

AIHV-Kongress Thessaloniki 2009: Annales AIHV No. 18 erschienen 2012-09

Abb. 2012-3/62-01

Annales du 18^e Congrès de l'Association Internationale pour l'Histoire du Verre

ISBN 978-90-72290-00-7, Einband

Titelbild: The haematinon bowl from Pydna. Height 5.5 cm.

© 27th Ephorate of Prehistoric and Classical Antiquities, Greece. s. Ignatiadou, A haematinon bowl from Pydna, p. 69



Annales du 18e Congrès de l'Association Internationale pour l'Histoire du Verre Thessaloniki 2009

© 2012 Thessaloniki AIHV and authors
ISBN 978-90-72290-00-7

Editors: Despina Ignatiadou, Anastassios Antonaras
AIHV - Association Internationale pour l'Histoire du Verre / International Association for the History of Glass
www.aihv.org

Secretariat: The Corning Museum of Glass
One Museum Way Corning NY, 14830 USA

Editors:
Despina Ignatiadou, Anastassios Antonaras

Editing Committee:
Nadia Coutsinas, Ian C. Freestone
Sylvia Fünfschilling, Caroline Jackson
Janet Duncan Jones, Marie-Dominique Nenna
Lisa Piloni, Maria Plastira-Valkanou
Jennifer Price, Jane Shadel Spillman
Marco Verità, David Whitehouse

Marie-Dominique Nenna

Preface

I have great pleasure in presenting you with the Annales of the 18th congress of the Association Internationale pour l'Histoire du Verre, and I wish to thank all those who have ensured that this publication appears with the least delay: principally the authors, the academic committee, and especially the academic editors of the volume, **Despina Ignatiadou**, vice-president, and member of the board of the AIHV for the years 2006-2012, and **Anastassios Antonaras**.

The **18th congress of the AIHV** was held in **Thessaloniki** from **September 21st - 25th, 2009**. It was dedicated to **Clasina Isings**, who came, via a video, to offer us her best wishes. Here we have to warmly thank the **Archaeological Museum of Thessaloniki** which has organized the whole manifestation, and the **Museum of Byzantine Culture**, which has hosted our sessions in the brand new auditorium of the Museum, used for the first time for our congress. All our warm thanks also to The Friends of the Archaeological Museum of Thessaloniki who supported the organization of the congress among the others with the nice bag decorated with bird-balsamaria, and The Prefecture of Thessaloniki, who has hosted us at the end of the congress. Last, but not the least, from the bottom of our heart, our thanks go to **Despina Ignatiadou**, **Anastassios Antonaras** and the Organizing committee for their hard work in organizing this congress and for offering us the opportunity to meet once again to share our discoveries and our thoughts on this wonderful material, glass, to which we are all dedicated.

During the **33 parallel sessions, 95 oral communications and 55 posters** were presented, displaying the vitality of research on the history of glass in the scientific world. Thanks to the energies of the **Greek Committee**, after a first glance at Thessaloniki at the beginning of our congress, thematic visits were organised to discover the different aspects of **Thessaloniki - Hellenistic and Roman city, Byzantine city, Ottoman city** with its important **Jewish community**, contemporary city. In the post-congress trips, the participants were able to visit the heart of **Macedonia**, with the cities of **Vergina** and **Dion**, and the **Pikrolimni Lake**, producing natron in Antiquity and still today, the ancient cities of **Amphipolis** and **Philippi**, or to make a cruise around **Mount Athos**.

This volume brings together **84 contributions**, which cover a vast chronological span from the **second millennium BC** up to the present day, touching on all aspects of the history of glass with a good networking between archaeology, history of art and archaeometry. An important part is devoted to the **beginnings of the history of glass in the second millennium and the beginning of the first millennium BC**, and the

developments in the **Hellenistic world** with papers covering the **Near East, Egypt and Sudan, Greece and Turkey**. The **Roman and Byzantine worlds** are approached from two directions: the study of the **production and consumption of vessels and ornaments** and the expanding study on the glass in **mosaic pavements and walls**. The papers on the **Islamic world** build on the start made at the **15th congress** and show the vitality of research in this area. The presentation of discoveries and research coming from the **Czech Republic, Great Britain, Italy, Kosovo, Montenegro, Portugal, Poland, Romania and Serbia**, fuels the debates about glass during the medieval and post-medieval period in Europe. The 18th and 19th centuries are not ignored, with papers dealing with glass in roofs, glass flowers and mosaic glass and there are also studies dealing with African and Asian glass.

During the General Assembly the **board of the AIHV changed**. **Jan Egbert Kuipers** (Treasurer) and **Ian Freestone**, to whom we extend all thanks for their work, submitted their resignations. The newly elected members were **Irena Lazar**, organizer of the **19th Congress in 2012**, as Vice President, and **Huib Tijssens**, as Treasurer. Already present in the board, **Despina Ignatiadou** was elected member, were re-elected **Jane Spillman** as General Secretary, **David Whitehouse** as member, and I [**Nenna**] as President. The executive committee which assembled six elected members as well as the presidents of the national Associations or Committees, was partly renewed, with the election of **Fatma Marii** and **Yoko Shindo**; **Sylvia Fiinfeschilling**, **Lisa Pilosi**, **Marianne Stern** et **Maria Grazia Diani** were re-elected. We mourned during the congress the recent death of two long time members, **Sarah Jennings** from England and **Claudia Maccabruni** from Italy.

The preparations for the **19th congress** are progressing under the guidance of **Irena Lazar**. The congress will be held at **Piran (Slovenia)** from **September 17th to September 21th 2012** (www.aihv.org, www.zrs.upr.si). After the wider opening towards eastern Mediterranean members effectuated during the Thessaloniki Congress, we will receive in Piran more **information and members coming from Central Europe**.

E. Marianne Stern

Ancient Greek Technical Terms Related to Glass Production

Ancient Greek authors developed a range of **technical terms for glass production** [1]. The purpose of this excursion into the realm of philology is to establish whether these terms reflect a **growing understanding over time of production processes**, similar to the way scholars developed new terminology following the recognition that in antiquity glass was usually made from raw ingredients in **‘primary’ workshops**, but shaped and made into objects in **‘secondary’ workshops**. Clarification of the technical terms’ meanings will enable us to better understand ancient texts and their implications for the history of glass production. This is not the place for an exhaustive study of all the evidence. I will discuss a few selected passages that shed light on the question of primary and secondary workshops.

Strabo (ca. 62 BCE - 24 CE) is the **first Greek author** to discuss raw ingredients for primary glass production (Geogr. 16.2.25):

«... μεταξύ δὲ τῆς **Ἀκῆς** καὶ **Τύρου** θινώδης αἰγιαλός ἐστιν ὁ φέρων τὴν ὑαλίτιν ἄμμον ἐνταῦθα μὲν οὖν φασι μὴ χεῖσθαι, κομισθεῖσαν εἰς **Σιδῶνα** δὲ τὴν χωνεῖαν δέχεσθαι τινες δὲ καὶ τοῖς Σιδωνίοις εἶναι τὴν υαλίτιν φάμμον ἐπιτηδείαν εἰς χύσιν, οἱ δὲ πᾶσαν πανταχοῦ χεῖσθαι φασιν.»

“Between **Akê** and **Tyre** is a hilly beach which produces the sand for making glass; however, it is **not made fluid on the spot**, they say, but it is carried to **Sidon** and **melted** (and/or cast into **ingots**) there. According to some, the **Sidonians** too possess the glass-sand suitable for melting, while others say that all sand, everywhere can be melted.” [2]

Speaking about the melting of sand from the Syro-Palestinian coast, **Strabo** uses the noun **χωνεῖα** (khôneia, ‘**melting, casting**’) and the related verb χεῖσθαι (kheisthai, ‘**to become fluid**’). The verb kheisthai (with Perfect Passive κέχυμαι kekhymai) recalls λιθίνα χυτά (lithina khyta, ‘**cast stones**’), the phrase used by **Herodotus** to describe the glass earrings worn by sacred crocodiles in **Egypt** (History 2.69). A similar expression, χυτά λίθινον ἐν (khyta lithinon hen), in an **Athenian** inventory of the year 329/328 BCE, refers probably to a **chunk or ingot of raw glass**. [3].

SG: MS Windows Word can not set all accents of the ancient Greek language correctly - mit MS Windows Word können nicht alle Akzente der altgriechischen Sprache richtig gesetzt werden, der Spiritus wurde hier weggelassen.

[1] Trowbridge 1930, 49-53.

[2] I quote Strabo after Radt 2005, 332-333. Unless otherwise stated, all translations into English are mine.

[3] Aleshire 1989, 131; Stern 1999a, 23-24.



These expressions originated in a time when the **Greek language did not yet have a proper word for glass** and followed the **Egyptian and Akkadian** methods of referring to glass as a **manmade ‘melted’** precious or semiprecious stone [4].

Most Greek words used in connection with glass production and glass producers are **compounds**. They consist of a noun meaning **glass** plus a suffix containing the root of a verb indicating how the **glass was processed**. One may compare English words like glassblower, glassmaker, and so forth.

The **earliest compounds** are those composed with a suffix containing the root ***erg**, with the meaning **work** (cf. Greek *έργον*, *ergon*); the English word **‘work’** and the German **‘Werk’** are derived from the same root, which was originally pronounced as ***werg**. (The letter *wau* ‘w’ was no longer written in classical Greek.) Compounds based on the root ***erg** can be traced back to the syllabic **‘Linear B’** script of the **Mycenaean** period. The Mycenaean *‘ku-wa-no-wo-ko’* was an **artisan** who worked (*wo-ko*) with *ku-wa-no*: **κύανος** (*kyanos*, **‘lapis lazuli’** or **‘dark blue glass resembling lapis lazuli’**), a profession that translates into classical Greek as **κυανουργός** (*kyanourgos*) [5]. For our purpose, it makes no difference whether the artisan worked with the **natural or the manmade lapis** (glass), because *lapis lazuli* does not occur in Greece. **Mycenaean beads and inlays** are made from glass that was imported from elsewhere, as in the workshop on the citadel of **Tiryns** which produced **architectural ornaments of blue glass** [6]; the material itself was not made in Greece. We may therefore conclude that compounds including a suffix derived from the root ***erg** refer to **secondary production**: they denote the craft or craftsman working with a specific material.

Far more numerous are **compounds** based on the noun **ύαλος** (*hyalos*) also spelled **ύελος** (*hyelos*, *vel sim.*, **‘glass’**) [7] plus a suffix. They appear after **hyalos became the generic word for glass in Greek in the fifth century BCE** [8]. There are two groups of compounds: the first combines *hyalos* or *hyelos* with the root ***erg** and the second combines *hyalos* with suffixes derived from the verb **έψειν** (*hepsēin*, **‘to cook, boil, or smelt’**). The simple form **ύαλας** (*hyalas*, also spelled **οιαλας** *hoialas*) does not concern us here because it is non-descript, like the French substantive **‘verrier’**. Any craftsman involved in primary or secondary production or even a glass merchant probably could be called a **hyalas** as on two late antique gravestones in Athens [9].

[4] Stern 2007a, 388, 390-392.

[5] Stern 2007a, 388-389 with previous lit.

[6] Panagiotaki et al. 2005

[7] Trowbridge 1930, 50-51

[8] Stern 2007a, 392-397

[9] Athens, Epigraphical Museum, nos. EM 9869 and 13068, cf. Sironen 1997, 147-148, no. 72 and 180-181, no. 113; Triantafyllidis 2007, 262-264

Hyalourgos

The compound **hyalourgos** is documented in several **early first-century papyri** [10] and in **Strabo’s Geography** (16.2.25):

«... ήκουσα δ' εν **Αλεξανδρεία** παρά τῶν υαλουργῶν ειναι τινα και κατ' **Αίγυπτον** υαλίτιν γῆν, ης χωρις ουχ οίον τε τας πολυχρους και πολυτελεις κατασκευας αποτελεσθηναι, καθάπερ και άλλοις άλλων μιγμάτων δειν.»

“I heard in **Alexandria** from the glassmakers that there exists also in **Egypt** a **vitreous earth** without which it is impossible to accomplish the making of the polychrome and valuable artifacts, just as each (product) requires its own mixture.” [11]

Strabo applies the word **υαλουργός**, (*hyalourgos*) to the artisans in Alexandria who told him about Egypt’s vitreous earth **υαλίτις γῆ** (*hyalitis gē*), one of the **main ingredients** for producing raw glass [12]. The **primary production** sites which made **raw glass** were concentrated in just a few areas. As we have seen, **Strabo** mentions the **sands** of the **Syro-Palestinian coast** and **Egypt**; in the **first century CE**, **Pliny** (HN 36.194) adds **Campania, Spain, and Gaul**. It has been known for a long time that **natron**, one of the main ingredients for making glass, occurs naturally in the **Wadi Natrun** region near **Alexandria**. Archaeological research has now located sands suitable for glassmaking (the vitreous earth mentioned by **Strabo**) as well as **remains of several primary production** installations in the vicinity of Alexandria; those at **Beni Salama** appear to have functioned as early as the **first or second century CE** [13].

On the other hand, **glass ornaments, inlays, vessels**, and other objects were fashioned at **many sites throughout the ancient world**. The capital of **Ptolemaic Egypt** can hardly have been an exception, although glass historians disagree about the type of objects produced in Alexandria in the late Hellenistic period [14].

[10] Johnson et al. 1915, 409, no. 374, line 5, spelled **υελλουργός** (*huellourgos*) with two lambdas, late 1st century BCE or early 1st century CE; Grenfell et al. 1907, 34, no. 278, *hyalourgos*, early 1st century CE

[11] My translation agrees with the interpretations by Radt 2005, 333 and von Saldern 2004, 554. Jones (1930) translates: “just as elsewhere different countries require different mixtures.”

[12] On *hyalitis gē* see also Theophrastus (372/69-288/5 BCE) *Lap.* 49, with discussion in Stern 2007a, 396

[13] Nenna 2007, 127; Nenna et al. 2005; Nenna et al. 2000

[14] Cf. von Saldern 2004, 553-554, rec. Stern 2006, 431



The valuable **polychrome artifacts** (kataskeuas) mentioned by **Strabo** could have been **various types of colored mosaic glass** - inlays, vessels, and the like - which required **raw glass of different compositions**. These artifacts were made by a variety of traditional techniques [15], but they were probably **not blown**. The **Egyptians appear to have been slow in adopting the art of glassblowing** which was still relatively **new in Strabo's time** [16].

Since **Strabo** lived in **Alexandria** from **25/24 BCE** perhaps until **20 BCE**, he would have had ample opportunity to speak both to **secondary and to primary glassmakers**. Thus, we cannot be absolutely sure that his **hyalourgoi** were active in secondary glass-working as opposed to primary production. However, the circumstance that compounds based on the root ***erg** were still associated with secondary production in the following centuries suggests the suffix retained its original meaning.

Two **fourth-century invoices** from Oxyrhynchus in **Egypt** inform us that the **local glassworkers** were organized in a **guild** κοινὸν τῶν υελοουργῶν (koinon tôn hyelourgôn), an organization in which the members were **independent entrepreneurs** [17]. I have argued elsewhere that the **price of the glass** suggests the guild supplied **window panes** and also took care of placing them, 'fitting out' the buildings [18]. It is not clear whether the glassworkers were responsible for making the glass itself. **Diocletian's Price Edict** (PE) mentions two prices for window glass, depending on the quality of the glass. Although it states different prices for glass vessels and the raw glass from which they were made, the PE does not distinguish between window panes and the raw glass used in their production [19]. The representatives of various building trades involved in repairs to public baths at Oxyrhynchus in early 316 CE included hyalourgoi, lead-workers (molybourgoi), and plasterers [20].

My identification of the **hyalourgoi** at **Oxyrhynchus** as **producers of window glass** finds additional support in a mid third-century contract of uncertain provenance [21]. This papyrus is of additional interest because it states unambiguously that one of the hyalourgoi was a **woman** [22]. Three hyalourgoi, two men from **Koptos** (a father and his son) and a **woman** named **Sarapodora** from **Didyme**, contract to work on the νουμενάτια (noumenaria, i.e. lumenaria, 'windows') of three baths for a smaller salary than that which they had received previously [23].

Whereas the hyalourgoi mentioned in Egyptian papyri appear to be predominately **glaziers** [Glaser zum Einglasen der Fenster], the word could also denote a **glassblower** (see below).

The ending of the substantive **υαλοουργεῖον** (hyalourgeion) indicates a **location**, in other words, the place where the hyalourgos plied his craft: his **workshop**. Pedanius Dioscorides (5.161), writing in the second half of the first century CE, observed that the best **soot** [Ruß] for painters came εκ τῶν υελοουργεῖων (ek tôn hyalourgeiôn 'from the glass workshops'). The

mention of soot in connection with a glass workshop suggests to me that Dioscorides was thinking of a glassblower's workshop whose furnace would have provided 'quality soot' [Qualitäts Ruß].

The substantive **υελοουργία** (hyelourgia) [24] refers to the **art** of the hyalourgos rather than to his workshop:

Πρέποντα κόσμον τῶ[ι] θεηδόχῳ[ι] τάφῳ Τέτευχε
την δὲ λαμπράν υελοουργίαν Θωμάς μονάζων
ζωγράφος Δαμασκόθεν [25].

A **painter** from **Damascus** named **Thomas** states that he created singlehandedly (τέτευχε μονάζων teteukhe monazôn) a **radiant work of glass** (λαμπράν υελοουργίαν lampran hyelourgian) as befitting decoration for a **holy tomb** (πρέποντα κόσμον τῶ[ι] θεηδόχῳ[ι] τάφῳ preponata kosmon tô[i] theêdokhō[i] taphô). In view of the fact that the **hyelourgia** was designed and created by a painter, I am tempted to think of an **opus sectile panel** [26] [Mosaik aus flächigen Stücken]. Bruneau suggested a figural (?) floor mosaic [27]. Another possibility is a **painted glass platter** [28]. Establishing the original context of the painter's statement will hopefully shed more light on the date and technique of his creation.

[15] Cf. Stern and Schlick-Nolte 1994, 19-94

[16] Stern 1999b, 443-444

[17] POxy vol. 45 (1977) no. 3265, POxy vol. 54 (1987) no. 3742

[18] Stern 1999b, 464-466

[19] PE 16, 1-9, cited after Giacchero 1974

[20] POxy vol. 64 (1997) no. 4441, col. ix

[21] Skeat 1964, xxxiii "from the Panopolite nome"

[22] On **women glassblowers**: Stern 1999b, 454

[23] Frisk 1929, 16-18. The 4th-century date suggested there has been revised to mid 3rd century by Skeat 1964, xxxiii; he suggests that "the baths and the public buildings to which they were attached were situated in Panopolis".

[24] Gasparetto 1975, 112 cites Paulus Aegineta, De re medica (7th century) as evidence for a substantive hyalourgia, meaning workshop, but Trowbridge 1930, 50-51, n. 16, argues convincingly that the manuscript is erroneous and the correct form must have been hyalougeion.

[25] Euangelatou-Notara 1982, 123, no. 7; cf. Schönauer 2008

[26] As in Ibrahim et al. 1976

[27] Bruneau 1988, 54. He does not mention the source of his hyelourgia, but he says it occurs only once.

[28] As published by Nenna 2003



The adjective **υαλουργικός** (hyalourgikos, also spelled hyelourgikos ‘**glassworker’s**, of a glassworker’) was in common use from the **fifth century CE** onward, especially with reference to a type of **furnace used by alchemists**. The adjective does not yet occur in alchemistic papyri of the early fourth century CE [29], but from the fifth century on, **Greek alchemists** often recommend the use of a **υελουργική κάμινος** (hyelourgikê kaminos ‘glassworker’s furnace’) for preparing various recipes [30]. The verbal form, **υελουργέω** (hyelourgeō also spelled hyalourgeō ‘to **work with glass**’) is found in **Byzantine texts** [31].

Hyalepsos

The second group of **compounds** interesting us are those formed with **ἔψειν** (hepsein ‘to **cook or smelt**’). If we are looking for a craftsman associated with **primary production**, this new compound, with its association of **fire and heat**, would be the most appropriate.

Υαλεφός (hyalepsos, also written hylepsês, hyalopsos vel sim., ‘**glass smelter**’) [32] is documented for the first time in **fifth-century CE** texts, as in Olympiodorus commentary on **Aristoteles’ Meteorologica** and in **Hesychius’ lexicon**, who explains it as **hyalourgos** [33]. The noun and its adjective **hyalepsikos** occur in **alchemical** and other texts, but seem to be rare in documentary papyri. The electronic database DDBDP lists just one example, in a list of expenses dated **seventh to eighth century CE** [34].

Several texts employ the word **hyalepsos** (vel sim.) to designate an artisan who can hardly have been anything other than a **glassblower**. Bishop Leontios (fl. ca. 615 CE) composed a Life of Symeon Salos, also known as Symeon the Fool, who lived in the sixth century. Leontios writes that Symeon and other beggars used to visit a hyelopsos in Emesa (mod. **Homs** in Syria) to warm themselves at his furnace [35].

Ἦν δὲ πάλιν ἀπαξ καθήμενος μετὰ ἀδελφῶν καὶ θερμαινόμενος πλησίον τοῦ καμινίου τοῦ υελοφοῦ. ἦν δὲ ο υελοφός Εβραῖος. καὶ λέγει τοῖς πτωχοῖς παιζῶν “θέλετε ποῖω ὑμας γελάσαι; ἰδοὺ καταποτήριον ο ποιεῖ ο τεχνίτης ποῖω σταυρὸν καὶ κλάνεται.” ὡς οὖν ἐκλασεν ἐγορδίνως κὰν ἐπτά, ἤρξαντο γελᾶν οἱ πτωχοί, καὶ εἶπαν αὐτῷ τὸ πρᾶγμα καὶ ἐδίωξεν καυτηριάσας αὐτόν. ὡς οὖν ἀπήρχετο, ἐκράξεν αὐτὸν λέγων “ὄντως, μάνζηρε, ἕως οὐ ποιήσης εἰς τὸ μέτωπόν σου σταυρὸν, ὅλα συντρίβονται”. καὶ κλάσας πάλιν ἄλλα δεκατρία ἐγορδίνως κατερράγη καὶ ποιεῖ σταυρὸν εἰς τὸ μέτωπον αὐτοῦ, καὶ οὐκέτι ἐκλασεν τίποτε. ἐκ τούτου οὖν τοῦ τρόπου ἀπῆλθεν καὶ ἐγένετο Χριστιανός.

“Another day, he was sitting again with his (beggar) companions and warming himself at the little furnace (kaminion) of the hyelopsos. The **hyelopsos** was a **Jew**. He (Symeon) said to the beggars jestingly: “Do you want me to make you laugh? Watch! I will make the sign of the cross over the cup which the **tekhnitês** (‘**craftsman**’) is fashioning and it (will) break.” When he had broken seven in a row, the beggars began to laugh and explained the matter to him (sc. the artisan),

whereupon he chased Symeon away after branding him with his red hot blowpipe. When the artisan went back (to his furnace), Symeon shouted after him saying “they will all continue to break, until you make the sign of the cross on your forehead.” After he had broken another thirteen glasses in a row, the artisan gave in and made the sign of the cross on his forehead, and never broke another piece. In this way he went and became a Christian.”

A gruesome miracle associated with Menas, patriarch of Constantinople in the mid sixth century, involves a **Jewish glassblower** who was so outraged when he learned that his son had eaten leftover Eucharistic bread with his Christian fellow schoolmates that he took the boy to his **εργαστήριον** (ergasterion “**workshop**”) and threw him into the **κάμινος** (kaminos “**furnace**”). The son miraculously survives the flames, whereupon he and his mother convert to Christianity. The father refuses to convert and Menas sentences him to death as a parricide. The story has come down to us in two versions. In the one, the father’s profession is given as **hyalourgos** [36], in others as **hyelopsos** [37].

Small workshops like those of the **Jewish glassblowers** described above must have been **common in the early Byzantine period**. The introduction of the new compounds hyalepsos and hylepsikos (vel sim.) can perhaps be explained by the **increased use of crucibles and/or tank furnaces for remelting raw glass inside the furnace as opposed to picking up chunks of glass preheated outside the furnace and melting them individually on the tip of the blowpipe**, an operation called **απαράζειν βῶλον** (harpazein bōlon ‘snatching a chunk’) [38].

[29] Halleux 1983, index

[30] Trowbridge 1930, 51, n. 17, citing various passages from Berthelot 1887.

[31] Schönauer 2008

[32] Liddell-Scott-Jones, Greek Lexicon

[33] Trowbridge 1930, 50-51

[34] Cf. Bilabel 1924, 151, no. 97, line 35

[35] Ryden 1963, the cited paragraph is on p. 163. For a translation into Dutch, see Aerts and Hokwerda 2006. For Roman and late antique glass from Homs: Abdul-Hak 1965.

[36] Acta Sanctorum 1741, Augustus 25, 169-171: “Vita auctore anonimo: Ex Ms. Codice bibliotheca Caesarea Vindobonensis, Interprete J[oannes] P[inius]”, a Life of Menas by an anonymous author of unknown date, 170. Cf. Mentzou 1975, 86

[37] Migne 1894, 687

[38] POxy vol. 50 (1983), no. 3536; cf. Stern 2007a, 349-354; eadem 1999b, 452-454



Visitors saw with their own eyes how the glassblower gathered molten glass from his or her furnace. An ancient onlooker would not have questioned how the glass got into the furnace any more than a modern spectator watching a glassblower at work. The new terms were inspired by the ‘**cooking**’ or ‘**melting**’ of **the glass**. The **Greek-speaking world marveled that white-hot flowing glass could be transformed into a tangible, stable object**. Similarly, the English and German languages stress the fact that **glass can be shaped by something as intangible as human breath**. One is reminded of **Pliny’s flatu figurare** (HN 36.193).

Conclusions

The compounds formed with ***erg** and **hepsein do not reflect a distinction between secondary and primary glass production** as suggested in the past [39]. However, it does seem that the two groups of words were used differently. **Hyelourgos** had a broad meaning. It applied to all artisans working with glass, whether it was cold working or hot working. The **hyalourgos** might produce inlays, ornaments, vessels (blown or made by other techniques), or architectural glass such as window panes, opus sectile panels, and, perhaps, figural wall or floor mosaics. **Hyalepsos**, on the other hand, appears to have had a more restricted meaning, as is to be expected from the meaning of **hepsein**, suggesting heat and melting. The Byzantine texts cited above suggest that **hyalepsos** and **hyalepsikos** designated predominately the **glassblower** and his **furnace**.

[39] Stern 2007b, 777. For linguistic evidence suggesting that the compound **hyalepsos** referred originally to a primary glassmaker, see Stern forthcoming.

ACKNOWLEDGMENTS

I would like to thank **Anastassios Tassos Antonaras** (Thessaloniki) and **Sonja Schönauer** (Bonn) for sending literature. **P. Heilporn** (Univ. of Michigan, Ann Arbor 1998) produced a list of relevant papyri; **Brian Muhs** (Papyrological Institute, Leiden) helped with locating publications and provided access to electronic databases. I thank **Stefan Radt** (Groningen), and the editors, for reading the manuscript and checking the Greek. [...]

REFERENCES

- Acta Sanctorum 1741 = Acta sanctorum quotquot toto urbe coluntur, vet à catholicis scriptoribus celebrantur / Joannes Bollandus. Augustus (1733-1743), vol. 5: Augustus 25-26. Antwerp, Jacobus Antonius van Gherwen (1741).
- Abdul-Hak, S., 1965. Contribution d’une découverte récente à l’étude de la verrerie syrienne à l’époque romaine. JGS 7, 26-34.
- Aerts, W. J. and Hokwerda, H., 2006. Leontios van Neapolis: Leven van Johannes de Barmhartige en Leven van de heilige Dwaas. Inleiding en vertaling. Groningen, Ta Grammata.
- Aleshire, S. B., 1989. The Athenian Asklepieion: The People, Their Dedications, and the Inventories. Amsterdam, J. C. Gieben.
- Berthelot, M., 1887. Collection des anciens alchimistes grecs. London, The Holland Press, repr. 1963.
- Bilabel, F., 1924. Griechische Papyri (Urkunden, Briefe, Schreiftafeln, Ostraka etc.). (Veröffentlichungen aus den badischen Papyrus-Sammlungen). Heidelberg, Selbstverlag.
- Bruneau, Ph., 1988. Philologie mosaïstique. Journal des Savants, 5-73.
- Euangelatou-Notara, Ph., 1982. Σημειώματα ελληνικῶν κωδίκων ὡς πηγὴ διὰ τὴν ἔρευναν τοῦ οικονομικοῦ καὶ κοινωνικοῦ βίου τοῦ Βυζαντίου ἀπὸ τοῦ 9ου αἰῶνος μέχρι τοῦ ἔτους 1204. Athens.
- Frisk, H., 1929. Papyrus grecs de la Bibliotheque Municipale de Gothembourg. Göteborgs Högskolas Arsskrift 35, Göteborg.
- Gasparetto, A., 1975. Note sulle vetraria e sull’ iconografia vetraria bizantina. JGS 17, 101-113.
- Giacchero, M., 1974. Edictum Diocletiani et collegarum de pretiis rerum venalium. Genova, Istituto di storia antica e scienze ausiliarie dell’ università.
- Grenfell, B. P., Hunt, A. S., Goodspeed, E. J., 1907. The Tebtynis papyri, part 2. London, Henry Frowde.
- Halleux, R., 1983. Indices chemicorum graecorum, 1: Papyrus Leidensis, Papyrus Holmiensis. Rome, Edizioni dell’ Ateneo.
- Ibrahim, L., Scranton, R., Brill, R., 1976. Kenchreai Eastern Port of Corinth, 2: The Panels of Opus Sectile in Glass. Leiden, Brill.
- Johnson, J. de M., Martin, V., Hunt, A. S., 1915. Catalogue of the Greek Papyri in the John Rylands Library, Manchester, 2: Documents of the Ptolemaic and Roman Periods (Nos. 62-456). Manchester, The University Press.
- Jones, H. L., 1930. The Geography of Strabo, 7: Books XV-XVI. Loeb Classical Library. London, Heinemann Ltd, repr. 1966.
- Liddell-Scott-Jones. Greek Lexicon. Oxford, Clarendon Press (with Revised Supplement 1996).
- Mentzou, K. P., 1975. Συμβολαὶ εἰς τὴν μελέτην τοῦ οικονομικοῦ καὶ κοινωνικοῦ βίου τῆς πρωίμου Βυζαντινῆς περιόδου. Athens.
- Migne, J. P., 1894. Georgii Cedreni compendium historiarum. Patrologia Graeca, vol. 121. Paris, Garner.
- Nenna, M.-D., 2003. De Douch (oasis de Kharga) à Grand (Vosges): Un disque en verre peint à représentations astrologiques; Bulletin de l’Institut français d’archéologie orientale 103, 355-376.

Nenna, M.-D., 2007. Production et commerce du verre à l'époque imperiale: nouvelles decouvertes et problématiques. *Facta: A Journal of Roman Material Culture Studies* (Pisa) 1 (2008), 125-147.

Nenna, M.-D., Picon, M., Vichy, M., 2000. Ateliers primaires et secondaires en Égypte à l'époque gréco-romaine in Nenna, M.-D. ed., *La route du verre. Ateliers primaires et secondaires du second millenaire av. J.-C. au Moyen Age. Travaux de la Maison de l'Orient Méditerranéen*, no. 33, Lyon, 97-112.

Nenna, M.-D., Picon, M., Thirion-Merle, V., Vichy, M., 2005. Ateliers primaires du Wadi Natrun: nouvelles decouvertes. *AnnAIHV* 16, 59-63.

Panagiotaki, M., Papazoglou-Manioudaki, L., Chatzi-Spiliopoulou, G., Andreopoulou-Mangou, E., Maniatis, Y., Tite, M. S., Shortland, A., 2005. A glass workshop at the Mycenaean citadel of Tiryns in Greece. *AnnAIHV* 16, 14-18.

POxy = *The Oxyrhynchus Papyri*, ed. B. P. Grenfell and A. S. Hunt, London 1898-.

Radt, S., 2005. *Strabons Geographika, 4: Buch XIV-XVII, Text und Übersetzung*. Göttingen, Vandenhoeck & Ruprecht.

Rydén, L. 1963. *Das Leben des heiligen Narren Symeon von Leontios von Neapolis*. Uppsala, Wiksell.

Schönauer, S., 2010. Glas und Gläser in byzantinischen Texten: in Drauschkhke, J. and Keller, D., eds, *Glass in Byzanz: Produktion, Verwendung, Analysen*. RGZM Tagungen 8. Mainz, Verlag RGZM. 245-255.

Sironen, E., 1997. *The Late Roman and Early Byzantine Inscriptions of Athens and Attica*. Helsinki

Skeat, T. C., 1964. *Papyri from Panopolis in the Chester Beatty Library Dublin*. Chester Beatty Monographs 10. Dublin, Hodges Figgis & Co.

Stern, E. M., 1999a. Ancient Glass in Athenian Temple Treasures. *JGS* 41, 19-50.

Stern, E. M., 1999b. Roman Glassblowing in a Cultural Context: *American Journal of Archaeology* 103, 441-484.

Stern, E. M., 2006. A new handbook on ancient glass: *Journal of Roman Archaeology* 19, 429-436.

Stern, E. M., 2007a. Ancient Glass in a Philological Context: *Mnemosyne* 603, 341-406.

Stern, E. M., 2007b. Rec. V. Arveiller-Dulong and M.-D. Nenna, *Les verres antiques du Musée du Louvre*, 2. *Topoi* 15, 775-786.

Stern, E. M., forthcoming. Glass Producers in Late Antique and Byzantine Texts and Papyri: in Entwistle, C., and James, L., eds, *New Light on Old Glass. Byzantine glass and Mosaics. Proceedings of the Conference at the British Museum. London May 27-29, 2010*.

Stern, E. M., Schlick-Nolte, B., 1994. *Early Glass of the Ancient World*. Ostfildern-Ruit, Verlag Gerd Hatje (Cantz).

Triantafyllidis, P., 2007. Glassmakers of Late Antiquity in Greece: Philological references and new archaeological evidence: *JGS* 49, 262-264.

Trowbridge, M. L., 1930. *Philological Studies in Ancient Glass*. University of Illinois Studies in Language and Literature 13.

von Saldern, A., 2004. *Antikes Glas. Handbuch der Archäologie*. München, C. H. Beck.

E. Marianne Stern
Willibrorduslaan 87, NL-1216 PA Hilversum
The Netherlands
emstern@planet.nl

www.aghv.gr/index.html ... →

The screenshot shows a Mozilla Firefox browser window with the address bar displaying <http://www.aghv.gr/congress/congress.html>. The page content includes a navigation menu on the left with items like 'Back To The Main Site', 'Congress', 'Committees', 'Venue', 'Abstract Submissions', 'Proceedings', 'Registration & Fees', 'Accommodation', 'Social Programme & Excursions', and 'Useful Links'. The main content area features a large image of a glass vessel, the AIHV 18 logo, and the text: 'Thessaloniki, Greece, 2009', 'Association Internationale pour l'Histoire du Verre / International Association for the History of Glass', and '18th Congress of the Association Internationale pour l'Histoire du Verre Thessaloniki, 21-25 September 2009'. The browser's status bar at the bottom shows 'Fertig' and a search icon.

Contents

Préface - Marie-Dominique Nenna	xiii
Preface - Marie-Dominique Nenna	xv

Greek Literary Sources

Stern Marianne Eva, Ancient Greek technical terms related to glass production.....	1
--	---

2nd Millennium BC / Bronze Age Glass

Nightingale Georg, Glass and faience and Mycenaean society.....	7
Smirniou Melina, Rehren Thilo, Adrymi-Sismani Vassiliki, Asderaki Eleni, Gratuze Bernart, Mycenaean beads from Kazanaki, Volos: a further node in the LBA glass network.....	11
Archontidou-Argyri Aglaïa, Vavliakis George, Mycenaean Psara - The glass finds	19
Biron Isabelle, Matoian Valerie, Henderson Julian, Evans Jane, Scientific analysis of glass from Ras Shamra - Ugarit (Syria).....	27
Erten Emel, Early ancient glass from Şaraga Höyük, Gaziantep, Turkey.....	33
Nicholson T. Paul, Jackson M. Caroline, The Harrow chalice: Early glass or early fake?	38
Röhrs Stefan, Smirniou Melina, Marée Marcel, The British Museum's Amarna fish scientifically studied	44
Ikeda Kazumi, Core-formed glass vessels from Sinai peninsula, Egypt.....	48
Azuma Yoko, Tantrakarn Kreingkamol, Kato Norihito, Nakai Izumi, Scientific analysis of ancient glass collections of the Miho Museum.....	51

1st Millennium BC / Archaic / Classical Glass

Liardet Frances, Taking the Heat: The contribution of apprenticeship to the understanding of the manufacture and typology of core-formed vessels.....	54
Nenna Marie-Dominique, Les contenants à huile parfumée façonnés sur noyau dans les dépôts votifs des sanctuaires grecs: l'exemple de l'Artémision de Thasos	61
Ignatiadou Despina, A haematinon bowl from Pydna.....	69
Oikonomou Artemios, Beltsios Konstantinos, Zacharias Nikolaos, Analytical and technological study of blue glass from Thebes, Greece: An overall assessment.....	75
Reade J. Wendy, Duncan Jones Janet, Privat Karen, Iron Age and Hellenistic monochrome glasses from Gordion	81

Hellenistic Glass

Patera Ioanna, Nikolaidou-Patera Maria, Hellenistic tomb at the ancient city of Philippi	87
Connolly Philip, Rehren Thilo, Doulgeri-Intzesiloglou Argyroula, Arachoviti Polyxeni, The Hellenistic glass of Pherai, Thessaly	91
Loukopoulou Polytimi, Karatasios Ioannis, Triantafyllidis Pavlos, Corrosion morphology of Hellenistic glass finds in relation to manufacture techniques	98
Ployer René, Glass from the excavations in the so-called 'Hellenistic' town of Palmyra. A preliminary report	104
Auth H. Susan, The Denderah cache of glass inlays: A possible votive pectoral	109
Gradel Coralie, Les verres d'époques hellénistique et romaine dans le royaume de Méroé.....	114

Roman Glass

Brems Dieter, Boyen Sara, Ganio Monica, Degryse Patrick, Walton Marc, Mediterranean sand deposits as a raw material for glass production in antiquity.....	120
Diani Maria Grazia, Tonim Cristina, Nouvelles attestations de verres antiques dans le Musée de Lodovico Pogliaghi - Varèse (Italie).....	128
Sagui Lucia, Santopadre Paola, Verità Marco, Technology, colours, forms, and shapes in the 2nd century glass opus sectile materials from the villa of Lucius Verus in Rome.....	133
Boschetti Cristina, Leonelli Cristina, Corradi Anna, The earliest wall mosaics and the origin of Roman glass in Italy: archaeological considerations for an archaeometric study.....	139
Boschetti Cristina, Nikita Kalliopi, Veronesi Paolo, Henserson Julian, Leonelli Cristina, Andreescu-Treadgold Irina, Glass in mosaic tesserae: Two interdisciplinary research projects	145
Demierre Prikhodkine Brigitte, Le verre du Quartier de la Maison aux mosaïques à Érétrie (Eubée, Grèce).....	151
Malama Penelope, Darakis Konstantinos, Die Kunst der Glasherstellung in Amphipolis während der römischen Zeit	158
McCall Bernadette, Use or re-use: Late Roman glass finds from the Nea Paphos Theatre site, Cyprus.....	165

Stolyarova K. Ekaterina, Chemical composition of glass and faience beads from the Belbek IV Necropolis.....	171
Jackson Caroline, Price Jennifer, Analyses of Late Roman glass from the Commandant's House of the fort at South Shields, Tyne and Wear, UK	175
Robin Laudine, Cartisanat du verre à Lyon-Lugdunum (France) durant le Haut-Empire.....	183
Louis Aurore, La place du mobilier en verre dans les sépultures gallo-romaines de Champagne-Ardenne (France)....	190
Buljević Zrinka, Glass from the Lora Cemetery at Split.....	197
Fadic Ivo, Stefanac Berislav, Workshop stamps on square bottles from the Zadar region	206
Drăghici Cristina, Glassware from Tomis: Chronological and typological aspects.....	211
Hansen Lund Ulla, The Early Roman painted glass from Zaborów, Poland	217
Greiff Susanne, On the relationship between enamelled glass and other opaque glass technologies: The colour red.....	224
Tartari Fattos, Les nouvelles trouvailles de verre antique à Dyrrhachium.....	231

Roman / Early Christian Glass

Coutsinas Nadia, Le matériel en verre de la cité d'Itanos (Crète orientale)	233
Papageorgiou Metaxia, Zacharias Nikolaos, Beltsios Konstantinos, Technological and typological investigation of Late Roman glass mosaic tesserae from Ancient Messene, Greece	241
Sakalis Anastasios, Tsiafaki Despina, Antonaras C. Anastassios, Tsiriganis C. Nestor, Micro X-ray fluorescence spectroscopy analysis of Late Roman glass from Thessaloniki.....	249
Moraitou Georgianna, Past Conservation Interventions on the Kenchreai opus sectile panels: The Greek approach	254
Moraitou Georgianna, Loukopoulou Polytimi, Tiligada Dimitra, A triple ark for the Kenchreai opus sectile glass panels: Preventive conservation and access at the Isthmia Archaeological Museum	261
Fujii Yasuko, A study of a Late Roman blue glass dish with sea creatures in relief.....	266
Silvano Flora, Glass finds from Antinoopolis, Egypt	272
Marii Fatma, Rehren Thilo, Levantine glass of Petra characteristics.....	277
Jeremić Gordana, Glass artefacts from Roman and Late Roman fortification at Saldum on the Middle Danube. Social and economic background	284
Gençler Guray Çiğdem, Early Byzantine glass finds from Elaiussa Sebaste (Mersin-Ayas)	292

Byzantine and Early Islamic Glass

Barag P. Dan, Stamped glass pendants from Syria: From Constantine the Great to the Arab conquest.....	300
Antonaras C. Anastassios, Gold-glass tile decoration in the St. Demetrios Basilica, Thessaloniki	301
Loukopoulou Polytimi, Moropoulou Antonia. Byzantine gold-leaf glass tesserae: A closer look at manufacturing technique and decay	307
Atik Şeniz, Three Byzantine gold-glass pieces	309
Verità Marco, Zecchin Sandro, Scientific investigation of Byzantine glass tesserae from the mosaics on the south chapel of Torcello's Basilica, Venice.....	315
James Liz, Glass and the manufacture of Byzantine mosaics	321
Canav-Özgümüş Üzlifat, Recent glass finds in Istanbul.....	326
Winter Tamar, Glass vessels from excavations at the Church of the Holy Sepulchre in Jerusalem	333

Byzantine and Islamic Glass

Pilosi Lisa, Stamm Karen, Wypyski T. Mark, An Islamic cameo glass fragment in the Metropolitan Museum of Art.	341
Swan M. Carolyn, Spatial and temporal considerations of technological change: Examining Early Islamic glass	346
Boulogne Stephanie, Hardy-Guilbert Claire, Le verre décoré issu des fouilles du site d'al-Shihr au Yémen.....	351
Mossakowska-Gaubert Maria, Verres de l'époque byzantine - début de l'époque arabe (v ^e -viii ^e siècle): objets provenant des ermitages en Égypte	357
Kato Norihiro, Nakai Izumi, Shindo Yoko, Comparative study of Islamic glass weights and vessel stamps with the glass vessels in Egypt.....	367

Medieval Glass

Frey Annette, Greiff Susanne, Early Medieval glass beads with metal tubes.....	373
Broadley Rose, Gardner Carlotta, Bayley Justine, The Church Lane assemblage: Early Medieval glass-working in the shadow of Canterbury Cathedral	379

Radičević Dejan, Medieval glass bracelets from Banat Territory	385
Mănucu Adameșteanu Gheorghe, Poll Ingrid, Bracelets en verre découverts dans les nécropoles de Isaccea - Vicina, département de Tulcea (Xe - XIII ^e siècles).....	389
Kunicki-Goldfinger J. Jerzy, Kierzek Joachim, Freestone C. Ian, Małozewska-Bučko Bożena, Nawrońska Grażyna, The composition of window glass from the cesspits in the Old Town in Elbląg, Poland.....	395
Černá Eva, Hulínský Václav, Macháček Jan, Podliska Jaroslav, On the origin of enamel-painted glass of the 12th-14th centuries in Bohemia.....	401
Križanac Milica, Scent bottles from Kotor, Montenegro	409
Zečević Emina, Glass of Novo Brdo [Serbia] and its significance in Late Medieval glass production	414

Post Byzantine/ Venetian / Façon de Venise Glass

Paynter Sarah, The importance of pots: The role of refractories in the development of the English glass industry during the 16 th / 17 th centuries.....	419
Scott B. Rebecca, Shortland J. Andrew, Power Matthew, The interpretation of compositional groupings in 17th century window glass from Christ Church Cathedral, Oxford	425
Caen Joost M. A., The production of stained glass in the County of Flanders and the Duchy of Brabant from the XV th to the XVIII th centuries: Materials and techniques	430
Meek S. Andrew, Henderson Julian, Evans A. Jane, North-western European forest glass: Working towards an independent means of provenance.....	437
Medici Teresa, Revisiting the 'Moura glass treasure': New data about 17th century glass in Portugal.....	442
Moretti Cesare, Tonini Cristina, Hreglich Sandro, Maria Diani Grazia, 'Lead glass with wonderful emerald colour': A parallel between one of Antonio Neri's recipes and the composition of a vessel in the Pogliaghi Museum	448
Ioannidou Martha, From didactic stained glass windows of medieval cathedrals to the redemptive divine light in Matisse's Vence Chapel	453
Greiner-Wronowa Elżbieta, Pusoska Anna, Wrona Jaroslav, The influence of gradient temperature changes on a glass reaction intensity with volatile organic compounds in museum cabinets	457
De Vis Kristel, Cagno Simone, Van Mol Willy, Schalm Olivier, Janssens Koen, Caen Joost, The decolourization of manganese-stained glass: The conversion reaction and evaluation of its effectiveness.....	463

18th and 19th Century Glass

Lauriks Leen, De Bouw Michael, Quentin Collette, Wouters Ine, 19th century iron and glass architecture: Common construction details of cylinder and crown glass on iron sash bars.....	469
Van Giffen Astrid, Eremin Katherine, Newman Richard, The Harvard Glass Flowers and more: A technical study ...	475
Jargstorf Sibylle, Mosaikglas / Millefioriglas - Probleme der Zuordnung und Herkunftsbestimmung.....	481

African and Asian Glass

Ige O. Akin, Ancient glassmaking in Ile-Ife, Southern Nigeria	486
Borell Brigitte, Han period glass vessels from the gulf of Tonking region: Aspects of their technology	491
Index of Authors.....	497

Posters werden nicht aufgeführt

Siehe unter anderem auch:

- PK 2004-3 SG, Kongress der Association Internationale pour l'Histoire du Verre (AIHV) 2003
- PK 2006-3 SG, Association Internationale pour l'Histoire du Verre, 17^{ème} Congress, Antwerpen 2006
- PK 2008-1 SG, Nächstes Treffen der AIHV im September 2009 in Thessaloniki, Griechenland
- PK 2009-2 SG, 18th Congress Association Internationale pour l'Histoire du Verre (AIHV), in Thessaloniki, September 21st - 25th 2009
- PK 2009-4 SG, Annales du 17e Congrès de l'Association Internationale pour l'Histoire du Verre Anvers / Antwerpen 2006
- PK 2009-4 SG, Antonaras, Roman and Early Christian Glassworking 1st century B.C. - 6th century A.D., Athens 2009
- PK 2010-1 SG, 18th Congress Association Internationale pour l'Histoire du Verre (AIHV) in Thessaloniki, September 21st - 25th 2009 - Berichte (2009)
- PK 2012-1 19. Kongress der Association Internationale pour l'Histoire du Verre (AIHV) Piran, Slowenien, 17. - 21. September 2012, Programm www.zrs.upr.si/en/Activities/Scientific+Meetings/AIHV+Congress+19, 2012

- PK 2012-3 19. Kongress der Association Internationale pour l'Histoire du Verre (AIHV)
Piran, Slowenien, 17. - 21. September 2012, Kurzbericht**
- PK 2012-3 19. Kongress der Association Internationale pour l'Histoire du Verre (AIHV)
Piran, Slowenien, 17. - 21. September 2012, Exkursion**

Abb. 2012-3/62-02

http://www.aihv.org/en/aihv_publications.html

Annales der AIHV Kongresse 1 - 18 Bezugsquellen

Publications of the Association Internationale pour l'Histoire du Verre - Mozilla Firefox

www.aihv.org/en/aihv_publications.html

Wikipedia (de)

Publications

The AIHV publishes the proceedings of its Congresses in a series called *Annales du Congrès de l'Association Internationale pour l'Histoire du Verre*. This is free to members and institutional members with fully paid up subscriptions. Student members may purchase the current copy at half price.

Annales of the 18th Congress

Notes for Contributors

Authors of the lectures and posters presented during the 18th AIHV Congress are invited to offer their contributions for publication in the *Annales*, following the guidelines below. Manuscripts that do not follow these guidelines will be returned to the authors for correction, and must be returned in the correct form by the submission deadline. The manuscripts and illustrations must be submitted not later than December 31st, 2009. The maximum length for the text of each paper is 3,000 words, plus up to six plates, figures or tables occupying not more than one A4 page. Please note that tables count as illustrations. Papers in English, French and German will be accepted.

Annales of the 17th Congress

The *Annales* of the 17th Congress ([details](#)) was published in September, 2009 by ASPEDITIONS in Antwerp. All members have been sent their copies and additional ones can be obtained by contacting [Aspeditions](#). ISBN: 978 90 5487 6182.

Annales of the 16th Congress

The *Annales* of the 16th Congress ([details](#)) has been published and all paid up members have been sent copies. It is now available for download in .pdf format. View the table of contents [here](#).

Annales of the 15th Congress

The *Annales* of the 15th Congress are now available for download in .pdf format. View the table of contents [here](#).

Annales 15 and 16 are both out of print. However, we do hold stocks of the 14th Congress: Annales du 14e Congrès de l'Association Internationale pour l'Histoire du Verre: Venezia Milano 1998, (details) is available at a cost of € 22.

These may be purchased directly from the Association. Payment may be made by Mastercard, Visa or bank transfer. Please send your orders to

AIHV
c/o Huib Tijssens
Nieuw Loosdrechtsedijk 234 1231 LG Loosdrecht The Netherlands

Please provide your credit card number, your name as it appears on the credit card, the expiry date, the address to which your credit card bill is sent if different from the shipping address, and the last three numbers on the security strip on the back of your card.

You may also pay by banktransfer (all charges for ordering customer) to Association Internationale pour l'Histoire du Verre, Nieuw Loosdrechtsedijk 234, 1231 LG, The Netherlands.
IBAN(international bank account number): NL70ABNA042.60.68.890
and BIC(bank internationale code): ABNANL2A
Bank address: ABN AMRO, P.O. Box 885, 3700 AW Zeist, The Netherlands

Annales 1 – 13

All of the earlier *Annales* still in print (volumes 6, and 8-13) are now sold by Oxbow Books, and they should be contacted for details of price, postage etc. (www.oxbowbooks.com)
Oxbow books, Park End Place, OXFORD OX1 1HN, U.K.
phone +44 1865 241249; fax +44 1865 794449;
email oxbow@oxbowbooks.com.

© 2008, Association Internationale pour l'Histoire du Verre.



Siehe unter anderem auch:

- PK 2000-2 SG, Eine Polemik: Köpfe von Pharaonen und Cäsaren aus Glas: gegossen, geschmolzen, gepresst, gedrückt, überfangen und dann geschnitten, geschliffen, poliert oder was?**
- PK 2000-2 SG, Köpfe ägyptischer Pharaonen aus Glas: immer noch ein Geheimnis der ägyptischen Glasmacher**
- PK 2000-2 SG, Literatur-Angaben zu den Artikeln über antikes Glas (Stand 2000)**
- PK 2000-3 Lierke, Ein paar Randnotizen zum Ausflug ins Altertum; Nachtrag zu PK 2000-2**
- PK 2000-5 SG, Form-geblasenes Glas (Schale Ennion, 1 Jhdt. n.Chr.)**
- PK 2001-3 Lierke, Mit 'Versuch und Irrtum' durch die Geschichte der antiken Glastechnologie**
- PK 2001-3 SG, Rosetten und Glasperlen aus dem minoischen Kreta (Abbildungen aus Siebenmorgen, Hrsg., Im Labyrinth des Minos, Ausstellungs-Katalog, Karlsruhe 2001**
- PK 2001-5 Lierke, Ägyptisches Glas aus Amarna; Nachtrag zu PK 2001-3**
- PK 2002-2 SG, Kamen die ägyptischen Glasmacher der Amarna-Zeit aus Mitanni?**
- PK 2002-3 Lierke, Edles Pressglas - ein Irrtum wird geklärt**
- PK 2002-3 SG, Zur Herstellung der achaemenidischen Schalen aus Glas: „Cast and Cut?“ Literaturangaben zu antikem Glas (Stand 2002)**
- PK 2003-1 SG, Reflections on Ancient Glass from the Borowski Collection - Bible Lands Museum Jerusalem [Überlegungen zu antikem Glas ...]**
- PK 2002-3 Seipel, Achaemenidische Schale aus Glas im Glas- und Keramik-Museum Teheran**
- PK 2002-3 Stern, Achaemenidische Glasschale im Inventar des Parthenon in Athen**
- PK 2002-3 Triantafyllidis, Funde zur Herstellung von Glas im klassischen & hellenistischen Rhodos**
- PK 2002-3 Makharadze & Saginashvili, Eine achaemenidische Glasschale aus Sairkhe, Georgien**
- PK 2002-3 Stiegemann u.a., Glasfunde (formgeblasen und gepresst) aus byzantinischem Herrschaftsbereich (Auszug aus Wamser 1998 und Stiegemann 2001) (Glasgewichte)**
- PK 2003-1 SG, Eine in einer Hohlform geprägte Schale aus Quarzkeramik aus dem Iran (Chorasan)**
- PK 2003-1 SG, Türkis und Azur. Quarzkeramik im Orient und Okzident (Chorasan) Ausstellungs-Katalog Kassel 1999 von Ralf Busz und Peter Gercke (Hrsg.)**
- PK 2003-4 SG, Beispiele für geschliffenes islamisches Glas 9. - 10. Jhdt. - Auszug aus Carboni, Glass from Islamic Lands, Al-Sabah Collection Kuwait National Museum, London 2001**
- PK 2003-2 Carboni, Verwendung von Glas als Dekoration in der Architektur der islamischen Welt**
- PK 2003-4 Carboni, Drei Medaillons mit eingepressten Motiven und Inschriften - Islamisches Glas**
- PK 2003-4 Whitehouse, Zwei Formen aus Metall für form-geblasenes Islamisches Glas [Molds for Mold Blown Glass]**
- PK 2006-3 Ein interessantes Buch: Whitehouse, Sasanian and Post-Sasanian Glass in the Corning Museum of Glass, Corning 2005**
- PK 2006-3 SG, Andenken-Plaketten an den Säulenheiligen Simeon Stylites in Syrien aus Pressglas**
- PK 2008-4 Barag, Socio-Economic Observations on the History of Ancient Glass Abdruck aus AIHV Annales du 17e Congrès, 2006, S. 3-7 (Übersicht über Artikel und Literaturangaben der PK zu antikem Glas)**
- PK 2009-1 Othman, Die Techniken der Glasherstellung in Syrien in byzantinischer Zeit und ihre Entwicklungsphasen (mit Literaturangaben)**
- PK 2009-4 Nicholson, Brilliant Things for Akhenaten - The Production of Glass, Vitreous Materials and Pottery at Amarna Site O45.1 (Auszug)**
- PK 2009-4 SG, Ein wichtiges Buch: Lierke, Die nicht-geblasenen antiken Glasgefäße ... Deutsche Glastechnische Gesellschaft, 2009 (Übersicht über Artikel und Literaturangaben der PK zu antikem Glas)**
- PK 2010-2 SG, Ein wichtiges und schönes Buch: Whitehouse, Islamic Glass in The Corning Museum of Glass, Volume One, 2010**
- PK 2010-3 SG, Opak-grüne Schale mit Vögeln und „Lebensbaum“-Motiven „in eine Form abgesenkt und geschliffen“? (Bilder der diskutierten Gläser) (Übersicht über Artikel und Literaturangaben der PK zu antikem Glas)**
- PK 2011-2 Yalcin, Rückkehr nach Uluburun - Unterwasserarchäologie und die Handelswege in der Spätbronzezeit [Antike Welt 2011-3]**
- PK 2011-4 SG, Guttandin u.a., Inseln der Winde - Die maritime Kultur der bronzezeitlichen Ägäis Ausstellungskatalog Heidelberg 2011**
- PK 2011-4 SG, Grose, Early Ancient Glass - Core-formed, Rod-formed, and Cast Vessels and Objects from the Late Bronze Age to the Early Roman Empire ... (Auszüge)**
- PK 2011-4 SG, Made by Ennion: Ancient Glass from the Shlomo Moussaieff Collection Exhibition May 31, 2011 - January 1, 2012, The Israel Museum, Jerusalem**

→→

- PK 2009-2 SG, 18th Congress Association Internationale pour l'Histoire du Verre (AIHV), in Thessaloniki, September 21st - 25th 2009
- PK 2009-4 SG, Annales du 17e Congrès de l'Association Internationale pour l'Histoire du Verre Anvers / Antwerpen 2006
- PK 2009-4 SG, Antonaras, Roman and Early Christian Glassworking 1st century B.C. - 6th century A.D., Athens 2009
- PK 2010-1 SG, 18th Congress Association Internationale pour l'Histoire du Verre (AIHV) in Thessaloniki, September 21st - 25th 2009 - Berichte (2009)
- PK 2012-1 SG, 19. Kongress der Association Internationale pour l'Histoire du Verre (AIHV) Piran, Slowenien, 17. - 21. September 2012
Programm / Exkursionen / Hotelnachweis / Anfahrt / Registrierung ...
www.zrs.upr.si/en/Activities/Scientific+Meetings/AIHV+Congress+19,2012
- PK 2012-3 SG, 19. Kongress der Association Internationale pour l'Histoire du Verre (AIHV) Piran, Slowenien, 17. - 21. September 2012, Kurzbericht
- PK 2012-3 SG, 19. Kongress der Association Internationale pour l'Histoire du Verre (AIHV) Piran, Slowenien, 17. - 21. September 2012, Exkursion
- PK 2012-3 SG, AIHV-Kongress Thessaloniki 2009: Annales AIHV No. 18 erschienen 2012-09

Siehe unter anderem auch:

WEB PK - in allen Web-Artikeln gibt es umfangreiche Hinweise auf weitere Artikel zum Thema: suchen auf www.pressglas-korrespondenz.de mit GOOGLE Lokal →

- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2000-2w-glas-pharao-caesar.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2000-2w-glas-aegypten-mitanni.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2003-1w-busz-tuerkis-quarzkeramik.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2003-1w-sg-quarzkeramik-iran.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2003-1w-bianchi-reflections-ancient-glass.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2009-3w-sg-afghanistan-begram.pdf
(Übersicht über Artikel und Literaturangaben der PK zu antikem Glas)
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2009-3w-menninger-afghanistan-begram.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2009-4w-sg-lierke-glasgeschichte-2009.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2009-4w-aihv-barag-glasgeschichte.pdf
(Übersicht über Artikel und Literaturangaben der PK zu antikem Glas)
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2010-3w-sg-kroeger-nishapur-1995.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-1w-sg-jgs-2010-52-buechner.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-2w-yalcin-uluburun.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-4w-greif-luebsow-becher.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-4w-lierke-cameo-glass-2011-engl.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-4w-guttandin-aegaeis.pdf (Uluburun)
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-4w-allaire-ennion-jerusalem-2011.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-4w-sg-ennion-jerusalem-2011.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-4w-sg-ennion-jerusalem-ak-2011.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-4w-sg-wight-antikes-glas.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-4w-sg-grose-antikes-glas.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2006-3w-aihv-2006-antwerpen.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2009-2w-aihv-congress-2009.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2009-4w-aihv-annales-2006-inhalt.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2010-1w-aihv-congress-2009-berichte.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-3w-aihv-2012-piran-slovenia-aufruf.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2011-3w-aihv-broadfield-glas-museum.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2012-2w-aihv-2012-piran-slovenia-programm.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2012-3w-aihv-2012-piran-slovenia-kurzbericht.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2012-3w-aihv-2012-piran-slovenia-exkursion.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2012-3w-aihv-2009-annales-thessaloniki.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2012-4w-ignatiadou-schale-pydna-AIHV-2009.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2012-4w-jargstorf-millefiori-AIHV-2009.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2012-4w-nightingale-mykene-glas-AIHV-2009.pdf
- www.pressglas-korrespondenz.de/aktuelles/pdf/pk-2012-4w-winter-jerusalem-flasche-AIHV-2009.pdf

Siehe auch: www.rosemarie-lierke.de mit vielen Artikeln, Bildern und Hinweisen

