

Keeping Track of Accounts: The editing platform DimeData

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Did the Romans ruin the Egyptian temples or, on the contrary, stimulate their economy? While the older research was convinced of the former¹, it has been argued recently that the Roman administration had reduced the fiscal burden by various measures, showed commitment for the protection of the native population against exploitation by officials, alleviated the strong centralization which prevailed under the Ptolemies and granted more influence to the urban landowning elites. Thus Jördens and Monson draws the conclusion that Rome had even provided an economic stimulus in the *provincia Aegyptus*².

There is hardly any other place more suited for the examination of the economic situation of an Egyptian temple under Roman provincial administration than the temple of the god Soknopaios in Dime.³ On the one hand, both the Greek and the Egyptian-language documentation is generally very rich, on the other hand the sources that concern the economic life of the temple are particularly well preserved.

The Greek material proves the connections between the temple and the central administration, as tax declarations, lists of priests, inventories of temple belongings, petitions, circumcision certificates and letters show.⁴ Parts of the Demotic corpus, which according to the current state of research comprises 800 ostraca and 2,000 papyri⁵, were published 100 years later, in particular, accounts and lists on ostraca as well as documents and receipts on papyri which the temple book keeping office drew up or which are related to priests of the temple.

¹ E.g. D. Rathbone, Village Markets in Roman Egypt. The Case of First-century AD Tebtunis, in: M. Frass (ed.), Kauf, Konsum und Märkte. Wirtschaftswelten im Fokus – Von der römischen Antike bis zur Gegenwart. Philippika 59, Wiesbaden 2013, 123–142.

² A. Jördens, Statthalterliche Verwaltung in der römischen Kaiserzeit. Studien zum praefectus Aegypti, Stuttgart 2009, 519–523. A. Monson, From the Ptolemies to the Romans. Political and Economic Change in Egypt, Cambridge 2012, 162–191.

³ The latest monograph on ancient Egyptian economy by B. Muhs does not deal with the Roman period: The Ancient Egyptian Economy, 3000–30 BC, Cambridge 2016. For preliminary works on a comprehensive study on the economic system of the Soknopaios temple in Dime see S. L. Lippert/M. Schentuleit, Die Tempelökonomie nach den demotischen Texten aus Soknopaiou Nesos, in: S. Lippert/M. Schentuleit (eds.), Tebtynis und Soknopaiou Nesos. Leben im römerzeitlichen Fajum. Akten des internationalen Symposions vom 11.–13. Dezember 2003 in Sommerhausen, Wiesbaden 2005, 71–78; eadd., Demotische Dokumente aus Dime I. Ostraka, Wiesbaden 2006; eadd., Demotische Dokumente aus Dime II. Quittungen, Wiesbaden 2006.

⁴ An overview over the Greek text material from Dime is published by A. Jördens, Griechische Papyri in Soknopaiou Nesos, in: S. Lippert/M. Schentuleit (eds.), Tebtynis und Soknopaiou Nesos. Leben im römerzeitlichen Fajum. Akten des internationalen Symposions vom 11.–13. Dezember 2003 in Sommerhausen, Wiesbaden 2005, 41–56.

⁵ The numbers are based on the research of the project *Soknopaiou Nesos nach den demotischen Quellen römischer Zeit* (Würzburg 2000 to 2006; S. L. Lippert/M. Schentuleit, Demotische Dokumente aus Dime I. Ostraka, Wiesbaden 2006; eadd., Demotische Dokumente aus Dime II. Quittungen, Wiesbaden 2006; eadd., Demotische Dokumente aus Dime III. Urkunden, Wiesbaden 2010), on M. A. Stadler, Demotica aus Dime, in: M. Capasso, P. Davoli, Soknopaiou Nesos Project I (2003–2009), Pisa/Rom 2012, 255–263, as well as on the Soknopaiou Nesos Project reports of the Italian Mission working on the site since 2001; in 2001 and 2002 by a Joint Expedition of Lecce and Bologna Universities, since 2004 by Lecce University Archaeological Expedition: <https://www.museopapirologico.eu/sok_rep.htm>. An overview over publications on the site and its texts by the members of the archaeological mission is published online: <https://www.museopapirologico.eu/sok_pub.htm>. Forthcoming: C. Arlt, The Demotic Ostraka, in: M. Capasso/P. Davoli (eds.), Soknopaiou Nesos Project II, Lecce.

Two large groups are still awaiting their edition: On the one hand there are the temple agreements, that is agreements between the priesthood and either priestly functionaries or dependent craftsmen which regulate the rights and duties of individuals or groups in the exercise of professional activities in the context of the temple. The hitherto published agreement concerns the conditions for the scribe's office at the Soknopaios temple⁶. On the other hand there are the accounts in list form on papyrus. Except for pBerlin 6848 = pZauzich 12 (TM 46246)⁷ and a few publications of individual fragments⁸ of the 850 inventory numbers identified so far, no texts are published. The bulk of the documents are stored in the collections of Berlin, London, Paris and Vienna, but there are also fragments in collections in North America. These accounts are the topic of the project *DimeData* funded by the French Agence National de la Recherche (ANR) and the Deutsche Forschungsgemeinschaft (DFG) and hosted by the Universities of Bordeaux/France and Würzburg/Germany.⁹ The planned editing platform will provide transliteration and translation as well as annotations of about 40 texts.

Preliminary work and typology of the texts

From 2000 to 2005, Karl-Theodor Zauzich, Sandra Lippert, and the author did preliminary work by making transliterations and translations of a number of accounts. From 2012 to 2013 Marie-Pierre Chaufray worked on around 100 texts and set up a database that lists all known texts of the temple book keeping of Dime with metadata.¹⁰ She was able to identify more than 120 rolls that are more than 1 meter wide.¹¹

⁶ pWien D 4852 (year 15 of Domitian), cf. S. L. Lippert, Die Abmachungen der Priester, in: P. Davoli/M. Capasso, New Archaeological and Papyrological Researches on the Fayyum. Proceedings of the International Meeting of Egyptology and Papyrology, Lecce 8th–10th June 2005, Lecce 2007, 147–155.

⁷ Th. Dousa, F. Gaudard, J. Johnson, P. Berlin 6848, a Roman Period Temple Inventory, in: F. Hoffmann/H. J. Thissen (eds.), *Res Severa Verum Gaudium: Festschrift für Karl-Theodor Zauzich zum 65. Geburtstag am 8. Juni 2004*. *Studia Demotica* 6. Leuven/Paris/Dudley, MA 2004, 139–222.

⁸ pBerlin P 23545 = TM 45592 (K.-Th. Zauzich, Spät demotische Papyrusurkunden IV, in: *Enchoria* 7 (1977), 167, no. 10), pWien D 6151 = TM 47526 (A. Migahid, Eine spät demotische Abrechnungsliste über Naturallieferungen (P. Vindob. D 6151), in: *ZÄS* 130 (2003), 99–102), pWien D 6141 = TM 47527 (A. Migahid, Ein Auszug aus einem spät demotischen Kassenbuch, in: *ZÄS* 127 (2000), 54–59); pWien D 6454 = TM 47523 (A. Migahid, Eine neue spät demotische Abrechnungsliste aus Soknopaiu Nesos oder Umgebung, in: *BIFAO* 103 (2003), 342–344); pWien G 19818 vso = TM 112348 und pWien G 19877 vso = TM 171852 (F. Hoffmann, Doppelte Buchführung in Ägypten. Zwei Wiener Abrechnungen (P. Wien G 19818 Verso und 19877 Verso), in: M. Depauw/Y. Broux (eds.), *Acts of the Tenth International Congress of Demotic Studies*, Leuven, 26–30 August 2008. *OLA* 231, Leuven [u.a.] 2014, 86–96), pWien D 6500 = TM 47537 und pWien D 6502 = TM 47538 (A. Migahid, Zwei spät demotische Listen, in: *MDAIK* 55 (1999), 326–328, no. 1; 331–332, no. 2), pWien D 6788 = TM 128993 (A. Migahid, Ein Auszug aus einem spät demotischen Steuerbuch, in: K. Daoud/S. Ab del-Fatah (eds.), *The World of Ancient Egypt. Essays in Honor of Ahmed Abd el-Qader el-Sawi*. *ASAE Suppl.* 35, Kairo 2006, 167–199).

⁹ The project is directed by Marie-Pierre Chaufray (Bordeaux) and Martin Andreas Stadler (Würzburg) with Déborah Vignot-Kott and myself as the scientific staff. Nathalie Prévot (Bordeaux) and Clemens Liedtke (Heidelberg) deal with the IT of the project (DFG project no. 389429869).

¹⁰ M.-P. Chaufray was at that time research associate for the project *Dime im Fayum – ein Tempel im Spannungsfeld von Tradition und Multikulturalität im hellenistisch-römischen Ägypten* funded by the DFG (project no. 107273930) directed by M. A. Stadler and based at the University of Würzburg.

¹¹ M.-P. Chaufray, *Comptes du temple de Soknopaios à Dimé à l'époque romaine*, in: T. Derda/A. Layjtat/ J. Urbanik (eds.), *Proceedings of the 27th International Congress of Papyrology in Warsaw, 29 July – 3 August*. *Journal of Juristic Papyrology Supplement* 28 (2016), 1737–1749; ead., *Registres comptables et pratique scribale à Dimé à l'époque romaine*, in: R. Ast, J. Cromwell/M. Choat/J. Lougovaya-Ast/R. Yuen-Collinridge (eds.), *Observing the Scribe at Work: Scribal Practice in the Ancient World*. *OLA* (in press).

The layout of the accounts in list form is characteristic. The text is divided into columns of up to 40 short lines where one column consists usually in fact of two columns: a) the text entry and b) the number entry. This number entry is either an amount of money or a quantity of a good or a product. Several of these lists show check marks like dots, crosses and slashes, and in some, corrections can be recognized, e.g. by encircling text passages to mark deletions. Occasionally, the lists show headlines which consist of a date with a regnal year and an indication like *jp* ‘account’ as well as a more detailed description of the purpose of the entries, but whether it is income or expenses of the temple is usually not explicitly stated and but must be deduced on the basis of the contents of the list.

Chaufray has set up a preliminary typology of the texts which comprises three main types. The first category consists of enumerations of goods or personal names, partly with specification of a title, and amounts of money recording most likely temple expenses. The entries listing personal names in the first, that means right column and amounts of money in the second, that means left column are related to expenses for services provided by the said individuals and occasionally also for tax payments that the temple had to pay to the state for various professional groups or officials. The interpretation is difficult because of the scarcity of the information given by the entries: it is not usually explicit for what purpose or for what reason the mentioned person receives *x* obols or *x* lok of oil.

Goods and products are e.g. different kinds of wood, bread, resin, papyrus, oil, olives, wine, beer, wool. Among the officials and other title bearing individuals we find the scribes of the nomarchs, scribes of settlements other than Dime (e.g. Crocodilopolis, Neilupolis, Dionysias), the scribe of the pharaoh (= basilikos grammateus), nomarchs, the epistates, machairophoroi, lesoneis¹², prophetai of Sobek. The entries concern not only the sanctuary in Dime, but also subsidiary sanctuaries (‘Filialheiligtümer’), i.e. temples and chapels outside Dime which were administratively dependent on the Soknopaios sanctuary like the one in Pisais¹³ and in Dionysias¹⁴.

The second category of texts consists of lists of names and amounts of money. It is not sure if these show temple expenses, e.g. salaries for priests and various temple servants, or revenues, e.g. payments from individuals to the temple such as taxes, rents, endowments etc. As the payment receipts from Dime inform us, taxes in kind and money were paid to the temple for

¹² M.-P. Chaufray, Des lésônes en action dans le temple de Soknopaios à Soknopaiou Nesos à l’époque ptolémaïque, in: P. Piacentini/C. Orsenigo, *Egyptian Archives*, Mailand 2009, 153–164. M. Schentuleit, Organization of the the Priesthood in Soknopaiou Nesos. Transition between the Ptolemaic and Roman Periods, in: M. Capasso/P. Davoli (eds.), *Soknopaios, the Temple and Worship. Proceedings of the First Round Table of the Centro di Studi Papirologici of Università del Salento Lecce – October 9th–10th 2013*. Edaphos 1, Lecce/Rovato 2015, 167–185; S. L. Lippert/M. Schentuleit, *Demotische Dokumente aus Dime II. Quittungen*, Wiesbaden 2006, 15–18;

¹³ S. L. Lippert/M. Schentuleit, Die Tempelökonomie nach den demotischen Texten aus Soknopaiou Nesos, in: S. Lippert/M. Schentuleit (eds.), *Tebtynis und Soknopaiou Nesos. Leben im römerzeitlichen Fajum. Akten des internationalen Symposions vom 11.–13. Dezember 2003 in Sommerhausen*, Wiesbaden 2005, 74; ead. *Demotische Dokumente aus Dime II. Quittungen*, Wiesbaden 2006, 9, 225, 229.

¹⁴ S. L. Lippert, Chapels, Chambers and Gateways. The Religious Architecture of Soknopaiou Nesos according to the Demotic Documentary Papyri (with a little detour to Dionysias), in: M. Capasso/P. Davoli (eds.), *Soknopaios, the Temple and Worship. Proceedings of the First Round Table of the Centro di Studi Papirologici of Università del Salento Lecce – October 9th–10th 2013*. Edaphos 1, Lecce/Rovato 2015, 155–165.

leasing and managing of businesses and subsidiary sanctuaries, as well as for the exercise of occupations by priests and craftsmen, and the scribe of the priests had to forward these tax payments to the state treasury.¹⁵

The third category identified so far consists of accounts with the indication of recipients of wheat, oil, and other goods. Because of its heterogeneity, this group needs further investigation before it is possible to determine context and purpose in more detail.

The accounts in the context of temple book keeping

Walter Otto's study 'Priester und Tempel im hellenistischen Ägypten' from 1905 has shaped our image of the Egyptian sanctuaries in post-Pharaonic times, but is essentially based on Greek text while the Demotic sources were barely accessible. This means that his analysis does not cover the area of the internal processes of temple economy because the entire inner administration including ostraca with book keeping notes and phyle counts, papyri with lists of phyle members, day-to-day-accounts, payment orders, receipts of wheat from the temple stores, inventories etc. were written in Demotic, in Dime until at least the late second half of the second century AD.¹⁶

In context with other known Demotic text sources one can determine the role of the accounts in list form in the system of temple book keeping and reconstruct the accounting process to a certain degree:

On ostraca scribes recorded the presence of priests in the temple on specific days, expenditure and income in money, wheat, bread etc. on a daily or rather a short-term basis.¹⁷ The recipients and payers of goods and money received receipts on papyrus.¹⁸ The accounts, attendance and allocation lists¹⁹ on ostraca, however, remained in the accounting office, and after a certain period of time (day(s), month(s)) a scribe transferred the information to papyrus as accounts in form of lists. These in turn were periodically audited and, if the numbers turned out to be correct, the priesthood issued discharge receipts ('Entlastungsquittungen') on papyrus for the scribe of the priests who acted as book keeper of the temple.²⁰ They also serve as basis of recapitulating accounts in Greek which the temple drew up to fulfil their obligations toward the state administration.²¹

¹⁵ S. L. Lippert/M. Schentuleit, *Demotische Dokumente aus Dime II. Quittungen*, Wiesbaden 2006, 9–14.

¹⁶ Cf. S. Lippert, *Seeing the Whole Picture: Why Reading Greek Texts from Soknopaiou Nesos is not Enough*, in: T. Gagos (ed.), *Proceedings of the Twenty-Fifth International Congress of Papyrology*, Ann Arbor 2007. *American Studies in Papyrology*, Ann Arbor 2010, 427–434, esp. 430–432.

¹⁷ DDD I 1–85, 176–204.

¹⁸ DDD II 1–55.

¹⁹ Cf. S. Lippert/M. Schentuleit, *Demotic Ostraca and their Use in Egyptian Temple Context from the Graeco-Roman Period – Soknopaiou Nesos and Hut-Repit*, in: C. Caputo/J. Lougovaya (eds.), *Using Ostraca in the Ancient World: New Discoveries and Methodologies*, forthcoming.

²⁰ DDD II 56–69. S. L. Lippert/M. Schentuleit, *Demotische Dokumente aus Dime II. Quittungen*, Wiesbaden 2006, 236–237.

²¹ pLouvre I 4; SPP XXII 183; SB VI 9199; ChrW 93 = BGU I 149. Cf. S. Lippert, *Seeing the Whole Picture: Why Reading Greek Texts from Soknopaiou Nesos is not Enough*, in: T. Gagos (ed.), *Proceedings of the Twenty-Fifth International Congress of Papyrology*, Ann Arbor 2007. *American Studies in Papyrology*, Ann Arbor 2010, 427–434.

The accounts in the context of archaeological finds

Recently, the Archaeological Mission at Dime under supervision of Paola Davoli and Mario Capasso from University of Salento Lecce has undertaken archaeozoological and archaeobotanical research at the site.²² Given that the accounts mention dozens of products and goods, a comparison with these animal and plant remains seems valuable.

After the archaeozoological analysis of 2016 in trench 8, west of ST 20, and in trench 10, south-west corner of the temenos area as well as other stratigraphic units, fish and cattle were the two main sources of food. Furthermore, few remains of birds, sheep, and goats were found, but no pigs. Since the area north of the lake Qarun seems not to be ideal for agricultural use and cattle was expensive, the archaeologists assumed that the population lived on the bovine animals which were used primarily as offerings in the temple cult and then have been redistributed as food among the priests. There is textual evidence for pigeon breeding²³, breeding or hunting of water fowl and herds of cattle from receipts documenting payments of taxes on meat²⁴ as well as on cattle²⁵ to the priesthood. Discharge receipts include sales tax on cattle (adult bovine animals and calves) and cowhide as an incoming item of the temple treasury.²⁶ ‘Herdsman of the god’, so the title of the persons responsible for these herds, are also attested in the accounts.²⁷ The lists possibly allow us to determine more precisely the ownership and use of the animals, the ratio between the different animals and the origin of cattle.²⁸ Referring to archaeobotany, a comparison between remains of wood from the site and the types of wood mentioned in the accounts will expand our vocabulary and give information about the use of this material. The archaeologists found a mass of pine-cones on the site, presumably used in the cult, but at the present moment there is no evidence in the accounts for this good which had to be imported. From a ceramological as well as from a lexicographic point of view, it will be valuable to compare the vessel names listed in the accounts and the objects found on the site in order to bring together the designation and the object.

Furthermore, the accounts could possibly give more details about the spatial changes in the temple or in the temple compound such as rebuilding and expansions²⁹: At the beginning of the Roman Period the temple was enlarged by a new building constructed at the back of the older structure which became the passageway.³⁰ This is why the Greek account-book attests two foundation festivals of the Soknopaios temple.³¹

²² S. Ikram/L. Bertini, in: SNP report 2016 https://www.museopapirologico.eu/img/report/2016_report_eng.pdf; L. Bertini, in: SNP report 2017 <https://www.museopapirologico.eu/img/report/2017_report_eng.pdf>.

²³ DDD II 67, l. 5; pWien D 4852 (agreement concerning the conditions for the scribe’s office), cf. fn. 6. The tax on pigeons (τρίτη περιστερώνων) is documented in Greek papyri, cf. S. L. Wallace, *Taxation in Egypt from Augustus to Diocletian*, Princeton 1938, 69–70; K. Blouin, *Between Water and Sand. Agriculture and Husbandry*, in: Chr. Riggs (ed.), *The Oxford Handbook of Roman Egypt*, Oxford 2012, 32.

²⁴ DDD II 26.

²⁵ DDD II 27.

²⁶ DDD II 67, l. 5; 66, l. 5, cf. commentary. S. L. Lippert/M. Schentuleit, *Demotische Dokumente aus Dime II. Quittungen*, Wiesbaden 2006, 12–13.

²⁷ E.g. pWien D 8.

²⁸ However, in the discussion after the lecture, P. Davoli noted that stratigraphy is disturbed in many places and therefore chronological horizons of the archaeozoological finding are not always clearly determinable.

²⁹ A parallel would be pCarlsberg 409, which documents wine allocations for the workers on the pronaos of the temple: M. Schentuleit, *Aus der Buchhaltung des Weinmagazins im Edfu-Tempel. Kommentierte Textedition des demotischen P.Carlsberg 409. The Carlsberg Papyri 9*, Kopenhagen 2006.

³⁰ P. Davoli, *New Excavation at Soknopaiou Nesos: the 2003 Season*, in: S. Lippert, M. Schentuleit (eds.), *Tebtynis und Soknopaiou Nesos. Leben im römerzeitlichen Fajum. Akten des internationalen Symposions vom 11.–13. Dezember 2003 in Sommerhausen*, Wiesbaden 2005, 33–39; M. Stadler, *Zwischen Philologie und*

The editing platform DimeData

DimeData not only offers something new in terms of content, but also from a technical point of view. Instead of a paper publication which presents on the one hand endless columns of billing entries, on the other hand chops the images of the long papyrus rolls into small pieces, an editing platform is developed which records the metadata, presents the texts in transliteration and in French, German or English translation, offers paleographic, lexicographical, and grammatical commentary, gives the possibility to search lemmas or phrases, both in transliteration and in translation. Furthermore, the digital photographs of the papyri will be in a high-resolution. But the editing platform *DimeData* will be more than a text database, because it will offer a statistical tool that allows more complex analyzes, such as determining the total expenditure of specific goods, which are listed in the texts in a linear manner. In addition, *DimeData* will contain annotations, so-called ‘profiles’ (‘Steckbriefe’) of the products and goods regularly mentioned in the accounts. These will contain information on the writing of the words, the amount of money associated with the products and goods, their quantities and their intended use (for the cult, as payment, etc.). Furthermore, once the photos and texts are incorporated the software will automatically generate a paleographic glossary. For this purpose, we are working together with the project *The Demotic Palaeographical Database Project* (DPDP) in Heidelberg.³² The Demotic hand of Dime has its very own graphic characteristics, which partly explains why the documents remained unedited for such a long time. Given the number of unpublished papyri from Dime and the resulting scarcity of Dime-writings in the *Chicago Demotic Dictionary* (CDD)³³, a glossary containing the particular writings and sign forms is therefore a desideratum to facilitate access to this corpus, so important to Egyptian cultural history.

In accordance with the recommendations of the *Standards for Networking Ancient Prosopographies* (SNAP) and the *Linked Ancient World Data Institute* (LAWDI), *DimeData* is developed to be compatible with other existing databases that are first-rate tools in Egyptology and papyrology; especially *Trismegistos* (TM)³⁴ and *papyri.info*³⁵ are to be mentioned here.

Expected results and outlook

The accounts in list form will give more detailed information about the origin of the enumerated goods, about local productions, the purpose of the goods (for daily cult, as part of priest salaries, business expenses etc.), the total running cost of the temple, food prices and their evolution over time, the organization of the priesthood and its social status, the religious practice in Dime as well as about the relationship between the main temple and its subsidiary properties.

Archäologie: Das Tägliche Ritual des Tempels in Soknopaiou Nesos, in: M. Capasso/P. Davoli (eds.), *New Archaeological and Papyrological Researches on the Fayyum*, Proceedings of the International Meeting of Egyptology and Papyrology, Lecce, June 8th–10th 2005. *Papyrologica Lupiensia* 14, Lecce 2007, 299–302.

³¹ pLouvre I 4, ll. 54, 64: A. Jördens, *Griechische Papyri aus Soknopaiou Nesos*. P. Louvre I. PTA 43, Bonn 1998.

³² A description of the project is available on <<https://www.uni-heidelberg.de/fakultaeten/philosophie/zaw/aegy/forschung/dpdp.html>>.

³³ An online version is offered as a series of PDF files <<https://oi.uchicago.edu/research/publications/demotic-dictionary-oriental-institute-university-chicago>>.

³⁴ <<https://www.trismegistos.org/>>.

³⁵ <<http://papyri.info/>>.

The texts that we will make accessible will enable us to concretize and perhaps revise our image of the internal economic organization of a regional Egyptian temple in Roman Egypt, but also about how the temple became involved in local and regional administration, such as tax collection³⁶, and therefore about the competences and tasks that the Egyptian temple had in the system of the Roman financial and administrative system.

³⁶ S. L. Lippert/M. Schentuleit, *Demotische Dokumente aus Dime II. Quittungen*, Wiesbaden 2006, 11–12.