by no means exhaustive. A full treatment was given by J.-L. Cunchillos, "Correspondence" in A. Caquot, J.-M. Tarragon and J.-L. Cunchillos (1989), *Textes Ougaritiques, tome 2: Textes religieux, rituels, correspondance* (Paris: Éditions du Cerf, 1989), 349-357.

³⁰ Following the majority of scholars, ^{See, for example:} ~~Among others:~~ Viroilleaud, *PRU V*, 82; ^{and} Sasson, "Canaanite Maritime involvement," 137. Dissenting views include: Cunchillos, *Correspondance*, 351 and note 9, and Tropper, "Zur Grammatikder ugaritischen Omina," 457: "Flotte."

³¹ "mtt" is a *hapax legomenon*. Most scholars (among others Sasson, "Canaanite Maritime involvement"; E. Linder, "The Maritime Texts of Ugarit," Ph.D. Diss., Brandeis University, 1970, 45) followed C. H. Gordon, who translated: "she (the ship) died." ^{The} ~~Ugaritic Textbook~~, (Rome, Pontifical Biblical Institute, 1965), 19.443; M. Dietrich and O. Loretz, ("Zur Ugaritischen Lexicographie [I]" *Bibliotheca Orientalis* 23 [1966]: 132) and M. Dietrich, O. Loretz and J. Sanmartín. ("Zur Ugaritischen Lexicographie [VII]," *Ugarit Forschungen* 5 [1973]: 93) emended the text "<t>mtt" and translated it as "manschaft." Cunchillos, (*Correspondance*, 351-352 and note 8) followed a different path. He used the Akkadian cognate *muttatu* ("half"). He translated: "La moite de la flotte que tu avais commandée en Égypte, se trouva à Tyr par (à cause d') une pluie

torrentielle."

³² "rb.tmtt" is a *hapax legomenon*. Most scholars believe that this rb.tmtt was a Tyrian bureaucrat (Virolleaud *PRU V*, 82; Sasson, "Canaanite Maritime involvement"; Dietrich, Loretz, "Zur Ugaritischen Lexicographie (I)," 132: "Mannschaftsführers" ,J. Hoftijzer, "Une lettre du roi de Tyr", *Ugarit Forschungen 11* [1979]: 386; Lipinski, *Recherches Ugarit*, 283; Cunchillos, *Correspondence*, 354-355 and Cynthia L. Miller, "Patterns of Verbal Ellipsis in Ugaritic Poetry," *Ugarit Forschungen 31* [1999]: 335). Among the dissenting views: D. Sivan, *A Grammar of the Ugaritic Language*, (Leiden: Brill, 2001), 73, translated it as "the lord of mortality."

³³ Literally, "hand." Following Virolleaud, *PRU V*, 82; Hoftijzer, "Un letter du Roi du Tyre," 388; Other suggestions: Sasson, "Canaanite Maritime involvement," "cargo", Lipinski, "Recherches Ugarit," 283, "fret," Cunchillos, *Correspondence* 354-355 and note 19 : "blé." Cunchillos was followed by Miller, "Patterns of Verbal Ellipsis in Ugaritic Poetry," 335 who translated "seed."

³⁴ Following Hoftijzer, "Un Lettre du Roi du Tyre," 387, who emended the text and read "bdntm."

³⁵ Following Cunchillos *Correspondence*, 356 note 26 and Sivan *A Grammar of the Ugaritic Language*, 161.

³⁶ There are two possible translations for "At" : "idle," "still" and the like and "second" or "other." See: F. Renfroe, *Arabic-Ugaritic Lexical Studies*. (Münster: Ugarit-Verlag, 1992), 68-69.

³⁷ A. F. Rainey, *A Social Structure of Ugarit*, (Jerusalem: The Bialik Institute: ,1967), 158, note 118. Followed by Hoftijzer, "Une lettre du roi de Tyr," 385

Explain
Need ?
& year 2nd
ship... ?

³⁸ Renfroe, *Arabic-Ugaritic Lexical Studies*, 69.

³⁹ Apparently, the oven was built by new settlers after the city was conquered. M. Yon, "The End of the Kingdom of Ugarit," in *The Crisis Years: The 12th century B.C. From Beyond the Danube to the Tigris*, edited by W.A. Ward and M.S. Joukowski (Dubuque, Iowa: Kendall/Hunt Publishing Company, 1992): 119.

⁴⁰ A document sent from Carchemish to Ugarit (RS 34.147) lists "ships that belong to the (subjects of?) king of Carchemish (and) are very old and cannot go anywhere." These ships are described in detail as to their owner and their fittings (or rather lack thereof), but nothing is said ^{of} on their whereabouts. This text was edited and translated by F. Malbran-Labat, "Lists" in *Une bibliothèque au sud de la ville: Ras Shamra-Ougarit VII*, edited by P. Bordreuil (Paris: Éditions Recherche sur les Civilisations, 1991), 16-25, no. 5.

⁴¹ Following Hofstijzer, "Une lettre du roi de Tyr," 385 and note 19 and the majority of the scholars who worked on this text.

⁴² Once the assumption that the ship was carrying grain is put in question, Renfroe's argument can be used in an inverse way: The fact that the ship proceeded to Acco from Tyre shows that it was on its way to Egypt.

⁴³ Dov Ashbel, *One Hundred & Seventeen Years, 1845-1962 of Rainfall Observations*, (Jerusalem: Hebrew University, 1963). It is probable that this misfortune happened in September or October. See discussion below.

⁴⁴ For a translation see: M. Lichtheim, "The Report of Wenamun," in W. W. Hallo et al. (eds.) *The Context of Scripture: vol 1*: (Leiden: Brill, 1997), 89-93 The date of this text is a point of disagreement among Egyptologists: Some (on the basis of paleographic

considerations) claim that it was written only 150 years after the time period it describes (late in the reign of Ramses XI --1108-1089 high chronology); others maintain that it was written "directly after the report it relates (Lichtheim "*The Report of Wenamun*," 89). I believe that paleographic considerations are inherently inaccurate and are not enough to enable one to accept the opinion on this issue. One also has to take into account (a) that we might be dealing here with a late copy of an earlier version (the corruptions in the text point to this possibility), and (b) that there is no single case of proved anachronism in this text. The discussion here is based on the premise that the text was written close to the period it describes.

⁴⁵ This text is probably a copy of a real report and is not fictitious (Following G.S. Grieg, "*sDm=f and sDm.n=f in Sinuhe*" in Sarah Israelit-Groll (ed.) *Studies in Egyptology Presented to Miriam Lichtheim*, edited by Sarah Israelit-Groll. (Jerusalem: Magnes, 1990), 337-340.

⁴⁶ For the Renaissance Era, see: K.A. Kitchen, *The Third Intermediate Period in Egypt (1100-650)*, 2nd. Edition (Warminster: Aris & Phillips, 1986), Tables 1-2 and *passim*.

⁴⁷ The date of autumn migration falls between mid-September and early November. Otherwise it falls between early March and early May. Y. Leshem and O. Bahat: *Flying with the Birds* (Tel Aviv: Tel Aviv University, 1999).

⁴⁸ The translation to the passage in question reads:

I went off to the shore of the sea, to where the logs were lying.
And I saw eleven ships that had come from the sea and belonged to the *Tjeker* (who were) saying: "arrest him! Let no ship of his leave for the land of Egypt!"

Then I sat down and wept. And the secretary of the prince came out to me and said to me: "What is it?" I said to him: "Do you not see the migrant birds going down to Egypt a second time? Look at them traveling to the cool water! Until when shall I be left here? For do you not see those who come to arrest me?"

A fundamentally different translation was suggested and defended by A. Egberts, in "The Chronology of Wenamun," *Journal of Egyptian Archaeology* 77 (1991): 62-67.

⁴⁹ G. Lefebvre, "Sur Trois Dates dans les Mesaventures d'ounamun," *Chronique d'Egypte* 11 (1936), 97-99. Lefebvre's theory is generally accepted (i. e. by Lichtheim in "The Report of Wenamun," 90).

⁵⁰ According to Lichtheim "The Report of Wenamun" the second date reads: "I stayed until the fourth month of summer in Tanis." Goedicke (*The report of Wenamun*, p. 24) emended the text and translated: "I began the fourth month (of the journey) while I was still in Tanis." According to Lichtheim, the third date reads: "I went down upon the great sea of Syria in the first month of summer, day 1." Goedicke, emended the text and translated: "and I embarked for the great Syrian sea. Within the month I reached Dor" (Goedicke, *The report of Wenamun*, 24, 27).

⁵¹ Egberts, "The Chronology of wenamun," 57-67.

⁵² Ibid. 58.

⁵³ As becomes apparent in the following table, the differences between the three reconstructions are considerable. The dates that are marked by * required either emendation or rhetorical/ linguistic acrobatics.

	Lefebvre	Goedicke	Egberts
Wenamun departed from the temple of Amun.	February 27	April 20	April 19
Wenamun set sail from Egypt.	May 17	?	January 4*
Wenamun arrived at Byblos.	--	--	May*
Wenamun was interviewed by the king of Byblos, and the latter sent a messenger to Egypt.	July 25	Late in August	June
The messenger returned to Byblos.	September 14 to October 13 (inclusive)		September 6 to October 5 (inclusive)
The logs were dragged ashore.	March 13 – April 11 (Inclusive)		March 5 to April 4 (inclusive)

The ships from Dor came to ask that Wenamun be arrested and extradited.	Autumn migration (between mid-September and early October)	Autumn migration (between mid-September and early October)	Spring migration (Between early March and early May*).
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⁵⁴ The species that pass over or near the shoreline arrive from September 14 - November 7. See Leshem and Bahat, *Flying with the Birds*.

⁵⁵ B. Porten and A. Yardeni, *Textbook of Aramaic Documents from Ancient Egypt, vol 3*, (Jerusalem: The Hebrew University, 1993); A. Yardeni, "Maritime Trade and Royal Accountancy in an Erased Customs Account from 475 B.C.E. on the Ahiqar Scroll from Elephantine," *Bulletin of the American Schools of Oriental Research* 293 (1994): 67-78. For an exhaustive analysis see P. Briant and R. Descat, "Un Registre Douanier de la Satrapie d'Égypte À l'Époque Achéménide (TAD C3,7)," in: *Le commerce en Égypte ancienne*, edited by N Grimal and B. Menu (Paris: Institut Français d'archéologie orientale, 1998), 59-104.

⁵⁶ Briant and Descat, "Un Registre Douanier de la Satrapie d'Égypte ^{ca} À l'Époque Achéménide (TAD C3,7)," 60-62, with earlier bibliography.

⁵⁷ Ibid. p. 61 and note 8.

⁵⁸ Porten and Yardeni, *Textbook of Aramaic Documents from Ancient Egypt, vol 3*, and Yardeni, "Maritime Trade and Royal Accountancy in an Erased Customs Account from 475 B.C.E. on the Ahiqar Scroll from Elephantine," 67 and note 7.

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⁵⁹ Two El-Amarna letters (EA 39: 14-20 and EA 40:24-26, sent by the king of Cyprus and a Cyprian high official, respectively) contain a demand from the Egyptian authorities that the customs inspector not “draw near” the Cyprian ships. It is worth noting that the Akkadian term used for customs inspector in these letters and the verb “to inspect” as used in the Aramaic customs account from Egypt are derived from the same root (BQR).

⁶⁰ In the summary both *vpynj l r,j* and *©vw[Jhmws vpynj r,j* are classified together as “Ionian ships.” *.w;y qn./rj©* and *.w;y qn./rsyry* are classified together as “kzd/ry.” The meaning of “kzd/ry” is unknown.

⁶¹ The meaning of this term is unknown.

⁶² The text that lists the merchandise exported by *.w;y qn./rj©* and *.w;y qn./rsyry* is not preserved, but one can safely assume that they exported natron as well.

⁶³ Text is not preserved. Porten and Yardeni, suggested “silver of the men,” but this is unlikely. *Textbook of Aramaic Documents from Ancient Egypt, vol 3, 179.*

⁶⁴ “Ship” and “one large ship,” respectively.

⁶⁵ See discussion in Yardeni, “Maritime Trade and Royal Accountancy in an Erased Customs Account from 475 B.C.E. on the Ahiqar Scroll from Elephantine,” 70; Briant and Descat, “Un Registre Douanier de la Satrapie d’Égypte À l’Époque Achéménide (TAD C3),” 66.

⁶⁶ The first datable arrival was on Atyr 30 (March 19). Dates after Porten and Yardeni, *Textbook of Aramaic Documents from Ancient Egypt, vol. 3.* But, the record on two earlier arrivals is damaged (82).

⁶⁷ The sojourn in Egypt took between 7 and 26 days. Briant and Descat, *Un Registre Douanier de la Satrapie d’Égypte À l’Époque Achéménide (TAD C3),* 79-80. However in

most datable cases the sojourn took between 8 and 11 days. Porten and Yardeni, *Textbook of Aramaic Documents from Ancient Egypt*, vol. 3, 288-9.

⁶⁸ Porten and Yardeni, *Textbook of Aramaic Documents from Ancient Egypt*, vol. 3. The record is damaged.

⁶⁹ Demosthenes *Against Dionysodorus*, 29-30. Translation by: A. T. Murray, in *Demosthenes: Private Orations 50-58* (Cambridge: Harvard University Press, 1939), 213-215.

⁷⁰ C. C. Edgar, *Zenon Papyri Nos. 59001-59139*, (Cairo: Imprimerie de l'institut Français d'archaeologie Orientale, 1925), 50-51.

⁷¹ Translated by Dr. Yulia Ustinova. For dates in Hellenistic Egypt see: A. E. Samuel, *Ptolemaic Chronology*, (München: Beck, 1962).

⁷² Mistake for "Sosipatros."

⁷³ Translation C. C. Edgar, *Zenon Papyri in the University of Michigan Collection*, (Ann Arbor: University of Michigan Press, 1931), 71.

⁷⁴ Skeat, *The Zenon Archive*, 74-76.

⁷⁵ See Ibid. 74 note 1.

⁷⁶ This is demonstrated in Demosthenes, *Against Dionysodorus*. The same ship was used both for open-water navigation and coastal navigation.

⁷⁷ Synesius ep. 5[4]. For a translation of this letter see A. FitzGerald, *The Letters of Synesius of Cyrene* (Oxford: Oxford University Press, 1926), 80-91.

⁷⁸ Wenamun's despair at the sight of the migrating birds flying to Egypt is quite understandable. He knew that staying in Byblos in the autumn meant being stranded there until the next autumn.

⁷⁹ Tacitus, *Histories IV*, 51.:

Vespasian had already heard about the Battle of Cremona. The news was good everywhere. Now came word of the death of Vitellius, brought to him by the *many* members of the two orders who had gambled successfully on the risks of a winter passage across the Mediterranean (italics mine).

⁸⁰ Flaccus's journey from Egypt to Rome began in the winter (Philonis, *in Flaccus*), as did the journey of the Jewish delegation to Caligula (Philonis, *Legatio ad gaium*). King Herod began his journey to Rome in the winter (Josephus *Ant.*, XIV, 3. Josephus, *Jewish war*, I:2-3). Emperor Vespasian sent a fleet of ships loaded with grain from Egypt to Rome after having learned of Vetellius's demise. Prior to Vetellius's demise, Vespasian prevented these ship from leaving Alexandria as part of his strategy to weaken the latter (Tacitus, *Histories IV*, 52). This means that in peaceful times ships loaded with grain did leave Egypt for Rome in the winter.

⁸¹ *Acts* 27, 5-6.

⁸² *Acts* 27, 7-12

⁸³ With the possible exception of the passage between Brindisium and Greece which was also attempted in the winter. Plutarch, *Crassus*, 17.

⁸⁴ For the direction from west to east, see Josephus, *Jewish War* 2:11, see also Josephus, *Ant* 18:8. For the direction from east to west, see Josephus, *Jewish War*, 7:1.