

In conclusion, this book is a valuable tool for papyrologists and historians; it is particularly useful in that it moves from a Hellenocentric to a broader perspective. The price, however, is too high for students and neophytes.

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THE LANGUAGE OF THE PAPYRI

EVANS (T.V.), OBBINK (D.D.) (edd.) *The Language of the Papyri*. Pp. xxii + 362, figs, ills. Oxford: Oxford University Press, 2010. Cased, £65. ISBN: 978-0-19-923708-1.

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Although manuals and articles on the grammar, syntax and lexicon of the papyri have been written since the beginning of the last century (E. Mayser's monumental *Grammatik der griechischen Papyri aus der Ptolemäerzeit* began to appear in 1906; R.T. Meyer wrote in 1954 on 'The Linguistic Value of Greek Papyri', *CJ* [49.4], 161–4), only in the last few decades has the potential of papyri for the linguistic study of the ancient world begun to be exploited in full. This is in part thanks to the worldwide availability of digital images and new electronic tools which facilitate the gathering of information from large databases, like the *Duke Database of Documentary Papyri* (see p. 2 of the reviewed book for other web resources). Recent histories of the Greek language, such as A.-F. Christidis (ed.), *A History of Ancient Greek from the Beginnings to Late Antiquity* (2007), especially the section 'The Language of Greek *katadesmoi* and Magical Papyri', include frequent references to papyri.

Originating in the 2006 Oxford conference 'Buried Linguistic Treasure: the Potential of Papyri and Related Sources for the Study of Greek and Latin', This is one of the first books to present, in all its complexity, the variety of the Greek and Latin languages as attested by the papyri, and, in the words of its organisers, 'to indicate the current directions of international research' on the subject. It comes as a welcome follow-up to the *Oxford Handbook of Papyrology* (2009; this volume, pp. 279–82), where linguistic aspects could not be addressed thoroughly for reasons of space. After an introduction by the two Editors, the book is divided into three sections: 1. 'Linguistic Change and Diversity' (ten chapters); 2. 'Language Contact' (six chapters); 3. a single long article by S.E. Porter and M.B. O'Donnell.

Papyri, especially those preserving private letters and documents, can provide evidence for diachronic changes in pronunciation, syntax and morphology, as well as for social and historical issues, such as the level of education and stylistic choices of the writers, especially when addressing individuals of different status (Greek letters with authorial revision offer the possibility of literally watching over the shoulder of the author, as shown here by Clarysse and Luiselli); cultural differences in genre, age and ethnicity; the relationship between languages and cultures (bilingualism; diglossia). Geographical differences in language, on the other hand, can be fully appreciated in the papyri only within the boundaries of Egypt, because – and this is the only relevant restriction for the philologist – the extant material comes almost exclusively from there.

Bilingualism – in both theoretical and factual terms – is a topic that well deserves the attention of contemporary scholars of ancient history and linguistics.¹ The in-depth study of language-contact using papyrological evidence, especially in the case of Greek and Egyptian, is now made possible by the growing number of Egyptologists and papyrologists with expertise in other relevant languages: in this volume two interesting articles, by B. Muhs (on personal names) and I.C. Rutherford (on bilingualism in Roman Egypt as attested by the Archive of Narmuthis), represent this field. F. Schironi's fascinating contribution on lexical translation in the papyri sums up the results of her edition of a papyrus from Oxyrhynchus, now available in her monograph *From Alexandria to Babylon* (2009).

It comes as no surprise that Latin, less represented in the papyri, is the exclusive subject of only two chapters (H. Halla-Aho, E. Dickey, plus Kruschwitz's paper quoted here below), or is discussed in connection with Greek (P. Filos on Graeco-Latin compounds; A. Maravela-Solbakk on wine denominations from Latin into Greek). The majority of the contributions focus on the Greek language as attested by papyri from Roman Egypt, the most numerous category of documents found and published so far (R. Luiselli on authorial revisions in letters and petitions from the first to the fourth century A.D.; M. Leiwo on imperatives in the *ostraka* of Mons Claudianus; M. Depauw on metonymics in early Roman Egypt); only two papers, both excellent, discuss Ptolemaic (mostly third-century B.C.) material: W. Clarysse on the recently republished archive of the engineers Kleon and Theodoros (edited by B. Van Beek, forthcoming) and T. Evans on the individual style of letters in the Zenon archive, anticipating a monograph on the subject. Some contributions adopt a diachronic perspective stretching from late *koinê* Greek down to Byzantine and even Modern Greek, and a linguistic scope wider than the language of the papyri (J.A.L. Lee on the auxiliary *θέλω*; P. James on impersonal *uerba declarandi*).

S.E. Porter and M.B. O'Donnell, champions of the 'corpus linguistic' (in their words, 'the computer-aided empirical study of naturally occurring language that has been collected into a representative sample, that is, the "corpus"'), present as a work in progress and explain the goal of a new web-based tool for sociolinguistic researchers, the *Corpus of Representative Papyri* (part of the *OpenText.org* project), which gathers texts from papyri and annotates them with linguistic information (marked semantic, morphological and syntactic elements). The favourite kind of document already used in the past to form such a corpus are Greek letters: the contributions by Clarysse, Evans, Luiselli and Leiwo are valuable examples of the profitable use of letters, either private or official, in the field of sociolinguistics. It is desirable that a similar tool is developed for epigraphic material, especially graffiti: an interesting example of a sociolinguistic approach to this field, included in this volume, is P. Kruschwitz's analysis of Pompeian wall inscriptions.

Despite the specificity of the individual chapters, they have methodological and exemplary value, showing the importance and the potential of papyrological and epigraphical documents in the field of linguistics. The book is carefully produced, and includes a wide bibliography and indexes *locorum*, *nominum et rerum*, and *uerborum* (both Greek and Latin). It is valuable and interesting reading for papyrologists as well as for linguists and historians of the ancient world. As the Editors emphasise, many of our linguistic certainties may be shaken and tested

¹See, among the latest, the works by J.N. Adams, *Bilingualism and the Latin Language* (2003), and, edited with M. Janse and S. Swain, *Bilingualism and Ancient Society* (2002); a project on bilingualism in Hellenistic papyri is currently being directed by T. Evans, one of the contributors to this volume.

by advances in the study of non-literary or para-literary papyri, and need to be reassessed periodically (like the concept of 'standard' and 'sub-standard' Greek). Rapid progress is being made in the application of linguistics to the papyri: my only wish after reading this dense collection is that every few years a conference should be organised like the one which led to this book in order to give scholars fresh opportunities to discuss these topics.

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NATURAL SCIENCE

KEYSER (P.T.), IRBY-MASSIE (G.L.) (edd.) *The Encyclopedia of Ancient Natural Scientists. The Greek Tradition and its Many Heirs*. Pp. x + 1062, figs, ill. London and New York: Routledge, 2008. Cased, £230. ISBN: 978-0-415-34020-5.

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The Editors of this book claim that one-eighth of their entries are not listed in any other encyclopaedia, including the *RE*, and that over one-fifth of the 2043 entries came to light only during research for the 1558 originally projected. Readers of the preface to Pliny's *Natural History* will be struck by the similarity in tone between this statement of achievement and the ancient encyclopaedist's tally of 20,000 facts from 2,000 volumes, most of which were too abstruse to have received much scholarly attention, together with material either unknown to his predecessors or discovered subsequent to their efforts. The 276 entries 'new to scholarship' are also assigned one of the numerous indexes which take up an impressive 207 pages out of a total of 1062, another feature which no doubt would have appealed to Pliny.

In keeping with the Editors' aspirations to an encyclopaedic comprehensiveness (p. 1), the definition of natural science and natural scientist has been kept as broad as possible, encompassing those whose writings seem in the widest sense to have contributed to the conceptualising and understanding of the natural world 'on the basis of investigation and reason'. Thus, we find material on alchemy, paradoxography and harmonics, as well as on medicine, astronomy and meteorology. Chronological parameters, too, are wide, embracing writers from Hesiod to the mid seventh century A.D., and the scope of Greek influence includes not just writings in the Latin tradition, but also in others, including Persian, Sanskrit, Egyptian and the Semitic languages.

The Editors are clearly enthused by the cataloguing possibilities of their material. These include, in addition to a 54-page gazetteer detailing 'all 290 or more sites and all 35 or more regions from which ca. 1000 ancient scientists are attested or considered to have originated' (p. 855), a glossary (compiled by fourteen contributors, pp. 911–36), a time-line (pp. 937–89) and an index of topics covered (pp. 991–1020). A further series of categorising indexes, including lists of writers who are female (30), Christian writers (62), poets (119) and even monotheists (82) and rulers (24: kings, queens, tyrants, consuls and emperors) induces the feeling that enthusiasm may have overcome utility. Such things, however, have their own fascination. Above all, though, it is the assemblage of such a considerable body of named individuals not covered elsewhere which gives this volume an instant and considerable value, and the index listing them allows the reader the opportunity