

## Further Steps in Revealing, Editing and Analysing Important Ancient Greek and Byzantine Texts Hidden in Palimpsests

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Greek palimpsests – parchment leaves from which the original Greek text, that had become obsolete for one or another reason, was erased and the costly material was reused for a new text – vary in their origins, dates, histories, physical and textual characteristics<sup>1</sup>. Some have been well studied, some at least partly deciphered and identified, but most of them are still waiting to be examined in detail. Often the texts hidden in the lower layers of palimpsests are of immense value, for example when the palimpsest is a unique source for a text, or preserves a rare text or the earliest surviving version of a text. Works of major ancient authors, both Greek and Latin, such as Archimedes (*On Floating Bodies*), Cicero (*De re publica*), Euclid (*Elements*), Euripides (*Phaethon*), Hyperides (*Against Timandros*, *Against Diondas*), Plautus (*Cistellaria*) and many others have come down to us on parchments recycled in Late Antiquity or the Middle Ages<sup>2</sup>.

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<sup>1</sup> For this and other aspects of palimpsests see N. TCHERNETSKA – N. WILSON: *The Palimpsest in context*. In: *The Archimedes Palimpsest I–II*. Edited by R. Netz, W. Noel, N. Tchernetska, and N. Wilson. Cambridge 2011, pp. 243–265 (with further bibliography).

<sup>2</sup> For palimpsest papyri see E. CRISCI: *'Ratio delendi': Pratiche di riscrittura nel mondo antico*. In: *Libri palinsesti greci: Conservazione, restauro digitale, studio*. Atti del Convegno internazionale, Villa Mongradone – Monte Porzio Catone – Università di Roma 'Tor Vergata' – Biblioteca del Monumento Nazionale di Grottaferrata, 21–24 aprile 2004. Edited by S. Lucà. Roma (Comitato Nazionale per le Celebrazioni del Millenario della Fondazione dell'Abbazia di S. Nil a Grottaferrata) 2008, pp. 47–58; Th. SCHMIDT: *Greek Palimpsest Papyri: Some Open Questions*. In: *Proceedings of the 24<sup>th</sup> International Congress of Papyrology (Helsinki, 1–7 August, 2004)*. Edited by J. Frösén (*Commentationes Humanarum Litterarum* 122). Helsinki 2007, pp. 979–990 (Band 2).

The systematic study of an erased text preserved in the lower layer of a palimpsest comprises a palaeographical and codicological examination and reconstruction of the original manuscript (as far as its fragmentary state allows) on the one hand, and, on the other, a comprehensive analysis of the text itself, including also the evaluation of the witness within the particular manuscript tradition. For such a study, it is indispensable first to decipher and carefully transcribe the remnants of the original text. This is a very time-consuming procedure requiring both suitable technical equipment and well-developed palaeographical and philological skills. A good-quality ultraviolet lamp, preferably with a magnifying glass, and searchable text databases are the basic and most common tools the palimpsest researcher uses. Under particular circumstances, mostly determined by financial means available to the scholar and by current regulations of the library, special imaging techniques, perhaps even advanced ones such as high-resolution multispectral imaging, may be used to help study the palimpsest. This imaging and the resulting digital image processing and enhancement can significantly improve the readability of the erased text<sup>3</sup>. However, such imaging achievements, even if very important and sometimes crucial for recovering the remnants of the lower writing, are within the systematic study as described above merely a starting point for the subsequent investigation<sup>4</sup>.

The Austrian National Library possesses a considerable number of Greek palimpsests. Many of the erased texts were studied and described during the general cataloguing of the Vienna Greek manuscripts from the sixties to the nineties of the 20<sup>th</sup> century<sup>5</sup>, other palimpsests could only be examined in more

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<sup>3</sup> See e. g. N. TCHERNETSKA: *Do it yourself: digital image enhancement applied to Greek palimpsests*. In: *Early medieval palimpsests*. Edited by G. Declercq (Bibliologia 26). Turnhout 2007, pp. 23–27.

<sup>4</sup> For an excellent example of modern palimpsest research see the recently published two-volume set on the Archimedes palimpsest quoted in note 1.

<sup>5</sup> See H. HUNGER: *Katalog der griechischen Handschriften der Österreichischen Nationalbibliothek I. Codices historici, Codices philosophici et philologici* (Museion N. F. IV/1, 1). Wien 1961; H. HUNGER unter Mitarbeit von O. KRESTEN: *Katalog der griechischen Handschriften der ÖNB II. Codices juridici, Codices medici* (Museion N. F. IV/1, 2). Wien 1969; H. HUNGER – O. KRESTEN: *Katalog der griechischen Handschriften der ÖNB III/1. Codices theologici 1–100* (Museion N. F. IV/1, 3, 1). Wien 1976; H. HUNGER – O. KRESTEN, unter Mitarbeit von Ch. HANNICK: *Katalog der griechischen Handschriften der ÖNB III/2. Codices theologici 101–200* (Museion N. F. IV/1, 3, 2). Wien 1984; H. HUNGER – W. LACKNER, unter Mitarbeit von Ch. HANNICK: *Katalog der griechischen Handschriften der ÖNB III/3. Codices theologici 201–337* (Museion N. F. IV/1, 3, 3). Wien 1992; H. HUNGER unter Mitarbeit von Ch. HANNICK: *Katalog der griechischen Handschriften der ÖNB IV. Supplementum Graecum* (Museion N. F. IV/1, 4). Wien 1994.

detail during the last decade, thanks especially to the above-mentioned technical developments. The renewed systematic analysis of the Greek palimpsests in the Austrian National Library began during the European project “Rinascimento virtuale – Digitale Palimpsestforschung” (2001–2004)<sup>6</sup> and was further pursued, in cooperation with foreign scholars, under the project “Greek palimpsests” of the Austrian Academy of Sciences in 2005–2008<sup>7</sup>. Because of its significance, this research is now continuing under a new three-year project (June 2012–Mai 2015) supported by the Austrian Science Fund (FWF)<sup>8</sup>. The goal of the new project is to recover the European cultural heritage hidden in the lower layers of selected *codices rescripti Vindobonenses*. Special digital images resulting from high-resolution multispectral capture will enable scholars to read text parts that have been invisible before. Five unique Greek textual witnesses of great importance will be edited and analysed for the benefit of the numerous fields of research to which they are relevant as well as for the benefit of the interested public. Additionally, a further analysis of a significant palimpsest containing fragments of the *De cerimoniis aulae Byzantinae*, ascribed to the Byzantine Emperor Constantine VII Porphyrogenitus, will be included.

I. Aelius Herodianus, a Greek grammarian from Alexandria who lived in the 2<sup>nd</sup> century A. D., is considered to have been the last independent Greek linguist of antiquity. Unfortunately, his greatest achievement, the *De prosodia catholica*, a systematic exposition of the rules for accentuation of Greek in twenty books, dedicated to the Emperor Marcus Aurelius, has survived only in

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<sup>6</sup> The project “Rinascimento virtuale – Digitale Palimpsestforschung. Rediscovering written records of a hidden European cultural heritage” (2001–2004) aimed at digital research of Greek palimpsests; it was supported by the European Commission and coordinated by the University of Hamburg (Prof. Dieter Harlfinger); see [www.rinascimentovirtuale.eu](http://www.rinascimentovirtuale.eu).

<sup>7</sup> For the details of the project “Greek palimpsests” see J. GRUSKOVÁ: *Untersuchungen zu den griechischen Palimpsesten der Österreichischen Nationalbibliothek. Codices Historici, Codices Philosophici et Philologici, Codices Iuridici* (Veröffentlichungen zur Byzanzforschung XX. Denkschriften der philosophisch-historischen Klasse der Österreichischen Akademie der Wissenschaften 401). Wien 2010. See also <http://www.oeaw.ac.at/byzanz/pali.htm>.

<sup>8</sup> The new project – FWF P24523-G19 “Important textual witnesses in Vienna Greek Palimpsests” – is being carried out at the Institute for Medieval Research (Division of Byzantine Research) of the Austrian Academy of Sciences; the project leader is Prof. Otto Kresten, the project collaborator is Dr. Jana Grusková, the project partners are: Prof. Dr. Oliver Primavesi (Munich), Prof. Dr. Klaus Alpers (Hamburg), Prof. Dr. Bernard H. Stolte (Groningen), Dr. Gunther Martin (Bern), HR Prof. Dr. Ernst Gamillscheg (Vienna) and Doz. Dr. Michael Featherstone (Fribourg/Paris).

later epitomes and quotations in works of other authors<sup>9</sup>. However, in the sixties of the 20<sup>th</sup> century some fragments of a 10<sup>th</sup>-century manuscript were discovered in the lower layer on ff. 1<sup>r</sup>–8<sup>v</sup>, 24<sup>r</sup>–25<sup>v</sup> of the *codex rescriptus* Vind. Hist. gr. 10. This minuscule *codex* of the late 12<sup>th</sup> century, coming from the collection of the humanist Johannes Sambucus (1531–1584), comprises only 33 folios which contain a major portion of the *Vita Ioannis Chrysostomi* composed by the Byzantine hagiographer Symeon Metaphrastes.

The discovery of the 10<sup>th</sup>-century manuscript fragments of Herodian in the Austrian National Library was announced by Herbert Hunger in the catalogue published in 1961<sup>10</sup>; the results of a detailed study he carried out in a period of about ten years were presented in an extensive article in 1967<sup>11</sup>. It caused excitement in the world of scholars, since numerous new fragments of classical authors, cited by Herodian to exemplify his definitions, were identified in the passages Herbert Hunger was able to decipher<sup>12</sup>. In a comprehensive analysis of the readable text and lemmata he revealed that the Vienna folios contain parts from books 5, 6 and 7, and “wenn nicht in der Originalfassung, so jedenfalls in einer ausführlicheren, an guten Zitaten reicheren Redaktion, als sie sich bisher aus den spätantiken und byzantinischen Grammatikern rekonstruieren ließ”. The technical limits in enhancing the readability of the palimpsest in the sixties didn’t allow Hunger to draw reliable general conclusions on the text: “Ob die vorliegenden Fragmente Teile der Originalfassung dieses Werkes darstellen oder bereits einer überarbeiteten oder gekürzten Ausgabe angehören, wird sich

<sup>9</sup> See A. R. DYCK: *Aelius Herodian: Recent Studies and Prospects for Future Research*. In: *Aufstieg und Niedergang der Römischen Welt II: Principat*, Bd. 34/1. Berlin – New York 1993, pp. 772–794, particularly 776–783 (with bibliography); F. MONTANARI: Art. *Herodianos*. In: *Der Neue Pauly. Enzyklopädie der Antike 5*. Hrsg. von H. Cancik und H. Schneider. Stuttgart – Weimar 1998, Sp. 465–467. For the text of the *De prosodia catholica* see the edition of A. LENTZ: *Herodiani technici reliquiae. Tomus 1 praefationem et Herodiani Prosodiam catholicam continens* (Grammatici Graeci 3.1). Leipzig 1867.

<sup>10</sup> See HUNGER, *Katalog I* (1961) (see note 5), p. 15.

<sup>11</sup> H. HUNGER: *Palimpsest-Fragmente aus Herodians Καθολική προσωδία, Buch 5–7, Cod. Vindob. Hist. gr. 10*. *Jahrbuch der Österreichischen Byzantinischen Gesellschaft* 16, 1967, pp. 1–33.

<sup>12</sup> See e. g. M. WEST: *Notes on newly-discovered fragments of Greek authors*. *Maia* 20, 1968, pp. 195–205 (197–205); J. Th. KAKRIDIS: *Ποικίλα ἑλληνικά*. *Hellenica* 21, 1968, pp. 149–159 (particularly pp. 149–154); F. LASSERRE: *Trois nouvelles citations poétiques*. *Museum Helveticum* 26, 1969, pp. 80–87; C. GALLAVOTTI: *Empedocle: Poema fisico e lustrale*. Milano 1975, pp. 58, 243–244; N. VAN DER BEN: *The Proem of Empedocles’ Peri Physios. Towards a New Edition of All the Fragments*. Amsterdam 1975, pp. 15, 68–69; G. ZUNTZ: *Textkritische Anmerkungen zu Aischylos’ ‘Hepta’*. *Hermes* 111, 1983, pp. 259–281 (264ff.).

einstweilen kaum feststellen lassen. Im Hinblick auf die Zitierung so vieler ‘guter’ Namen in den wenigen erhaltenen Fragmenten möchte ich eher an die erste Möglichkeit glauben.”<sup>13</sup> Having examined the fragments published by Hunger for an overview of recent studies and prospects for future research on Aelius Herodianus printed in 1993 (ANRW), Andrew R. Dyck pointed out that the palimpsest, despite the fact that it far excels the preserved epitomes in the number of its examples and citations and in its closeness to Herodian’s wording, does bear marks of shortening<sup>14</sup>.

Due to its great cultural value, the manuscript was selected for multispectral digitization under the above-mentioned project “Rinascimento virtuale”. The high-resolution imaging and the digital enhancement of the palimpsested folios were undertaken in 2003–2004 by the Italian company *Fotoscientifica Snc Di Finzi & Broia* from Parma<sup>15</sup>, which specializes in imaging and recovering of damaged or erased texts. Klaus Alpers, an expert on Greek lexicography (Hamburg), and Oliver Primavesi, a specialist in Ancient Greek philosophy and philology (Munich), were asked to cooperate in the analysis of the new images. They first turned their attention to the famous quotation from Empedocles on f. 7<sup>r</sup> and made considerable progress in deciphering this important philosophical fragment<sup>16</sup>. Besides, preliminary results of a new palaeographical and codicological analysis have been published<sup>17</sup>.

The goal of the new project is to prepare a critical edition of the Vienna fragments of Herodian accompanied by detailed studies of the text and the

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<sup>13</sup> See HUNGER, *Palimpsest-Fragmente* (1967) (see note 11), pp. 1 and 30.

<sup>14</sup> See DYCK, *Aelius Herodian* (1993) (see note 9), p. 780.

<sup>15</sup> The sophisticated RE.CO.R.D camera system, created by Daniele Broia and his colleagues, was used; for details see <http://www.photoevolution.it>. The processed images were made available in 2004, the non processed images in 2007.

<sup>16</sup> See O. PRIMAVESI – K. ALPERS: *Empedokles im Wiener Herodian-Palimpsest*. *Zeitschrift für Papyrologie und Epigraphik* 156, 2006, pp. 27–37, with a critical overview of the previous scholarship on the fragment. – Furthermore, new readings deciphered on f. 25<sup>v</sup> thanks to the multispectral imaging were evaluated in a linguistic study on the name Κόμανος; see A. U. SCHMIDHAUSER: *Κόμανος*. *Classical Quarterly* 58, 2008, pp. 331–334.

<sup>17</sup> See E. GAMILLSCHEG – J. GRUSKOVÁ: *Neue Techniken für alte Bücher II. Erste Ergebnisse des Projektes „Rinascimento Virtuale“*. *Biblos* 53/1, 2004, pp. 31–36 (Abb. 1: f. 5<sup>v</sup> [Herodian]); E. GAMILLSCHEG: *Der Codex des Herodian in der Österreichischen Nationalbibliothek. Zur Anwendung neuer Technologien in der Handschriftenforschung*. In: *Palimpsestes et éditions de textes : les textes littéraires. Actes du colloque tenu à Louvain-la-Neuve (septembre 2003)*. Édités par V. Somers (Publications de l’Institut orientaliste de Louvain 56). Louvain-la-Neuve 2009, pp. 101–110 (Abb. 1–2: ff. 2<sup>r</sup>, 5<sup>r</sup> [Herodian]); GRUSKOVÁ, *Untersuchungen* (2010) (see note 7), pp. 31–37 (with bibliography) and 173–174 with Abb. 1–2 (f. 7<sup>r</sup> [Herodian]).

manuscript itself<sup>18</sup>. The multispectral images of *Fotoscientifica* will help to recover the original writing<sup>19</sup>. Furthermore, the fragments of classical authors will be analysed systematically.

II. In the course of his studies on Herodian, Herbert Hunger recognized that the lower text of the remaining 23 palimpsest folios of Vind. Hist. gr. 10 – ff. 9<sup>r</sup>–23<sup>v</sup> and 26<sup>r</sup>–33<sup>v</sup> – does not belong to the same original manuscript<sup>20</sup>. However, the barely discernable remnants of the erased writing on these folios and limited technical possibilities at that time precluded identification. The revision of the palimpsest undertaken under the project “Rinascimento virtuale” in 2003–2004 led to the conclusion that the 23 folios come from a minuscule manuscript written at about the year 1000 or in the first half of the 11<sup>th</sup> century and contain an unknown anthology of the *Basilica*. The *Basilica* is the most extensive legislation that existed in the Byzantine Empire, created through a selection and rearrangement of the various Greek translations as well as Justinian’s Novels into one corpus of texts. This process was completed and the collection issued around the year 900 by Leo VI the Wise (886–912). Even though they have not been preserved in their entirety, the extant *Basilica* comprise more than 3000 pages in a printed edition<sup>21</sup>. Because relatively few manuscripts of this work have come down to us, any new manuscript is an important textual witness, particularly if it can be dated to only about one hundred years later than the text’s completion.

Under the project “Rinascimento virtuale” multispectral imaging was applied to all 23 folios in question (see above, p. 73). Bernard H. Stolte, a specialist in Byzantine law from Groningen, was asked to cooperate in the analysis of the new material. The preliminary results have already been published<sup>22</sup>. The

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<sup>18</sup> Research team responsible for this palimpsest: Oliver Primavesi, Klaus Alpers and Jana Grusková.

<sup>19</sup> The ultraviolet fluorescence images at a very high resolution with separately filtered RGB channels could be the most significant help in deciphering the lower text.

<sup>20</sup> See HUNGER, *Palimpsest-Fragmente* (1967) (see note 11), p. 2.

<sup>21</sup> See *Basilicorum libri LX. Series A: Text. Series B: Scholia*. Ediderunt H. J. SCHELTEMA, (D. HOLWERDA,) N. VAN DER WAL (Scripta Universitatis Groninganae). Groningen 1953–1988.

<sup>22</sup> See J. GRUSKOVÁ: *Zwei neuentdeckte Basiliken-Handschriften in der Österreichischen Nationalbibliothek in Wien*. In: Παλίμψηστος. News from Rinascimento virtuale – Digitale Palimpsestforschung. Rediscovering written records of a hidden European cultural heritage (2001–2004). Edited by Á. Escobar. Zaragoza 2004, p. 47; GAMILLSCHEG – GRUSKOVÁ: *Neue Techniken* (2004) (see note 17), pp. 31–36 (Abb. 3: f. 33<sup>v</sup>); B. STOLTE: *Balancing Byzantine Law*. In: *Fontes Minores XI* (Forschungen zur byzantinischen Rechtsgeschichte 26). Hrsg. von L.

Vienna palimpsest preserves parts of books 2, 3, 5–10, 16 and 19 of the *Basilica*. However, the folios do not contain the full text of the *Basilica*, but a compilation, an anthology (annotated with some scholia) which has been given the name “*Florilegium Basilicorum Vindobonense*”. In addition to the fact that we have no other witnesses of this anthology, the palimpsest is also important as it contains (on ff. 14 and 33) some passages of book 19 which are not preserved in any other manuscript of the *Basilica*.

The goal of the new project is to prepare an edition of the “*Florilegium Basilicorum Vindobonense*”<sup>23</sup>, based on a careful transcription of the legible remnants of the lower text with the aid of the above-mentioned high-quality images. Palaeographical and codicological aspects of the manuscript and the book’s history will be further examined. Subsequently, the text will be thoroughly analysed in the context of the history of law.

III. In the second half of the 16<sup>th</sup> century, Ogier Ghiselin (Augerius) de Busbecq (1522–1592), an ambassador of the Austrian monarchs to the Ottoman Empire, purchased in Constantinople a manuscript written in a calligraphic minuscule of the 10<sup>th</sup> century, containing the *Constitutiones Apostolorum*, a 4<sup>th</sup>-century collection of ecclesiastical law. This manuscript is now in the possession of the Austrian National Library in Vienna as Hist. gr. 73. There is a 13<sup>th</sup>-century possessory note of a Theotokos’ monastery τοῦ Βώλακος on f. 1<sup>r</sup>. Around that time, eleven parchment leaves, ff. 185–195, all of them palimpsests<sup>24</sup> with various ecclesiastical texts in the upper writing of the 13<sup>th</sup> century,

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Burgmann. Frankfurt am Main 2005, pp. 57–75 (63); GAMILLSCHEG, *Der Codex des Herodian* (2009) (see note 17), pp. 101–110 (Abb. 3–4: ff. 9, 12<sup>v</sup>); B. STOLTE: *Ein Florilegium Vindobonense der Basiliken*. In: *Palimpsestes et éditions de textes* (2009) (see note 17), pp. 111–113; J. GRUSKOVÁ: *Zwei neue Basiliken-Handschriften in der Österreichischen Nationalbibliothek I: Paläographisch-kodikologische Analyse (mit vier Tabellen und 30 Tafeln)*. In: *Quellen zur byzantinischen Rechtspraxis. Aspekte der Textüberlieferung, Paläographie und Diplomatie. Akten des internationalen Kongresses* (Wien, 5.–7. November 2007). Hrsg. von Ch. Gastgeber (Veröffentlichungen zur Byzanzforschung XXV. Denkschriften der philosophisch-historischen Klasse der Österreichischen Akademie der Wissenschaften 413). Wien 2010, pp. 107–138, 153–182 (particularly 107–122 and 154–166, Abb. 2–14: ff. 18<sup>v</sup>, 14<sup>v</sup>, 26<sup>r</sup>, 26<sup>v</sup>, 23<sup>v</sup>, 31<sup>v</sup>, 15<sup>v</sup>, 15<sup>r</sup>, 22<sup>v</sup>, 21<sup>v</sup>, 20<sup>v</sup>, 14<sup>r</sup>, 33<sup>v</sup>); B. H. STOLTE: *Zwei neue Basiliken-Handschriften in der Österreichischen Nationalbibliothek II: Rechtshistorische Analyse (mit 30 Tafeln)*, ibidem, pp. 139–182 (particularly pp. 139–146); GRUSKOVÁ, *Untersuchungen* (2010) (see note 7), pp. 37–41 (with bibliography) and 175–179 (Abb. 3–6: ff. 10<sup>r</sup>, 30<sup>r</sup>).

<sup>23</sup> Research team responsible for this palimpsest: Bernard H. Stolte, Jana Grusková.

<sup>24</sup> Ff. 185<sup>r</sup>–191<sup>v</sup> contain hagiographical fragments in the lower layer of text; see GRUSKOVÁ, *Untersuchungen* (2010) (see note 7), pp. 46–50 and 179–180 with Abb. 7–8 (ff. 188<sup>r</sup>, 185<sup>v</sup>).

were bound to the book block at the end. On the last pages, ff. 194<sup>v</sup> – 195<sup>r</sup>, there is a curse against book thieves written by Theodosius IV, Patriarch of Antioch (1278–1283)<sup>25</sup>.

One of the most significant achievements of the previous project was the discovery (in 2008) of unknown historical fragments in the lower layer of ff. 192<sup>r</sup>–195<sup>v</sup><sup>26</sup>. The minuscule text could be preliminary dated to the first half of the 11<sup>th</sup> century. The palimpsest was studied by using an ultraviolet lamp as well as on the basis of digital ultraviolet images captured by the Technical University of Vienna in 2007<sup>27</sup> and the Teuchos Center of the University of Hamburg in 2008<sup>28</sup>; besides, ultraviolet photographs from the 1960s were available. However, these means enabled us to read only about 15% of the erased text.

The language and style, as well as the name of a Scythian leader Κνίβαϛ mentioned twice on f. 195<sup>r</sup>, who might be identified with the chieftain of Goths Cniva from the middle of the 3<sup>rd</sup> century, allow us to suppose that the fragments so far deciphered could have come from the *Scythica*, the “History of the Goths”, of P. Herennius Dexippus, a Greek historian and Athenian statesman who lived in the 3<sup>rd</sup> century A. D. The *Scythica* of Dexippus in which he described the 3<sup>rd</sup>-century wars of Rome with the Goths, whom he calls Scythians, have passed down to us only in quotations and excerpts by indirect tradition. Since Dexippus was a contemporary witness of the events and may have actively taken part in battles, every new fragment from his lost work would be of considerable importance<sup>29</sup>. However, from the very small portion of the erased text

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<sup>25</sup> See HUNGER, *Katalog I* (1961) (see note 5), pp. 82–83; GRUSKOVÁ, *Untersuchungen* (2010) (see note 7), pp. 42–53 (with bibliography) and 179–181 with Abb. 7–9.

<sup>26</sup> See GRUSKOVÁ, *Untersuchungen* (2010) (see note 7), pp. 50–53 and 181 with Abb. 9 (f. 195<sup>r</sup>).

<sup>27</sup> The Institute of Computer-Aided Automation of the Technical University of Vienna (Institut für Rechnergestützte Automation, Technische Universität Wien, under the supervision of Prof. Robert Sablatnig).

<sup>28</sup> For Teuchos see note 50. – For the imaging techniques applied to palimpsests in Vienna during the last decade see D. DECKERS – J. GRUSKOVÁ: *Zum Einsatz verschiedener digitaler Verfahren in der Palimpsestforschung*. In: *The Legacy of Bernard de Montfaucon: Three Hundred Years of Studies on Greek Handwriting. Proceedings of the Seventh International Colloquium of Greek Palaeography* (Madrid – Salamanca, 15–20 September 2008). Edited by A. Bravo García and I. Pérez Martín, with the assistance of J. Signes Codoñer (Bibliologia 31A). Turnhout 2010, pp. 353–362.

<sup>29</sup> For P. Herennius Dexippus see G. MARTIN: *Dexipp von Athen: Edition, Übersetzung und begleitende Studien* (Classica Monacensia 32). Tübingen 2006 (with further bibliography); L. MECCELLA, *Πήτωρ και συγγραφεύς: cultura, politica e storiografia nell'opera di Dexippo di Atene*. *Millennium* 6, 2009, pp. 107–132; F. MILLAR: *P. Herennius Dexippus. The Greek World and the Third Century Invasions*. *Journal of Roman Studies* 59, 1969, pp. 12–29; F. J. STEIN,

we were able to read with the aid of the technical means available in the previous project (see above) it was not possible to decide whether the two bifolia, ff. 192<sup>rv</sup> + 193<sup>rv</sup> and ff. 194<sup>rv</sup> + 195<sup>rv</sup>, belonged to a direct copy of this work or to a copy of another, unknown or not otherwise transmitted historical work, or rather to a (thematically subdivided) collection of historical excerpts containing extensive quotations.

Concerning further analysis of the new historical fragments, Gunther Martin, a specialist in late Ancient Greek historiography, and especially in Dexippus<sup>30</sup>, was asked to cooperate in the new project<sup>31</sup>. As a first step, the four folios will be digitized by means of a high-resolution multispectral imaging in order to decipher the remnants of the erased text to the greatest possible extent. The *Early Manuscripts Electronic Library* (EMEL, California), working with the scientific team which developed new methods of spectral imaging to recover the erased text of the famous Archimedes palimpsest, has been asked to cooperate<sup>32</sup>. Subsequently, a critical edition accompanied by a profound study of the historical text and of the manuscript itself will be prepared.

IV. The *Chronicle* of Eusebius of Caesarea (CPG 3494), a universal history in two books including biblical history and the Near Eastern kingdoms as well as the Graeco-Roman world, written at the beginning of the 4<sup>th</sup> century, was one of the most influential works in the Middle Ages in both the East and the West. A prefatory volume, *Chronography* (book 1), summarized the chronological systems of all the peoples of antiquity; it consisted largely of excerpts from earlier authors, today mostly lost. The main body, *Canons* (book 2), contained chronological tables of dates and events. The *Chronicle* is known to be lost in its Greek original and to survive only through indirect tradition. Chiefly, there is an Armenian translation of the whole text dating to the 5<sup>th</sup>/6<sup>th</sup> century A. D., a Latin translation of the *Canons* (with additions) made by St. Jerome about

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*Dexippus et Herodianus rerum scriptores quatenus Thucydidem secuti sint*. Bonn 1957, pp. 4–71. For Cniva see H. WOLFRAM: Art. *Kniva*. In: *Reallexikon der Germanischen Altertumskunde* 17. Hrsg. von H. Beck, D. Geuenich und H. Steuer. Berlin – New York 2001<sup>2</sup>, pp. 34–37; H. WOLFRAM: *Die Goten*. München 2001<sup>4</sup>, pp. 55–58.

<sup>30</sup> See especially the monograph MARTIN, *Dexipp von Athen* (2006) (see note 29).

<sup>31</sup> Research team responsible for this palimpsest: Gunther Martin, Jana Grusková.

<sup>32</sup> Since the success with the Archimedes Palimpsest (see [www.archimedespalimpsest.org](http://www.archimedespalimpsest.org)), the EMEL team (under the direction of Michael Phelps) has continued to improve and supplement its methods. EMEL currently carries out a five-year project to apply spectral imaging to palimpsests of Saint Catherine's Monastery at Mount Sinai in Egypt. See <http://emelibrary.org/>.

380 A. D., citations in the *Ecloga chronographica* of Georgius Syncellus from the 8<sup>th</sup>/9<sup>th</sup> century and some Syrian epitomes<sup>33</sup>. Therefore, the recent discovery of two leaves of the lost Greek text of the *Chronicle* in Sambucus' Vienna palimpsest Iur. gr. 18 has attracted the attention of scholars.

The upper juridical text of this manuscript, which comprises two parts coming from two different *codices* (A: ff. 1<sup>r</sup>–8<sup>v</sup>; B: ff. 9<sup>r</sup>–81<sup>v</sup>), was written in the 11<sup>th</sup> century, entirely on palimpsested folios of several manuscripts dating from the 6<sup>th</sup> to the 11<sup>th</sup> centuries<sup>34</sup>. For ff. 9<sup>r</sup>–81<sup>v</sup>, a Southern Italian origin may be postulated. An analysis of the 10<sup>th</sup>-century minuscule text in the lower layer of ff. 32<sup>rv</sup>+39<sup>rv</sup> running parallel to the upper juridical text led to identification with book 1 of the *Chronicle* of Eusebius<sup>35</sup>. The way in which the Greek text of the palimpsest coincides with the Armenian text in the passage Karst 9, 1 (Petermann 17, 13/14; Aucher 26) – Karst 10, 27 (Petermann 21, 3; Aucher 32) allows us to suppose that the Vienna fragment could have belonged to a direct copy of the otherwise lost Greek original. Since the text continues from f. 32<sup>v</sup> directly to f. 39<sup>r</sup>, the two leaves must have built an internal bifolium of a quire.

<sup>33</sup> See PG 19, pp. 101–598; J. B. AUCHER: *Eusebii Pamphili ... Chronicon bipartitum nunc primum ex Armeniaco textu in Latinum conversum adnotationibus auctum Graecis fragmentis exornatum, opera P. Jo. Baptistae Aucher Ancyran. Venetiis 1818*; A. SCHOENE – H. PETERMANN – E. ROEDIGER: *Eusebi Chronicorum libri duo. Edidit A. Schoene. Vol. II: Eusebi Chronicorum canonum quae supersunt. Edidit A. Schoene. Armeniam versionem Latine factam e libris manuscriptis recensuit H. Petermann. Hieronymi versionem e libris manuscriptis recensuit A. Schoene. Syriam epitomen Latine factam e libro Londinensi recensuit E. Roediger. Berlin 1866*; A. SCHOENE – H. PETERMANN: *Eusebi Chronicorum libri duo. Edidit A. Schoene. Vol. I: Eusebi Chronicorum liber prior. Edidit A. Schoene. Armeniam versionem Latine factam ad libros manuscriptos recensuit H. Petermann. Graeca fragmenta collegit et recognovit, appendices chronographicas sex adiecit A. Schoene. Berlin 1875* (both volumes repr. by Weidmann Verlag, Dublin – Zurich 1967); J. KARST, *Eusebius Werke V: Die Chronik. Aus dem Armenischen übersetzt von Josef Karst* (GCS 20). Leipzig 1911; R. HELM: *Eusebius Werke VII/1,2: Die Chronik des Hieronymus. Hieronymi Chronicon. Berlin 1913, 1926* (GCS 24, 34); Berlin 1956<sup>2</sup> (GCS 47); Berlin 1984<sup>3</sup> (mit einer Vorbemerkung von U. Treu). – For further details see A. A. MOSSHAMMER: *The Chronicle of Eusebius and Greek Chronographic Tradition*. Lewisburg – London 1979 (with bibliography); A. A. MOSSHAMMER: *Georgii Syncelli Ecloga chronographica*. Leipzig 1984, *passim*; J. ULRICH: *Euseb von Caesarea und die Juden*. Berlin 1999, pp. 49–50; A. DROST-ABGARJAN, *Ein neuer Fund zur armenischen Version der Eusebios-Chronik*. In: Julius Africanus und die christliche Weltchronistik. Hrsg. von M. Wallraff. Berlin – New York 2006, pp. 255–262.

<sup>34</sup> See HUNGER – KRESTEN, *Katalog II* (1969) (see note 5), p. 34; GRUSKOVÁ, *Untersuchungen* (2010) (see note 7), pp. 130–169 (with bibliography) and 219–245 with Abb. 46–72.

<sup>35</sup> See GRUSKOVÁ, *Untersuchungen* (2010) (see note 7), pp. 149–153 and 234–235 with Abb. 61–62 (ff. 32<sup>v</sup>, 39<sup>r</sup>).

The palimpsest was digitalized under ultraviolet light by the Technical University of Vienna in 2007 and the Teuchos Center of the University of Hamburg in 2008<sup>36</sup>, however, this imaging enabled us to read only about 60% of the erased text.

In the current project, high-resolution multispectral imaging will be applied on the palimpsest by EMEL (see above). Subsequently, an edition of the fragment of the *Chronicle* will be prepared, accompanied by a detailed study of palaeographical, codicological and book-historical aspects of the manuscript<sup>37</sup>.

V. The fifteen parchment folios of the currently unbound Codex (lat.) 954 of the Austrian National Library<sup>38</sup>, all of them rewritten, contain – in the upper text layer – *Letters* of St. Jerome, which were copied at the Monastery of Bobbio in the 8<sup>th</sup> century; the scriptorium of the monastery, established in 614 by the Irish saint Columban, developed a rich book production. The lower Latin text of ff. 1–6, 10–13, probably written in Spain around 500, transmits an old Latin version of the *Book of Proverbs*.

In the palimpsested layer of ff. 7–9, 14–15, there is a Greek majuscule (running parallel to the upper Latin text of the *Letters*) which may be dated to the beginning of the 6<sup>th</sup> century<sup>39</sup>. The text has been known as fragments of an “uraltes Volksbuch” of the legend of St. George (*Passio S. Georgii*; BHG 670). The palimpsest was studied and identified in the 19<sup>th</sup> century by Detlef Detlefsen, who partially deciphered the fragments and reconstructed the original order of the folios<sup>40</sup>. At the beginning of the 20<sup>th</sup> century Karl Krumbacher († 1909)

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<sup>36</sup> See notes 27 and 28.

<sup>37</sup> Research team responsible for this palimpsest: Otto Kresten, Jana Grusková. – Prof. Armenuhi Drost-Abgarjan (Halle), who has been working on a new edition of the Armenian text with German translation (GCS), has agreed to offer her expertise in support of the project.

<sup>38</sup> See C. VAN DE VORST – H. DELEHAYE: *Catalogus codicum hagiographicorum graecorum (Germaniae, Belgii, Angliae)*. Brüssel 1913, p. 86 (Cod. 106); E. A. LOWE: *Codices Latini antiquiores. A paleographical guide to Latin manuscripts prior to the ninth century X: Austria, Belgium, Czechoslovakia, Denmark, Egypt, and Holland*. Oxford 1963, p. 16 (Nr. 1492); E. IRBLICH: *Karl der Große und die Wissenschaft. Ausstellungskatalog mit einem Beitrag von Herwig Wolfram. Ausstellung karolingischer Handschriften der Österreichischen Nationalbibliothek zum Europa-Jahr 1993. Prunksaal, 9. Juni – 26. Oktober 1993*. Wien 1994<sup>2</sup>, pp. 64–65, Nr. 15 (mit Abb.); H. J. FREDE – U. FRÖHLIG – H. STANJEK: *Vetus Latina. Die Reste der Altlateinischen Bibel*. Freiburg 1996, p. 14. See also LDAB 8950, 8951 and 8952.

<sup>39</sup> See G. CAVALLO: *La produzione di manoscritti greci in Occidente tra età tardoantica e alto Medioevo. Note ed ipotesi*. Scrittura e civiltà 1, 1977, pp. 111–131 (116–117, 128 n. 73; tav. 4b).

<sup>40</sup> See D. DETLEFSEN: *Über einen griechischen Palimpsest der k. k. Hofbibliothek mit Bruchstücken einer Legende vom heiligen Georg* (aus dem Mai-Heft des Jahrganges 1858 der Sit-

prepared a new edition of the palimpsest (he was able to read to a considerably great extent thanks to new developments in photography at that time), analysed the fragments and examined thoroughly the whole Greek tradition of George's legend; his results were published posthumously by Albert Ehrhard<sup>41</sup>.

Because of their great cultural value, the five Greek folios were selected for multispectral imaging under the European project "Rinascimento virtuale" (see above). Ernst Gamillscheg, an expert on Greek manuscripts (Vienna), has been involved in the study of this important hagiographical palimpsest. The goal of the new project is to revise and to complete Krumbacher's transcription with the aid of the multispectral images of *Fotoscientifica*<sup>42</sup>. Further palaeographical and codicological analysis of the folios will be conducted.

VI. The extraordinary compilation of ceremonial procedures ascribed to the Emperor Constantine VII Porphyrogenitus and known under the title *De cerimoniis aulae Byzantinae*, had been considered as being transmitted only through the *codex unicus* Lips. Rep. I 17 (gr. 28)<sup>43</sup> till some fragments of another extant textual witness were discovered at the beginning of the second half of the 20<sup>th</sup> century: In 1960, Cyril Mango and Ihor Ševčenko published a study on a new Greek manuscript of the *De cerimoniis* they had found hidden in the lower

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zungsberichte der phil.-hist. Classe der k. Akademie der Wissenschaften [Bd. 27, S. 383–404] besonders ausgedruckt). Wien 1858. See also K. ZWIERZINA: *Bemerkungen zur Überlieferung des ältesten Textes der Georgslegende*. Prager deutsche Studien 8/1, 1908, pp. 555–564.

<sup>41</sup> See K. KRUMBACHER: *Der heilige Georg in der griechischen Überlieferung*. Aus dem Nachlasse des Verfassers herausgegeben von A. EHRHARD (Abhandlungen der königlichen bayerischen Akademie der Wissenschaften. Philos.-philol. und hist. Klasse XV). München 1911, pp. 1–3, 106–109, Taf. 1 (f. 15<sup>v</sup> [sic, not 7<sup>r</sup>]) (with further bibliography); A. EHRHARD, *Überlieferung und Bestand der hagiographischen und homiletischen Literatur der griechischen Kirche von den Anfängen bis zum Ende des 16. Jahrhunderts. Erster Teil: Die Überlieferung I* (Texte und Untersuchungen zur Geschichte der altchristlichen Literatur 50). Leipzig 1937, p. 72; LOWE, *CLA X* (1963) (see note 38), p. 17 (Nr. 1493). See also LDAB 8952 (the palimpsest in the Monacensis lat. 29022e doesn't belong to the same original manuscript; cf. CAVALLO, *La produzione* [1977] [see note 39], p. 116).

<sup>42</sup> Research team responsible for this palimpsest: Ernst Gamillscheg, Jana Grusková.

<sup>43</sup> For this manuscript see M. FEATHERSTONE: *Preliminary Remarks on the Leipzig Manuscript of De Cerimoniis (with two figures and six plates [XIII–XVIII])*. *Byzantinische Zeitschrift* 95, 2002, pp. 457–479 (with bibliography); M. FEATHERSTONE: *Court Orthography: Spelling in the Leipzig Manuscript of De Cerimoniis*. In: *Philomathestatos. Studies in Greek Patristic and Byzantine Texts Presented to Jacques Noret for his Sixty-Fifth Birthday*. Edited by B. Janssens, B. Roosen and P. van Deun (Orientalia Lovanensia Analecta 137). Leuven – Paris – Dudley/Ma. 2004, pp. 239–247 (with Pl. 1); M. FEATHERSTONE: *Further Remarks on the De Cerimoniis*. *Byzantinische Zeitschrift* 97, 2004, pp. 113–121.

layer of the palimpsest Chalc. S. Trinitatis 133 (125) (ff. 31–39, 64–93 [69bis], 126–132, 212–279 [214bis])<sup>44</sup>; in the seventies Wolfgang Waldstein found and Otto Kresten identified further palimpsest fragments of the same original *codex* in the manuscript Athos Vatop. 1003 (ff. 72<sup>r</sup>–103<sup>v</sup>, 106<sup>r</sup>–109<sup>v</sup>, 112<sup>r</sup>–135<sup>v</sup>)<sup>45</sup>. In 2004, under the project “Rinascimento virtuale”, the palimpsest fragments of the Athos manuscript were digitized by the Greek company *Forth Photonics* (Crete/Athens)<sup>46</sup>; subsequently, plain ultraviolet digital images were made available to the scholars for textual and palaeographical analysis<sup>47</sup>. Preliminary results and observations were published in 2005<sup>48</sup>.

The goal of the new project are further detailed studies which will be undertaken in two steps: (1) A reconstruction of the original manuscript of the 10<sup>th</sup> century to which the palimpsest folios in the Vatopedinus and in the Chalcensis<sup>49</sup> initially belonged (whereas the upper script of both palimpsests may be dated to about the year 1300); (2) A thorough analysis of the text in the Lipsiensis and of the text transmitted in the palimpsests including considerations concerning the origins and the history of the textual tradition of the *De*

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<sup>44</sup> See C. MANGO – I. ŠEVČENKO: *A New Manuscript of the De Cerimoniis*. *Dumbarton Oaks Papers* 14, 1960, pp. 247–249 (with 2 photos); see also N. OIKONOMIDES, *Les listes de préséance byzantines du IXe et Xe siècles. Introduction, texte, traduction et commentaire par N. Oikonomidès*. Paris 1972, pp. 72–73 and *passim*.

<sup>45</sup> See J. F. HALDON: *Constantine Porphyrogenitus, Three Treatises on Imperial Military Expeditions. Introduction, edition, translation and commentary by J. F. Haldon* (*Corpus fontium historiae Byzantinae* 28, Ser. Vindobonensis). Wien 1990, p. 36, note 2. – For the manuscript see S. EUSTRATIADIS – ARCADIOS OF VATOPEDI: *Catalogue of the Greek Manuscripts in the Library of the Monastery of Vatopedi on Mt. Athos* (*Harvard Theological Studies* XI). Cambridge/Mass. – Paris – London 1924, p. 181.

<sup>46</sup> The multispectral camera system MuSIS, created by Costas Balas and his colleagues, was used (see [http://musis.runaway.gr/apps\\_lit\\_palimps.php?menu=42](http://musis.runaway.gr/apps_lit_palimps.php?menu=42)), however, due to several technical inadequacies during the starting phase – as it was the first palimpsest digitized with this system – only the plain ultraviolet images collected on Athos turned out to be usable; nevertheless, this is still considerably more than before. – We would like to express our deep gratitude to Agamemnon Tselikas and Kriton Chrysochoidis for their substantial contribution to the imaging campaign at Vatopedi.

<sup>47</sup> Research team responsible for this palimpsest: Otto Kresten, Michael Featherstone and Jana Grusková.

<sup>48</sup> See M. FEATHERSTONE – J. GRUSKOVÁ – O. KRESTEN, *Studien zu den Palimpsestfragmenten des sogenannten „Zeremonienbuches“. I. Prolegomena*. *Byzantinische Zeitschrift* 98, 2005, pp. 423–430 (with further bibliography). Unfortunately, the research had to be interrupted for several years because of other scholarly duties of two members of the team.

<sup>49</sup> This manuscript is available only in an old microfilm copy; all attempts to autoptically consult the original during the last decade have failed.

*cerimoniis*. The intended analyses should provide additional evidence relating to the date of the reused manuscript and of the Lipsiensis as well. The crucial research question is the extent to which the remnants of text on the 60 folios of the Vatopedinus and on the 116 folios of the Chalcensis can contribute to the *constitutio textus* of the *De ceremoniis*.

The examination of the textual witnesses and manuscripts in question under the new project will, furthermore, glean insights into Byzantine culture and book production from the 6<sup>th</sup> to the 13<sup>th</sup> centuries in general. The results will be disseminated both in print and online<sup>50</sup>, with the texts accompanied by the images<sup>51</sup>, thus enabling a wide scholarly discussion and making this particular cultural heritage accessible to the interested public<sup>52</sup>.

## R e s u m é

### **Ďalšie kroky v odkryvaní, vydávaní a analyzovaní významných starogréckych a byzantských textov ukrytých v palimpsestoch**

Jana GRUSKOVÁ, Bratislava/Viedeň

Cieľom príspevku je predstaviť nový trojročný projekt zameraný na spracovanie významných starogréckych a byzantských textových pamiatok ukrytých v spodnej vrstve gréckych palimpsestov, ktoré sa nachádzajú v Rakúskej národnej knižnici vo Viedni (Austrian Science Fund, FWF P24523-G19). Špeciálna digitálna technológia umožní odborníkom dešifrovať a preskúmať unikátne rukopisy a spracovať, vydať a sprístupniť tak odbornej i širokej verejnosti vzácne texty: Aelius Herodianus, *De prosodia catholica* (Cod. Vind. Hist. gr. 10); *Florilegium Basilicorum Vindobonense* (Cod. Vind. Hist. gr. 10); doposiaľ nedoložené historické fragmenty o vojnách s Gótmami (Cod. Vind. Hist. gr. 73); fragment odpisu (v priamej tradícii nezachovaného) gréckeho originálu Eusebiovho diela *Chronicon* (Cod. Vind. Iur. gr. 18); zlomky prastarej ľudovej verzie legendy o sv. Jurajovi (Cod. Vind. 954). Pozornosť sa bude venovať aj ďalšej analýze reskribovaného rukopisu diela *De ceremoniis aulae Byzantinae* (Cod. Athos Vatop. 1003).

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<sup>50</sup> Moreover, a creation of innovative online editions is foreseen at the end of the project. For this purpose we have envisaged cooperation with Teuchos, the Centre for Manuscript and Textual Research of the University of Hamburg (see <http://www.teuchos.uni-hamburg.de/>).

<sup>51</sup> Detailed technical metadata for the new images captured by EMEL will be provided.

<sup>52</sup> For general information about the project and further details (e. g. current outputs and latest development) see the project homepage <http://www.oeaw.ac.at/byzanz/P24523.htm>.