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The Written Evidence

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VOLUME 44 of the *Journal of Glass Studies* contains an account of the remains of a medieval glass factory at Tyre in southern Lebanon.¹ Chemical analyses of glass produced there show that it was made with plant ash, and this indicates that the factory operated in or after the eighth century A.D.² The latest date at which the factory could have operated is 1291, when Tyre was destroyed by an army of the Mamluk Sultan Qalawun.³

The investigation of the factory led to a reappraisal of references to glassmaking at Tyre by medieval writers. These references have been cited on several occasions, but as far as we are aware, they have never been collected in one place. In 1929–1930, Carl Johan Lamm noted five references to glassmaking at Tyre in Arabic, Hebrew, and Latin works written between the 10th and 13th centuries, and in 1938, Simḥah Assaf published an 11th-century Hebrew docu-

ment concerning the shipment of glass from Tyre to Egypt. An additional Arabic source was noted by Giancarlo Lacerenza in 1996.⁴ The purpose of this article is to bring together the texts, to provide translations, and to comment on their significance for historians of glassmaking. Unless otherwise indicated, all dates in the article are A.D.

THE ARABIC DOCUMENTS (S.C.)

1. *Al-Muqaddasi, about 985*

Al-Muqaddasi, “the man from Jerusalem” (Bayt al-Muqaddas), is Shams al-Din Abu ‘Abd-Allah Muhammad ibn Ahmad ibn Abi Bakr al-Banna’ al-Shami al-Muqaddasi al-Bashshari (about 945–1000). He described glassmaking at Tyre in his *أجسن التقاسيم في معرفة الأقاليم* (The best divisions for knowledge of the regions).

1. Fred Aldsworth and others, “Medieval Glassmaking at Tyre, Lebanon,” *Journal of Glass Studies*, v. 44, 2002, pp. 49–66.

2. I. C. Freestone, Y. Gorin-Rosen, and M. J. Hughes, “Primary Glass from Israel and the Production of Glass in Late Antiquity and the Early Islamic Period,” in *La Route du verre: Ateliers primaires et secondaires du second millénaire av. J.-C. au Moyen Age*, ed. M.-D. Nenna, Travaux de la Maison de l’Orient Méditerranéen, no. 33, Lyons: Maison de l’Orient Méditerranéen–Jean Pouilloux, 2000, pp. 65–83.

3. W. B. Fleming (*The History of Tyre*, Columbia University Oriental Studies, v. 10, New York: Columbia University Press, 1915, repr. New York: AMS Press Inc., 1966, pp. 122–124) describes the capture of Tyre and notes the state of the site in and after the 14th century. In 1321, Abū al-Fidā said that the city was in ruins (Guy le Strange, trans., Mukaddasi, *Palestine under the Moslems*, 1890, repr. Beirut: Khayats, 1965, p. 345), and this is confirmed by William of Bodensele, who visited the Levantine coast in 1332–1333 and reported that both Tyre and Acre had been destroyed (E. Ashtor, *Levant Trade in the Later Mid-*

dle Ages, Princeton, New Jersey: Princeton University Press, 1983, p. 42). Similarly, Giacomo of Verona visited Palestine and southern Syria in 1335, and reported that Tyre was uninhabited (*ibid.*, p. 42). al-Qalqaṣandī (4.153) noted essentially the same situation in 1418 (M. S. Joukowsky, ed., *The Heritage of Tyre*, Dubuque, Iowa: Kendall/Hunt Publishing Company, 1992, p. 78). However, Cypriots raided Tyre in 1425 (Ashtor, pp. 294–295), and at this date, presumably, there was something worth raiding! Nevertheless, the site seems to have been virtually abandoned until the early 18th century (Joukowsky, p. 80).

4. C. J. Lamm, *Mittelalterliche Gläser und Steinschnittarbeiten aus dem Nahen Osten*, Forschungen zur Islamischen Kunst, v. 5, Berlin, Verlag Dietrich Reimer/Ernst Vohsen, 1929–1930, v. 1, p. 491, nos. 41–45; S. Assaf, “Old Genizah Documents from Palestine, Egypt, and North Africa [I–II],” *Tarbiz*, v. 9, 1937–1938, pp. 11–34 and 196–218, esp. pp. 196–197, no. 10 (in Hebrew); G. Lacerenza, “Echi biblici in una leggenda. Tiro in Benjamin da Tudela,” *Annali dell’Istituto Universitario Orientale di Napoli*, v. 56, 1996, pp. 462–470.

Text:⁵

و من صور السكر و خرز و
الزجاج المخروط و المعمولات

Translation:

This excerpt was translated by Lamm as: “Aus Tyrus wird Zucker ausgeführt, sowie Schmucksachen (personal ornaments) aus Glas, auf dem Rad geschnittene Gläser (wheel-cut glass) und Nippsachen (knickknacks).” However, the most recent translation into English, by Basil Anthony Collins, entirely changes this passage, translating it, “Many things are produced here, including specialties.”⁶

Comment:

The original sources, on which De Goeje based his Arabic edition, are two manuscripts. One is in the Süleimaniye Library in Istanbul (Aya Sofia 2971bis), and the other is in the Staatsbibliothek in Berlin (Ahlwardt 6034). The former is dated A.H. 658/A.D. 1259, and the latter was copied toward the end of the 15th century. The manuscripts are apparently copies of versions of the text that were completed in 985 and 988, respectively.⁷

The word خرز (beads) does not specify that the beads were made of glass, although this seems likely. The word مخروط, which does refer to glass, is not the best Arabic term for “wheel-cut.” Literally, it means “shaped with the lathe” or “cut into small pieces.” Although De Goeje did not suggest any variant readings, it is possible that the original word was مشروط, meaning “incised, shaped with a scalpel, scratched,” because this seems to be more appropriate in the context. In any case, Lamm’s translation as “wheel-cut glass” can stand, but only if it is understood to mean “incised” or “engraved” and not “relief-cut.” Incidentally, in the manuscript in Istanbul, المعمولات is replaced with the words و اكثر ما يعمل بالبصرة, which can be translated as “and many things that are produced in Basra.” Whether or not the sentence refers to glass vessels is a matter of specu-

lation, but it is interesting to see a possible connection between Tyre in the Levant and Basra in southern Iraq.

2. Al-Idrisi, 1154

Abu ‘Abd-Allah Muhammad ibn Muhammad ibn ‘Abd-Allah ibn al-Idrisi al-‘Ali bi-amr Allah, known as al-Sharif al-Idrisi, was probably born in Spain, and he died about 1165. In his كتاب نزهة المشتاق في إختراق آفاق (The book on the excursion of those who intend to enjoy travel in the countries, better known as “Idrisi’s Geography”), completed in 1154 for the Norman king of Sicily, Roger II, al-Idrisi mentions that جيد الزجاج (good-quality glass) and ceramics are made at Tyre.⁸

In the translation by P.-A. Jaubert (see note 8), the sentence is rendered, “On y fabrique de très-beau verre et de la vasseille d’argile.” Lamm translated the phrase as “vorzüglichsten Gläser” (superior [or excellent] glasses).⁹ There is little to say about this rather general statement, except that it affirms Tyre’s reputation as a source of high-quality glass in the mid-12th century.

3. Ibn Jubayr, about 1200

Abu al-Husayn Muhammad ibn Ahmad ibn Jubayr al-Kinani, known as Ibn Jubayr, was born in Valencia in 1145 and died at Alexandria in 1217. In his رحلة (Travel), Ibn Jubayr

5. M. J. de Goeje, ed., *Descriptio Imperii Moslemici Auctore Schamso’-d-din Abū Abdollāh Mohammed ibn Ahmed ibn abī Bekr al-Bannā al-Basschārī al-Mokaddasi*, Leiden: E. J. Brill, 1876, p. 180.

6. Lamm [note 4], no. 41; B. A. Collins, reviewed by Muhammad Hamid Alta’i, Al-Muqaddasi, *The Best Divisions for Knowledge of the Regions*, Reading, England: Garnet Publishing Ltd., 1994, p. 150.

7. Collins [note 6], pp. xiii–xiv.

8. P.-A. Jaubert, *La Géographie d’Edrisi traduite de l’arabe d’après deux manuscrits de la Bibliothèque Nationale*, Paris, 1836–1840, repr. Amsterdam: Philo Press, 1975, p. 349. The most recent critical edition of Idrisi’s *Opus Geographicum* was published in Naples and Rome by the Istituto Universitario Orientale and the Istituto per il Medio ed Estremo Oriente, 1970–1984, 9 vv., edited by Enrico Cerulli.

9. Lamm [note 4], no. 42.

described the Great Mosque of Damascus. In the mosque was a shrine containing the head of Yahya ibn Zakariya (John the Baptist), and Ibn Jubayr stated that over a wooden chest that stands out from a column was a

قنديل كأنه ببلور مجوف كأنه القدرح
الكبير لا يدري امن زجاج عراقي
ام صوري هو ام من غير ذلك¹⁰

Translation:

R. J. C. Broadhurst translated this passage as follows: “[Over it is a wooden chest that stands out from the column, and on which is] a lamp that seems to be of hollow crystal, and like a large drinking vessel. It is not known whether it is the glass of ‘Iraq or Tyre or some other ware.”¹¹

Comment:

Ibn Jubayr’s description indicates that the vessel was made of glass resembling rock crystal (i.e., presumably colorless or nearly colorless), and that it was rather large. The word مجوف (hollow) literally means “made hollow” or “hollowed out,” and in this context it may imply that the lamp was a wheel-cut vessel rather than a blown and tooled one. This very tentative interpretation, if correct, would confirm that Tyre, like Baghdad in Iraq, still had a reputation for cut glass in the years around 1200, although by this date (to the best of our knowledge) cut glass had ceased, or almost ceased,

to be made in the Islamic world. Ibn Jubayr, of course, was describing a reliquary that reputedly contained the head of John the Baptist, which may have been placed there much earlier than the time of his description.

THE HEBREW DOCUMENTS (G.L.)

4. A Document from the Cairo Genizah, 1011

Thanks to the thousands of documents discovered at the end of the 19th century in the storeroom (*g^enīzah*) of the Ezra Synagogue in Fustat (Old Cairo), modern scholars have at their disposal a vivid picture of the social, economic, and religious life of Jewish communities throughout the Mediterranean region from the age of Islamic expansion to the First Crusade.¹²

In this immense archive, scattered today among libraries throughout the world, many references to glass, glassmaking, and glass commerce in various times and places occur, as well as data concerning the social status of the glassmakers.¹³ The great majority of this information refers to Egypt and Fustat, while references to the Levant are somewhat scarce. Nevertheless, it emerges that, although Egypt had an extensive and long-established glass industry, the glass produced in the Levantine cities of Tyre and Beirut was considered to be of superior quality.¹⁴

It appears that only one document from the genizah that deals explicitly with Tyrian glass-

10. W. Wright, ed., *Rihla Ibn Jubayr—The Travels of Ibn Jubayr, Edited from a Ms. in the University Library*, Leyden: E. J. Brill, 1852, p. 275.

11. R. J. C. Broadhurst, *The Travels of Ibn Jubayr, Being the Chronicle of a Medieval Spanish Moor Concerning His Journey to the Egypt of Saladin, the Holy Cities of Arabia, Baghdad the City of the Caliphs, the Latin Kingdom of Jerusalem, and the Norman Kingdom of Sicily*, London: Jonathan Cape, 1952, p. 284.

12. The main analysis of the genizah documents is in the six volumes of S. D. Goitein, *A Mediterranean Society*, Berkeley, Los Angeles, and London: University of California Press, 1967–

1993. Of special importance for this article is v. 1 (*Economic Foundations*, 1967).

13. While some information is provided by correspondence (cf. S. D. Goitein, *Letters of Medieval Jewish Traders*, Princeton, New Jersey: Princeton University Press, 1973, p. 18), legal documents provide a richer collection of references (cf. the indexes of Goitein’s volumes [note 12], under “Glass” and “Glassmakers”).

14. On the cheaper, local (i.e., Egyptian) glass, see Goitein [note 12], v. 1, p. 110. For “red glass” from Beirut, see *ibid.*, p. 421, n. 65, citing a document in Westminster College, London (Frag. Cairensis 9v, lines 28 and 29).

making has been published.¹⁵ This document,¹⁶ written in Hebrew and dated Ševat 18, 4771 (about January 31, 1011), contains a power of attorney (*šetar barša'ah*) given by Ḥalaf ben Mošeh ben Aharon, representing merchants in Tyre, to his father-in-law Šelomoh ben Rabî', resident in Egypt, in order to speak and act for him against Kaleb ben Aharon, representing merchants in Fustat.¹⁷ Šelomoh sought to recover the debt for supplying 37 baskets of glass, most of which were owned by Ḥalaf ben Mošeh himself.

Text:¹⁸

1 מה שהיה לפנינו אנו בית דין והוקנים
החתומה עדותינו בסוף² שטר זה בחמישי
בשבת בשמונה עשר יום לחודש שבט
בשנה³ הרביעית לשבוע שנת ארבעת
אלפים ושבע מאות ושבעים ואחד
4 ליצירה במדינת צור היושבת על חוף
הים (הגדול) מבוא השמש כך⁵ היה
שבא אלינו כלף בן משה בן אהרן פקיד
הסוחרים בצור היד[ו]ע⁶ בן אבי קידה
ואמר לנו מעכשו היו עלי עדים בקניין
וכתבו וחתמו⁷ בבל לשון שלזכות ושלחו
אותו אל יד שלמה חמי בן רביע אשר⁸
במצרים להיות לו לזכות ולראיה מחמת
שרציתי (ברצון נפשי⁹ שלא באונס ולא
בשגג ולא בכרח כי אם בלב שלם ובנפש
חפצה¹⁰ ונתתי לו במתנה ארבע אמות
קרקע שלי מתנה חלוטה צמותה¹¹
וקיימת ואנכן המשלתיהו והשלטתיהו
שמתיהו עשיתיהו אנטילב¹² על כל דין
ודברים שיש לי אצל כל אדם ועל כל
תביעה שיש לין¹³ אצל כלב בן אהרן
פקיד הסוחרים במצרים הידוע בן [- - -]
[וילך]¹⁴ שלמה זה בן רביע אל כלב זה
ויהבוע ממנו ממוני שיש לי אצלו¹⁵ והו
דמי שבעה ושלישים משפלות של זכוכית
ש[שלחתי אותם] אליו¹⁶ למכרם מהם
עשרים משפלות וארבעה משפלות
כתובים (בשמן)¹⁷ לבד ומהם אחד עשר
משפלות כתובים בשמי ושם אברהם
[בן]¹⁸ חבשי יש לי מחציתם חמשה וחצי
ומהם חמשה עשר משפלות¹⁹ כתובים
בשמי ושם אהרן בן יעקב הידוע בן אבי
רגיף יש לי²⁰ מחציתם שבעה משפלות

ומחצה כלל כל אשר לי אני ש[לשים]²¹
משפלות ושבעה משפלות מניתי את
שלמה חמי זה בן רביע [לתבוע]²²
דמיהם מיד כלב זה ולקח אותם מידו
ולעשות בם כחפצו ואם ימנע כלב²³
זה מלתת לו דמיהם יש לו רשות לשלמה
זה לתבעו בכל בית בין (שירצה)²⁴ ויש
לו רשות לקבוע זמן ולבטל זמן ולנו[ן]
ולהחריב בפניו ושלא בפניו²⁵ ולהשביעו
ואין רשות לאדם בעולם למנעו לפי
ששמתי ידו כיד [פיצוין]²⁶ פיצווי
ופטירתו פטירתי וכל אשר יעשה עשוי
ומקובל עלי ועל יורשתי²⁷ אחריי ואין
לי רשות לאמר לו לתיקוני מניתיך ולא
לעוטי ואחריות²⁸ ו[חזו]מרן שטר אורכא
זו מקובל עלי ועל יורשיי אחריי כהגון
ובתקנו²⁹ חכמים כדת וכהלכה דלא
כאסמכות ודלא בשופסי וקנינו מיד כלף
זה בן משה בן אהרן לשלמה בן רב[י]ע
זה על כל דכתוב ומפורש למעלה³¹
ובביטול כל מודעין ותנאין בקניין גמור
בכלי כשר וכתבנו וחתמנו³² ושילחנו אל
מצרים להיות בידו לזכות ולראיה וקיים

[signatures:]

חביש הכהן בן יוסף ננ
שלמה הכהן ביר אהרן הכהן הכשר
יעקב הכהן בר נעמן ננ
יוסף הכהן ברבי יעקב הסופר נבע
אלחנן ברבי משה החבר

15. S. D. Goitein ("The Main Industries of the Mediterranean Area as Reflected in the Records of the Cairo Geniza," *Journal of the Economic and Social History of the Orient*, v. 4, 1961, pp. 168–197, esp. p. 186, n. 8) stated that a Jewish craftsman of Tyre recorded in ms. Oxford, Bodleian Library, Hebr. C28 (Neubauer and Cowley no. 2876), f. 32, was probably a glassmaker. However, Goitein ([note 12], v. 1, p. 362, n. 2) later described his activity as being connected with the mint.

16. Cambridge, University Library, ms. T-S. 13 J 33, f. 5. The text was first published by Assaf [note 4]. It was cited by Goitein [note 12], v. 1, p. 421, n. 65, and an English translation of it appeared in A. Engle, *Readings in Glass History*, Jerusalem: Phoenix Publications, no. 2, 1973, pp. 26–29.

17. On the tasks of the *p'qid ha-sôharim* (פקידי הסוחרים), representatives of merchants (sing., *paqid ha-sôharim*, פקיד הסוחרים), cf. Goitein [note 12], v. 1, pp. 186–192, esp. p. 190 (referring to Tyre).

18. From Assaf [note 4]. Underlined words or letters are as read by Assaf, but in the document they appear partly effaced. Reconstructions of missing letters or words are marked here by brackets.

Translation:¹⁹

[1] (This is) what happened before us: we, the court and the elders, (as) sealed by our signatures at the end of this document. On Thursday, on the 18th day of the month of Ševat, in the fourth year of the Septennium,²⁰ in year of the Creation 4771, in the city of Tyre, which lies on the coast of the [Great] Sea²¹ toward the sunset. [5] It happened that Ḥalaf ben Mošeh ben Aharon, representative of the merchants in Tyre, kno[wn] (as) Bin Abî Qidah, came to us and said: “Be witnesses for me, from now, by (symbolic) agreement;²² write and seal (the document) with every expression of favorable judgment, and send it to my father-in-law Šelomoh ben Rabî‘, who is in Egypt, to serve him as a valid title and proof. For I have willed, by my own [wi]ll, without being under compulsion, confusion, or unwillingness, but being in full capacity, and willingly, [10] to give him four cubits of land belonging to me (as a) permanent, definitive, and valid gift because I made him master, I empowered him as a procurator²³ of every lawsuit and matters that I might have against anyone, and on every claim that I might have against Kaleb ben A[haro]n, the representative of the merchants in Egypt, known as Bin [lacuna].²⁴ [And] this Šelomoh ben Rabî‘ will go to this Kaleb and claim from him the payment he [owes me]: [15] namely, the price of 37 baskets of glass²⁵ that [I sent] to him to sell. Of

these, 24 baskets were marked [with my name] only; 11 baskets were marked with my name and the name of Avraham [be]n Ḥabašî,²⁶ half of which were mine (that is, five and a half baskets), and 15 [ba]sket[s] were marked with my name and the name of Aharon ben Ya‘aqov, known as Bin Abî Rağif, [20] half of which were mine (that is, seven and a half baskets). Summing up, [3]7 baskets. (So) I empowered my father-in-law, this Šelomoh ben Rabî‘, to [clai]m their price from this Kaleb, and to receive²⁷ it from him, to do with it as he likes. But if this [Kaleb re]fuses to pay him their price, this Šelomoh has the power to summon him in every court [he wishes], and he has the power to appoint or cancel the term, to ba[n] or excommunicate him, in his presence or in his absence, [25] and to make him swear. And no one in the world has the power to obstruct him, for I empowered him myself, and [his releases] are (like) my releases, and his dismissal is (like) my dismissal. And whatever he does is (intended to be) accomplished and accepted by me and by my heir[s] after me, and I do not have the power to say to him, ‘I have appointed you to sustain me, not to damage me.’²⁸ And [full] responsibility for this document is accepted by me and by my heirs after me as amendment and arrangement of the Sages according to the law and according to the Halakah;²⁹ for it is not as a scheme or as a formula.”³⁰ And we purchased³¹ from this Ḥalaf [30] ben Mošeh ben Aharon,

19. It is impossible to follow the Hebrew text word by word, and so in the English translation only approximate references to the original lines are provided.

20. The fourth year of the seven-year period (*šavûa’*) in the sabbatical cycle.

21. The Mediterranean Sea.

22. On the legal value of the symbolic agreement or purchase (קניין, *qinyan*, lit. “purchase,” “ownership”), see M. Jastrow, *A Dictionary of the Targumim, the Talmud Babli and Yerushalmi, and the Midrashic Literature*, New York, 1903, pp. 1392–1393 (s.v. קניין); and Goitein [note 12], v. 2, pp. 329–330.

23. Here the technical term אנשילר *entilar* appears. In rabbinic literature, it is spelled אנשלה (< Greek ἐντολέυς, procurator): cf. Jastrow [note 22], p. 84 (s.v. אנשלה and אנשלה); and Goitein [note 12], v. 2, pp. 335–336, on the power of attorney. In other documents of this period, it also appears as אפטרופוס, *epitropos*.

24. The end of line 13 is missing. Engle [note 16], p. 27, reads “Ibn al[. . .].”

25. The word “glass,” זכוכיה, is only partly legible, but the reading is made with confidence.

26. In the text published by Assaf [note 4], at the end of line 17 and the beginning of line 18, the name is חבשי [lacuna] אבו, then Abû [. . .] Ḥabašî. The reading of Engle’s restoration here, “Avraham,” seems more suitable, but “Ḥabašî” does not necessarily mean “the Abyssinian.”

27. Text: וליקח, emended (with Assaf [note 4]) to וליקח.

28. Babylonian Talmud, *Ketûbbôt*, 85a.

29. The rabbinic laws.

30. Line 29, דלא כאסמכתא ודלא כטופסי, from the Aramaic juridical formula (cf. Babylonian Talmud, *Babâ Batrâ*, 44b); Jastrow [note 22], pp. 94 (אסמכתא, *askamtâ*) and 525 (טופס); see also *ibid.*, אסמכתא/אסמכתא, *askemah*, “schema, simulation.” These expressions usually mean the blank space in ready-made documents, or formal deeds without effective power.

31. See note 22.

for this Šelomoh ben Rab[î], everything that is written and published above; with abrogation of all (secret) declarations and conditions in the purchase. Finished with a pure tool. And we wrote, sealed, and sent (it) to Egypt to serve him as a valid title and proof. Confirmed,

Ḥubayš ha-Kohen ben Yôsef (may his soul rest in peace)

Šelomoh ha-Kohen ben R. Aharon, the worthy Kohen³²

Ya‘aqov ha-Kohen ben R. Na‘aman (may his soul rest in peace)

Yosef ha-Kohen *birabbi* Ya‘aqov, the scribe (may his soul rest in Eden)

Elḥanan *birabbî* Mošeh, the member.³³

Comment:

This document is a typical record of the relationships between Levantine and Egyptian merchants in the 11th century, on which the documents and letters from the Cairo genizah provide all kinds of information.³⁴ Occasionally, it is possible to compile biographical sketches of individuals who appear in more than one document. For example, we know that Ya‘aqov ha-Kohen, one of the judges who signed our document, wrote a letter from Tyre to Aleppo.³⁵ On

this occasion, we are lucky enough to follow the tracks of our Tyrian *paqîd ha-sôḥarîm*, Ḥalaf ben Mošeh ben Aharon—also called Bin (= Ibn) Abî Qîdah—in two other documents. The first, dated Tyre 1019, concerns his wife Darah (דָּרָה, Pearl) and again was signed by the judge Yôsef ha-Kohen.³⁶ In the other document, dated Fustat 1037, Ḥalaf is named Ḥalfôn and appears respectfully as *zaqen* (old one).³⁷

The text speaks of glass (*zekûkîl*) only in general terms. It does not say whether finished products or raw glass is meant, although the latter appears to be more probable. Like many other products, glass was shipped to Egypt by boat in “baskets” (*mašpalôt* or *mišpalôt*, מִשְׁפָּלוֹת), presumably wickerwork containers.³⁸

5. Benjamin of Tudela, about 1167

The reports of the Spanish traveler Benjamin of Tudela (in Navarre) are frequently quoted in works on the history of glassmaking. These reports appear in the *Sefer massa‘ôt* (Book of travels), a work introduced as the diary of Benjamin’s journeys, which were accomplished in three years (probably sometime between 1166 and 1173) and covered an enormous area (extending from Europe to Central Asia).³⁹ In its

32. The reading *ha-kohen ha-kašer* (הַכֹּהֵן הַכָּשֵׁר) is uncertain.

33. That is, the member (*haver*) of a *yešivah*, or rabbinic academy, acting on behalf of a mother *yešivah* of Jerusalem: Goitein [note 12], v. 2, pp. 8–9.

34. *Ibid.*, v. 1, esp. pp. 49, 51, 212–213, and 293–296.

35. Cf. Assaf [note 4], p. 197, n. 6.

36. *Ibid.*, pp. 197–199, no. 11. Here Darah’s father is named Šelomoh ben Dani‘el, known as Bin Rabûy (בֵּן רַבּוּי). For other documents concerning the judge Yôsef ha-Kohen, cf. S. Assaf, “Old Documents from Palestine and Egypt from the 11th Century,” *Yerushalayim*, 1958, pp. 104–117, esp. pp. 106–108, nos. 2 and 3 (in Hebrew). On the tasks and function of the rabbinic court and judges, see Goitein [note 12], v. 2, pp. 311–345 and *passim*.

37. S. Assaf, “Tyrian Documents from the 11th Century,” *Eretz Israel*, v. 1, 1951, pp. 140–144, esp. pp. 141–142 and fig. on p. 144 (in Hebrew).

38. Sing. *mašpelet* (or *mišpelet*, מִשְׁפֵּלֶת); cf. Goitein [note 12], v. 1, pp. 334 and 486, n. 9.

39. The main editions of the text are by A. Asher, ed., *The Itinerary of Rabbi Benjamin of Tudela*, London, 1840–1841; and M. N. Adler, ed., *The Itinerary of Benjamin of Tudela*, Lon-

don: Oxford University Press, 1907. The Hebrew text is also available in J. D. Eisenstein, ed., *Ozar Massa’oth. A Collection of Itineraries by Jewish Travellers to Palestine, Syria, Egypt and Other Countries*, New York, 1926, pp. 15–44; and A. Ya‘ari, ed., *Travels in the Holy Land*, Tel Aviv: Gazit, 1946, pp. 31–47 (in Hebrew). On the section of interest to us, see also J. Prawer, “The Hebrew Itineraries of the Crusader Period,” *Jerusalem Cathedral*, v. 40, 1986, pp. 31–62, esp. pp. 45–56 (in Hebrew; revised in *idem*, *The History of the Jews in the Latin Kingdom of Jerusalem*, Oxford: Clarendon Press, 1988, pp. 169–250); and H. P. Rüger, *Syrien und Palästina nach dem Reisebericht des Benjamin von Tudela*, Wiesbaden: Harrassowitz, 1990 (annotated translation, without Hebrew text; on Tyre, pp. 6–7 and 32–34). References to Adler’s edition (the best one, although not really critical) employed here are to be read in the following way: Hebrew letters = pages of the Hebrew text; Hebrew letters in brackets = pages of Asher edition; and Arabic numbers = Adler’s introduction, translation, and notes. A good presentation of the textual tradition (manuscripts, printed editions, and translations) is in G. Busi, ed., *Binyamin da Tudela. Itinerario (Sefer massa‘ot)*, Rimini: Luisè, 1988, pp. 85–87.

present form, however, the text was not written by Benjamin himself, but was the work of some anonymous clerk.⁴⁰ Nevertheless, the great majority of historians consider the text to be reliable.⁴¹

The first glassmakers encountered by Benjamin during his travels were in Antioch: 10 Jews (or, better, 10 Jewish families), all apparently involved in glassmaking.⁴² The description of Tyre appears in the context of the route from Antioch to Jerusalem. There is no agreement about the detailed chronology of Benjamin's travels, but he seems to have visited Tyre about 1166–1167.⁴³

Text:⁴⁴

[1] ומשם חצי יום לצרפתה אשר לציד[ון] . ומשם חצי יום לצור[ן] החדשה והיא עיר טובה מאד ונמל שלה בתוך העיר ובליילה ישליכו [בעלי המבס שלשלת] של ברזל בין מגדל ומגדל ולא יוכל אדם לצאת לא באניה ולא בשום דבר [לגנוב דבר מן הספינות] בליילה . ולא נמצא כנמל ההוא בכל הארץ . [2] והיא עיר יפה ובתוכה כמו ח'ק יהודים [וביניהם] חכמים בתלמוד . ובראשם ר' אפרים מצרי דיין ור' מאיר [מקרק] שונה ור' אברהם [ראש הקהל] ויש להם שם ספינות ליהודים בים . ושם יהודים אומני [זכוכית] הטוב הנקרא

זכוכית צור החשוב בכל הארצות . ושם ימצא האסוכר הטוב כי שם זורעין אותו ובאין מכל הארצות לקנותו .
[3] > ועולה אדם בחומת צור החדשה ורואה צור הקדומה אשר כסה אותה . הים רחוקה מן החדשה כזריקת אבן . ואם ירצה אדם לבא באני בים רואה המגדלים והשוקים והחוצות והארמונים בקרקע הים <
[4] והיא עיר צור החדשה עיר סחורה באים אליה מכל מקום .

Translation:

[1] From there (Sidon) it is a half-day to Sa-repta, which belongs to Sidon, and from there it is a half-day to the new Tyre. This is a very fine city, and its harbor is in the midst of the city. At night, the customs officers⁴⁵ throw an iron chain between the towers; and no man can go forth, by boat or in another way,⁴⁶ to rob the ships by night.⁴⁷ A harbor like this is not to be found (elsewhere) in the whole country.

[2] It is a beautiful city, and there are recorded about 500 Jews,⁴⁸ and [among them are] scholars of the Talmud. Their leaders are R. Efrayim the Egyptian,⁴⁹ *dayyan*;⁵⁰ R. Me'ir from Carcassonne; and R. Avraham, head of the congregation. There they have vessels to go forth on the sea;⁵¹ and there (the) Jews⁵² produce the fine

40. Cf. the Hebrew foreword; Adler [note 39], pp. א-ב, 1–2.

41. Cf. R. Schmitz, "Benjamin von Tudela 'Das Buch der Reisen.' Realität oder Fiktion," *Henoch*, v. 16, 1994, pp. 295–314.

42. Adler [note 39], pp. יח (כו), 16. Benjamin also mentioned Beirut (in few words): "50 Jews" live there, but strangely, he said nothing about glassmaking.

43. Cf. Adler [note 39], pp. 1–2, n. 2.

44. I have followed and translated the Hebrew text in *ibid.*, pp. ל-לא (ב-בא), 18–19. This text is based on ms. London, British Library, Add. 27089/19 [abbreviation BM], with mistakes emended and integrated mainly on the basis of ms. Rome, Biblioteca Casanatense, Cod. Ebr. 3097/1 (Catalogo Sacerdote no. 216), ff. 1–27 [abbreviation E]; these emendations are marked by brackets. Obviously, the original text has no punctuation, and the present arrangement in four paragraphs is mine. Glosses and textual variations of minor importance have been omitted.

45. I have followed Asher's text: בעלי המבס (*ba'alê ha-mekes*), "customs officers." Adler follows instead E: בעלי המס (*ba'alê ha-mas*), "tax officers."

46. Adler follows BM דבר, "matter, manner," but translates "way"; Asher translates דרך as "way."

47. So in E; elsewhere omitted, corrupted, or illegible.

48. BM and other mss. ת"ק "500" (ת 100 + ת 400); Asher: ארבע מאות, "400."

49. Adler reads, on BM, מצר, "of Tyre," which is also preferred by Rüger [note 39], p. 33, n. 82. However, the city is elsewhere written with the plene spelling צור, so here we should probably read מצרי, "Egyptian," as in Asher's text. Indeed, R. Efrayim's colleague, R. Me'ir, also came from abroad (Carcassonne in Languedoc, France).

50. A rabbinic judge.

51. Adler's text reads ויש להם שם ספינות ליהודים בים, translated "The Jews own seagoing vessels." But the reading ליהודים (lit. "of the Jews") seems a corruption; a verb in the infinitive here would fit better. Asher's text is ויש ליהודים שם ספינות בים, "and the Jews own there vessels for the sea." On the Jews as owners of ships, see Rüger [note 39], p. 33, n. 84.

52. So BM and others; but "Jews" is omitted in Asher and E.

glass called “glass of Tyre,”⁵³ which is prized in all countries. And there is found fine sugar, for they plant it there, and [people] come from all countries to buy it.

[3] <A man ascending the walls of new Tyre is able to see ancient Tyre,⁵⁴ which the sea has covered, lying from the new one at a stone’s throw. If a man cares to come by boat on the sea, he sees the towers, the markets, the streets, and the palaces on the seabed.>⁵⁵

[4] That city, new Tyre, is a city of commerce, [and people] come there from every place.

Comment:

As is usual in Benjamin’s notes, he first recorded how long it took him to reach Tyre. The description of the harbor and its activities is similar to those in several Arabic, Persian, and Latin sources.⁵⁶ In the second paragraph, there is an outline of the Jewish community. It is noteworthy that the number of 500 (or 400) Jewish families is among the largest in the *Sefer massa’ot*—and that Benjamin refers to the best local products, glass and sugar.

It is interesting to find that the *Sefer massa’ot* mentions the local Jewish involvement in both shipping and glassmaking, as was also noted in the genizah document quoted above.

THE LATIN DOCUMENTS (D.W.)

William of Tyre, before 1185

William of Tyre was born, perhaps of French extraction, in the Latin kingdom of Jerusalem between about 1127 and 1130 (authorities differ on the date). He was educated at Antioch and perhaps also in Europe. In 1167, he was appointed archdeacon of Tyre. King Amalric II sent him on several diplomatic missions, and about 1170, he engaged him to tutor his son and heir, the future Baldwin IV. In 1175, Baldwin made William chancellor of the kingdom of Jerusalem and archbishop of Tyre. William died in 1184 or 1185. His sole surviving literary work, *Historia rerum in partibus transmarinis*

gestarum (History of deeds done overseas), is one of the principal Latin sources on the Crusades.⁵⁷

Text:⁵⁸

Sed et vitri genus elegantissimum, et in eodem rerum genere facile obtinens principatum, de arena, que in eadem planicie colligitur, mirabiliter conficitur, quod inde ad remotas etiam delatum provincias aptam vasis mirabilibus et perspicua sinceritate precipuis materiam prebet: unde et nomen urbis longe ad exterarum nationes porrigitur celebre et multiplici fenore lucrum accrescit institoribus.

Translation:

A very fine type of glass (easily the best of its kind) is produced, remarkably, from the sand that is collected on the same plain. The glass is exported to distant provinces, and it provides material suitable for vessels that are remarkable and of outstanding clarity; because of this, the name of the city is carried to foreign nations and vendors make a profit several times greater than their investment.

53. Asher’s text is slightly different: הַזְכוּכִיחַ הַטּוֹב הַיּוֹדֵעַ צוּרִי, “the fine glass known as *šūri* (Tyrian).”

54. Asher and other manuscripts do not read “ancient” (קְדוּמָה), but מַעֲשִׂירָה, “destroyed, canceled.”

55. As I tried to show elsewhere (Lacerenza [note 4]), this paragraph seems to derive from the description of Pozzuoli in southern Italy, which is sometimes known as צִיר *Šir* in medieval Hebrew sources, perhaps because of the resemblance of the two toponyms: cf. also Adler [note 39], pp. 7 (א), 8.

56. In addition to the authors quoted elsewhere in this paper, note the description of Tyre in the mid-11th century by Nāṣir-e Khosraw: C. Schefer, ed., *Nasir-e Khosraw. Sefer Nameh*, Paris: Ernest Leroux, 1881, pp. 46–47; W. M. Thackston, trans., *Nāser-e Khosraw’s Book of Travels (Sefernāma)*, New York: Columbia University Press, 1986, p. 16.

57. Susan M. Babbitt, “William of Tyre,” in *Dictionary of the Middle Ages*, ed. J. R. Strayer, New York: Charles Scribner’s Sons, 1989, v. 12, pp. 643–644.

58. Bk. 13, ch. 3; R. B. C. Huygens, ed., *Guillaume de Tyr. Chronique*, Corpus Christianorum, Continuatio Mediaevalis, v. 63, Turnhout: Brepols, 1986, pp. 589–590.

Comment:

The beaches of the Levantine coast had provided glassmakers with sand since at least the first century A.D. Pliny (*Natural History* 36.190–191) reported that, in his day and for “many centuries” earlier, the preferred sand for glassmaking was collected at the mouth of the Belus (Na’aman) River near Acre, scarcely 40 kilometers south of Tyre. Similarly, since at least the first century A.D., factories in the Levant had supplied cullet to glass workshops throughout the Mediterranean region and beyond.⁵⁹ William confirms the survival of this pattern of production in the third quarter of the 12th century.

7. Jacques de Vitry, before 1240

Jacques de Vitry was born at Vitry-sur-Seine near Paris about 1160. He was bishop of Acre from 1217 to 1227, when he left the Holy Land and returned to Rome. In 1229, he became a cardinal, resigned from the see of Acre, and was appointed bishop of Tusculum near Rome. He died in 1240.⁶⁰

Text:⁶¹

In Tyriensi autem et Acconensi territorio ex arenulis maris, ex sabulo videlicet et glarea marina, subtili artificio vitrum efficitur purissimum.

Translation:

In the territory of Tyre and Acre, the purest glass is made with exquisite skill from the sands of the sea (that is, from sand and marine gravel).

Comment:

Jacques de Vitry’s statement suggests that the pattern of production noted above persisted into the 13th century. Chunks of raw glass were discovered during recent excavations at Acre, and the remains of a glass workshop of the Crusader period were found in 1968–1969 at Tell as-

Sumeiria (Frankish Somelaria), five kilometers north of the city.⁶²

DISCUSSION (D.W.)

Although five of the seven excerpts presented here were published more than 70 years ago, the role of Tyre in the history of glassmaking has received less attention than it deserves.⁶³ Last year’s *Journal of Glass Studies* drew attention to the fact that, at a date still to be determined, Tyre produced large quantities of raw glass. The present reassessment of the written evidence reinforces the view that Tyre was a major producer of glass, at least between the 10th and 13th centuries. During the earlier part of this period, much of the Levant, including Tyre, belonged to the Fatimid caliphate; later, it was occupied by the Crusaders and belonged to the kingdom of Jerusalem.

Tyre under the Fatimids

Al-Muqaddasi, writing about 985, reported that artisans at Tyre produced cut or scratched glass. To the best of our knowledge, scratched glass was no longer in vogue in the late 10th

59. Y. Gorin-Rosen, “The Ancient Glass Industry in Israel: Summary of the Finds and New Discoveries,” in *La Route du verre: Ateliers primaires et secondaires du second millénaire av. J.-C. au Moyen Age*, ed. M.-D. Nenna, Travaux de la Maison de l’Orient Méditerranéen, no. 33, Lyons: Maison de l’Orient Méditerranéen–Jean Pouilloux, 2000, pp. 49–63; Freestone, Gorin-Rosen, and Hughes [note 2].

60. S. C. Ferruolo, “Jacques de Vitry,” in *Dictionary of the Middle Ages*, ed. J. R. Strayer, New York: Charles Scribner’s Sons, 1986, v. 7, pp. 39–40.

61. Lamm [note 4], no. 45.

62. Y. Gorin-Rosen, “Excavation of the Courthouse Site at ‘Akko: Medieval Glass Vessels (Area TA),” *‘Atiqot*, v. 31, 1997, pp. 75–85; G. D. Weinberg, “A Glass Factory of Crusader Times in Northern Israel (Preliminary Report),” *Annales de l’Association Internationale pour l’Histoire du Verre*, v. 10, Madrid/Segovia, 1985 (Amsterdam, 1987), pp. 305–316.

63. One of the few recent scholars to recognize the importance of the glass industry of Tyre is A. J. Boas (*Crusader Archaeology: The Material Culture of the Latin East*, London and New York: Routledge, 1999, pp. 150–151).

century,⁶⁴ and it seems likely that the glass in question was wheel-cut. Engraved or linear-cut glass is known to have been made during this period (it was still in use when the Serçe Limani ship went down about 1025⁶⁵). As Stefano Carboni emphasized (on page 140), we have no reason to interpret *makhrut* or *mashrut* as a reference to relief-cut glass. The available evidence leads us to suppose, therefore, that Tyre was a source of linear-cut glass in the late 10th century.

The document of 1011 refers to a dispute over 37 “baskets” (which may have weighed as much as eight tons⁶⁶) of glass sent from Tyre by Jewish merchants or glassmakers to Fustat. Although the document does not specify that the glass was made at Tyre, this is a reasonable assumption. The size of the shipment or shipments invites comparison with the cargo of the Serçe Limani ship, which was carrying three tons of cullet, also stowed in baskets, in the form of chunks of raw glass and pieces of broken vessels. The Serçe Limani cargo has provoked speculation about the circumstances that led to several tons of glass being sent from one factory to another. The genazah document contains nothing to indicate that the shipment of 37 baskets of glass was exceptional, and perhaps we should conclude that (as in earlier periods) cullet was a regular item of trade in the Middle Ages (see page 149).

Tyre under the Crusaders

The kingdom of Jerusalem, one of the four Crusader states in the Levant, came into existence in 1099, when Godfrey of Bouillon occupied Jerusalem and was elected king. During the reign of Baldwin I (1100–1118), the kingdom began to expand until, at its greatest extent, it occupied an area that stretched from north of Beirut in Lebanon to south of Ashqelon in Israel, and from the Mediterranean Sea to east of the Jordan River. Tyre was captured in 1124, and it remained in Crusader hands until 1291, when it was destroyed by the Mamluks.⁶⁷

The five references to Tyre under the Crusaders range in date from 1154 to the period between 1217 and 1227, when Jacques de Vitry was bishop of Acre. In the first of these references, al-Idrisi recorded that Tyre produced high-quality glass. In the second reference, Benjamin of Tudela, who probably visited Tyre in 1166 or 1167, underlined the exceptional quality of the glass made there, commenting on the fact that it was referred to by name—“glass of Tyre”—and was admired in many countries. Not long thereafter, William of Tyre reported on the beauty of Tyrian glass, which was famous internationally and was used in the manufacture of remarkably transparent glassware. The Latin text is not specific, but it does appear to indicate that Tyrian glassmakers exported raw glass, which was remelted elsewhere and made into vessels. Jacques de Vitry confirmed that glassmakers in Tyre and neighboring Acre used local beach sand to make glass of great purity. A passing reference by Ibn Jubayr, commenting on a glass lamp in the Great Mosque in Damascus, reinforces the view that Tyrian glass was of exceptional quality.

For students of the history of glass, one intriguing (but little explored) aspect of glassmaking at Tyre is its possible influence on glassmaking in Venice. For their part in the capture of Tyre, the Venetians were rewarded with one-third of the port and its hinterland.

64. Stefano Carboni and David Whitehouse, with contributions by Robert H. Brill and William Gudenrath, *Glass of the Sultans*, New York: The Metropolitan Museum of Art, Corning: The Corning Museum of Glass, Athens: Benaki Museum, and New Haven and London: Yale University Press, 2001, p. 156.

65. George F. Bass, “The Nature of the Serçe Limani Glass,” *Journal of Glass Studies*, v. 26, 1984, pp. 64–69, esp. figs. 2a, b, f, and g, and 5a and h.

66. Goitein [note 12], v. 1, p. 335: the standard weight of a basket or bale was 500 pounds; however, the weight varied with the contents, and it might be considerably less than 500 pounds. The document actually refers to 50 baskets of glass (24 + 11 + 15), with a total weight of up to 12.5 tons. The document does not specify whether the glass was in one or more than one shipment.

67. Boas ([note 63], pp. 1–11) provides a convenient summary of the historical background.

This created a “state within a state,” inhabitants of the Venetian enclave being subject to Venetian jurisdiction, while the king of Jerusalem ruled the rest of the territory. The Venetian *bailo* or consul Marsilio Zorzi reported to the doge in 1243, “In Tyre we have a third of the city, and we have our own complete court, just as the king has his own.” When the trading privileges were confirmed for the last time in 1277, it was recognized that Venice had complete parity with the kingdom.⁶⁸

The quality of Venetian glass was due in part to the use of carefully selected raw materials. The Venetians imported soda, for example, from Egypt and Syria. A Venetian document of 1255 refers to *alumen album* (white plant ash or natron) from Alexandria, although by the end of the 13th century Syrian plant ash was preferred.⁶⁹ Similarly, the Venetians imported cullet. The document of 1255 also mentions *vitrum in massa* (glass in lump[s]), presumably cullet,

from the Levant. In 1277, an agreement between the doge of Venice, Jacopo Contarini, and the prince of Antioch, Bohemond VII, exempted Venetians from paying duty in the port of Tripoli (in present-day Lebanon), except when they exported broken glass.⁷⁰ Given the trade in glass and glassmaking materials between the Levant and Venice, it would be surprising if the Venetian community at Tyre did not export raw materials or cullet—and perhaps expertise—to their compatriots at home.

68. J. Prawer, “I Veneziani e le colonie veneziane nel regno latino di Gerusalemme,” in *Venezia e il Levante fino al secolo XV*, ed. Agostino Pertusi, Florence: Leo S. Olschi, 1973, pp. 625–656; D. Howard, *Venice & the East*, New Haven and London: Yale University Press, 2000, pp. 30–31.

69. L. Zecchin, “Materie prime e mezzi d’opera dei vetrai nei documenti veneziani dal 1233 al 1347,” *Rivista della Stazione Sperimentale del Vetro*, v. 4, 1980, pp. 171–176, esp. p. 171.

70. Lamm [note 4], no. 47, quoting E. G. Rey, *Recherches géographiques et historiques sur la domination des Latins en Orient*, Paris: Typographie Lahure, 1877, p. 42.