CHRONOLOGY AND ARCHAEOLOGY IN ANCIENT EGYPT (THE THIRD MILLENNIUM B.C.)

Hana Vymazalová, Miroslav Bárta
editors

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This book was published from the financial means allocated for the research project of the Ministry of Education of the Czech Republic,
Grant No. MSM 0021620826

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**Czech Institute of Egyptology, Faculty of Arts,
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Prague 2008**

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ISBN 978-80-7308-245-1

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Foreword

The subject of the chronology of ancient Egyptian history remains of particular interest. The new excavations as well as the explorations of the so far known monuments and written sources have brought many interesting results which enlarge our knowledge about the history of ancient Egypt and the development of different aspects of the Egyptian culture.

The Czech Institute of Egyptology invited a group of scholars working on subjects relevant to the ancient Egyptian chronology to a conference in Prague in June 2007. The meeting offered the opportunity to exchange information and to present the latest results of the research. The various papers presented, and for a large part gathered in the present volume, provided different and highly stimulating approaches to chronological issues.

The nineteen contributions to the volume approach the subject of Egyptian chronology from different perspectives. Some of them concern the use of modern methods (^{14}C) and natural sciences in Egyptology; others analyze the development of various aspects of the Egyptian culture during the whole period of the Old Kingdom and the First Intermediate Period, or try to specify the date of certain monuments and personalities. The question of calendars and festivals is also alluded to, and some new archaeological discoveries are presented. A study and interpretation of archaeological as well as textual sources and iconographical material is combined in the papers in order to attain a deeper knowledge and better understanding of the Egyptian chronology, archaeology and the ancient history.

The overview of individual contributions also shows that Egyptology dealing with the third and early second millenium B.C. still prefers to follow rather traditional paths of research. The reasons for this tendency may be manifold, one of them yet relates to the fact that sampling and subsequent analysis abroad (in many case no other solution would have been possible) is strictly prohibited in Egypt, indeed a very rare exception in the whole Middle East.

During the editing of the text we did not attempt to unify the transliteration of ancient Egyptian, and several different variants may occur depending on the choice of the authors. The personal names and the names of places were, however, in most cases unified in order to simplify the orientation in the text for the reader. The bibliographical references follow the pattern of the *Cambridge Archaeological Journal*, and the list of journals and the bibliography are given in a list at the beginning of the volume.

Our thanks go, above all, to Filip Coppens for his help during the editorial work and to Vivienne Gae Callender who kindly revised some of the articles in the volume.

We also wish to thank all members of our Institute for their help and encouragement.

Prague, May 2008

The Editors

Abbreviations and journals

ACME – Annali della Facoltà di Lettre e Filosofia dell' Università degli Studi di Milano, Milano.
AcOr – Acta Orientalia, Kopenhagen – Leiden.
AEPHE 5e Section: Sciences Religieuses – Annuaire, École Pratique des Hautes Études 5e Section: Sciences Religieuses, Paris.
AJA – American Journal of Archaeology, New York – Baltimore – Norwood.
AJSL – American Journal of Semitic Languages and Literatures, Chicago.
Ä&L – Ägypten und Levante, Wien.
AmAnt – American Anthropologist. Organ of the American Anthropological Association, Washington.
Annales de la Société Entomologique de France (N.S.) – Annales de la Société Entomologique de France, Paris.
Antiquity – Antiquity. Quarterly Review of Archaeology, Cambridge.
AOF – Altorientalische Forschungen, Berlin.
ArchGeo – Archaeologia geographica, Hamburg.
Archaeometry – Archaeometry. Bulletin of the Research Laboratory for Archaeology and the History of Art, Oxford.
Archéo-Nil – Archéo-Nil. Revue de la société pour l'étude des cultures prépharaoniques de la vallée du Nil, Paris.
ArOr – Archiv orientální, Praha.
ArtAs – Artibus Asiae. The Journal of Asian Art and Archaeology, Zürich.
ASAE – Annales du Service des Antiquitiés de l'Égypte, Le Caire.
BES – Bulletin of the Egyptological Seminar, New York.
BIFAO – Bulletin de l'Institut français d'archéologie orientale, Le Caire.
BMFA – Bulletin of the Museum of Fine Arts, Boston.
BSEG – Bulletin de la Societé d'égyptologie de Genève, Genève.
BSFE – Bulletin de la Société française d'égyptologie, Paris.
Canadian Journal of Zoology – Canadian Journal of Zoology=Journal canadien de zoologie, Ottawa.
CCE – Cahiers de la céramique égyptienne, Le Caire.
CdE – Chronique d'Égypte, Brussel.
CRAIBL – Comptes Rendus de séances. Académie des Inscriptions et Belles-Lettres, Paris.
CRIPEL – Cahier de recherches de l'Institut de papyrologie et égyptologie de Lille, Lille.
DE – Discussions in Egyptology, Oxford.

EA – Egyptian Archaeology, London.
Enchoria – Enchoria. Zeitschrift für Demotistik und Koptologie, Wiesbaden.
Entomologist's Monthly Magazine – Entomologist's Monthly Magazine, Oxford.
Environmental Archaeology – Environmental Archaeology. The Journal of Human Palaeoecology, Oxford – London.
Fauna of Saudi Arabia – Fauna of Saudi Arabia, Basle.
GM – Göttinger Miszellen, Göttingen.
De Ibis – De Ibis. Tijdschrift van de Nederlandse egyptologische Vereniging Sjemsoethot, Amsterdam.
JARCE – Journal of the American Research Center in Egypt, New York.
JAS – Journal of Archaeological Science, London – New York.
JEA – Journal of Egyptian Archaeology, London.
JEOL – Jaarbericht van het Vooraziatisch-Egyptisch genootschap ex Oriente Lux, Leiden.
JNES – Journal of Near Eastern Studies, Chicago.
Journal of Applied Entomology – Journal of Applied Entomology, Berlin.
Journal of Pest Science – Journal of Pest Science, Heidelberg.
JSA – Journal of Social Archaeology, London.
JSSEA – Journal for the Society of the Study of Egyptian Antiquities, Toronto.
Kemi – Kêmi. Revue de Philologie et d'Archéologie Égyptiennes et Coptes, Paris.
KMT – K.M.T. A Modern Journal of Ancient Egypt, San Francisco.
Kush – Kush. Journal of the Sudan Antiquities Service, Khartum.
LingAeg – Lingua Aegyptia. Journal of Egyptian Language Studies, Göttingen.
MDAIK – Mitteilungen des Deutschen archäologischen Instituts. Abteilung Kairo, Mainz – Wiesbaden – Berlin.
Méditerranées – Méditerannées, Paris.
Mémoires de la Société Entomologique d'Egypte – Mémoires de la Société Entomologique d'Egypte, Le Caire.
MMJ – Metropolitan Museum Journal. Journal of the Metropolitan Museum of Art, New York.
Nature – Nature, London.
Nekhen News – Nekhen News. Published for the Friends of Nekhen, Chicago.
OMRO – Oudheidkundige Mededelingen uit het Rijksmuseum van Oudheden, Leiden.
Or – Orientalia. Nova Series, Roma.
OLZ – Orientalistische Literaturzeitung. Zeitschrift für die Wissenschaft von ganzen Orient, Berlin.
Palaeogeography, Palaeoclimatology, Palaeoecology – Palaeogeography, Palaeoclimatology, Palaeoecology. An International Journal for the Geo Sciences, Amsterdam.
PAPS – Proceedings of the American Philosophical Society, Philadelphia.

PAM – Polish Archaeology in Mediterranean, Warsaw.
PPS – Proceedings of the Prehistoric Society. Journal of the Prehistoric Society, London.
Pubblicazioni del Museo Entomologico "Pietro Rossi" – Pubblicazioni del Museo Entomologico "Pietro Rossi" Duino, Udine.
Radiocarbon – Radiocarbon. An International Journal of Cosmogenic Isotope Research, New Haven.
RAr – Revue archéologique, Paris
RdÉ – Revue d'égyptologie, Paris.
Rec. Trav. – Recueil des travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes, Paris.
RevArch – Revue archéologique, Paris.
RIDA – Revue internationale des droits de l'Antiquité, Office international des Périodiques.
SAK – Studien zur Altägyptischen Kultur, Hamburg.
SbWien math.-nat.Kl. – Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften. Mathematisch-natuwissenschaftliche Klasse, Wien.
Sicilia Archeologica – Sicilia Archeologica, Roma.
Sphinx – Sphinx: Revue critique embrassant le domaine entier de l'égyptologie, Uppsala – Stockholm.
SSEA – The Society for the Study of Egyptian Antiquities, Toronto.
Studie a Zprávy Oblastního Muzea Praha-východ – Studie a Zprávy Oblastního Muzea Praha-východ v Brandýse nad Labem a Staré Boleslavi, Brandýs nad Labem.
Transactions of the Royal Entomological Society of London – Transactions of the Royal Entomological Society of London, London.
WA – World Archaeology, London.
WZKM – Wiener Zeitschrift für die Kunde des Morgenlandes, Wien.
ZÄS – Zeitschrift für ägyptische Sprache und Altertumskunde, Berlin.
Zeitschrift für Physik – Zeitschrift für Physik, Berlin.

The system of dating in the Old Kingdom

Miroslav Verner (Prague)

Our attempts to establish a solid base for the reconstruction of Old Kingdom chronology face two major obstacles – the shortage of reliable dates and the unclear system of dating which was in use at that time.

Regrettably, the most invaluable source of information for Old Kingdom chronology, the annals of the Palermo stone, has survived only in few fragments (concerning the present state of the discussion on the chronology of Ancient Egypt, and the relevant bibliography, see Beckerath 1997; as for the chronology of the First up to Fifth Dynasties, see also Barta 1981, 11–23). Two other later historical sources of information, the Royal Canon of Turin (RCT) (Schäfer 1902, 29–41; Gauthier 1915, 29–53, pls. 25–31) and the Manethonian tradition (Farina 1938, 27–30; Gardiner 1959, pl. 2; Málek 1982a, 93–106), are not problem-free either. However, no matter how unreliable as a source the RCT is, it has become over time a sort of a standard against which the contemporaneous evidence is commonly measured. The data from the Manethonian tradition (Waddel 1948; Helck 1956) are generally considered to be far less credible.

Other available, contemporaneous written evidence referring to the Old Kingdom – masons' marks, papyri, rock stelae, ostraca, inscriptions in private tombs, etc. – presents us with a set of dates also fraught with difficulties: the series of actual dates relating to individual kings are largely incomplete, in some cases the attribution of a particular date to a king is doubtful, the reading of some dates is uncertain, and the like. As will be shown subsequently, the so far available, contemporaneous dated documents usually refer to only a few regnal years of individual kings – a very weak base for the reconstruction of any solid chronology, indeed.

Another problem of crucial importance for the reconstruction of Old Kingdom chronology concerns our understanding of the dating system as it operated at that time. In the mid 1940s, A. H. Gardiner published an article on *Regnal Years and Civil Calendar in the Pharaonic Egypt* (Gardiner 1945, 11–28) in which he concluded that the term *rnpt sp* denominated an even year, whereas *rnpt m-ḫt sp* indicated any odd regnal year. He further concluded that the basis of the dating system in the Old Kingdom was formed by a biennially held census of cattle. No doubt, the very existence of the notion of the intervening year, *rnpt m-ḫt sp*, represented for him clear-cut evidence that, in such cases, the count was not held annually but biennially.

Since the publication of Gardiner's article the general prevailing opinion has been that the biennial count of cattle represented the foundation of the

system of dating in the Old Kingdom through to the end of the reign of Pepy II. Only at the end of the Old Kingdom, according to J. von Beckerath (1997, 10), was the biennial rhythm of the census of the country's wealth supposed to have become annual. However, the first serious doubts about the regularity of the biennial system were raised by the evidence of the 7th and 8th cattle counts held, according to the Palermo Stone fragment (Schäfer 1902, pl. 1), during Sneferu's reign in two successive years (concerning a more detailed discussion on the problem, see e.g. Wilkinson 2000, 145f). These doubts were further supported by the increasing number of contemporaneous dated documents showing a marked disproportion in the occurrence between the *rnpt sp* and the *rnpt m-ḫt sp* years.

Concerning the dated contemporaneous texts, a pioneering work has already been carried out by A. Spalinger who, inspired by an earlier work of W. S. Smith on the *Inscriptional evidence for the history of the Fourth Dynasty* (Smith 1952, 113–28), gathered and published in *Dated Texts of the Old Kingdom* (Spalinger 1994, 275–319). Since the publication of Spalinger's work, however, a growing number of new, dated written documents have been revealed, especially in the excavations undertaken in Abusir. Besides these new materials, some of the earlier known dates can now be examined from a somewhat different point of view – especially from the broader archaeological context in which some dated texts have been found.

In the following statistical overview of the contemporaneous dated documents, a question mark follows the citations of *rnpt sp* and *rnpt m-ḫt sp* when some specific instance is open to question.

Third Dynasty

Unfortunately, we are lacking any contemporaneous dated documents from that time except for the hieratic inscriptions on two vessels found near the step pyramid in Elephantine: these inscriptions seem to indicate that the "following of Horus" dating system functioned through to the end of the Third Dynasty.

Fourth Dynasty

Sneferu

RCT col. III.9: 24 years[1]

rnpt sp:
rnpt sp 2 (n) ṯnwt (Gauthier 1915, 50ff.)

[1] For this and the subsequent references to the RCT, see Beckerath 1997, 208 f.

rnpt sp 7 (n) ṯnwt (Schäfer 1902, 30)
rnpt sp 7, ȝbd 3 (Posener-Kriéger 1991, 20, pl. 8, A 20)
rnpt sp 8 (18 ?) , ȝbd 3 *šmw, św* 21 (Posener-Kriéger 1991, pl. 8, A.27)
rnpt sp 8 (n) ṯnwt (Schäfer 1902, 31)
rnpt sp 12, ȝbd 4 šmw, św 1 (?) (Posener-Kriéger 1991, pl. 8, A.33)
rnpt sp 13, ... prt (?), *św 10* (Posener-Kriéger 1991, pl. 7, A.1)
rnpt sp 13 (16 ?), ȝbd 1 šmw, św ... (Posener-Kriéger 1991, pl. 7, A.11)
rnpt sp 13, ... šmw, św ... (Posener-Kriéger 1991, pl. 7, A.5)
rnpt sp 13 (16 ?), ... šmw, św ... (Posener-Kriéger 1991, pl. 7, A.9)
rnpt sp 13 (Posener-Kriéger 1991, pl. 7, A.2)
rnpt sp 13 (Posener-Kriéger 1991, pl. 8, A.31)
rnpt sp 14 (17 ?), ȝbd 2 šmw, św ... (Posener-Kriéger 1991, pl. 8, A.23)
rnpt sp 14 (17 ?), ... prt (Posener-Kriéger 1991, pl. 8, A.24)
rnpt sp 14 (17 ?), ȝbd 1 + x (Posener-Kriéger 1991, pl. 8, A.26)
rnpt sp 15, ȝbd 2 prt, św 14 (Stadelmann 1986, 234f., fig. 2)
rnpt sp 15 (?), *ȝbd 3 prt* (Posener-Kriéger 1991, pl. 7, A.4)
rnpt sp 15, ȝbd 3 šmw, św 10 + x (Petrie, Mackay & Wainwright 1910, 9, pl. V,6)
rnpt sp 15 (?), *ȝbd 4 šmw* (?), *św 10* (Posener-Kriéger 1991, pl. 7, A.6)
rnpt sp 15 (?), ... *šmw* (?), *św ...* (Posener-Kriéger 1991, pl. 7, A.9)
rnpt sp 15 (Stadelmann 1986, 233–5, fig. 1)
rnpt sp 16, ȝbd 1 ȝḫt, św 13 (Lepsius 1849–1859 Bd.II, Bl. I g)
rnpt sp 16, ȝbd 3 ȝḫt (Stadelman 1986, 234f., fig. 2)
rnpt sp 16, ȝbd 4 ȝḫt, św 14 (Rowe 1931, 26, pl. 38, fig. 2)
rnpt sp 16, ȝbd 2 (?) *šmw, św 12* (Posener-Kriéger 1991, pl. 7, A.3)
rnpt sp 16 (?), *ȝbd ... prt, św 2* (Stadelmann & Sourouzian 1982, 389f., fig. 5)
rnpt sp 16 (?), *ȝbd 1 prt* (Rowe 1931, 22, 1931, 26)
rnpt sp 16 (?), *ȝbd 3 prt* (Posener-Kriéger 1991, pl. 8, A.22)
(rnpt sp) 16 (Posener-Kriéger 1991, pl. 7, A.7)
rnpt sp 17, ȝbd 2 prt, św 10+x (Petrie, Mackay & Wainwright, 1910, 9, pl. 5, 2 left)
rnpt sp 17, ȝbd 1 prt, św 20 (Posener-Kriéger 1991, pl. 7, A.13)
rnpt sp 17, ȝbd 1 prt, św 22 (Posener-Kriéger 1991, pl. 7, A.14)
rnpt sp 17, ȝbd 3 prt, św ꜥrk (Petrie, Mackay & Wainwright 1910, 9, pl. 5,4)
rnpt sp 17, ȝbd 3 *prt, św ...* (Petrie, Mackay & Wainwright 1910, 9, pl. 5, 3)
rnpt sp 17, ȝbd 3 ȝḫt, ... (Posener-Kriéger 1991, pl. 7, A.12)
rnpt sp 17, ... prt ... (Posener-Kriéger 1991, pl. 7, A.16)
rnpt sp 17, (ȝbd) 1 + x *prt ...* (Posener-Kriéger 1991, pl. 7, A.17)
rnpt sp 17, (ȝbd) 1 + x ... (Posener-Kriéger 1991, pl. 7, A.18)
rnpt sp 17, ȝbd ... (Posener-Kriéger 1991, pl. 8, A.21)
rnpt sp 17 ... (Posener-Kriéger 1991, pl. 7, A.19)
rnpt sp 18, ȝbd 1 prt, św 21 ... (Posener-Kriéger 1991, pl. 8, A.29)
(rnpt sp) 23, ȝbd 2 šmw (Posener-Kriéger 1991, pl. 9, A.42)

(rnpt)-sp 24, ȝbd 3 *ȝḫt, ...* (Stadelmann's hypothetical reconstruction of a mason's mark (Stadelmann 1986, 234–6, fig. 3) published by Lepsius 1849–1859 Text I, 206)
rnpt sp 24, ȝbd ... prt, ... (Stadelmann 1986, 239f., fig. 4)

rnpt (m-)ḫt sp:
rnpt (m-)ḫt sp 10, ȝbd 1 + x ... (Posener-Kriéger 1991, pl. 8, 30)
rnpt (m-)ḫt sp 13, ... (Posener-Kriéger 1991, pl. 8, 32)
rnpt (m-)ḫt sp 18, ȝbd 4 šmw, św (?) 5 (Posener-Kriéger 1991, pl. 8, 28)

attested *rnpt sp*: 2; 7; 8; 12; 13; 14; 15; 16; 17; 18; 23; 24
attested *rnpt (m-)ḫt sp*: 10; 13; 18

rnpt sp : rnpt (m-)ḫt sp – 12 : 3

Khufu
RCT col. III.10 (?): 23 years

rnpt sp:
rnpt sp 4 (?), *ȝbd ...* (attributed to Khufu by Smith 1952, 118, fig. 6, 127 no. 4; the tomb is dated to the time of the king also by Harpur 1987, 269, too)
rnpt sp 5, ... šmw (?), *św* 5 (attributed to Khufu by Smith 1952, 118, fig. 6 and 127 no. 2, and by Reisner 1942, 76 n. 2, 391 /19/)
rnpt sp 8, ȝbd 1 prt, ...(?) (attributed to Khufu by Smith 1952, 119 fig. 7 and 126f. no. 1; originally, A. Rowe read this date "year 13", see Reisner 1942, 71)
rnpt sp 8, ȝbd 3 šmw, św 20 (attributed to Khufu by Junker 1929, 159, fig. 24 /10/ and 161)
rnpt sp 10, ȝbd 4 prt, św 23 (or 24) (Junker 1929, 161, no. 12)
rnpt sp 10, ȝbd 1 šmw, św 10 + x (Junker 1929, 158, 160, 159 fig. 24)
rnpt sp 10, ȝbd 2 šmw, św 10 + x (Junker 1929, 159 fig. 24 /2/, 160)
rnpt sp 12, ȝbd 2 šmw (attributed to Khufu by Smith, 1952, 118, fig. 6 and 127 no. 3, and by Spalinger 1994, 285; according to Strudwick 1985, 117 no. 6, the dating to the reign of Khafra is possible, too)
rnpt sp 12, ȝbd 2 ... (attributed to Khufu by Smith, 1952, 119, fig. 7 and 127 no. 8, and by Simpson, 1978, 9)[2]
rnpt sp 17 (?) (Petrie 1924, 60)[3]

[2] This dating is also in accordance with Stadelmann's theory that Khufukhaf I might have succeded Djedefre and, when ascending to the throne, assumed the name Khafre, see Stadelmann 1984, 165–72

[3] Taking into consideration the date revealed in the Western Desert (see Kuhlmann 2002), the relatively high date for Khufu's reign does not seem now as improbable as it did still several years ago.

rnpt (m-)ḫt sp:
rnpt (m-)ḫt sp 13 ṯnwt iḥw ꜥwt nb(t) Kuhlmann 2002, 138 fig. 10)

attested *rnpt sp*: 4, 5, 8, 10, 12, 17 (?)
attested *rnpt (m-)ḫt sp:* 13

rnpt sp : rnpt (m-)ḫt sp – 5 (6 ?) : 1

Radjedef
RCT col. III.11 (?): 8 years

rnpt sp:
rnpt sp 1, ꜣbd 3 prt, ...(Vallogia 1997, 419)
rnpt sp (or *m-ḫt sp ?*) *11* (or *10* ?), *ꜣbd 1 pr(t), ś̈w 24* (?)[4]

attested *rnpt sp*: 1, 11 (or 10 ?)
attested *rnpt (m-)ḫt sp*: not attested (?)

rnpt sp : rnpt (m-)ḫt sp: 2 : 0 (?)

Rakhaef
RCT col. III.12: 20 + x years

rnpt sp:
rnpt sp 1, ꜣbd 4 ꜣḫt, ś̈w 5 (Saad 1947, 106, pl. 42a left)[5]
rnpt sp 5, ꜣbd 3 prt, ś̈w 22 (Saad 1947, 107, pl. 43 at right; probably the time of Khafra, see the text below)
rnpt sp 7, ꜣbd 4 prt, ś̈w 10 (attributed to Khafra by Dunham & Simpson 1974, 3, fig. 1; see also Smith 1952, 127 no. 9, 119 fig. 7)
rnpt sp 7, ꜣbd 4 prt, ś̈w 20 (attributed to Khafra by Dunham & Simpson 1974, 3, fig. 1; see also Smith 1952, 127 no. 9, 119 fig. 7)[6]
rnpt sp 10, ꜣbd 3 ś̈mw, ś̈w 24 (Goedicke 1968, 28f. and pl. 5 no. 4)[7]

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[4] Judging by a brief remark made by Edwards 1994, 101, 105 n. 20, P. Posener-Kriéger read the date as "year 10" (obviously, a short-cut for "the year of the 10th cattle count"). Although both interpretations are understandable, it must be said that the reading of the left column with the date is not doubt-free, the right column of the graffito is almost unreadable, see Abubakr & Mustafa 1971, 11, fig. 6 bottom left.

[5] As pointed out by A. Spalinger (1994, 287), the occurrence of Khafre's cartouche in the inscription clinches the date to this king.

[6] The anthropological examination of Meresankh III's bones revealed that she died at the age of about fifty years (Callender 1998, 172f.).

[7] If the ostracon is of the same date as those of Helwan, as concluded on the basis of a palaeographical analysis by Goedicke (Goedicke 1968, 24; 1988, pl. 16), then the above mentioned date *rnpt sp* 10 should very probably refer to Khafre.

rnpt sp 10 (?), ȝbd 3 šmw,... (Reisner 1942, 73 n. 2; see also Smith 1952, 119 fig. 7, 127 no. 9)[8]
rnpt sp 12, ȝbd 2 šmw, św 10 (attributed to Khafra by Smith 1952, 119 fig. 7 and 127f. no. 11 b; see also Reisner 1942, 73 n. 1)[9]
rnpt sp 12 ṯnwt ... (Sethe 1933, 16.14; see also Goedicke 1970, 21ff)[10]
rnpt sp 13, ȝbd 4 ... (attributed to Khafra by Smith 1952, 119 fig. 7 and 128 no. 11)

rnpt (m-)ḫt sp:
rnpt (m-)ḫt sp 4 ṯnwt , ȝbd 2 šmw, św 3 (Saad 1947, 106f., pl. 42 b right)[11]
rnpt (m-)ḫt sp 4 ṯnwt, ȝbd 2 šmw, św 4 (Saad 1947, 106f., pl. 42 b left)[12]

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[8] According to G. Reisner, the date was inscribed on the rear side of a block from the tomb G 7350 supposed to have originally been built by Hetepheres II. However, the relief on the front side of the block was identified by Smith (Smith 1946, 164f., 302 and pl. 45 a) as the representation of Hetepheres II (?) and Meresankh III (?) and dated to the time of Shepseskaf. The attribution of the tomb G 7350 to Hetepheres II is based not on a written evidence but on Smith's examination of the relief which is highly suspicious. Smith's conclusions were questioned by P. Jánosi (1996, 56f.). According to the latter, on the relief might have originally been represented an anonymous prince followed by his mother and his wife. No doubt, the attribution of the above date is fraught with difficulties, regardless of the fact that such a high date and Shepseskaf exclude each other. Then, the option for either Khafre or Menkaure remains. Since Meresankh III was probably buried in (originally) Hetepheres II's tomb G 7530–40 at about the beginning of Menkaure's reign (see the dates *rnpt sp* 1 and *rnpt (m-)ḫt sp* 1 sub Menkaure), it would be surprising to see the queen represented with her mother in a tomb built as late as in Menkaure's reign. When considering the data coming from the tombs G 7350 and G 7530–40 – with due circumspection concerning the complex stratigraphy and in many respects unclear chronology of the cemetery G 7000 – one is inclined to attribute the date to Khafre rather than to Menkaure.

[9] Concerning some doubts about the attribution of this date to Khafre, and a still higher date of *rnpt sp* 13 (see below) from the tomb of Akhtihotep, see Jánosi 2000, 530, 64.

[10] The dating of the will of Khafre's son Nikaure is not unanimous. For instance, N. Strudwick (1985, 107) concluded that Nikaure should have been born in Khafre's reign, "and thus would be no older than twenty-two at the end of his father's reign". Consequently, *rnpt sp* 12 should then apply to Khafre's successor Menkaure. With reference to art historical criteria and the replacement of *ṯnwt* by *ipt* in the date (the former being supposed by H. Goedicke (1970, 22) to have disappeared by the beginning of the Fifth Dynasty), A. Spalinger (1994, 294) opted for Menkaure, too. On the contrary, M. Baud (1999b, 128) argues that Khafre's name occurs in Nikaure's tomb with such an insistence that the date should refer to this king. P. Jánosi (2005, 305), too, does not exclude the attribution of the date to Khafre, provided that Nikaure was born prior to his father's ascension to the throne. Taking all the arguments in account, including the possibility that Khafre might have ascended to the throne later in his life, one is inclined to attribute this date to this king rather than Menkaure.

[11] Concerning the translation of the text and the meaning of the ostracon, see Fischer 1960b, 187–90; see also Spalinger 1994, 287.

[12] Concerning the translation of the text and the meaning of the ostracon, see Fischer 1960b, 187–90; see also Spalinger 1994, 287.

rnpt (m-)ḫt sp 5, ꜣbd 2 šmw, św 8 (Saad 1947, 107, pl. 43 a right; see Spalinger 1994, 288)
rnpt (m-)ḫt sp 5, ꜣbd 3 prt, św 22 (Saad 1947, 106f., pl. 43 b right)

attested *rnpt sp*: 1, 5, 7, 10, 12, 13
attested *rnpt (m-)ḫt sp*: 4, 5

rnpt sp : rnpt (m-)ḫt sp – 6 : 2

Baka
RCT col. III.13 (?):? years

Menkaure
RCT col. III.14 (?): 18 (28 ?) years

rnpt sp:
rnpt sp 1, ꜣbd 1 šmw, św 21 (Dunham & Simpson 1974, fig. 2)
rnpt sp 2, ꜣbd 2 prt, św 22 (Junker 1951, 75, fig. 35.9 and 78, no. 10)[13]
[*rnpt sp*] *2, [ꜣbd ...] prt, św 7* (Dunham & Simpson 1974, fig. 1)
rnpt sp 11, ꜣbd ..., św 10+x (G VI S) (Junker 1951, 75 fig. 35.10 and 77 no. 9)[14]

rnpt (m-)ḫt sp:
rnpt (m-) ḫt sp tpy, ꜣbd 2 prt, św 18 (Dunham & Simpson 1974, fig. 2)
rnpt (m-)ḫt sp 2, ꜣbd ... ꜣḫt, św 20 (Posener-Kriéger 1979a, 318–31)
rnpt (m-)ḫt sp 3, ꜣbd 3 prt, św 26 (Posener-Kriéger 1979a)
rnpt (m-)ḫt sp 11, ... (Posener-Kriéger 1975, 215f.)

attested *rnpt sp*: 1, 2, 11
attested (?) *rnpt (m-)ḫt sp*: 1, 2 (?), 3 (?), 11 (?)
rnpt sp : rnpt (m-)ḫt sp: 3 : 4 (?)

Shepseskaf
RCT col. III.15 (?): 4 years

rnpt smꜣ tꜣwy:
rnpt smꜣ tꜣwy, ꜣbd 2 šmw, św 10 (Schäfer 1902, 32f.)
rnpt smꜣ tꜣwy, ꜣbd 2 šmw, św 10 (attributed to Shepseskaf by Helck 1994, 107)
rnpt smꜣ tꜣwy, ꜣbd 3 šmw, św ... (attributed probably to Shepseskaf by Helck 1994, 107f.)

[13] With regard to the occurrence of Menkaure's crew names on some blocks in the site, Junker attributed the date to the king.
[14] See the preceding footnote no. 13.

rnpt sm3 t3wy, 3bd 4 šmw, św 4 (attributed probably to Shepseskaf by Helck 1994, 107f.)

rnpt sp: 0

rnpt (m-)ḫt sp:
rnpt m-ḫt sp 1 (n) ipt (!) *ih ꜥwt nbt* (Shepseskaf's edict for the pyramid of Menkaure)[15]

attested *rnpt sp:* 0
attested *rnpt (m-)ḫt sp*: 1

rnpt sp: rnpt (m-)ḫt sp – 0 : 1

Thampthis
RCT col. III, 16 (?): 2 years

Fifth Dynasty

Userkaf
RCT col. III.17: 7 years

rnpt sp:
rnpt sp 3 (Schäffer 1902, 34)
rnpt sp 3, 3bd 3 prt, św … (Haeny 1969, 41f. no. 6)

rnpt (m-)ḫt sp:
rnpt m-ḫt sp 1 (n) ṯnwt (Gauthier 1915, 45f., pl. 26)

attested *rnpt sp:* 3
attested *rnpt (m-)ḫt sp*: 1

rnpt sp : rnpt (m-)ḫt sp – 1 : 1

Sahure
RCT col. III 18 (?): 12 years

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[15] The date, revealed on the right side of the entrance to Meresankh III's chapel and referring to the beginning of the queen's funerals, was attributed by Reisner to Shepseskaf, see Smith 1952, 126 and fig. 4 on p. 118. With this attribution agrees also Jánosi 2000, 501. On the other hand, Dunham & Simpson 1974, 8, pl. 2 a, fig. 2, and also Spalinger 1994, 288f., attributed the date to Menkaure.

rnpt sp:
rnpt sp 1 (Gauthier 1915, 47)
rnpt sp 2, ȝbd 1 šmw, św 20 (Borchardt 1910, 88, M 26)
rnpt sp 4, ȝbd 4 ȝḫt, św 12 (Borchardt 1910, 89, M 29)
rnpt sp 5, ȝbd 1 ȝḫt (to be attributed probably to Sahure, see Verner 2001, 386–90)
rnpt sp 5, ȝbd 3 prt (to be attributed probably to Sahure, see Verner 2001, 386–90)
rnpt sp 5, ȝbd 3 šmw (to be attributed probably to Sahure, see Verner 2001, 386–90)
rnpt (sic) *12* (Borchardt 1910, 96f.)

rnpt (m-)ḫt sp:
rnpt (m-)ḫt sp 2 (Schäfer 1902, 36f.)
rnpt (m-)ḫt sp 5, ȝbd 2 prt (to be attributed probably to Sahure, see Verner 2001, 386–90)
rnpt (m-)ḫt sp 6 (or *7*) (Schäfer 1902, 38f.)[16]

attested *rnpt sp*: 1, 2, 4, 5
attested *rnpt (m-)ḫt sp*: 2, 5, 7

rnpt sp : *rnpt(m-)ḫt sp* – 4 : 3

Neferirkare
RCT III.19 (?): …(length of reign lost)

rnpt smȝ tȝwy (Schäfer 1902, 39)

rnpt sp:
rnpt sp 5 (Schäfer 1902, 40)
rnpt sp 5, ȝbd 4 ȝḫt, św 4 (to be attributed probably to Neferirkare, see Verner 1980, 159, fig. 3; Verner 1995, 43ff.)
rnpt sp 5, ȝbd 4 (Borchardt 1909, 46, n. 6)
rnpt sp 15, ȝbd 4 (?) (Borchardt 1909, 46, n. 6; Perring 1839, pl. 6 inscr. 1)

[16] This so far highest attested contemporaneous date for the length of Sahure's reign is somewhat obscured by the fact that the respective signs are worn. A. Roccati (1982, 48) for instance, read the numeral as 7 and, provided that the census was biennial in that time, considered the date for the 15th year of Sahure's reign. However, as pointed out by T. Wilkinson (2000, 168), the most likely reading would indicate that the numeral in question was 6 and not 7 which in case of a biennial census would mean the king's thirteenth year of reign.

attested *rnpt sp*: 5
attested *rnpt m-ḫt sp*: 0

rnpt sp : rnpt m-ḫt sp – 1 : 0

Shepseskare
RCT col. III.20 (?): 7 years

attested *rnpt sp*: 0
attested *rnpt m-ḫt sp*: 0

Raneferef
RCT col. III.21 : [1]1 years

rnpt sp:
rnpt sp tpy, ȝbd 4 ȝḫt (builders' inscription, Raneferef's pyramid, Verner et al. 2006, 190 no. 8)

attested *rnpt sp*: 1
attested *rnpt (m-)ḫt sp*: 0

rnpt sp : rnpt (m-)ḫt sp – 1 : 0

Niuserre
RCT col. III.22 (?): 11 (+ x years?)

rnpt sp:
rnpt sp 2, ȝbd 3 šmw, św 10 (?) (Borchardt 1907, 139)
rnpt sp 5 (?), ȝbd 3 prt, (św) wpw (to be attributed to Niuserre, see Verner 1992a, 110 graffito no. 194)
rnpt sp 7, ȝbd 3 ȝḫt, św 1 (or *7 ?*) (Verner et al. 2006, 276 no. 16)

rnpt (m-)ḫt sp:
rnpt (m-)ḫt sp 2, ȝbd 3 ȝḫt, św 24 (Borchardt 1907, 145)
rnpt (m-)ḫt sp 7, ȝbd 3 (?) prt, św 20 + x (Verner et al. 2006, 281 no. 40)

attested *rnpt sp:* 2, 5, 7
attested *rnpt (m-)ḫt sp*: 2, 7

rnpt sp : rnpt (m-)ḫt sp – 3 : 2

Dates which can be attributed to either Niuserre or Menkauhor:
rnpt smȝ (tȝwy) (Verner et al. 2006, 280 no. 37)

rnpt sm3 (t3wy) (Verner et al. 2006, 281 no. 39)
rnpt sp 1, 3bd 1 3ḫt, św 10 + x (Verner et al. 2006, 276f. no. 19)
rnpt sp 1, 3bd tpy 3ḫt, ... (Verner et al. 2006, 280 no. 36)

Menkauhor
RCT col. III.23: 8 years

attested *rnpt sp:* 0
attested *rnpt (m-)ḫt sp*: 0

Dates which can be attributed to either Menkauhor or Niuserre (concerning the references to the dates, see sub Niuserre):
rnpt sm3 (t3wy)
rnpt sm3 (t3wy)
rnpt sp 1, 3bd 1 3ḫt, św 10+x
rnpt sp 1, 3bd tpy 3ḫt, ...

Djedkare
RCT col. III.24: 28 years

rnpt sm3 t3wy:
rnpt sm3 t3wy, 3bd 3 prt, św 29 (Hassan 1936, fig. 219 opposite p. 190)[17]

rnpt sp:
rnpt sp 3, 3bd 4 3ḫt, św 25 (Posener-Kriéger & de Cenival 1968, pls. 13, 13 A; Posener-Kriéger 1976, 480)
rnpt sp 4 (?) ṯnw(t) iḥ (ʿwt nb) (Posener-Kriéger, Verner & Vymazalová 2006, 207)
rnpt sp 6, 3bd 4 prt, św 22 (Altenmüller & Moussa 1971, 18, 43f, fig. 11)[18]

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[17] The date, mentioned in Wepemneferet's will inscribed on the wall of his tomb was attributed by A. Spalinger (1994, 302, with a reference to Baer 1960, 66) to Unas. However, among persons represented in the tomb there is a craftsman named Raneferefankh. If born in the reign of Raneferef, which seems to be probable, Raneferefankh could have been about 30 up to 40 years old at the beginning of Djedkare's reign. Would this date be ascribed to Unas, Raneferefankh would have been too old in the time of the king's ascension to the throne. The date should, therefore, relate to Djedkare rather than Unas.

[18] The excavators attributed the date to Djedkare. However, A. Spalinger (1994, 302) suggested dating the inscription to either Raneferef or Niuserre. Certainly, Raneferef can be excluded (see above sub Raneferef). Obviously, the tomb seems to have been built in the time of Niuserre, as concluded by the excavators and, for instance, by N. Cherpion (1989, 135), too. However, as pointed out by H. Altenmüller and A. Moussa, the burial in shaft no. 8, with which the box bearing the date was found, was the last one in the tomb and should be contemporary with the generation of Nefer's children. The dating of the inscription to the time of Djedkare is, therefore, very plausible.

rnpt sp 8, ȝbd 4 šmw (Posener-Kriéger & de Cenival 1968, pls 69, 69 A; Posener-Kriéger 1976, 490)
rnpt sp 9 (Gardiner, Peet & Černý 1952, pt. I, pl. VIII, no. 14 and pt. II, 61)
rnpt sp 10, ȝbd 4 …, św 24 (Posener-Kriéger & de Cenival 1968, pls. 72, 72 A; Posener-Kriéger 1976, 490)
rnpt sp 11, ȝbd 2 ȝḫt, św 11 (Posener-Kriéger & de Cenival 1968, pls. 53, 53 A; Posener-Kriéger 1976, 490)
rnpt sp 14, ȝbd tpy šmw (*ȝbd 2 šmw*) (Posener-Kriéger & de Cenival 1968, pls. 2, 2 A; Posener-Kriéger 1976, 490)
rnpt sp 15, ȝbd 4 prt, (*św*) *wpw* (Posener-Kriéger & de Cenival 1968, pls. 47, 47 A; Posener-Kriéger 1976, 490)
rnpt sp 15, ȝbd 4 ȝḫt, św 27 (Posener-Kriéger, Verner & Vymazalová 2006, 236)
rnpt sp 15, ȝbd 4 ȝḫt, św 28 (Posener-Kriéger, Verner & Vymazalová 2006, 237)
rnpt sp 15, ȝbd 1, … (Posener-Kriéger, Verner & Vymazalová 2006, 238)
[*rnpt sp*] *15* (*n*) *ṯ*(*nwt*) (Posener-Kriéger, Verner & Vymazalová 2006, 209)
rnpt sp 16 (Posener-Kriéger & de Cenival 1968, pls. 1, 1 A; Posener-Kriéger 1976, 490)
rnpt sp [*1*]*6, ȝbd 4 šmw, św 28* (Sethe 1933, 63.11; Smith 1952, 113, n. 2; see also Eichler 1991, 146f. – letter of Isesi to Senedjemib)
[*rnpt*] *sp 17, ȝbd 3* (Posener-Kriéger, Verner & Vymazalová 2006, 217)
rnpt sp 18, ȝbd 3 šmw, św ꜥrk (Posener-Kriéger, Verner & Vymazalová 2006, 262)
rnpt sp 18, ȝbd 4 šmw, św ꜥrk (Posener-Kriéger, Verner & Vymazalová 2006, 284)
rnpt sp 21 (*22 ?*), *ȝbd 4 ȝḫt, św 12* (Posener-Kriéger & de Cenival 1968, pls. 41, 41 A; Posener-Kriéger 1976, 490)[19]

rnpt (*m-*)*ḫt sp:*
rnpt m-ḫt sp 3 (Gardiner, Peet & Černý 1952, pl. VII, no. 13, pl. II, 60)
rnpt (*m-*)*ḫt sp 7* (*?*), *ȝbd 1 ȝḫt* (Posener-Kriéger, Verner & Vymazalová 2006, 300)
rnpt (*m-*)*ḫt sp 10, ȝbd 4 šmw, św 21* (Posener-Kriéger & de Cenival 1968, pls. 14, 14 A; Posener-Kriéger 1976, 490)

rnpt sp (*m-*)*ḫt sp:*
rnpt sp (*m-*)*ḫt sp 14, ȝbd 1 ȝḫt, św 28* (Posener-Kriéger, Verner & Vymazalová 2006, 290)
rnpt (*m-*)*ḫt sp 14, ȝbd … ȝḫt* (Posener-Kriéger, Verner & Vymazalová 2006, 301)
rnpt (*m-*)*ḫt sp 17, ȝbd 1 šmw* (*?*), *św 23* (Verner & Callender 2002, 68)

[19] P. Posener-Kriéger transcribed the numeral following *rnpt sp* as 21. However, in the damaged place where the numeral still is, one can see a tiny black trace of another vertical stroke just visible. Therefore, the numeral can probably be reconstructed as 22.

Dates which can be attributed to either Djedkare or Unas:
rnpt sp 11, ȝbd 3 prt, św 3 (?) (Junker 1938, 223–35; Junker 1947, 39–40)[20]

Documents dating from the time of Niuserre up to Pepy I:
rnpt sp:
rnpt sp 1, ȝbd 2 ȝḫt, ... (Posener-Kriéger, Verner & Vymazalová 2006, 270)
rnpt sp tpy, ... (Posener-Kriéger, Verner & Vymazalová 2006, 300)
rnpt sp 2 + x, ȝbd 1 ..., św ... (Posener-Kriéger, Verner & Vymazalová 2006, 300)
rnpt sp 5, ȝbd 4 ȝḫt, ... (Posener-Kriéger, Verner & Vymazalová 2006, 300)

rnpt (m-)ḫt sp:
[*rnpt*] *(m-)ḫt sp 1, ȝbd 4 ȝḫt, św ʿrk* (Posener-Kriéger, Verner & Vymazalová 2006, 301)
rnpt (m-)ḫt sp 1, ȝbd 4 šmw, św 1 (Posener-Kriéger, Verner & Vymazalová 2006, 301)
rnpt (m-)ḫt sp tpy (Raneferef's archive, pl. 82 M) (Posener-Kriéger, Verner & Vymazalová 2006, 308)
rnpt (m-)ḫt sp 4 (Raneferef's archive, pl. 76 C) (Posener-Kriéger, Verner & Vymazalová 2006, 300)
rnpt (m-)ḫt sp 4, ȝbd 3 šmw (Posener-Kriéger, Verner & Vymazalová 2006, 293)

attested *rnpt sp*: 1, 3, 5, 6, 8, 9, 10, 11, 14, 15, 16, 17, 18, 21 (22?)
attested *rnpt (m-)ḫt sp*: 1, 3, 4, 7 (?), 10, 14, 17

rnpt sp : rnpt (m-)ḫt sp – 14 : 7

Unas
RCT col. III.25: 30 years

rnpt sp:
rnpt sp 3, ȝbd 4 ȝḫt, św 11 (Verner & Callender 2002, 103)
rnpt sp 6, ȝbd 2 šmw, św 28 (Posener-Kriéger & de Cenival 1968, pl. 54 A; Posener-Kriéger 1976, 491)
rnpt sp 8, ȝbd 4 šmw (Posener-Kriéger & de Cenival 1968, pl. 54 C; Posener-Kriéger 1976, 491)

[20] Though a sealing bearing the name of Djedkare was found in the tomb, the attribution of the date to this king is somewhat uncertain. Nevertheless K. Baer (1960, 98) dates the tomb to the end of the Fifth Dynasty, Y. Harpur (1987, 213) to the time from mid Djedkare to Unas.

rnpt (m-)ḫt sp:
rnpt(m-)ht sp 4, ꜣbd 1 prt (Posener-Kriéger & de Cenival 1968, pl. 50; Posener-Kriéger 1976, 491)

Dates which can be attributed to either Unas or Djedkare:
rnpt sp 4, ꜣbd 1 šmw, św ꜥrky (Posener-Kriéger & de Cenival 1968, pl. 11; Posener-Kriéger 1976, 491)[21]
rnpt sp 4, ꜣbd 4 prt, św 2 (Posener-Kriéger & de Cenival 1968, pl. 11; Posener-Kriéger 1976, 491)

attested *rnpt sp*: 3, 6, 8
attested *rnpt (m-)ḫt sp*: 4

rnpt sp : rnpt (m-)ḫt sp: 3 : 1

Sixth Dynasty

Teti

RCT: lost

rnpt sp:
[*rnpt sp 1*], *ꜣbd 3 šmw św 3* (Posener-Kriéger & de Cenival 1968, pl. 92 A; Posener-Kriéger 1976, 491)
[*rnpt sp 1*], *ꜣbd 3 prt, św ꜥrky* (Posener-Kriéger & de Cenival 1968, pl. 95 A; Posener-Kriéger 1976, 491)
[*rnpt sp 2*], *ꜣbd 3 prt św ꜥrḳ(y)* (Posener-Kriéger & de Cenival 1968, pl. 94 A; Posener-Kriéger 1976, 491)
rnpt sp 2, ꜣbd 2 šmw św 3 (Posener-Kriéger & de Cenival 1968, pl. 92 A; Posener-Kriéger 1976, 491)

rnpt (m-)ḫt sp:
rnpt (m-)ḫt sp tpy, ꜣbd 3 3mw, św 3 (Posener-Kriéger & de Cenival 1968, pl. 94 A; Posener-Kriéger 1976, 491)
rnpt (m-)ḫt sp [1], ꜣbd 4 šmw … (Posener-Kriéger & de Cenival 1968, pl. 92 A; Posener-Kriéger 1976, 491)
rnpt (m-)ḫt sp tpy, …, św 10 + x (Posener-Kriéger & de Cenival 1968, pl. 96 A; Posener-Kriéger 1976, 491)
rnpt [*(m-)ḫt*] *sp 2, ꜣbd 2 šmw św 3* (Posener-Kriéger & de Cenival 1968, pl. 93 A; Posener-Kriéger 1976, 491)

[21] P. Posener-Kriéger was hesitant about the attribution of this date to either Djedkare or Unas.

rnpt (m-)ḫt sp 6], *ꜣbd 3 šmw św (?)* (Eichler 1993, 41 no. 36)
rnpt (m-)ḫt sp 11], *ꜣbd 1 ꜣḫt św 20* (Kanawati 2000, 25–32)

attested *rnpt sp:* 1, 2, 11
attested *rnpt (m-)ḫt sp:* 1, 2, 6

rnpt sp : rnpt (m-)ḫt sp - 3 : 3

Userkare
RCT: lost

According to the South Saqqara Annals, Userkaf reigned between 2 to 4 years.

Pepy I
RCT col. IV, 3: 20 years

rnpt sp:
rnpt sp 18 (Baud & Dobrev 1995, 73 D 4; Baud 2006, 148)
rnpt sp 25, *ꜣbd 1 ꜣḫt św ?* (Baud 2006, 148)

rnpt (m-)ḫt sp:
rnpt (m-)ḫt sp 18, *ꜣbd 3 šmw św 27* (Baud 2006, 148)
rnpt (m-)ḫt sp 18, *ꜣbd 4 šmw św 5* (Baud 2006, 148)
rnpt sp 21, *ꜣbd 1 prt św 23* (Baud 2006, 148)
rnpt (m-)ḫt sp 23 (South Saqqara annals; Baud & Dobrev 1995, 76 E 7; Baud 2006, 148)
rnpt [*(m-)ḫt ?*] *sp 25* (South Saqqara annals; Baud & Dobrev 1995, 76 E 8; Baud 2006, 148)

attested *rnpt sp:* 18, 25
attested *rnpt (m-)ḫt sp:* 18, 21, 23, 25

rnpt sp : rnpt (m-)ḫt sp – 2 : 4

Merenre
RCT col. IV, 4: [6] years

rnpt smꜣ-tꜣwy (Baud & Dobrev 1995, 77 F 1; Baud 2006, 151)

rnpt sp:
rnpt sp 1 (+1) (Baud & Dobrev 1995, 78 F 3; Baud 2006, 151)

rnpt (m-)ḫt sp:
rnpt (m-)ḫt sp 1 (+ 1) (Baud & Dobrev 1995, 79 F 5; Baud 2006, 151)
rnpt sp 5, ȝbd 2 šmw św 28 (Sethe 1933, 110, 12)
rnpt (m-)ḫt sp 5 (Eichler 1993, 40, no. 33; Baud 2006, 152)

attested *rnpt sp:* 1
attested *rnpt (m-)ḫt sp:* 1, 5

rnpt sp : rnpt (m-)ḫt sp – 1 : 2

Pepy II
RCT: 90 + x years

rnpt sp:
rnpt sp 2, ȝbd 3 ȝḫt św 15 (Breasted 1906, 160 § 351; Baud 2006, 152)
rnpt sp 2 (Gardiner, Peet & Černý 1952, I, pl. IX no. 17; Baud 2006, 152)
rnpt sp 11, ȝbd 1 šmw św 23 (Posener-Kriéger 1980, 83–93; Baud 2006, 152)
rnpt sp 12 (Eichler 1993, 105 no. 227; A; Baud 2006, 153)
rnpt sp 14, ȝbd 1 ȝḫt św 23 (?) (Eichler 1993, 43 no. 39; A; Baud 2006, 153)
rnpt sp 31, ȝbd 3 ȝḫt św 3 (+ *3*) (Goedicke 1967, 149 fig. 12; Baud 2006, 153)
rnpt sp 31 (?), ȝbd 4 prt św ? (Baud 2006, 153)
rnpt sp 33 (?) or (*24 ?*) (Goedicke 1967, 154 fig. 13; Baud 2006, 153)

The dates to be placed to the second half of the Sixth Dynasty:

rnpt sp 2, ȝbd 3 prt św 27 (Baud 2006, 153)
rnpt 6, ȝbd 3 šmw (Baud 2006, 153)

rnpt (m-)ḫt sp:
rnpt (m-)ḫt sp tpy, ȝbd 2 ȝḫt św 10 (Vanderkerckhove & Müller-Wollermann 2001, 183–6 gr. O 74, 210f. gr. O 144; Baud 2006, 153)
rnpt (m-)ḫt sp 11, ȝbd 2 šmw św 26 (Goedicke 1967, 85, fig. 8; Baud 2006, 152)
rnpt (m-)ḫt sp 22, ȝbd 4 šmw św 28 (Goedicke 1967, 119 and fig. 9; Baud 2006, 153)
rnpt (m-)ḫt sp 31, ȝbd 1 šmw św 20 (Eichler 1993, 44f. no. 43; Baud 2006, 153)
rnpt (m-)ḫt sp, ȝbd 3 prt św 29 (Eichler 1993, 109 no. 245; Baud 2006, 153)

attested *rnpt sp*: 2, 11, 12, 14, 31, 33 (or 24 ?)
attested *rnpt (m-)ḫt sp*: 1, 11, 22, 31

rnpt sp : rnpt (m-)ḫt sp – 6 : 4

Eighth Dynasty

rnpt sp:
rnpt sm3-t3wy, 3bd 2 prt šw 20 (Hayes 1946, 18 and pl. V; Baud 2006, 157)
rnpt sm3-t3wy, 3bd 4 šmw (1) (Schenkel 1965, 25; Baud 2006, 157)
rnpt sp tpy, 3bd 4 3ḫt šw 2 (Baud 2006, 158)
rnpt sp tpy (?), 3bd 3 šmw šw 2 (Schenkel 1965, 32; Baud 2006, 158)
[*rnpt*] *sp 4* (+ x) (Goedicke 1967, 163f.; Baud 2006, 158)

rnpt (m-)ḫt sp: 0

rnpt sp : rnpt (m-)ḫt sp – 2 : 0

The above statistical overview clearly shows how incomplete the historical sources are and also underlines just how weak is the basis for the reconstruction of both the Old Kingdom dating system and the Old Kingdom chronology. Currently, the opinion on the Old Kingdom dating system is far from being unanimous. For the reign of Sneferu some scholars, for instance R. Stadelmann (1986, 229–39 and 121) and M. Baud, consider the cattle count to have been regular – except for the aforementioned 7th and 8th count held in two successive years of Sneferu – whereas some others, e.g. R. Krauss (1996, 47), believe that no regular biennial system was employed. A. Spalinger (1994, 283) also assumes that in Sneferu's time "no biennial system was employed in a regular fashion". According to J. von Beckerath (1997, 147), in the period following the reign of Sneferu the biennial system was applied. In Beckerath's opinion, in the course of the Old Kingdom, the annual counts became more and more regular until they definitely prevailed by the end of the Sixth Dynasty.

In his recent study *The Relative Chronology of Dynasties 6 and 8*, M. Baud (2006, 155) asked himself the question whether the available dated documents from the Sixth Dynasty speak for the annual, biennial or irregular census. He rejected Kanawati's (2000, 29–30) assumption that the attestations of "years after" represented, before the regularly annual cattle count was held, provisional numbering subsequently altered to normal "years of". Concerning the reign of Pepy I, M. Baud does not exclude the biennial census. However, he presumes that during the reign of Pepy II an irregular system prevailed.

A new approach to the problem of the Old Kingdom dating system was opened up by a basic study by J. Nolan (2003, 75–98). His theory is based on Parker's theory that *Ḏḥwtyt* was the feast of the lunar intercalary month. The intercalary month helped synchronize the lunar calendar with the civil calendar of 365 days. J. Nolan believes that at the occasion of this intercalary lunar month and the feast of *Ḏḥwtyt*, "young, prime cattle – large oxen as well as smaller animals were gathered". This event, occurring every three years

(sometimes every two years), enabled the king to perform a ritual cattle count. Concerning the Old Kingdom dating system, J. Nolan concludes that about every 1 in 7 "years of" would require a "year after" which means that the Old Kingdom dates must be reduced by about 21%.

No matter how original, inventive and stimulating Nolan's theory appears, it raises some questions. Let us confine ourselves to several remarks only.

1) The term "cattle count" is in Nolan's paper used in a somewhat ambivalent way. Was it an actual economic event or not? He says (p. 80): "Lacking positive evidence, we can not conclude that the cattle count was a fiscal census. It may have been merely a royal ritual, like the others recorded in the annals fragments... It is likely, therefore, that like the running of Apis, the census of livestock was a royal ritual. There is no evidence to the contrary".

In this respect, J. Nolan follows T. Wilkinson (2000, 62) who sees "the Old Kingdom annals as incorporating not a literal record of historical events, but a ritual accounting which the king makes for his reign".

No doubt, we are lacking Old Kingdom documents, papyri or representations, concerning the general inventory of livestock for the fiscal census. However, we can not *a priori* exclude that such documents existed. Unfortunately, we are largely missing the administrative and economic documents from the Old Kingdom. This is no surprise since the absolute majority of the Old Kingdom written documents and representations do not come from the administrative and economic institutions but from the cemeteries.

It is lamentable that we have hardly any administrative documents from the normal archives of Old Kingdom Egypt: this is why our information about the cattle counts and the bureaucratic documents in general is so poor. Nevertheless, there is a group of Old Kingdom administrative documents which enable us a deeper insight into the mechanism of the then bureaucracy: these are the Abusir papyri. They survived due to the coincidence of several lucky circumstances. One of them was the fact that they were kept directly in the mortuary temples in the cemetery, beyond the region of flooding and dampness. Besides providing invaluable information on the administrative and economic operation of the royal mortuary cults, these papyri – representing only an extremely tiny fragment of the once very extensive and very carefully kept archives – teach us an important lesson: the ancient Egyptian officials were scrupulous bureaucrats who did not hesitate to record any temple income and expenditure, even any tiny scratch on the surface of a ceremonial vessel from the temple inventory. From this point of view, it is hard to believe that the count of the livestock for fiscal purposes, such an important event in the life of the country whose economy was based on a wide-ranging redistribution, would have missed the scrutiny of the ancient Egyptian bureaucrats. Indeed, it is hard to believe that the cattle count was not an actual administrative but a merely royal ritual event. For instance, we can

draw a parallel with the miniature cattle count of Meketre whose scribes are noting down the different sorts of cattle (Winlock 1955, 20, pls. 13–5). As they use papyrus rolls, we can understand why the amounts are not available to us.

2) Not quite obvious is the historical value which J. Nolan attributes to the builders' inscriptions mentioning "the year after the cattle count". In one passage of his text (p. 80) he concludes: "...the cattle counts were skipped every three years or so (disregarding the evidence from the masons' marks)".

In this conclusion, J. Nolan alludes to a remark by P. Posener-Kriéger. When working up the builders' inscriptions from the Meidum pyramid, P. Posener-Kriéger noticed a great disproportion between the occurrence of census years and the years following the census (ca 10 : 3). She commented on this disproportion as follows: "As it is rather unlikely that work was conducted on the royal pyramids only every two years, we have to accept, it seems to me and until proof to the contrary is produced, that it was only rarely that a distinction was made between the years *rnpt sp* and *rnpt (m-)ḫt sp*".

Generally, the dates served as markers for the control of the blocks in the quarry, during their transportation and, finally, their storage near the pyramid site. Concerning the aforesaid Meidum blocks with dates, it should be emphasised that they come from the casing and that all of them were found in the debris in just one place, namely, from around the north-west corner of the pyramid. Very probably, the blocks were prepared in advance, kept in a local storage place and delivered to the building site in accordance with the needs of the pyramid's construction. There is no reason to assume that in the builders' inscriptions one category of dates namely, "the years after the count", were disregarded and only the dates with "the years of the count" were recorded. This would be against the very administrative principles of the management of the pyramid construction.

3) The last remark concerns the crux of Nolan's theory about the Old Kingdom dating system. He says (p. 92): "All in all, the best explanation for the imbalance of 'years of' to 'years after' in the contemporary Old Kingdom documents is that the skipping of cattle counts was somehow linked to the celebration of the feast of the lunar intercalary month of *Ḏḥwtyt*".

We do not want to comment on Parker's model of the "Original Lunar Calendar" and the criticism of it by A. Gardiner, W. Barta and others: we lack the competency to that. We also do not want to reject *a priori* Nolan's theory based on Parker's model, when he says that the thirteenth, intercalary lunar month, celebrated only every third or, occasionally, every other year, was the *Ḏḥwtyt* feast, on the occasion of which the cattle count took place. We should only like to comment on two contemporaneous, Old Kingdom epigraphic pieces of evidence, one from the chapel of Akhtihotep and the second from the tomb of Usernetjer which, according to J. Nolan, support the aforesaid theory. He says (p. 92): "... cattle counts involved not only oxen but smaller livestock

as well, exactly the same kinds of animals which Akhtihotep and Usernetjer are shown collecting to prepare for the intercalary *Ḏḥwtyt* feast".

The two cited scenes refer to the *Ḏḥwtyt* feast but certainly not to the country's cattle count involving both the oxen and the smaller livestock. The text in one part of the scene in Akhtihotep's chapel (Davies 1901, pl. 18 and 20) explicitly mentions the "bringing of oxen from the funerary estates in Upper and Lower Egypt" whereas the text in the second part of the scene refers to the "gift of the desert animals" (*ꜥwt ḫȝśt*), not the small cattle. Indeed, in the latter scene are represented exclusively the wild animals – oryx, capricorn, gazelle and antelope – and not smaller cattle such as goats and sheep which were involved in the cattle count. In Usernetjer's scene (Murray 1905, pl. 22), besides the oxen, only the wild animals are represented either. The two cited scenes thus refer to the bringing of the offering animals at the occasion of the *Ḏḥwtyt* feast, not the country's census of the livestock.

At the end of our paper, let us return to the statistical overview of the dated Old Kingdom documents and to some conclusions which can be drawn from them.

1) So far, among the available dated Old Kingdom documents there are ca 70 items referring to the "year of" and ca 40 to the "year after". Attested are also eight years of *smȝ-tȝwy*. If the Old Kingdom lasted around 550 years, as reconstructed by J. von Beckerath (1997, 187f.), the aforecited dated documents would refer to ca one fifth of the years attributed to the Old Kingdom. Clearly, then, we lack the major proportion of documented years of history for this period.

2) In general, in the Old Kingdom dated documents, there is an imbalance in favour of the "years of". However, the imbalance seems to decrease with the course of time. And that may either depend on chance, or it may really reflect what we have come to understand from the material remains of the entire period: that the royal purse became increasingly short of funds as time went on, and therefore, the irregular imposts of the early dynasties had to change to regular taxation demands in the later years, as the kings tried to meet all their financial commitments. Among the documents from the Fourth Dynasty it is ca 3 : 1, the Fifth Dynasty ca 2 : 1, the Sixth Dynasty ca 1 : 1. Do these numbers reflect a tendency on the part of the ancient Egyptians to have a regular biennial count? It is hard to say; possibly, it could be the case as presumed by J. von Beckerath and some others.

3) From the available statistics that we have, one fifth, 20% of the available dates, is not a negligible value. If there existed a regular rhythm on which the dating system was based, it should have been detected in such a series of dates. As a matter of fact, one would expect from the available number of dates at least several sub-sets of dates, having the following pattern:

year 1 – year 2 – year after 2 – year 3. However, we have only one such piece of evidence. It appears among the dates referring to Sneferu:
year 12 – year 13 – year after 13 – year 14
4) Finally, we have to admit that we do not have a satisfactory explanation for the apparent imbalance between the "years of" and the "years after". Was it linked with the intercalary lunar calendar as suggested by J. Nolan? No doubt, that is an option but, unfortunately, our evidence is too incomplete to confirm it. Or, should the explanation of the disproportion be sought in unpredictable events which might have had a serious impact on the economy – such as bad harvests, due to locusts or other pests, extremely high or low Nile floods, epidemics, extraordinary state expenditures, etc.? The then Egyptian bureaucracy must have had some tools which would help it cope with such events and reestablish the balance in the state economy and its redistribution system – although at this stage, this idea is a mere hypothesis.