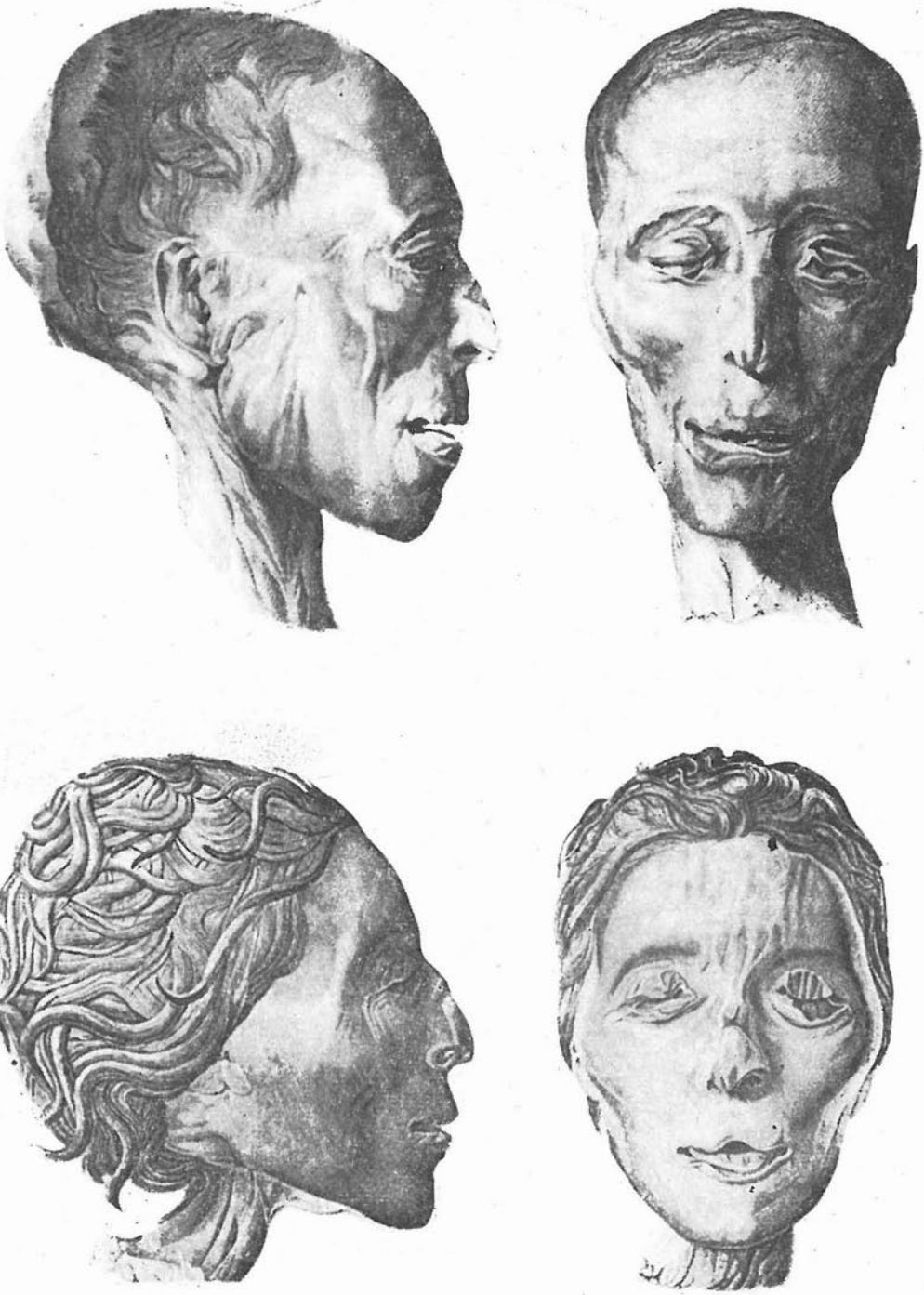

Heads of a man and a woman from Theban tombs, drawn by A. Denon represent the most ancient scientific documentation of Egytpian mummies (Description de l'Egypte, planches, tome II^{ème}, 2ème édit., Paris 1821, pp. 170–71).

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EGYPTIAN MUMMIES IN CZECHOSLOVAK COLLECTIONS

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CONTENTS

LIST OF ABBREVIATIONS

Inv. No.	= inventory number
B.	= breadth
H.	= height
L.	= length
T.	= thickness
Dep.	= Department
protub. occ. ext.	= external occipital protuberance
C_{1-7}	= cervical vertebrae
Th_{1-12}	= thoracic vertebrae
L_{1-5}	= lumbar vertebrae
S_{1-5}	= sacral vertebrae
I_{1-2}	= permanent incisors
C	= permanent canine
P_{1-2}	= permanent premolars
M_{1-3}	= permanent molars
i_{1-2}	= deciduous incisors
c	= deciduous canine
m_{1-2}	= deciduous molars
yrs.	= years

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INTRODUCTION

Ancient Egyptian mummies which have aroused so much interest in the visitors of our museums have ceased to be mere curiosities today. Studiyng them has brought a number of significant notions to different scientific branches. Thus ascertained physical appearance and health condition of historical personalities can often cast a surprising light on some historical problems of Egyptology. The details of the used mummification technics illustrate the working methods of the Egyptian priests – mummificators. This is interesting from the standpoint of cultural history. The mummies inform us about physical features of Egyptian people from the point of view of physical anthropology. At the same time, they enable to follow congenital anomalies and diseases of the ancient Egyptian population and thus to enrich the palaeopathology. The studies of mummified animals bring informations of a cultural historical character, of the cult of ancient Egyptian gods with animal features, and also information of zoological character increasing our knowledge of various animal species in ancient Egypt. With the progress of technics and research methods, even other points of view may appear.

Not so long ago Egyptian mummified material was lying scattered in collections of various institutions in Czechoslovakia, practically unnoticed, sometimes without sufficient preserving protection and without scientific evaluation. In the year 1969, in the Náprstek Museum, section of the National Museum, Prague, the Department of Prehistory and Antiquity of Middle East and Africa was founded. It is the first and single Czechoslovak working body busy with systematic collecting, preserving, protection, scientific elaboration and public display of Ancient Egyptian objects. One of the first urgent aims of the Department was to work upon mummified material which under our climatic conditions, if located in unsuitable places and without sufficient care, threatens to fall into ruin.

After searching our museums and castles and gaining information by two inquiry actions, an inventory was accomplished, reaching a remarkable number of 168 mummified objects and a number of mummified fakes. The criterion of recognizing objects as mummified became proof of material used at mummification at least by traces. Mere skulls and other bones with rests of naturally dried out soft tissues but without signs of any artificial intervention by mummification procedure were enlisted neither in the research nor in our present study. As mummified fakes we indicate false mummies in wrapping without contents or with unappropriate contents.

Most of the materials were transported to the Náprstek Museum in Prague. The endangered objects were expertly preserved in its laboratory. Part of the stuff was presented to our public at the exhibition "Ancient Egyptian Mummies" held in the Náprstek Museum in spring 1971 and in the District Museum in Olomouc in autumn 1971.

At the same time during 1971–1973 all the objects were investigated in accordance with the Museum scientific project "Research on Ancient Egyptian Mummies". From the museological view-point it was decided not to sacrifice even one Egyptian mummy if not threatened by decay. This rule led us to the broad use of the X-ray examination of the mummies as of the principal research method, in addition to the general external study of the objects. Preliminary studies on the whole research project were published in scientific journals (STROUHAL 1976, STROUHAL and VYHNÁNEK 1976 a, VYHNÁNEK and STROUHAL 1976 a, b). Some of the findings were subjects of separate publications (STROUHAL and VYHNÁNEK 1974, 1976 b, VYHNÁNEK and STROUHAL 1976 c).

Present volume represents a catalogue of all the gathered material and at the same time the basic step towards its scientific evaluation. We don't pretend that we have gained all available mummified material without gaps. Other objects may be hidden in private collections and even in some minor public institutions. We do know of the existence of some mummies mentioned in old literature, but, for the time being, their clues have disappeared.

This volume doesn't contain all the results of our multidisciplinary team research A large number of samples from coffins, resin, textile, body tissues and animal mummies have been submitted to special analyses and published separately (BŘEZINOVÁ and HURDA 1976, ČEJKA 1974, ČEJKA et al. 1976, 1978, HANZÁK 1977, JANKOVSKÝ et al., in print, NĚMEČKOVÁ 1977, ŠILAR 1979, TITLBACHOVÁ and TITLBACH 1977).

On the whole, the mummified material from the Czechoslovak collections surprises one because of its number and its mostly well-preserved condition. In the majority of cases it is a matter of the results of the collector's interest of the feudals and bourgeoisie in previous centuries, lacking data on the origin and dating. Nevertheless, the material forms a rich fount of knowledge which we offer as a contribution to the lately enlived world's interest in the research of Egyptian mummies. The presented study, at the same time, is the first monographic publication of a special category of the ancient Egyptian collections of Czechoslovakia, after which an analogous elaboration of further objects is to follow.

The text has been arranged into the introductory and methodical parts (Chapters 1–3), the description of single mummified objects (Chapters 4–11) and into the fundamental analysis of findings according to the followed points of view (Chapters 12–15).

ACKNOWLEDGEMENTS

We express our thanks to the authorities, the directors and staff of Czechoslovak Museums and State Castles who have enabled us to examine mummified objects from their collections. The following of them deserve mention: Hrdlička Museum of Man in Prague, Department of Anthropology of the National Museum in Prague, Chair of Systematic Zoology of the Faculty of Natural History, Charles University, Prague, State Castle Kynžvart, Podlipanské Museum in Český Brod, Textile Museum in Králův Dvůr, State Castle in Opočno, City Museum in Moravská Třebová, District Museum in Olomouc, Zoopark and Castle Lešná near Gottwaldov, Natural History Department of the District Museum Vsetín in Valašské Meziříčí, State Castle Buchlov, City Museum in Bratislava, Natural History Institution of the Slovak National Museum in Bratislava, District Museum in Topolčany, Gemer Museum in Rimavská Sobota and the State Cultural Property Betliar.

Our endeavour to concentrate the Egyptian mummified material in the collection of the Department of Prehistory and Antiquity of Middle East and Africa of the Náprstek Museum where it can not only be made full use of but is sure to be thoroughly conserved, has met with favourable understanding by the authorities the directors and staff of some Czechoslovak museums and institutions, and they deserve our special thanks for their decision to transfer this material to become the permanent property of the Náprstek Museum. These are the following institutions: District Museum of Most, County Office of the State Memorial Care and Protection of Nature in Plzeň, Territorial Museum in Kutná Hora, Museum of Vysočina in Jihlava with its branch in Polná, District Museum in Kroměříž, Silesian Museum in Opava and City Museum of Brno at Brno Castle.

For lending us objects from private collections we thank Mrs. K. Řandová and Dr. T. Pavlík, both of Prague.

For enabling us to examine all our material by X-rays, we are indebted, first of all, to Prof. Dr. O. Blažek, CSc., the head of the Radiological Clinics of the Charles University, Prague, where the majority of the investigated mummies was X-rayed. Further we thank Prof. Dr. J. Kos, DrSc., and Dr. J. Heřt, CSc., of the Department of Anatomy, Faculty of General Medicine, Charles University, Plzeň, Prof. Dr. A. Lányi, DrSc., the head of the Radiological Clinics, Komenský University, Martin, Dr. Š. Mydlík the head of the Oncological Department, District Hospital in Rimavská Sobota, and Dr. F. Pobuda, the head of the X-ray Department of the same hospital.

For the continual support of our work and the assured publication of it we thank Dr. A. Čejchan, CSc., the Director of the National Museum of Prague and Dr. V. Šolc, CSc., Director of the Náprstek Museum, section of the National Museum in Prague.

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Chapter 1

OUTLINE OF THE HISTORY OF RESEARCH ON MUMMIES AND MUMMIFICATION

From texts and pictures of ancient Egypt, it is possible to get quite a detailed idea of the rites accompanying mummification and funerals. Nevertheless, there are very few notions about the technical side of mummification itself. The classical Greek and Roman authors were the first ones to be interested in it (HERODOTOS about 450 B. C., DIODORUS SICULUS about 80 B. C., PORPHYRIUS in the 3rd century A. D., PLUTARCHOS 45/50–125 A. D.). Their reports formed the only sources of repeatedly quoted notions up to the last century. Special literature came into existence in the Middle Ages and in the dawn of the modern era dealing with the problem of the medical use of powder from them mummies. Already in 1705 some valuable observations were published by the London surgeon T. GREENHILL, Occasional mentions were made about mummies and mummification by old missionaries and travellers to Egypt, e. g. by W. HAMILTON (trip 1802, edited 1814). Some of them were also of Czech origin (e. g. KRYŠTOF HARANT from Polžice, trip 1598, edited 1854, JACOB JOSEF, ŘÍMAN, trip 1712, edited by VILHUN 1946, VÁCLAV PRUTKÝ, trip 1751, edited by VILHUN 1946).

The beginning of the first period of scientific interest in mummies is connected with the origin of Egyptology enabled by NAPOLEON'S expedition to Egypt (1798–1801). During this period the mummies were deprived of their covers, their external appearance was studied and they underwent anatomic dissections. The oldest report about the scientific research of an Egyptian mummy by the anatomist ROUSSEAU in Paris in 1802 is to be found in a letter of the physician and orientalist L. F. FRORIEP (1802). In the monumental work "Description de l'Egypte", P. C. ROUYER kept busy with mummification studies (2nd edition 1822). He was the first one to distinguish the significance of the drying out of the body and he divided mummies into several types. A. DENON (2nd edition 1821) described the external appearance of two heads, reproduced in the 2nd volume of "Plates" in a giant size of the same work (Plates 49–50, 2nd edition 1821, see frontispice).

Finally D. J. LARREY (1st edition 1813, 2nd edition 1829) distinguished three types of mummies according to the quality of the mummification process. Together with the French researchers, the British and Americal authors started to work busily with autopsies of mummies (GRANVILLE 1825, OSBURN 1828, DAVIDSON 1833, PETTIGREW 1834, 1838, GANNAL 1840 and others). Even if scientific points of view appeared during the first period of work on mummies, nothing at all was known about provenance and dating of the examined material. Most of the mummies came from very flourishing shops with Egyptian antiquities. Also the pioneering work of the Czech physiologist and laryngologist J. N. ČERMÁK falls into this first period of the research on mummies (CZERMAK 1852, 1879). In his study of two mummies he used the method of external observation, anthropometry and anatomic dissection and, for the first time, histological technics. We can as well consider him predecessor of modern palaeopathologists; he described e. g. in histological details arteriosclerotic changes of large arteries of one of the studied mummies. ČERMÁK'S work remained unique for a long time. More than half of a century passed by before the work was continued by M. A. RUFFER.

With the development of archaeological research in various Egyptian sites, the scientists began to get mummified objects with known finding circumstances, provenance and dating. Among others, there were firstly the King's mummies, found in the secret hiding-place in Deir el-Bahari in 1881 and described briefly by D. FOUQUET (1886, 1890, 1896) and R. VIRCHOW (1888).

The discovery of the X-ray made it possible to substitute the dissecting methods which caused the destruction or serious damage to the examined mummies, by technics which preserve the integrity of the mummy. First radiographs were made by W. KOENIG (1896) in human and animal mummies from the Senckenberg Museum in Frankfurth am Main, and by A. DEDEKIND (1896) who revealed in a human-like mummy from the Naturhistorisches Museum in Wien an ibis. At the end of the same year, GARBUTT proved by help of the X-rays in Philadelphia that a dubious object was

a mummified human hand (GLASSER 1931). Out of the archaeologists, M. M. F. PETRIE (1898, plate XXXVII) presented a radiograph of peripheral parts of two limbs showing clearly improper and mixed up bones in the wrappings. F. J. CLENDINNEN (1898) published the radiograph of a mummy's hand with abnormal number of sesamoid bones. J. PELLEGRIN (1900) used the X-rays to determine species of mummified fish. The radiodiagnostic method, however, wasn't commonly used because the X-ray equipments were rather rare at the time. Thus the Cairo anatomist G. E. SMITH who examined in detail a large number of mummies (see further on) used the roentgenological examination only once even if he was aware of its importance. The difficulties he met in 1903—04 transporting the mummy of the King Thutmosis IV in a cab to hospital near Cairo, equiped by an X-ray apparatus, became famous (SMITH 1912, JONCKHEERE 1942). A few years later, M. BERTOLETTI (1913) ascertained the presence of 6 lumbar vertebrae in a mummy by the help of X-rays.

While in the first period of study it was a matter of observing a small number of accidentally collected mummies, the research of the second period stretching from the beginning of the 20th century to the World War II came from a richer basis of material. New examining methods were added to external description and to the gradually rare dissections, i. e. histology, pathohistology, chemical analysis and improved roentgenological technics. Besides human mummies also mummies of animals were researched. The main interest was concentrated on detailed study of mummification technics and on finding pathological changes.

The work of the anatomist G. E. SMITH is especially outstanding in this period as he began, at the suggestion of the Egyptologist G. MASPÉRO, to find interest in the mummies of the Cairo Museum and later in those from the newly investigated sites. He laid a dependable foundation on discerning chronological changes in mummification technics. He recognized for the first time the characteristic progress of the mummificators of the 21st Dynasty (SMITH 1906), or the relics of mummification practices in early Christian era (SMITH and WOOD-JONES 1910). An important source of knowledge continues to be his detailed description of King's mummies (SMITH 1912), and his reports on their unwrapping (SMITH 1907, 1908 b). In a short paper he also paid attention to the oldest evidence of mummification (SMITH 1914). Later, together with the Egyptologist W. R. DAWSON (1924), his first monography on Egyptian mummies was written in which he outlined the historical development of mummification technics.

Smith's collaborator W. R. DAWSON preserved his interest in mummification all his life. He became an expert in the course of the mummification which he studied in the ancient wall pictures as well as in the newly discovered archaeological sites (DAWSON 1927, 1929 b), in the previous literature on mummification (DAWSON 1929 a) and in the chronological changes of the mummification technics (DAWSON and GRAY 1968).

The development of histological and pathohistological study of mummies is connected with the name of the Cairo bacteriologist M. A. RUFFER who was presented with his first material for research and with an impulse for such a kind of work by G. E. SMITH. At first he succeeded in unfolding methodics by means of which he showed how to return elasticity to dry-out and friable tissues and how to modify the colouring method which helped to gain perfect thin sections of various tissues (RUFFER, 1909, 1911 a). In this manner conditions were suitable for finding pathological changes in mummified tissues (RUFFER 1910 a), and thus a new scientific branch was born. He defined it and named palaeopathology. There followed proofs of bilharziosis (RUFFER 1910 b), Pott's disease (SMITH and RUFFER 1910), arteriosclerosis (RUFFER 1911 b), variola (RUFFER and FERGUSSON 1911), bone disseases (RUFFER and RIETTI 1912, RUFFER 1914 a) and diseases of the teeth (RUFFER 1920). Special studies were devoted to mummies of the Persian (RUFFER 1912) and Coptic periods (RUFFER 1913) and to the pathological changes in Kings' mummies (RUFFER 1914 b). The majority of Ruffer's papers was reprinted in a monograph edited post-mortem due to the care of R. L. MOODIE (RUFFER 1921).

In the year of the first histological publication of Ruffer, the Englishman S. G. SHATTOCK (1909 a, b) edited papers on histology and pathohistology of the aorta of the mummy of the King Merenptah. The Cairo physician ABBATE PACHA (1910) published some informations on the histological findings of the heart tissue in the

contents of one of the examined Canopic jars which lacks documentation of any kind and seems to be untrust worthy. Further additions to this branch of work were published by the Czech E. ŠIMANDL (1928), the Italian S. BAGLIONI (1933) and others.

Parallelly with the development of research on human mummies, the elaboration of mummified animals began, where, in its beginning, was the detailed study on fish by PELLEGRIN (1900) and LORTET and HUGOUNENQ (1902), L. C. LORTET and C. GAILLARD (1902, 1903, 1907, 1909) devoted themselves to the study of mummified fauna of ancient Egypt in a comprehensive monograph and G. DARESSY and C. GAILLARD (1905) in a volume of the Catalogue of the Cairo Museum.

W. A. SCHMIDT (1908) was the first one to start the chemical analysis of the mummified material. By combining chemical and experimental research A. LUCAS (1914 a) ascertained that in mummification the most important means for drying tissues was natron. Later he reached the conclusion that natron was mostly used in a solide state and only seldom in a liquid state. This author and others studied in detail also other materials which were used during mummification (LUCAS 1914 b, 1931, WINLOCK 1941, 1942).

RUFFER's works became the foundation for elaborating palaeopathology of ancient Egyptians in a number of further publications (see the monograph of MOODIE 1923). The latter soon started his own systematic work on human and animal mummies in the Field's Museum of Natural History in Chicago. As a principal research method, he chosed the X-ray examination (MOODIE 1931). By the same technics a large number of jewels and amulets in the wrappings of the mummy of Wah of the 11th Dynasty, buried in Thebes, was found by H. E. WINLOCK (1936). Some pathological findings and details of mummification technics uncovered the research of the mummy of Nesmin, published by M. S. DANFORTH (1939). A thoroughly elaborated monograph about the combined external, radiographic and autoptical research of a mummy placed in the coffin of the King's secretary Boutehamon was published by F. JONCKHEERE (1942). In this period, even casuistics contributed to the spreading of knowledge about the presence of various diseases in ancient Egypt (SACK 1927).

Frequency and technical details of excerebration were studied by L. NICOLAEFF (1930) on the skulls of the Mariette collection and of different other sources which today are located in the Musée de l'Homme in Paris. In Egypt, D. E. DERRY (1934, 1935, 1939 a, b, 1940, 1942) continued to work in the foot-steps of G. E. SMITH and investigated besides skeletal materis many mummified remains. He presented a chronological review of mummification methods used in various periods (ENGELBACH and DERRY 1942). The external description of mummies from the burial places of the Royal workmen in Deir el-Medina, from which a few numbers of our series are derived, was given by B. BRUYÈRE (1937 a, b).

In the Czech literature, with the exception of histological studies of E. ŠIMANDL (1928), we have no original contribution on mummy research from the period between the two World Wars. Only L. MATIEGKOVÁ (1929 a) collected the impressions of the oldest researchers from their encounter with mummified bodies. She presented also a review of history, different aspects and results of studies of the ancient Egyptian mummies (MATIEGKOVÁ 1929 b).

New possibilites of study were shown by the attempts to test blood groups in tissues of ancient Egyptian mummies and in bones from prehistorical sites (BOYD and BOYD 1934, 1937 a, 1937 b). The history of mummification in Egypt and cultural material connected with embalment were elaborated by W. A. T. BUDGE (1925) and K. SETHE (1934).

After the World War II the third period of the study of mummies started. It is characterized by the predominance of research methods which either don't disturb the mummy (radiological research) or use tiny samples of tissues which are analysed by the classical histological, electron-microscopic, histochemical, chemical, physico-chemical and other methods. In a large number of cases, analysis of series of mummies was performed. These series aren't, however, a matter of natural population samples (from one place and period) but groups from the Museum collections existing by chance. Besides this, research of individual cases preserved its importance.

Histological studies, above all, reached a high development. The work of W. GRAF (1949) ought to be noticed here, as with the help of improved methods this author

proved red blood-corpuscles and proposed the use of the term palaeohistology. Further contributions were published by C. OVERZIER (1955) and J. T. ROWLING (1961). On tissues, gained by dissection or surgical operation on recent people, A. T. SANDISON (1963 a) tried to solve the question of the use of natron experimentally. The histological picture showed that the ancient Egyptians used natron most probably in a dry form. This author presented an outstanding review of histological technics and palaepathological findings from the existing studies of mummified tissues (SANDISON 1963 b). The problems of preservation of tissues of Egyptian mummies were the interests of CHIARELLI and MASALI (1967), GIACOMETTI and CHIARELLI (1968), CHIARELLI and RABINO MASSA (1967), RABINO MASSA et al. (1967 a, b), RABINO MASSA and CHIARELLI (1972). Microscopic study of hair of the mummies was performed by RABINO MASSA (1969 a, b), CHIARELLI, CONTI FUHRMAN and RABINO MASSA (1979—71), CONTI FUHRMAN and RABINO MASSA (1973). Special colouring technics used in examination of mummified skin was described by P. W. POST et al. (1973). Histology of experimentally mummified tissues was studied by M. R. ZIMMERMAN (1972, 1976). The pionneer of electron microscopy in Egyptian mummies became P. K. LEWIN (1967, 1968) and LEWIN and CUTZ (1976).

The importance of systematic use of X-ray examination in research of mummies was first of all shown by the work of P. H. K. GRAY (1967 b, 1972, 1973). He examined whole series and single mummies from Leiden (GRAY 1966 a, b), Newcastle (GRAY 1967 a), Liverpool (GRAY and SLOW 1968), Truro (GRAY 1970 b) and from the British Museum of London (DAWSON and GRAY 1968). Further radiographic studies on mummies were performed on Roman period specimens from the National museum in Budapest by MÉREI and NEMESKÉRI (1958 a, b), on mummies of a brother and sister deposited in U.S. collections by GOFF (1976), on mummies from Copenhagen collections by CHRISTENSEN (1969, 1970), on mummies from the Staatliche Museen in Berlin, GDR, by KAISER (1970), on mummies from Italian collections by DELORENZI and MANCINI (1973) and by BENASSI and RAGNI (1973), on mummies from Belgian collections by JANSSENS and DUQUENNE (1973 a, b) and JANSSENS (1974) and on mummy heads from the Kunsthistorisches Museum in Vienna by KLEISS (1975). A well printed volume with colour photographs and large perfect radiographs by E. LLAGOSTERA (1978) deals with 5 human mummies and 10 mummified packets from the Archaeological Museum of Madrid.

Also animal mummies have been X-rayed, e. g. a human-masked and doll-shaped hawk mummy by DIENER (1973) or a fish mummy of a newly detected species Eutropius niloticus by LEEK (1976). In another case of a decayed catfish, autopsy was preferred (BRIER and BENNETT 1977).

An important group of studies, scattered in various anthropological, medical and other scientific magazines, has been devoted to special palaeopathological problems. The majority of them deals with traumatical and degenerative spine and joint changes (COURVILLE 1949, MÉREI and NEMESKÉRI 1958 b, WATERMANN 1960, SALIB 1962, BOURKE 1971, 1972). An interesting question on prothesis was solved by GRAY (1966 c). The problem of trepanation interested F. P. LISOWSKI (1955, 1967). F. F. LEEK (1966) devoted his paper to dental pathology in Egypt. Bone anomalies in mummis were analysed by D. BROTHWELL (1967 a). Studies of demarcated parietal osteoporosis came from J. L. ANGEL (1967) and T. LODGE (1967). The review of literary data on arteriosclerosis in ancient Egypt was compiled by L. BUCHHEIM (1956), E. RABINO MASSA (1972, 1977) described newly further cases of arteriosclerosis in mummies based on pathohistological analysis. V. T. HANEVELD (1974) observed a case of ulceration of the leg on an Egyptian mummy of the New Kingdom. O. KORKHAUS (1965) and the same author in collaboration with E. OTTO (1975) paid attention to the pathology of dentition in mummies.

Besides single findings, for example of leprosy (ROWLING 1961), meningioma (ROGERS 1968) or bone infarcts (GRAY 1968) with expressive diagnostical traits, less common pathological conditions were shown pointing to possibilities of wider diagnostical consideration (SATINOFF and WELLS 1969). On the other hand, the dangers of pseudopathological findings in the X-ray examination of mummies were demonstrated in the works of SIMON and ZORAB (1961), WELLS and MAXWELL (1962) and GRAY (1967 c). Nevertheless, even such rare findings like ochronosis were recently proved chemically (STENN 1978).

It is necessary to emphasize the study on tuberculosis by MORSE, BROTHWELL and UCKO (1964) and MORSE (1967). The rich pathological findings in Egyptian mum-

mies are often quoted in the palaeopathological monograph written by F. HENSCHEN (1966) and they represent an important source for authors dealing with different pathological conditions in "Diseases in Antiquity" (Eds. BROTHWELL and SANDISON 1967).

We are putting aside the very wide literature about ancient Egyptian bone and teeth palaeopathology and history of Egyptian medicine, based on analysis of ancient medical texts, recently surveyed by A. LECA (1971), because even the shortest survey of these works would very much widen the contents of this chapter.

Various notions on mummification technics and stuff used at embalment were gathered by LAUER and ISKANDER (1955), in the new extended edition of the monograph by LUCAS and HARRIS (1962) and by ISKANDER and SHAHEEN (1964). The use of onion in mummification is discussed in the book on ancient Egyptian flora by TÄCKHOLM and DRAR (1954). Problems connected with removing of the brain at mummification process were studied in detail by LEEK (1969). An interesting set of embalming instruments was found by the Austrian expedition in the tomb of Ankh-Hor in Thebes (LECLANT 1974).

Very important for the problem of origin of Egyptian mummification is the find of a child's mummy with signs of artificial attempt of preservation in Uan Muhuggiag in Fezzan, Libya, dated by the help of radiocarbon about 3446 B. C. (MORI and ASCENZI 1959, DROST 1964). The question of spread of mummification practics on the African continent and their relation to ancient Egypt were studied by D. DROST (1964). SMITH's opinions about diffusion ot he ancient Egyptian culture including mummification were refused by G. L. PRETTY (1969).

New analysis of mummification rituals in relation to the course of mummification procedures was given by J. C. GOYON (1972).

Mummies of famous Pharaohs were lately examined radiographically by J. E. HARRIS and K. R. WEEKS (1973) at the Egyptian Museum in Cairo, and in the grave of Tutanchamun by HARRISON and his colleagues (LEEK 1972). Detailed evaluation of these researches is awaiting publication. The lethal wounds on the skull of the King Sekenenre in relation to the used types of weapons were studied by BIETAK and STROUHAL (1974). The famous recent journey of the mummy of King Ramses II. brought new notions on his physical appearance and pathology (BALOUT 1978).

The Detroit physician A. T. COCKBURN organized during 1971—5 four autopsies of Egyptian mummies (PUM = Pennsylvania University Museum I, II, III, IV) by international teams with the aim of gaining samples of tissues for histological biochemical, bacteriological and immunological examinations (COCKBURN 1973, STROUHAL 1974, COCKBURN et al. 1975, RENSBERGER et al. 1975, FINNEGAN 1976, PECK 1976). Another autopsy of a naturally mummified body was performed in 1975 in Toronto, Canada (LEWIN et al. 1975, MILLET et al. 1977, STROUHAL 1979).

Bichemical and immunological studies of mummy tissues were published by BORGOGNINI-TARLI and PAOLI (1973) and MICHELIN-LAUSAROT et al. (1973). The same direction was followed in the PUM's specimens by COUGHLIN (1977) and BARRACO, REYMAN and COCKBURN (1977).

The advance of micromethods in blood group determination allowed testing of various mummified tissues for the ABO and MN blood group systems (e. g. BERG et al. 1975). These determinations can be used also in solving problems of parentage of historical personages (HARRISON et al. 1969, CONOLLY et al. 1976).

Autopsy of PUM II furnished samples also for a minute investigation of the inner structures of its temporal bones (BENITEZ and LYNN, 1974, 1975).

The newest method of X-ray computed axial tomography was firstly used in an Egyptian mummy by LEWIN and HARWOOD-NASH (1977) and LEWIN (1970).

The current state of research on mummies were surveyed by several authors (WENZ et al. 1975, BUCAILLE et al. 1976, SCHERMULY and EGGEBRECHT 1977), in a more popular form by MARTIN and SILVERMAN (1976). Widely designed surveys on different aspects of embalming procedures in ancient Egypt were recently compiled by A. P. LECA (1976), by R. DAVID et al. (1978) and by J. HAMILTON-PATERSON and C. ANDREWS (1978).

Chapter 2

COURSE OF ANCIENT EGYPTIAN MUMMIFICATION

The aim of Egyptian mummification was to preserve the body of the deceased for an unlimited time. It arose from religious ideas that only a body preserving its likeness can, after death, become enlivened by soul and keep on living just as did god Osiris, whose dismembered body was put together again by his faithful wife and sister Isis. These ideas existed because the dry sand of the desert acted favourably on preserving the buried bodies already in the Neolithic and Predynastic periods (5^{th}—4^{th} thousand years B. C.) (SMITH and DAWSON 1924). Examples of the naturally mummified bodies of the Badarian culture are e. g. preserved in the British Museum in London (DAWSON and GRAY 1968).

In later burials into hollow graves in the damp parts of the Nile valley, decaying of the buried bodies took place more often, so that from the end of the Predynastic period and the beginning of the Dynastic times, it is possible to find proofs of the endeavours to prevent this by artificial means, most often by wrapping pieces of linen around the body and perhaps even by getting rid of the dampness by methods similar to the process used in salting the fish (SMITH 1914, SMITH and DAWSON 1924, DAWSON and GRAY 1968: No. 6 and 9). By gradual perfection and addition of further means (e. g. during the 4^{th} Dynasty, the inner organs of Kings were removed and placed into Canopic jars, GOYON 1972), a complicated mummification technics developed which reached its height in the Third Intermediary period (1087—664 B. C.), later it again declined to its lowest level in the Roman time (SMITH and DAWSON 1924, DAWSON and GRAY 1968).

Mummification wasn't only a technical act but was accompanied by a complicated ritual ceremony, imitating in details the process by which Osiris was prepared for the resurrection. It became part of religious rites connected with the burial of the deceased. Each single working act of the embalmers was connected with recitation of due texts which had the same, if not often greater importance than the well executed mummification act itself. In the picture illustrating mummification in graves at Thebes, a priest always stands besides the embalmers with a roll of papyrus in his hand (DAWSON 1927). The aim of mummification was to have the mummified one become incernated God Osiris and therefore to be immortal.

Considering this aim, the embalmers were members of the priestly class. The highest of them, named Anubis or the Chief of the Mystery of Mummification Place, played the role of the God Anubis who was the embalmer of the God Osiris. According to a legend, he negotiated knowledge of mummification technics to the people. The head embalmer executing proper technical mummification acts was called the Godly Chancellor. At his side stood one or more priest lecturers or Ceremonists who read the liturgical texts related to every phase of mummification. Besides this, a large number of helpers took part in the mummification and prepared the salves, washed the body and the viscera, carried water, natron and other necessary stuffs, wrapped the bodies with bandages, etc. Some of them were called Children of Horus or Children of Chentienirt (GOYON 1972). The priest embalmers had nothing in common with the ancient Egyptian physicians and their rough anatomical knowledge had no direct effect on the development of Egyptian medicine. It is however possible to assume that the Egyptian physicians not once made full use of the possibility of looking into the viscera during the process of mummification. The position of the embalmers within the Egyptian society was honourable and it was only during the Graeco-Roman period when the classical authors placed them, due to their feeling of dislike, at the bottom of the society (SMITH and DAWSON 1924).

The place where mummification was performed was *wabet* or the Pure Place (sometimes known as The House of Purification or The Good Home), a building on the western bank of the Nile, surrounded by walls which protected it from being seen from the outside. Later there were even wandering *wabets* which moved about with the embalmers from one burial place to another (GOYON 1972). Little is known about the inner furnishing and arrangements. In Deir el-Bahari little chambers were found with walls of earthen bricks, in which the embalmers left pots and small packages containing natron (natural soda, i. e. a mixture of natrium carbonate and natrium bicarbonate with impurities such as natrium chloride or natrium sulphate),

utensils with straw for fillings of the mummies, pieces of papyrus and beads, etc. Parcels of natron were present in a coffin of the 22nd Dynasty priest Moncu (SMITH and DAWSON 1924). In the grave of Ipej of the 12th Dynasty in Deir el-Bahari, a wooden mummification table was found, on which were preserved pieces of resin and natron together with wooden blocks, which served as a base support of the body during the mummification process (WINLOCK 1922). Alabaster embalming beds in the form a standing lion with a slightly inclined upper surface ending with a half-circular reservoir for the flowing fluids are known e. g. from mummification places of sacred bulls in Mennofer (today's Mitrahina). A similar table dated 25—26th Dynasties from Medinet Habu was described by WINLOCK (1930).

In other sites even instruments were discovered which were used by mummificators: a spiral curved bronze hook made for getting through the back walls of the nose for the purpose of removing the brain (BUCHHEIM 1956); a knife for cutting out the viscera; pincers for inserting fillings under the skin through short cuts in the skin (SUDHOFF 1911) or a flint knife for making incisions on the left side of the abdomen of the deceased (BRUYÈRE 1937 a).

The mummification ritual is known from two hieratic papyri, i. e. from the papyrus No. 3 from Boulaq, deposited today in th Egyptian Museum in Cairo, and papyrus No. 5158 from the Egyptological Department of Louvre in Paris. The first one was discovered in the collective grave from the Grace-Roman period at Weset (today's Luxor) at the end of the 19th century and it originally belonged to priest Heter. The second one is also perhaps from Weset but little is known about the circumstances of the finding. It belonged to a certain Horus, whose mother was a sistrum player in the temple of Amon-Re. Palaeographically it was ascertained that both manuscripts are relatively late, not older than from the 1st century B. C. Nevertheless, they are copies of much older texts. They represent a methodical hand-book which chronologically tells of the single phases of mummification. They are only 11 paragraphs preserved. Every paragraph consists of two parts. The first one discribes the religious functions which the priest should perform on the deceased body, and the second part contains the sacred text of the religiously magical content. It is a pity that the preserved paragraphs deal only with the final phase of mummification (GOYON 1972). Also the reliefs of the walls of the graves which inform us well about technical procedures in various handicrafts and productive activities, tell us no details about the technics of mummification. We see in them usually only the priest Anubis, the Chief of the Mystery of the Embalming Place, who is bending over the body which is lying on the table in the form of a standing lion.

The entire course of mummification, however, in relatively detailed accounts was given by Greek authors, e. g. by the historiographer HERODOTOS (5th century B. C.) and the historian and geographer DIODORUS OF SICILY (about 80 B. C.). Detailed studies of mummies in modern times confirmed many of their data, even if in some cases they corrected the sequences of separate phases. We shall mention very shortly only the technical course of mummification in the time of its highest level,

At death, a dangerous transitory period began for the deceased during which his soul lived separately from his material body. It lasted 70 days which coincides with the period in which the star Sopdet (Sothis or Sirius), so important in the ancient Egyptian calender, disappears from the horizon. After its end the soul was to return again but only to an incorrupted body. Return to an annihililated body was impossible for the soul which was then condemned to wander eternally and to seek its body. These 70 days were the time-limit of the mummification period (SAUNERON 1960).

The body of the deceased was, at first, placed into the so-called Purification Tent and then was transported to the *wabet*, where it was placed on the mummification table carefully washed and, as a rule also depilated. At first with the help of a metal hook, the back wall of the nose was broken into and from the cerebral cavity the brain was partly removed. As HERODOTOS informs us, the rest of the brain was dissolved by some drugs. It is probable that the hook served primarily to break a passage, because mechanical scratching out the brain was hardly possible to perform in full extent owing to the small nasal passage and small opening into the brain cavity. It was more or less a matter of dismembering the brain mass and removing that part of the brain, adhering to the instrument (DAWSON 1927, LEEK 1969). It is not known which drugs helped to dissolve the brain mass. The brain, however, quickly dissolves and liquifies itself. Then it is sufficient to place the body with its face down and let out the contents of the brain cavity. In some mummies, it was ascer-

tained that the removal of the brain was performed through the foramen occipitale magnum, by help of breaking the os sphenoides, through the orbit or through a trephination localized in another place (DERRY 1942, SMITH and DAWSON 1924, JONCKHEERE 1942, MÉREI and NEMESKÉRI 1958 a, b, LEEK 1969). The removal of the brain could have been left out in the members of the poor class (e. g. in the workmen from Deir el-Medina, BRUYÈRE 1937 a, b).

Then followed the opening of the abdominal cavity on the left side by means of a long retouched flint or obsidian blade (called "stone from Ethiopia"). This function was performed by so-called paraschists who according to DIODORUS (ed. Loeb, p. 311) were sometimes stoned to death because of this. Through a relatively small opening of a diameter of few centimetres, the operator had to put his hand holding a metal knife into the depths of the abdominal cavity and, after removing the diaphragm, into the thoracic cavity. Here the viscera were cut out practically without eye control. As a rule, the kidneys remained in situ retroperitoneally, evidently because of ignorance, and the heart also, as it had to be left in the body as the seat of thinking and good emotions. If, by chance, it was taken out by mistake with the other inner organs, it was placed back into the thoracic cavity (SMITH and DAWSON 1924).

The removed viscera were carefully washed, then preserved with natron and placed into alabaster Canopic jars (called so according to the city Canopae in the Delta) where they were covered with resin. There were four Canopic jars in accordance with the four sons of the god Horus, symbols of four elements. The lids of the jars were formed to their likeness. The Canopic jar with the human head of the god Imset was destined for the liver; the other one with the jackal head of god Duamutef for the stomach; the jar with the falcon head of god Kebehsenuf for the intestines and the last one with the baboon head of god Hopi preserved the lungs. In the Third Intermediary period (1087—664 B. C.) the viscera were not placed into Canopic jars but were wrapped into four parcels on which wax figures of the said gods were placed. The parcels were returned back into the abdominal and thoracic cavities. In the Late Period (664—332 B. C.) the parcels were sometimes placed into the space between the lower limbs (DAWSON and GRAY 1968). According to PORPHYRIOS (232—304 A. D.) in the Graeco-Roman Period, the intestines and stomach were placed into special boxes and presented to the Sun, at which occasion one of the priests recited a prayer in which was said: "During my lifetime, I have sinned by eating forbidden and illegal food, it was, however, not my fault but the fault of this", and then he pointed to the box of the organs considered to be the seet of wicked emotions (SMITH and DAWSON 1924).

HERODOTOS mistakenly introduces as further step the purification of the body with its filling of aromatic substances. In reality, it was the drying out of the body which followed. It was probably done not by submerging the body into a natron solution but by filling of the bodily cavities and of the surroundings of the whole body with packages of natron (LUCAS and HARRIS 1962, SANDISON 1963 a, b). There are many proofs of this in the findings and experiments. W. R. DAWSON, however, supposed that the body was dipped into a natron solution (DAWSON 1927, DAWSON and GRAY 1968). Natron instead of salt was chosen perhaps for its outstanding freeing of fat qualities and also because of its aboundant presence in Egypt. There are ancient reports about the mining of natron in the Natron Valley west of the Delta and in the surroundings of El-Kab in Upper Egypt (LUCAS 1932 b, SANDISON 1963 a). The strong heat of the sun in Egypt and, in some cases, perhaps even fire were helpful to natron. The length of the drying out of the body is more correctly indicated by DIODORUS as 30 days than by HERODOTOS' indication of 70 days which was, however, the entire length of the mummification period. The removal of water from the body which amounts to 75 per cent of its mass, was the most important function of mummification as compared with the modern method of preservation of tissues by fixation by formaldehyde or other means.

Only after being dried out, the body was removed of its uncleanliness and washed with palm wine into which were added various spices and aromatic products. Then it was filled with clean myrrh powder, cassia and other fragrant stuff. The outside of the body was spread with perfumed oil several times on order to gain softness. Into the cerebral cavity resin was poured or it was filled with cloths wet with resin, occasionally with dried lichen, earth, etc. The thoracic and abdominal cavities were filled with the most varied stuff as linen, soaked with resin, lint, saw dust mixed with Arabic gum, earth sometimes mixed with natron, lichen, straw, etc. (GOYON

1972). Onion often was not lacking in the fillings (SMITH 1914) as it was adden because of its reputation as being the "harbinger of prosperity and health" and maybe also because of its stimulating effect on breathing (TÄCKHOLM and DRAR 1954).

Then, according to HERODOTOS, the embalment incision was sewed up. A sewed up incision was, however, found very seldom. In majority of cases its borders are drawn near but the opening remains open. In mummies of later periods the incisions were covered with waxen plates and in the Kings' or noblemen's mummies with plates of precious metals (SMITH and DAWSON 1924).

Various organs and formations on the outside of the body were arranged or substituted so that they migh gain the life-like appearance. Into the eye-sockets artificial eyes of glass, stone, wood or linen rolls were inserted. During the Third Intermediary period fillings of the same materials which were used to fill the cavities of the body were installed by means of short skin-incisions in the face, neck or even other places of the body (SMITH 1914). In the same period the skin was spread with coloured ochre paint, yellow for women and red-brown for men. The eyes of women were treated with the black colouring *kohl* used by Egyptians to this day. Nails on the hands and even on the feet were sometimes sewed on with a linen thread (DAWSON 1927, GOYON 1972).

Further phases of the embalming process are known from already mentioned authentic ancient Egyptian texts. They started with rubbing the head with oil perfuming the whole body except the head, and with massaging the back. Then the body was wrapped into a shroud of linen material of a yellow or red colour (the average measures of which were $1{,}2 \times 4{,}5$ m) (BRUYÈRE 1937 a). Gold protective cases were put on all fingers of the rich. Sometimes a gold ring was placed on the left ring-finger as the symbol of purity (GOYON 1972). Each single finger of a mummy of the poorer class was bound with narrow bandages.

Then followed the second head-rubbing with oil and binding the head bandages which were wound round usually in eight turns so that crossed in the middle of the face. Between the turnings of the bandage, stuffings were laid which were to cover the insufficiency in the appearance of the dried out body, if it had not already been done so by help of subcutaneous fillings (JONCKHEERE 1942). Finally the head was oiled once more and the operators continued to wrap the limbs each one separately by spirally performed bandaging (GOYON 1972). The two lower limbs were then tied together with knots). At the end the body was bandaged as a whole. The length of the bandages sometimes reached several hundreds of meters, its width being 4—14 cm (JONCKHEERE 1942). Sometimes various protective amulets and scarabs were inserted into the bandages. According to HERODOTOS, layers of bandages were spread out with an especial gum mass which was most probably identical with resin.

The way of executing mummification in single cases differed not only chronologically but in regard to the social standing of the deceased. HERODOTOS introduces three "classes" of mummification, the first of which — the complete one — was reserved for the very rich. In the second one, the opening of the bodily cavities was given up and cedar oil was injected into the rectal opening as a substitute. In the third class, it was a matter of only washing the body and drying it out with natron. DIODORUS revealed to us even the price of the first and second class mummification as being one silver talent and 20 mins. For the third class, he only reports that it was very cheap.

The ancient Egyptian reached a very righ level in mummification which never was attained anywhere in the world. In the majority of cases the mummifed bodies, under the climatic conditions of Egypt, endured thousands of years.

Chapter 3

METHODS OF RESEARCH ON MUMMIES FROM CZECHOSLOVAK COLLECTIONS AND LIST OF MATERIALS

A) External Examination

The fundamental knowledge of wrappings, condition of the preservation of mummies, interesting findings on the body surface, determining dimensions of mummies, first of all of their length, and ascertaining some details of mummification technics was possible by means of external examination. It was executed aspectively; only in cases with free nasal passages, the sound was used to ascertain the presence, localization and size of the opening leading from the nasal passage to the cranial cavity. No interfering operations (incisions, etc.) were executed to explain the unclear details or to extract archaeological objects found in radiographs, in view of the fact that we consider the mummies to be valuable material for museums and that every interference of their integrity leads to gradual destruction. Samples taken for special examinations (technological studies of linen bandages, histological studies of hair and tissues, chemical research of some stuffs) come only from corrupted and easily accessible places so that they didn't disturb in any way the appearance and preservation of the mummy.

B) X-ray Examination

The research of Egyptian mummies from Czechoslovak collections is based to a remarkable degree on their radiological examinations which were executed almost on all human and animal mummies preserved wholly or in fragments. Sometimes the examination was rendered difficult because of the poor preservation condition of the mummy. The different composition of the wrappings also complicated the radiography by miscellaneous radio-opacity values, so that necessary corrections of standard exposures took place in many cases. In some cases it wasn't possible to take away the mummy from the support to which it adhered (e. g. No, 9, 14); it was then necessary to X-ray the mummy through the support. In another case it wasn't possible to take out the mummy from its massive wooden coffin because of the same reason (No. 1); the X-ray examination was performed then through the bottom of the coffin. The choice of the X-ray exposure values was also rendered difficult by the various density of the contents of cranial, thoracic and abdominal cavities. The diagnostic usefulness of the radiographs was sometimes reduced by the shadows of wires, nails, screws and other metal means by which the integrity of the mummy was repaired in the past.

Mummified human and animal remains whether preserved completely or in fragments, were principally X-rayed always in their full extent. Likewise, it was a strict rule to X-ray all objects least in two planes, even though it was often connected with considerable difficulties especially at human mummies in a poor condition of preservation.

We didn't dispose of X-ray films which could enable to radiograph the mummy as a whole; only the X-ray films of classical sizes were at our disposal. Thus we executed standard radiographs of separated parts of the mummy continuing from the head to the toes. Always we tried to radiograph the parts of the mummy in views obligatory used in radiology. Nevertheless, it was many times necessary to complete them by special projections, especially when postmortal secondary dislocations of the parts of the skeleten were present. Irrespective of all difficulties, we insisted on performing of lateral views especially of the skull and of the cervical, thoracic and lumbar spine.

At the radiography, the focus distance of 1 meter was constantly used. In X-raying of complete mummies or of separated mummified heads, the intensifying screens were used as well as the Bucky's grid. The small isolated parts of the mummies (e. g. the hands and feet) were examined by a small focus without intensifying screens and Bucky's grid. In several cases it seemed necessary to perform radiographs of the same object with different exposures in order get readable picture of all its parts (e. g. when the object was partly covered by radio-opaque layers).

The X-ray examination is the only method which makes it possible to investigate mummified remains covered by their original wrappings without disturbing them.

On the other hand, the radiography of mummified objects already rid of their covers enables to make the best of the comparison of the external appearance and the internal structure of the object. The pathological changes themselves present a sufficiently important reason for the X-ray investigation while the other examination methods suppose the destruction of the mummified object. That is why such a great emphasis has been placed on radiological examination of the mummies which corresponds to modern protective principles of museology.

C) Succession of Followed Points of View

In contrast to the catalogue of DAWSON and GRAY (1966) in which the description of mummies is arrandeg according to the anatomical principle, we decided to arrange separate notions according to studied points of view. We consider it as being more instructive. This principle has been applied in a full measure in complete mummified human bodies and partly in isolated parts of human mummies. In the description in cases of single points of views, the results of the external examination are combined with the results of the study of the radiographs.

At the *heading* of descriptions of single mummies, the number is given in order, also the name of the institution in which the mummy is located, its inventory number, name of the mummified person, if known, and eventually the origin of the mummy as far as it is known, and finally the reference to the plate.

A short *history* then follows of the fate of the mummy, as far as it has been possible to ascertain.

If the mummy is placed in a *coffin*, we mention the results of its dating. If it was possible to ascertain from preserved inscriptions the name of the owner of the coffin, it is mentioned together with its grammatical gender. Dr. M. VERNER, CSc., presented information on coffins according to his prepared publication (VERNER, in print); his preliminary dating has been already published (VERNER 1977).

In further item, attention is called to the mummy's *wrapping*, eventually to the cartonage or the wooden board, if present.

Then the *funeral rites* are stated, manifestating themselves in the position of the body and upper limbs.

The eventual presence of *archaeological objects* (amulets, jewels, etc.) likewise bears upon the cultural practices.

The description of the body itself discloses the enumeration of *defects* and *displacements* of postmortal origin.

We proceed to the description of interesting ascertainments on the *external apperance of the body* as far as it has been exposed on some places of the mummy. Most often it is on the head, especially on the face.

Then there follow the *measurements* of the mummy.

Details of the *mummification technics* are not only useful sources of inspecting the method of work of ancient Egyptian embalmers, but they present as well the base for internal dating of mummies which can or cannot be in harmony with the dating of the coffin.

Data which indicate both *age* and *sex* of mummies are filed from demographic statements.

Studies of *pathological findings* play a very important part in our work, because one of its aims was to contribute to Egyptian palaeopathology.

Anatomical variations and *anomalies* as well as *anthropological, chemical, dating* or *technical notes* are added before the ending of the descriptions.

The description of each mummy ends by a *conclusion* which gathers together the main facts with the eventual confrontation of dating according to the cofifn and mummification technics.

The number of points of view is reduced in animal mummies. Descriptions of *external form* of mummies are added as well as *zoological diagnosis* of species, eventually the peculiarities ascertained by *radiography* and notes pertaining to *dating* of objects.

D) Estimated Measurements of Mummies

Due to the influence of deformation, postmortal distension and wrappings, it isn't possible in most cases to measure the mummies anthropometrically. The introduced measurements serve, first of all, to identify the objects from the museal point of view, even though they present a certain orientation about bodily measures of the deceased.

In complete mummified bodies the length (the distance from the vertex of the head to the connecting line of both heels), the width of the shoulders (the farthest distance between the lateral plane of the head of both humeri, not the distantia biacromialis) and the width of the pelvis (the farthest distance between the two iliac crests – distantia bicristalis) were measured.

In isolated heads and parts of the neck only the height of the object on the whole was measured.

In isolated parts of the upper limbs, the length of the whole object is indicated as well as the length of hand from the boundary line between the forearm and the wrist (connecting line between stylion radiale and stylion ulnare) up to the tip of the 3nd finger (dactylion). Further the breadth of hand was measured between the head of the 1st metacarpal (metacarpale radiale) and the head of the 4th metacarpal (metacarpale ulnare). Besides this, some more detailed measures were estimated in the radiographs which, considering the flatness of the objects and their relatively close distance from the film during X-raying, were taken into account as reliable. It was a matter of these measurements:

A – the length of the hand in its axis from the dactylion (extremitas distalis phalangis distalis) to the most proximal point on the bases of the lunate bone.

B – the length from the dactylion to the stylion (the most distal point on processus styloideus radii).

C – the length from the dactylion to the most proximal point on the capitate bone.

D – the length of the thumb from the extremitas distalis phalangis distalis to the concavity of the basis of the 1st metacarpal.

In the isolated parts of the lower limbs, also the size of the object and the length of feet from the extremitas distalis of the longest toe, i. e. of the 1st or 2nd toe to the dorsal border of the heel are given. Further measures were roentgenologically indicated, namely:

E – the length from the extremitas distalis phalangis distalis of the 1st toe to the rear point on the border of tuber calcanei.

F – the length from the extremitas distalis phalangis distalis of the 1st toe to the concavity of the navicular bone.

In the isolated parts of the limbs the measures and robusticity of bones were made full use of for the determination of the sex.

E) Dating according to Mummification Technics

On the basis of contemporaneous knowledge about the chronological changes in mummification technics (SMITH and DAWSON 1924, DAWSON 1953, DAWSON and GRAY 1968) and position of the arms and hands (GRAY 1972) it is possible to form a frame dating scheme supported by following main facts:

1) From the 1st Dynasty (about 3100 B. C.) there appear the first bodies covered by bandages, the viscera of which were not extracted. The flexed position of the body predominates.

2) From the 4th Dynasty (about 2600 B. C.) by the help of incisions into the left side of the abdomen,, the viscera were extracted, and they were placed into stone Canopic jars.

3) From the 5th Dynasty (about 2500 B. C.) the position of the body became as a rule stretched.

4) During the Old Kingdom the external surface of the body was oftem modelled with the help of resin or plaster-covering and the face was painted, so that the mummy looked like a polychromous statue.

5) During the Middle Kingdom the quality of mummification became worse.

6) From the beginning of the New Kingdom it became almost a rule to remove the brain from the cranial cavity.

7) Since the reign of Tuthmosis I (1510–1490 B. C.) besides the position of the upper limbs along the sides of the body, customary until then, the upper limbs appeared sometimes as crossed on the breast, more often in men than in women.

8) Since the reign of Tuthmosis III (1468–1436 B. C.) the former position of the abdominal incision on the left side vertically between the lower edge of the ribs and anterior superior spine, was shifted to the left inguinal region.

9) Since the beginning of the Third Intermediary period, the viscera in forms of four parcels were returned back into the abdominal and thoracic cavities. Artificial eyes of stone, bone, glass, etc. were inserted under the eyelids. By means of short

incision, fillings of sand, earth or resin were worked in under the skin. The surface of the body, especially the face was sometimes painted, red in men and yellow in women. The upper limbs were usually placed alongside of the body. Cartonage containers of mummies were more often used and placed in wooden coffins.

10) From the beginning of the Late period, the parcels with the viscera were placed sometimes in between the lower limbs and occasionally they were again placed into the Canopic jars. During the last Dynasties divided cartonages appeared.

11) In the Greek period the cavities of the body were either left empty or were filled with resin of cylindrical or spherical form which could imitate the appearance of the visceral parcels. Again the crossing the upper limbs on the breast began to be used.

12) Mummification technics deteriorated during the Roman period. The viscera were often left in the body and the bones were broken, proving the bad treatment of the body during the process of mummification. The endeavour wasn't to preserve the body, but to create a nicely looking mummy with bandages arranged in geometrical designs, occasionally adorned with painted portraits on the face. Arms were mostly extended with hands resting usually on the outer aspect of the thigs.

13) During the Byzantine period, only some isolated elements of mummification survived (e. g. the covering of the body with layers of salt, wrappings, etc.).

Exceptions to the introduced rules, of course, could have existed. DAWSON (in DAWSON and GRAY 1968) called attention to the possibility of preserving old customs, even up to the period characterized by the new technics. E. g. the custom of the four parcels with viscera placed into the cavities of the body was sometimes preserved even after the 25th Dynasty. Because of these irregularities, it is necessary to consider the dating according to the mummification technics as only approximative or probable. It has to be revised in the future with the help of modern physiochemical methods (C_{14}, amino-acid dating, etc.).

In order to faciliate the chronological orientation in our text, we are introducing a reviev of the absolute dating of the used periods according to ŽÁBA (1966):

Old Kindom and 1st Intermediary period	about 3100 to about 2050 B. C.
Middle Kingdom and 2nd Intermediary period	about 2050 to 1575 B. C.
New Kingdom — 18th Dynasty	1575 to 1309 B. C.
19th Dynasty	1309 to 1184 B. C.
20th Dynasty	1184 to 1087 B. C.
3rd Intermediary period — 21st Dynasty	1087 to 945 B. C.
22nd—25th Dynasties	945 to 664 B. C.
Late period — 26th Dynasty	664 to 525 B. C.
27th—30th Dynasties	525 to 332 B. C.
Greek (Ptolemaic) period	332 to 30 B. C.
Roman period	30 B. C. to 395 A. D.
Byzantine period	395 to 638 A. D.

F) Demographical Data

The age determination in non-adults was based on the eruption of the teeth and the estimation of the approximate height of the stature. In isolated hands, the method of determining the bone age according to GREULICH and PYLE (1959) was used. With the juveniles, the condition of the epiphyseal fusion of the long bones was taken into account.

With adults, the presence of the traces of epiphyseal union pointed to the age approximately between 20 to 40 years. The absence of these traces and simultaneously the absence of the signs of old age, revealed the age of about 40 to 50 years. The first signs of osteoporosis appear after 50 years; the delimited parietal atrophy pointed to the age higher than 60 years.

According to the methods of NEMESKÉRI et al. (1960) modified for reading in the radiographs, the degree of enlarging of the medullary cavities in the proximal ends of the humerus and femur was determined. Single stages were evaluated in the limits of ± 3 s of the revised Tables of ASCÁDI and NEMESKÉRI (1970) in this way:

Stage	Age according to humerus	Age according to femur
I	21—61 yrs	—
II	45—60 yrs	36—52 yrs
III	49—70 yrs	47—58 yrs
IV	50—62 yrs	49—63 yrs
V	55—67 yrs	57—70 yrs
VI	51—71 yrs	57—79 yrs

At the same time the degree of the abrasion of the teeth was taken into consideration. Abrasion is radiologically non-perceptible to 20 years, weak to 30 years, intensive to 40 years, to half the height of the teeth crown it reaches from 40 to 60 years, and it is still more marked after 60 years.

Additionally, even the obliteration of cranial sutures was evaluated according to the scheme of DÉROBERT and FULLY (1960) stating that up to 25 years, as a rule, all sutures are open; after 50 years they are closed or in an advanced obliteration.

The age diagnosis was independently performed in the most possible largest number of introduced criteria and their average was taken as the result.

In our study, we use the age categorie current in anthropological literature, according to the division of MARTIN and SALLER (1959):

infans I	0— 6 years
infans II	7—14 years
juvenilis	15—20 years
adultus	21—40 years
maturus	41—60 years
senilis	over 60 years

Where possible, the age was determined within the scope of the category more exactly.

In determining *sex*, it was possible to make full use of direct sex signs (sexual organs, bandages of the penis, remains of breasts, beard, etc.) but only in a small number of cases. Therefore, we had to investigate also secondary signs of sex on the pelvis, skull and long bones.

In most cases, it was difficult to evaluate the secondary sex signs on the pelvis because in the radiographs we got diagnostic outlines of important formations (pelvic inlet, the lower edge of the pubis, incisura ischiadica maior and others) most often in atypical views.

On the skull, as a rule, it was possible to evaluate the degree of the inclination of the forehead, the form of the glabella (according to BROCA, in MARTIN and SALLER 1959), the size and shape of the processus mastoidei, the form and prominence of the chin, and the prominence of the mandibular angle. As a helping feature, the index go-go (bigonial width of the lower jaw) in the percentage of eu-eu (the greatest width of the calva between the two euryons) was used. Both dimensions were measured in the radiographs. Higher values of the index were in men as a rule; in women they were lower (the transitional zone lies between 66—70).

On the long bones of the limbs, the size of the head in relation to the size of the diaphysis, the general robusticity and eventually the development of the muscular insertions were evaluated.

In the case that the name of the deceased appeared on the coffin, the result of the radiological determination of the sex could be contronted with its grammatical gender.

In isolated hands and feet, we took into consideration the total or sectional measures and the robusticity. It is, of course, necessary to consider the determination of the sex of the individuals, from which these isolated remains come, only as probable.

G) Pathological Findings

Contrary to the bone material from archaelogical sites, the mummified remains present the possibility of discovering also the pathological changes of the soft tissues. However, this possibility is considerably limited. Most of the radiological signs which make possible the diagnosis of the pathological conditions of soft tissues in the clinical practice are lacking. The structure of mummified soft tissues is deformed on the

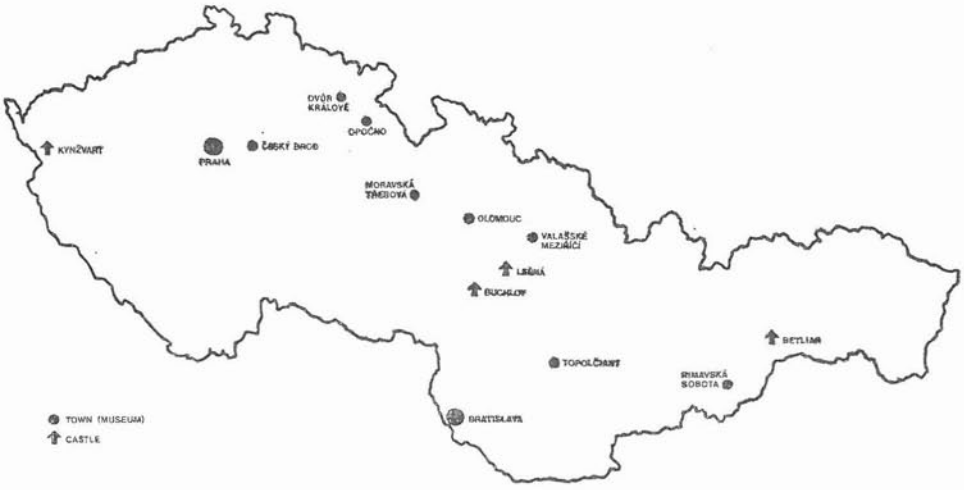
whole, it is not possible to differentiate its separate layers and their contours are changed by mummification process. As the most dependable sign of their abnormal condition, the change of their radio-opacity is emphasized. In the first place, the localized calcification can be thus easily demonstrated. It was necessary, of course, to leave out by a careful analysis the pseudopathological findings which can be caused either by summation with the shadows of the wrappings, and/or with the contents of the bodily cavities; in addition to that, the saturation of normal soft tissues by some rontgenologically opaque stuff can appear.

The X-ray examination of the skeleton of the mummy enabled to evaluate the *mutual relation* of separate bones, including the axis of the spine. Further, the *configuration* of the bones, especially of the vertebrae, was evaluated. The *contours* of the bone shadow were traced from the point of view of eventual discontinuity or morphological deformation, e. g. by osteophytous formations. The *structure* of the bones was judged in detailed analysis as the deciding factor in the bordering findings of normal and pathological conditions and even as the factor which is diagnostically the most important.

Great care was devoted to the study of teeth. The *abrasion* of teeth, tooth *decay*, as long as they could be differentiated in the radiographs, the surroundings of the roots of the teeth eventually with *granuloma* and the height of *alveolar processes* as well as *intravital loss* of teeth were noted.

H) List of Material and Its Location

On the whole, 168 Egyptian mummies and their parts, out of which 99 were human and 69 animal, were assembled for research, ascertained on 18 public and 2 private collections in Czechoslovakia. In addition a number of fakes was identified out of which 5 interesting objects were arranged into our text for comparative purposes. The total number of objects thus reached 173.



The present location of mummified material in Czechoslovak collections in summarized in Table 1 and the geographic situation of separate places in which collections of Egyptian mummies are located is shown on the map. From the Table it is evident that, at the present time, most of the mummies are deposited in the Náprstek Museum, section of the National Museum in Prague, in its Department of Prehistory and Antiquity of Middle East and Africa (113 objects, i. e. 65,4 per cent). Out of the further significant collections it is necessary to introduce the Hrdlička Museum of Man at the Faculty of Natural History, Charles University, Prague (15 objects, i. e. 8,7 per cent), and the District Museum in Olomouc (8 objects, i. e. 4,6 per cent). In the other collections only 1 to 5 objects are located. The concentration of material in the Náprstek Museum was intentiously brought about lately in connection with the development of the activities of the Department of Prehistory and Antiquity of

Table 1 **Review of Location of Ancient Egyptian**

No.	Place	Institute or Collection	Complete bodies
1	Prague	Náprstek Museum, section of the National Museum	8, 11, 14, 15, 17, 18, 21, 22
2	Prague	Hrdlička's Museum of Man, Faculty of Nat. Hist., Charles University	2, 4, 5
3	Prague	Anthropological Dept. of the National Museum	9
4	Prague	Chair of Systematic Zoology, Faculty of Nat. Hist., Charles Univ.	
5	Kynžvart, distr. Cheb	State Castle	1, 6
6	Český Brod, distr. Kolín	Podlipanské Museum	
7	Dvůr Králové distr. Trutnov	Town Museum	
8	Opočno, distr. Rychnov nad Kněžnou	State Castle	
9	Moravská Třebová, distr. Svitavy	Town Museum	19
10	Olomouc	District Museum	12, 13, 23
11	Buchlov, distr. Uherské Hradiště	State Castle	16
12	Lešná, distr. Gottwaldov	Zoo Park and Castle	
13	Valašské Meziříčí, distr. Vsetín	District Museum	
14	Bratislava	City Museum	
15	Bratislava	Natural History Institution of the Slovak Nat. Museum	20
16	Topoľčany	District Museum	3
17	Rimavská Sobota	Gemer Museum	10
18	Betliar, distr. Rožňava	State Cultural Property	7, 24
19	Prague	Private Collection of Dr. T. Pavlík	
20	Prague	Private Collection of K. Řandová	
Total			24

Remark: The numbers in each column and line correspond with the Catalogue numbers, except the last column and last line, in which the total numbers of the objects are indicated.

Mummified Material in Czechoslovak Collections

Isolated			Fish and reptiles	Birds	Mammals	Varia and fakes	Total
heads	hands	feet					
33—43, 46—48, 50—52	56—80	86—97	100—110, 121	122—127, 129—135, 138—148	154—160, 166—168	169—173	113
25—32, 53	54—55			149			15
							1
				136			1
			117—119				5
			116	150			2
45		98					2
				128, 152			2
				151	161		3
	84				162—165		8
							1
49	81—83		120				5
				137, 153			2
			111—115				5
							1
							1
							1
							2
44							1
	85	99					2
29	32	14	22	32	15	5	173

Middle East and Africa. For future projects, the Museum is considering building specialized climatisized rooms for the deposition of this rare material for which preservation it is devoting much care at present.

The analysed material includes, as concerns human mummified remains, 24 complete bodies, 29 isolated heads, 32 isolated parts of the upper limbs and 14 isolated parts of the lower limbs. Among animal material, there are 22 mummis of fish and reptiles, 32 mummies of birds and 15 mummies of mammals.

The complete human mummies (Chapter 4) and the isolated parts of mummies (Chapter 5) have been arranged chronologically on the basis of their preliminary dating, which has been, however, later on changed in some cases. The isolated parts of the upper and lower limbs (Chapters 6 and 7) are filed in alphabetical order of the Prague and out-of Prague institutions and in their scope according to their inventory numbers. The mummies of animals (Chapers 8—10) are arranged according to the zoological system. In the scope of single species the same order of institutions has been as in Chapters 6 and 7.

Chapter 4

COMPLETE MUMMIFIED BODIES

1. State Castle Kynžvart, District Cheb, Inv. No. 1085 (3328, KY 284), Qenamun, Thebes-West, Sheikh abdel-Gurna, Grave No. 93 (?), Fig. 1, Plate I a–d.

History: The mummy in its original coffin bearing the name of Qenamun was a part of the gifts of Egyptian antiquities which the Austrian chancellor Prince L. V. Metternich received from the Egyptian vice-king Muhammand Ali in 1826 (STEINFORD 1917). On the 11th of November 1833, it was entered into the inventory of the collection in the former Metternich's castle Kynžvart (originally Königswarth) by the custodian of the collection, the former Cheb executioner K. Husa. Qenamun's grave (No. 93) in Sheikh abdel-Gurna was found empty during its research (DAVIES 1930). It is probable that the mummy and coffin really belonged to the historical person of Qenamun, the Chief Seal-bearer of the King Amenhotep II (1436—1411 B. C.), but it could not been proved (VERNER 1974, STROUHAL and VYHNÁNEK 1974, 1976 b), According to further inventory of the collection written by the custodian Prof. Rath in a later period, objects have come allegedly from the grave in Sakkara near Memphis.

Coffin: Kn-ímn (Qenamun), man's name, 18th Dynasty (Inv. No. 3328, KY 284).

Wrappings: The wrappings were unwound in the past. Only remains have been preserved around the head, on the thorax and around the upper half of thighs.

Funeral rite: The body lies stretched out in the coffin; the head was originally supported by a wooden head-rest which has been preserved in the castle's collection. The upper limbs are placed alongside the body with the palms on the anteromedial surface on the upper third of the thighs.

Archaeological objects: have not been preserved; perhaps they were removed when unwinding the mummy.

Defects and dislocations: The outside of the body is covered by mostly wrinkled layers of skin subcutaneous tissues. On some places, it is damaged so that the bones are exposed (e. g. in the middle of the frontal bone and on the limbs). The continuity of the neck is broken between C_2 and C_3. The skeleton of the upper limbs and thorax isn't in an anatomical position. The thoracic spine is evidently artificially broken between Th_5 and Th_6, by which an almost right-angular gibbus resulted. The upper part of the thoracic spine was displaced to the right. In connection with this, the ribs on both sides were dislocated and the clavicles and the sternum were shifted caudally. The vertebrae Th_9 and Th_{10} don't articulate mutually and their bodies are corrupted. The right shoulder joint is opened, the head of the humerus dislocated. Continuity is interrupted in the elbow and radiocarpal joints. The distal part of the right ulna diverges from the radius. On the right hand the proximal row of carpal bones as well as the middle and distal phalanges are scattered. The left hand has an interrupted anatomic connection in the carpal region and it is shifted medially against the forearm. All the phalanges of the little finger, the 2nd and 3rd phalanx of the 4th finger and phalanges of the thumb together with the first metacarpal are dislocated. A wide symphyseal diastasis with damaged adjoining section of the right pubic bone is evident. Both iliac bones are rotated to the sides so that the sacroiliac joints are opened forward. The left foot is torn in the Chopart joint. All the described changes are undoubtfully secondary and appeared during later manipulations with the mummy more probably than during mummification.

Surface of the body: Deformations of the soft parts of the face caused the rubbing of the original individual features. A mass of dried up bulbs was preserved in the orbits. The cartilagenous part of the nose remained preserved. The nasal septum is deviated to the right, the nasal passages are closed with the glued over skin. The mouth is open. The prominence of the cheek bones is caused by drying up of soft tissues of the face. The ventral wall of the abdomen is deeply sunken (about 10 cm under the level of symphysis).

Measurements: Length 155 cm. It is impossible to state other measure because of the dislocation of the anatomical structures.

Mummification technics: It has not been possible to sound the nasal passages. In the radiographs, the shadows of the usual anatomical structures aren't evident in the apertura piriformis; only a part of the septum nasi remained. The

parieto-occipital region in the extent of about a quarter of the cranial cavity is covered by the shadow of radio-opaque mummification stuff with unsharp cranio-caudal delimitation; it represents the level of melted resin poured into the cranial cavity during downward position of the occiput. The artificial eyes and the subcutaneous fillings are lacking.

The shadows of visceral parcels aren't evident either in the thoracic cavity or in the abdominal cavity, neither there are present other fillings or shadows of the inner organs. The intervertebral discs have shadows of normal density.

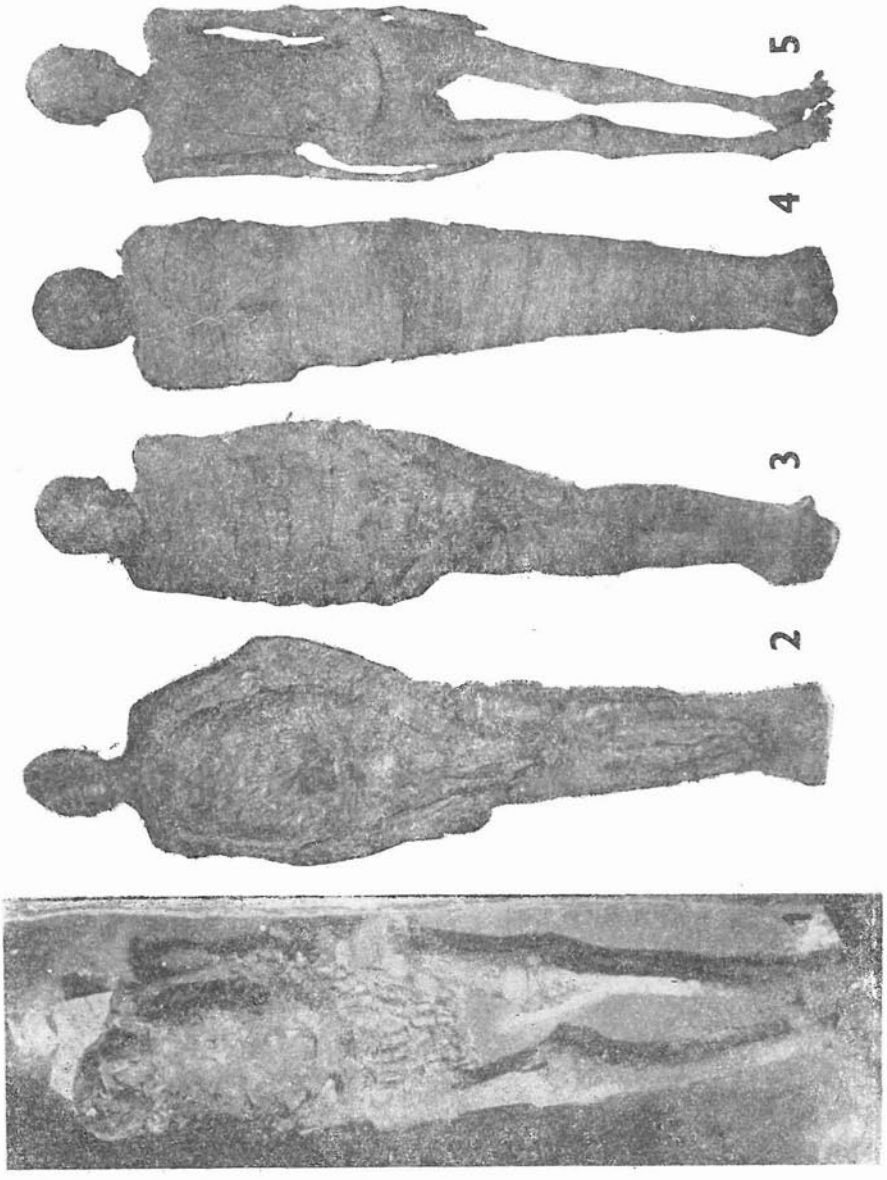


Fig. 1 Cat. No. 1 Fig. 2 Cat. No. 3 Fig. 3 Cat. No. 6 Fig. 4 Cat. No. 7 Fig. 5 Cat. No. 8

A g e : Signs of advanced general osteoporosis are evident. In the radiographs of the skull, it is possible to distinguish the beginning of delimited parietal atrophy. In both scapulae, the delimited areas of higher transparency under and over the spina scapulae are evidently caused by the bone atrophy. The border of the medullary cavities in the proximal ends of both humeri spread up to the basis of the heads (stage 6, 51—71 years). On the right side, the medullary cavity in the femur spreads up to the neck of the bone, almost to the basis of the caput femoris. Further atrophic changes of the structure are evident in the femoral head (stage 6, 57—79 years). On the left, the medullary cavity of the femur cannot be evaluated. The teeth are defect, the remaining teeth are partly adaptionally dislocated and partly they were lost secondarily. The preserved upper teeth have their crowns abraded almost in full extent. Abrasion of the lower teeth reaches about to the half of the original height of the crowns. All the cranial sutures are obliterated except some non-fused remains in the lambdoid suture. According to all the signs, death resulted in the senile age, perhaps at 60—70 years.

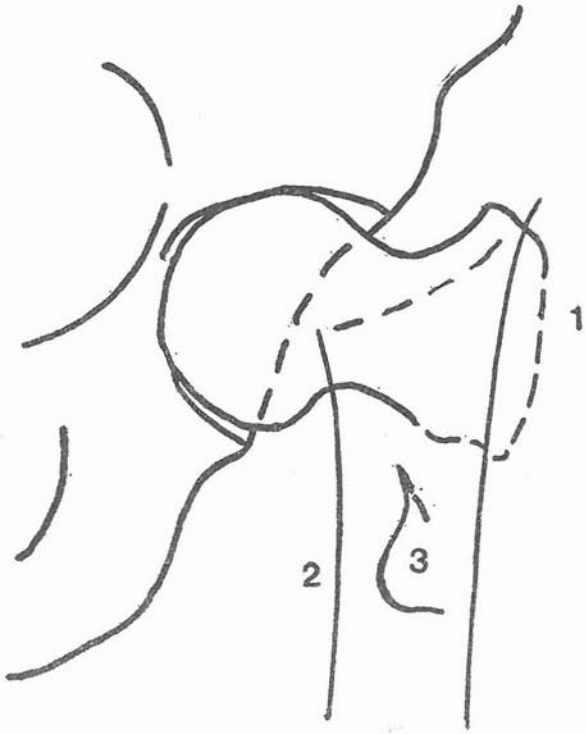
S e x : The forehead is almost vertical and it bends rapidly to the top of the head. The glabella is very expressive (Broca 5), the protuberantia occipitalis externa is only slightly indicated (Broca 0—1). The processus mastoidei are very expressive with a rich pneumatization. The chin shows a well developed, wide trigonum mentale which is in the lateral view rounded and projects medially. The angles of the mandible are massive and everted. Index go-go/eu-eu makes 77,4. The pelvic inlet has an heart-shaped form. The bones of the limbs are robust and the heads of the humeri and femora are large. The male sex is thus synonymously indicated.

P a t h o l o g i c a l f i n d i n g s : The *advanced general osteoporosis* of the entire skeleton is manifested by the thinning out of the structural shadows of all bones. Their compacta is narrow and the corticalis of the joint ends is almost indistinct. The thoracic and lumbar vertebrae show outstanding compressions due to osteoporosis. Some vertebrae are ventrally wedge-shaped, others resemble the so-called fish vertebrae. The upper facies terminalis of most of the vertebral bodies is expressively concave. The intervertebral spaces are widened, first of all, in the lumbar region. The described changes are least expressed on the upper thoracic and cervical vertebrae.

Both parietal tubera are lightly concave and in the lateral view there are evident areas with higher transparency. It is a matter of the beginning of *delimited parietal athrophy* which is typical for the senile age.

In both scapulae, there are present sharply delimited transparent areas in the fossa supra- and infraspinata, the largest of which is about 1,5 × 1 cm. They are a part of the manifestations of the senile bone atrophy.

Osteophytosis of the vertebral column is developed very insignificantly, in spite of advanced age of the individual. It is possible to distinguish only small ventral osteophytes on the ventral and lateral border of the bodies of the upper thoracic and lower lumbar vertebrae. Any signs of intervertebral degenerative arthritis are missing.



Schematic sketch of the petrochanteric fracture

The left femur is interrupted in the pertrochanteric region (see schematic sketch). The fracture continues from the top of the greater trochanter spirally to the lesser trochanter which is completely separated (3). The proximal displacement of the diaphysis took plate (about 5 cm); the distal fragment (2) its shifted about 3 cm medially at the same time. The femoral head (1) remained in situ. The lesser trochanter (3) moved laterally and distally (about 1 cm). As the result of the displacement of the fragments, the collo-diaphyseal angle became smaller (it reaches only 90°). This finding is so typical for a *pertrochanteric fracture* well known from the clinical practice that it allows to suppose its intravital origin. Postmortal fractures of this type are unusual; they are most often diaphyseal. In the surroundings of the fracture, there aren't any signs of healing. It is well known that the pertrochanteric fractures in older individuals can be followed by serious complications (e. g. bronchopneumonia) resulting from the immobilization of the patient. Such a possibility could be taken into account in this case of unhealed femoral fracture in an individual of the age senilis, too.

In the distal sections of the femoral, tibial and fibular diaphyses, numerous *Harris' lines* are evident (HARRIS 1926, 1931).

In both thighs, there are distinct calcifications in the course of the femoral artery. Arterial calcification can be also seen in the left anterior tibial artery. The radiographs reveal some calcification rings in these shadows, the character of the calcification is, however, predominantly map-like. The lumen of the arteries is evidently focally stenosed. This suggests that the *atherosclerosis (intimal disease)* was most probably the cause of this finding.

All the teeth fell out intravitally from the upper jaw with the exception of the left M_3 and the torsos of the roots of one of the right P and frontal teeth. The mandible lost its right M_2 and the left M_2 and M_3 intravitally.

Technical remark: Owing to the fact that the mummy firmly adhered with its back to the bottom of the coffin, lined with a black tar mass, and that it was very fragile because of the general osteoporosis and drying out of the body, it wasn't possible to take it out. The X-ray examination was necessary to be executed through the bottom of the wooden (cedar) coffin. Besides, it wasn't possible to remove a number of firmly clinging parts of the mummification stuff which formed small shadows in the radiographs.

Conclusion: The mummy is of a 60—70 year old man with a number of pathological findings. Mummification technics agree with the dating of the coffin into the 18th Dynasty period.

2. Hrdlička Museum of Man, Prague, Inv. No. 15/2, Thebes-West, Deir el-Medina, Burial-ground of King's Workmen, 18th—21st Dynasties, Fig. 9, Plate II d

History: This is one of the mummies gained from the archaeological excavation of L'Institut français d'archéologie orientale, Le Caire, in the years 1933—1936 (BRUYÈRE 1937 a, b). Together with the collection of archaeological objects from the same locality, it was donated to the Prague National Museum in 1934 through the mediation of Prof. J. Černý. Later the mummies were transferred to the Hrdlička Museum in Prague and the archaeological objects to the Náprstek Museum (on November 29, 1968).

Coffin: couldn't been found in Prague according to the literature reports (BRUYÈRE 1937 a, b). The mummy doesn't belong to any of the three empty coffins from the same burial-place deposited in the Náprstek Museum (Inv. Nos. P 626-628).

Wrappings: On the left upper limb, the right upper arm and in the lower limbs, the bottom layers of the circularly wound bandages of soft woven linen were preserved. The knees are bound by knots of rougher linen. Both feet are circularly joined by windings of rougher bandages. The preserved layers of wrappings are thin, according to the radiographs. With the exception of small remains, the bangades of the face, neck and head and the trunk are missing.

Funeral rite: The body is stretched out with the upper limbs placed alongside of the body; the left forearm is directed slantingly with its palm to the lap.

Archaeological objects: On the level of the C_5—C_7, 7 tubular shadows are projected. They are arranged in an arc caudally convexed. They are caused very probably by tubular beads.

Defects and dislocations: The head is bent to the left and rotated to the right with an irregular position in the atlanto-axial joints. Continuity of the left clavicle is postmortally interrupted between its middle and lateral thirds. The left

scapula is interrupted by a fissure running across the infraspinal fossa. In both shoulder joints the heads of humeri are displaced. The right forearm and the hand are missing. The left hand has not the distal phalanx of the thumb and also the phalanges of other fingers except the proximal ones are missing. In the distal thirds of both right shank bones, there are perpendicular and slanting chinks without essential displacement of the fragments. Both phalanges of the big toe, all phalanges of the 2nd and 3rd toes, further middle and distal phalanges of the 4th nad 5th toes, the heads of the 2nd and 3rd metatarsals are missing on the right foot. The left foot lacks the distal phalanx of the big toe as well as the head of its proximal phalanx which is in lateral subluxation. There are further missing the middle and distal phalanges of the 3rd toe and the middle and distal phalanges of the 4th toe. All these defects seem to be postmortal.

Surface of the body: In uncovered places the surface is of a dark colour with traces of resin and sprinkling with lacquer. The skeleton is exposed in some places. On the head some light (decoloured) hair has been preserved. Both auricles remain in situ. In the half-opened mouth the edge of the tongue and teeth are evident. The ventral wall of the thorax is irregularly crushed. The abdominal wall is sunken under the level of tre thorax. The upper parts of the thighs which are not covered by bandage are lengthwise ruffled by dessication.

Measurements: Length 162 cm, width in shoulders 36 cm, width of pelvis 30 cm.

Mummification technics: No artificial eyes were placed into the orbits. The right nasal opening is free; in the lower half of the left one, there is a remaining dried-up mass, which in the antero-posterior radiograph causes irregular homogeneous shadows. By probing it is possible to detect an opening (height 2 cm, width 1 cm) in the dorsal upper part of the right nasal passage. The course of the septum nasi is marked in the radiographs as a linear shadow; other formations in the apertura piriformis aren't evident. The whole cranial cavity is fully covered by the shadow of a highly radio-opaque stuff with grainy structure, especially outstanding in the occipital and frontal region. It is a matter of scattered fillings, probably of earth and sand. Artificial eyes and subutaneous fillings were not used.

The thoracic and abdominal cavities are wholly screened with a medium dense shadow which has, on the one hand, a grainy, on the other hand a stratiform structure. In the apex of both pleural cavities, in the left hypochondrium, in the left iliac region and in the small pelvis, this shadow gains a very homogeneous quality. According to the lateral views, these shadows are located in the dorsal parts of the cavities. In the opening right in the ventral wall of the thorax, it was possible to ascertain that it is a matter of crushed fillings of linen, soaked with resin. The intervertebral discs have a normal transparency. The facies terminales of the thoracic and lumbar vertebral bodies are conspicuously bordered with dense stripes.

Age: Signs of general osteoporosis are evident in the whole skeleton. The limits of the medullary cavities of both humeri reach the caput (stage 5, 55—67 years). In the femora transparent areas are evident in the necks, trochanters and, as far it is possible to evaluate, in some places of the heads (stage 5, 57—70 years). The teeth are strongly abraded, about to the half of the height of the crowns. All the sutures of the braincase are obliterated. The death of the individual came at the mature or even at the senile age (50—70 years).

Sex: The dried up penis and scrotum have been preserved. For comparison with other cases, we are introducing also the following secondary sexual features. The forehead is slanting with a supraglabellar depression. The glabella is expressive (Broca 3), the protub. occ. ext. of medium size (Broca 2), nevertheless, it juts out into a short thorn. Mastoid processes are long, voluminous and pointed. The chin is wide and angular, in the lateral view it is moderately prominent. The mandibular angles are not everted. The index go-go/eu-eu reaches 77,6. The pelvic inlet is moderately heart-shaped; the symphysis is high. There is a typical angulus pubicus. Robusticity of the bones and the humeral and femoral heads are medial. All signs are consistent with the male sex.

Pathological findings: Manifestation of general *osteoporosis* leads to rarefaction of the bone structure of the whole skeleton with thinning-out compacta of long bones. The vertebral bodies Th_7 and Th_{11} are compressed on the basis of osteoporosis. *Osteophytosis* is present on the lower ventral edge of the vertebral body C_3, on the upper edge of the body of Th_1 and on the ventral edges of the vertebrae of the middle and lower thoracic spine. The lumbar spine is not affected.

The set of teeth is full except upper left M_2 out of which only the roots have been preserved.

Conclusion: The mummy is of a 50—70 years old man with a few pathological findings. The scope of dating, according to the burial-ground (18th—21st Dynasties) can be narrowed to 18th—20th Dynasties on the basis of mummification technics which exclude the filing to the 21st Dynasty.

3. District Museum Topolčiany, Inv. No. H 90, Thebes-West, Deir el-Medina, Burial-ground of King's Workmen, 18th—21st Dynasties, Fig. 2, Plate II a

History: See No. 2. The mummy was transferred from the Hrdlička Museum of Man, Prague, to the District Museum at Topolčiany in the year 1955 with the purpose of completing that Institutes' collections from the physical antropology point of view.

Coffin: see No. 2.

Wrappings: The mummy is wrapped only in the innermost layers of linen so that the contours of the body are perceptible. The head is covered with circular and slanting windings of the wrappings. Remains of the circularly wound wrappings on the trunk are evident and on the ventral surface there are also a number of strips placed in a lengthwise direction. Only a few remains of the wrappings on the right upper limb have been preserved. The thick layer of the wrappings of brighter colour on the left forearm is evidently recent and it is connected with an artificial compensation of this part of the body. In the pubic region, a part of the wrappings is evident which surrounds the penis, and the radially directed remains of some adjoining wrappings. Both lower limbs have their own circular wrappings. They are bound between the knees with knots of rough material. The wrappings are missing in the middle and proximal part of the upper third of the right thigh. Between the thighs and the calves, there are spaces which originally were filled in with rolls of cloth. The common wrappings of both lower limbs were preserved only in the region of the feet, and their strips are slantingly directed. On the toe-tip of the left foot the wrappings are interrupted so that the 1st, 2nd and 3rd toes are exposed.

Funeral rite: The body is in a stretched-out position; the upper limbs lie alongside the body, the right hand placed with its palm on the external surface of the thigh. The artificial left forearm runs lightly slantingly with the hand resting near the lap.

Archaeological objects: On the lateral part of the 8th rib left, a trapezoidal sharply limited highly opaque homogeneous shadow is projected in the radiograph. It could be the shadow of an amulet, placed outside the body under the wrappings. Other dense shadows, evident especially in the thigh region are perhaps the broken pieces of the mummification stuff or some intervening impurities.

Defects and dislocations: The cervical spine extending from C_1 to C_5 is missing and the head has been recently fastened by the help of a metal pole. The left forearm and left hand were substituted with artificial ones also recently. In the regio of the surgical neck of the left humerus, the continuity is interrupted evidently as the result of a postmortal insult.

Surface of the body: In the face under the wrappings, the nose can be differentiated with an expressively prominent outline, without the decline of the cartilaginous part as well as the narrowly opened mouth. The thorax is wide and flat with a decline of the medial part of the lower ribs. The belly is sunken about 5 cm under the level of the ventral surface of the thorax. In places of the missing wrappings on the right thigh, the lengthwise folding of the dried up skin is evident. On the fingers of the right hand and the projecting 1st, 2nd and 3rd toes of the left foot, the nails have been preserved.

Measurements: Length 184 cm, width of shoulders 33 cm, width of pelvis 30 cm. Owing to the artificial fastening of the head, the distance between the occipital condyles and C_6 was roughly triplicated. Therefore, it is necessary to substract from the measured length of the mummy twice the average distance C_1—C_6 in men (cca 10 cm) as well as the valuation of the postmortal distension of the body (estimated at about 2 cm), in order to gain the estimated height of the body (172 cm).

Mummification technics: The structures of the nasal passage in radiographs bear no signs of artificial interference; direct probing isn't possible. The cranial cavity doesn't contain any radio-opaque filling. In both orbits rounded soft

shadows probably of cloth are evident. Artificial eyes just as the subcutaneous fillings, however, were not applied.

In the thoracic cavity paravertebrally to the right between the lower edge of Th_7 and the centre of the body of Th_{11}, there is evident in the radiographs a rhomboid formation of medium dense shadow, smoothly limited and with spotted structure. In the lateral view, it is projected behind the spine across the dorsal sections of the ribs. It is probably a matter of embalming stuff (resin). The abdominal cavity is empty except the moderate shadowing at the lower border which is caused by cloth filling. The intervertebral discs have a normal transparency.

Age: There are lineary traces of the epiphyseal union in the tibiae and first metatarsals bilaterally. The proximal borders of the medullary canals in the humeri and femora aren't widened (stage 1, 21—61 years). All the cranial sutures are open. The third molars are cut through. In conflict with this finding, a very advanced abrasion of the teeth is evident by which almost all of the teeth crowns were destroyed with the exception of the upper left M_2 and M_3 with a slight abrasion in consequence of the too early loss of the antagonists. We consider the abrasion as being quickened individually and think that this individual died at the adult age most probably of 25—35 years.

Sex: The male sex is indicated by the already described remains of the wrappings of the penis. The forehead is fluently curved with an indicating slant. The glabella is moderately developed (Broca 2—3), the protub. occ. ext. on the contrary bears an expressive thorn (Broca 4—5). The mastoid processes are of medium length, slim and finger-like. The chin is wide and rounded; in the lateral view it is gently projecting and round. The mandibular angles are perceptibly everted. Index go-go/eu-eu equals 72,4. The pelvic inlet is heart-shaped and crosswise narrow. Symphysis is conspicuously high. The angulus pubicus is wide, however perceptive. The heads of the humeri and femora are large, the diaphyses are robust, the muscular insertions appropriate. Likewise the tall stature is in harmony with the male sex.

Pathological findings: These are restricted only to teeth. The loss of the uppper left I_1 to M_1, lower left M_2 and M_3, and lower right M_3 happened probably intravitally.

Conclusion: The mummy is of a man 25—35 years old who has no pathological findings except the bad condition and strong abrasion of the teeth. The scope of dating according to the burial-ground (18^{th}—21^{st} Dynasties) can be limited to 18^{th}—20^{th} Dynasties, on the basis of mummification technics (missing the signs typical for the 21^{st} Dynasty).

4. Hrdlička Museum of Man, Prague, Inv. No. 15/1, Thebes-West, Deir el-Medina, Burial-ground of King's Workmen, 18^{th}—21^{st} Dynasties, Figs. 6, 10, 11

History: see No. 2.

Coffin: see No. 2.

Wrappings: are preserved only in insignificant remains on the dorsum and on the right shank.

Funeral rite: The body is in a stretched out position. The upper limbs have remains of humeri in a position alongside the body. The head is drawn to the neck by the chin. The feet are in plantar flexion.

Archaeological objects: have not been preserved.

Defects and dislocations: On the skull, parts of the left temporal and parietal bones are missing, so that an opening into the cranial cavity resulted. The head was recently placed on a wooden pole. The right clavicle is broken twice on borders of its thirds. Likewise all the right and middle and lower left ribs have interrupted their continuity. The thorax is broken through inwardly in its lower part. Only the proximal third of the left humerus is preserved, the right one lacks the distal joint end. The other parts of the both upper limbs are missing. Dehiscence is present in the left knee joint. Continuity of the right tibia and fibula is interrupted in the proximal thirds of their diaphyses, and on the borders of the middle and distal thirds where defects with several bone fragments are evident. Left tibia and fibula have interrupted continuity obliquely in the distal thirds of the diaphyses. The distal phalanges of the 3^{rd} and 4^{th} toes of the right foot are missing. Both little toes are considerably defected; in the left the 2^{nd} and 3^{rd} phalanges are missing, in the right all phalanges are missing except the basis of the proximal one.

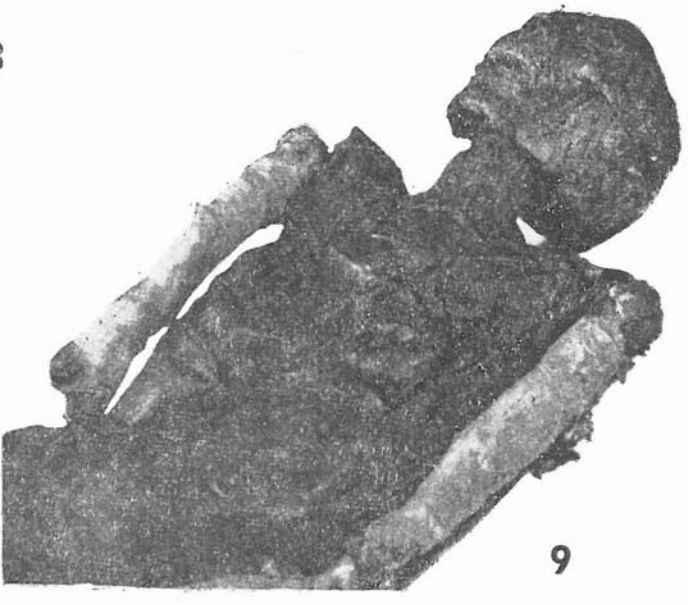


Fig. 6. Cat. No. 4 Fig. 7 Cat. No. 5 Fig. 8 Cat. No. 24 Fig. 9 Cat. No. 2

Surface of the body: The mummy has a black surface evidently due to the painting with resin which forms a thicker layer in some places. Features of the face are preserved. The upper lids are in ptosis. The nose has been preserved inclusively the sunken cartilaginous part. The incisors are evident through the open mouth. Both ear lobes remained in situ. The skin on the lower limbs is ruffled lengthwise and has a well perceptible texture.

Measurements: Greatest length 166 cm, length from heels to top of head 159 cm, width in shoulders 37,5 cm, width of pelvis 28 cm.

Mummification technics: Nasal openings are free, the nasal septum is preserved. In the radiographs, there are no signs of corruption of structures. By direct probing, we ascertained that both nasal passages have communication with the cranial cavity in their rear walls (height 2 cm, breadth 1 cm). Likewise, no shadows of radio-opaque embalming stuff have been found in the radiograph. Through the opening in the left temporal region, it is evident that the inner surface of the braincase is covered with a thin layer of resin in its occipital part which is running out in lappets. No artificial eyes were inserted into the narrow eye-sockets. Likewise the subcutaneous fillings are lacking.

The thoracic cavity is roentgenologically empty with the exception of the dorsal paravertebral part of the left half, where, on the one hand, vertically stripped stratiform shadows are evident (of cloth fillings) and, on the other hand, scattered spotty and grainy shadows of embalming stuff (resin and sand) and fillings disturbed the general transparency. The abdominal cavity is screened on the whole. In it, it is possible to differentiate the dense, highly opaque shadows of resin, concentrated especially in the left mesogastrium. To the right of the spine, slightly slanting stratiform and at their ends frayed shadows of cloth fillings are projected. It is, however, not possible to prove the well-bordered 4 visceral parcels. In consequence of the missing ventral wall of the abdomen it was possible to confirm the roentgenological finding by external inspection. The intervertebral spaces have a normal transparency.

Age: The bone structure is normal. In the distal end of the tibiae, linear traces persist at the site of epiphyseal union. The borders of the medullary canals in the proximal ends of the humeri reach to the collum anatomicum. In the left humerus, a transparent area is evident in the tuberculum maius, too (stage 3, 49—70 years). In the femora the medullary canals reach up to the level of the lesser trochanters (stage 4, 49—63 years). Abrasion of the teeth is of medium degree (about to the level of the quarter of the original height of the crowns). A number of teeth already fell out intravitally. The cranial sutures are altogether obliterated. Most probably, it is possible to place the age into the period maturus, and rather to 50—60 years.

Sex: The female sex is given by preserved external sex organs (vulva). For the sake of interest we add also the secondary sexual signs followed in the radiographs of the mummy. The forehead, starting with an insignificant supraglabellar depression, bends abruptly into a flat arc. The glabella is only slightly developed (Broca 2), protub. occ. ex. almost imperceptible (Broca 0—1). Mastoid processes are of medium length, rather voluminous and pointed. The chin is wide and rounded with a slightly concave basis. In the lateral view it is rounded and quite prominent. The angles of the mandible are insignificantly everted. It is not possible to determine the index go-go/eu-eu because of the defects in the cranial vault. The pelvic inlet has a classical rounded crosswise oval form. The symphysis is low, the rami inferiores of the pubic bones are widely opened in an arcus pubicus. The heads of the humeri and femora are small, the postcranial skeleton is gracile. All signs are in agreement with the female sex.

Pathological findings: are concerned only with teeth. All M_1 are missing (on the upper right side the torso is preserved).

Conclusion: The mummy is of a 50—60 years old woman without pathological findings but for the teeth. The scope of dating according to the burial-ground (18th—21st Dynasties) can be narrowed to the 18th—20th Dynasty on the basis of mummification technics (there miss the signs typical for the 21st Dynasty).

5. Hrdlička Museum of Man, Prague, Inv. No. 15/3, Thebes-West, Deir el-Medina, Burial-ground of King's Workmen, 18th—21st Dynasties, Fig. 7

History: see No. 2.

Coffin: see No. 2.

Wrappings: Remains on the head have been preserved. On the other surface of the body wrappings were removed in the past.

Funeral rite: The body is placed in a stretched out position, the upper limbs are lying alongside the body with the palms against the external surface of the thighs. The feet are in a plantar flexion.

Archaeological objects: have not been preserved.

Defects and dislocations: An irregular defect is situated in the left fronto-temporal region (6 × 6 cm). The lower part of the apertura piriformis and the alveolar process of the maxilla are missing. The soft parts of the face are destroyed and were recently covered with a linen stripe. The head is rotated about 30° to the right. The ventral wall of the thorax is broken through in the lower part (B. 12 cm, H. 9 cm). Continuity of the majority of ribs is broken off on both sides and some of them are dislocated caudally. Th eright humerus is interrupted in the middle of its length. The left humerus is interrupted in the collum chirurgicum region, the other parts of the left upper limb have not been preserved. Both femora have the continuity interrupted in the distal ends of diaphyses by a number of fissures. The left tibia is affected by some extensive spiral fissures with exception of its proximal end. On the left foot the 2nd and 3rd phalanges of the 2nd toe are missing. The right foot lack all phalanges of the 3rd toe, the 1st phalanx of the 4th toe of this foot is split and its distal part is dislocated laterally together with the 2nd and 3rd phalanx. The 1st phalanx of the left foot is transversally broken without displacement. All the said defects and displacements are postmortal.

Surface of the body: Dark brown hair in a great abundance have been preserved. The face has been destroyed in its greatest part. The body and limbs are black, shiny, perhaps imbibed with the resin. The abdominal wall is well preserved and sunken. On the lower limbs, the skin is folded lengthwise. The back side of the body remained preserved but for several small defects.

Measurements: greatest length 168 cm, length from the heel to top of head 158 cm, width in shoulders 36,5 cm, width of pelvis 29 cm.

Mummification technics: Because of damage, the region of apertura piriformis could not be evaluated, likewise direct probing could not be carried out. The periphery of the cranial cavity is screened almost completely by an homogeneous shadow of radio-opaque mummification stuff (resin), which evidently covers the inner surface of the calvarium. It doesn't form the usual level, but in the oblique view it is possible to distinguish in its shadow a vertically and occipitally convex contour, situated on the border of the dorsal and middle third of the cranial cavity. The shadow of the mummification stuff is also missing in the place of the bone defects in the fronto-temporal region. This reveals that the stuff has been evidently pasted to the bone. No artificial yes are evident in the radiographs of the skull.

Irregular angular formations from the size of grain to 5 × 6 cm showing the highest degree of density, are scattered in the dorsal parts of the thoracic cavity. In the abdominal cavity, they diminish in the direction to the pelvis. It may be a matter of various fragments, sherds, stone lumps, etc. used as fillings. In the left epigastrium, a lightly contrasting and sharply limited formation of stratiform structure and vertically oval form (8 × 5 cm) is to be found, most probably rolls of cloth without contents. The 4 visceral parcels have not been ascertained either in the cavities of the body or between the thighs. The intervertebral discs have a normal transparency.

Age: The bone structure is normal. Lines of epiphyseal fusion are preserved in the distal ends of the tibiae. In the right humerus, the medullary canal reaches out to the level of its proximal epiphyseal border; there is a transparent area in the basis of the greater humeral tuberosity, too (stage 3, 49—70 years). In the femora, the borders of the medullary canals reach out to the distal outline of the lesser trochanters; in addition to this, the bone structure is thinned out in the necks and the greater trochanters. This finding is more expressed on the right side (stage 4, 49—63 years). As far as it is possible to determine, the lower teeth row which has been preserved, doesn't present abrasion of a higher level and teeth defects aren't here evident. The cranial sutures are covered with dense mummification stuff except the lambdoid one which is open. According to these quite different signs, it is possible to indicate the maturus period (probably 40—50 years) as the most probable age period.

Sex: The male sex is indicated by the preserved male external sex organ (penis and scrotum, including the pilosity) and the short beard. For interest's sake we are including as well other secondary sexual features of anthropological character. The forehead bends on the border of the lower and medial third into a flat arc. The

glabella is only insignificantly indicated (Broca 2), the protub. occ. ext. is medium (Broca 2). Only the left mastoid process is evident; it is quite long, massive and pointed. The chin is wide with a concave base and it bears the characteristic tubercula mentalia. It is rounded in the lateral view and quite prominent. The index go-go/eu-eu as well as the angles of the mandible couldn't be evaluated because of the rotation of the head. The pelvic inlet is almost triangular. The symphysis is high; the rami inferiores of both pubic bones form a considerably expressed angulus pubicus, broadly opened. The humeral and femoral heads are medially large; the robusticity of the postcranial skeleton is medium. All findings conform to the male sex.

Pathological findings: A *sinistroscoliosis* is formed in the thoracic section of the spine. *Osteophytosis* of a lesser degree is evident on the ventral and lateral edges of the lower lumbar vertebral bodies. One tooth on the lower left side fell out (I_2).

Anatomical anomaly: Hypoplasia of the 12th rib on both sides.

Conclusion: The mummy is of a 40—50 years old man with insignificant pathological changes. The scope of dating according to the burial-ground of the 18th and 21st Dynasties can be narrowed to the 18th—20th Dynasties on the basis of mummification technics (characteristic signs of the 21st Dynasty are missing).

6. State Castle Kynžvart, District Cheb, Inv. No. 1086 (3327, KY 1648), Pentahutres, Fig. 3, Plate II b, c

History: The mummy in its original coffin was a part of the Egyptian gifts to the Austrian chancellor Prince L. V. Metternich in the year 1825 which he received from the Egyptian vice-king Muhammad Ali (STEINDORF 1917). The custodian of the collection, the former executioner of Cheb K. Husa had written it into the inventory of the collection of the former Metternich castle Kynžvart (originally Königswarth). According to further inventory of the collection written by its custodian Prof. Rath in a later period, the objects are said to originate from the graves in Sakkara near Memphis.

Coffin: Amon's priest P3-n-t3-hwt-rś (Pentahutres), man's name. Original dating 20th—21st Dynasty (VERNER 1977) was recently narrowed to 21st Dynasty (Inv. No. 3327, KY 1648).

Wrappings: The whole mummy is, till now, wrapped in middle and inner layers of wrappings except the secondarily revealed head. In some places, the wrappings are damaged, e. g. in the middle third of the left shank where the tibia sticks out through the fissure. On the damaged place, it is possible to ascertain that the preserved layers of the wrappings are 1—2 cm wide. All the limbs were wrapped separately with circularly led strips. Both upper limbs are fastened to the trunk by strips of wrappings led crosswise. In the damaged places it is evident that the trunk was bound independently with circular strips of wrappings. In the cranial third of the thorax, a wide strip of linen placed lengthwise, belongs to the most external layer of wrappings. Both lower limbs are mutually bound by knots of rougher linen between the knees and between the distal parts of the shanks.

Funeral rite: The body lies in a stretched out position, the upper limbs alongside of the body with the forearm slightly slanted and hands to the lap.

Archaeological object: Across the right heel-bone, a shadow of an amulet is projected in the radiographs, in the form of a column *djed*. Across the upper end of the right sacroiliacal joint, a densely opaque triangular shadow (4 × 2,8 cm) evidently belonging to another amulet, is projected.

Defects and dislocations: The head was separated from the trunk between C_3 and C_4, the upper proc. articulares of C_4 remaining with C_3. The thorax is considerably damaged. In the thoracic spine 3 vertebrae are missing (probably Th_4—Th_6. This section of the spine is dislocated in the direction to the right and ventrally with the maximum at Th_9. The clavicles are pressed with the sternal ends ventrally and downward. The sternum is missing, the number of ribs is, however, complete. The pelvic bones are rotated in the sense of diastasis in the symphyseal region (6 cm). The skeleton of both feet have an interrupted anatomical relation and some of the metatarsals and of toe phalanges are missing. The wrappings on the end of the mummy's feet are likewise damaged.

Surface of body: In the temporal regions of the head insignificant remains of dark hair have been preserved. On the left temporal bone and in other places the

soft tissues are damaged. Almost the whole left and insignificant remains of the right ear lobes have been preserved. Features of the face are well evident. The eyelids are closed. The cartilaginous part of the nose is completely preserved, its dorsum is slightly declined. The narrow lips are pulled out forwardly. The tip of the tongue is evident in the wide open mouth.

Measurements: Length 156 cm, width in shoulders 31,5 cm (diminished by deformation of thorax), width of pelvis 34 cm.

Mummification technics: In the radiographs, there is no proof of the damage of the nasal skeleton by artificial procedure. The external inspection shows that the nasal passages are free and the nasal septum including the cartilaginous part is not interrupted. In the left nasal passage, the probe strikes against the normal delimited walls everywhere; in the right passage it enters into the dorsal upper part of the passage to a narrow chink (B. in the frontal direction 0,5 cm, L. in the antero-posterior direction 1 cm) communicating with the cranial cavity. The shadow of the radio-opaque mummification stuff is not evident in the radiographs in the cranial cavity. The artificial eyes and the subcutaneous fillings could not been proved.

The thoracic cavity is filled by the shadow of the radio-opaque mummification stuff which in the lower part forms a number of very dense irregular oval formations. They haven't the characteristics of the parcels with the viscera but of layers of resin. In the abdominal cavity, the shadow merges with and expressively dense unique mass, showing in some places still denser structure. It interferes between the cleaving pubic and ischiadic bones. The shadow shows the typical character of resin layers of various thickness. The intervertebral discs have a normal transparency.

Age: The bone structure is normal. Abrasion of teeth is medium (about to one third of the original height of th crowns). The cranial sutures are open. In the proximal ends of the thigh-bones, the medullary canals reach to the distal borders of the lesser trochanters (stage 3, 47—58 years). In the humeri, it is not possible to evaluate them. In the proximal and even more expressive in the distal ends of the tibiae the lines answering to the sites of epiphyseal union are preserved. In spite of the finding of larger extent of medullary canals in the thigh-bones, we guess that the individual most probably died at the adultus age between 30 and 40 years.

Sex: The forehead is almost perpendicular and bursts out in a rapid arc. The glabella is slightly arched (Broca 2), the protub. occ. ext. likewise (Broca 1). Mastoid processes are of medium length, bulky and richly pneumatized. The chin is wide and rounded, in the lateral view of a medium prominence. The lower jaw has a rounded square outline, however, the angles of the lower jaw don't protrude. Index go-go/eu-eu is only 67,1. The pelvic inlet it is not possible to evaluate because of the rotation. The heads of the humeri and femora on both sides are relatively large, the bones of the limbs are robust. The predominance of the sex signs on the calvarium gives evidence for the female sex, the features of the postcranial skeleton for the male one. With regard to the name we favour the probable diagnosis of the male sex.

Pathological findings: are present only in the *teeth*. In the region of the upper and lower M_1 are defects resulting from the intravital loss of one of the upper and lower M_1.

Anthropological remark: A conspicuous alveolar prognathism is present.

Conclusion: The mummy is of a 30—40 years old man(?) without pathological findings except for the teeth. Mummification technics do not reveal any characteristics of the 21st Dynasty (date of the coffin) being more of the New Kingdom type.

7. State Cultural Property Betliar, District Rožňava, Inv. No. 1490 b, Nebey?, Fig. 4, Plate III a—e

History: Count Emanuel Andrássy bought this mummy during his travels to Egypt in 1880 and placed it in his private collection in the castle Betliar which since 1945 is a state cultural property.

Coffin: Amon's priest Nbjj (?) (Nebej ?), man's name; the original dating New Kingdom (VERNER 1977) has been recently narrowed to the 18th Dynasty. (Inv. No. 1490 a).

Wrappings: Except the secondarily revealed face, the whole body is covered with wrappings; according to the radiographs, the thickness of variously directed wrappings on the head is low, but a very thick layer of wrappings circularly led

from the neck to the lower limbs has been preserved. In the thoracic region, there are among transverse stripes also oblique ones. The wrappings haven't firmer edge and the average width makes 6—7 cm.

Funeral rite: The body lies in a stretched out position; the upper limbs are crossed on the thorax with the palms on the front surface of it. The fingers of the right hand are stretched out and on the left they are flexed.

Archaeological objects: A necklace with tubular beads completed by a hanging big flat scarabeus (L. 6,2 cm) is lying on the neck of the mummy. Dense delimited shadows of artifacts are projected in the radiographs of the dorsal sections of a few ribs on the right side. On the level of the 3rd intercostal space, there are three trapeziumshaped shadows (5 × 8 mm, 10 × 14 mm, 13 × 10 mm). On the level of the 5th intercostal space a shadow of an amulet is lying which presents the typical form of a papyrus column *wadj* (L. 42 cm, B. of head 9 mm). On the level of the 9th—10th intercostal space two approximately rectangular shadows (35 mm × 16 mm, 22 × 13 mm) are projected, which could be amulets resembling various gods. Further two shadows are projected over the massa lateralis ossis sacri on the level of S_3—S_4. To the right, it is a matter of a shadow of a plane-convexed outline (14 × 23 cm) which could belong to a scarabeus. To the left, it has a roughly squared form with two straight sides and two somewhat convexed sides, which could represent the amulet in the shape of the multiplated eye of Horus, *wedjat*. According to the lateral view, all the described shadows are lying dorsally in the most inner parts of the wrappings.

Defects and dislocations: The atlas is displaced from the skull base but it is not injured. On the right foot the phalanges of the big toe and the intermediate and distal phalanges of the 2nd toe are missing. The intermediate phalanx of the 3rd toe is disjointed laterally and proximally. The space of the proximal interphalangeal joint of the 4th toe is laterally widened. The phalanges of the 2nd and 3rd toes are deviated medially, the phalanges of the 4th and 5th toes form a medially concave arch. On the left foot the distal phalanx of the big toe is diplaced proximally and laterally and it is turned up proximally with its unguicular tuberosity. The intermediate and distal phalanx of the 2nd toe are displaced in such a way that the intermediate phalanx is projected mostly over the proximal phalanx of the big toe. In regard to the fact that a layer of wrappings on the distal ends of the lower limbs shows signs of secondary disturbance, it is possible to believe that the loosening of the interphalangeal joints, the deviation, displacement and loss of some phalanges resulted from the influence of the decaying processes, loosening the unity of the joints already before and during the mummifacatin.

Surface of the body: The characteristic features of the face are well evident. The external nose is preserved. Its cartilaginous part is flatly sunken, the narrow mouth is slightly open.

Measurements: Length 163 cm, width in shoulders 33 cm, width of pelvis 29 cm.

Mummification technics: Fillings of rolls of linen, on which originally artificial eyes were probably fastened, are evident between the open eyelids. The nasal passages are free; almost the whole bony part of the nasal septum is missing. In the upper rear wall of the nasal passage an opening is formed (B. 2 cm, H. 1 cm). Neither the shadow of the upper half of the septum nasi nor of the turbinate bones are evident in the radiographs. The shadows of radio-opaque mummification stuff aren't present in the cranial cavity. Likewise the subcutaneous fillings weren't applied.

Almost homogeneous, medium radio-opaque fillings occupy the thoracic and abdominal cavities. In some places, it is possible to distinguish wavy folds in the shadow which enable to consider these fillings to be rolled pieces of linen predominately. The sharply delimited shadows of the 4 visceral parcels are not evident. The space between the thighs is empty. The intervertebral discs have a normal X-ray appearance.

Age: The bone structure is normal. In the proximal ends of the humeri, the widening of medullary canals isn't evident (stage 1, 21—61 years). In the proximal ends of the femora, the findings seems to be analogous, but exact evaluation isn't possible due to covering of these bone parts by the massive compacta shadow. Advanced abrasion is evident in the teeth (to half on the original height of the crowns). On the contrary, all the cranial sutures are open. It is possible to conclude that death came in the adultus period of age, between 30—40 years, and that the abrasion of the teeth was perhaps quickened.

Sex: The forehead is fully arched with a slight supraglabellar derpression. The glabella is gently arched (Broca 2—3), the protub. occ. ext. is almost imperceptible (Broca 0—1). Mastoid processes are medium long, bulky and blunt. The chin is wide and basally slightly concave, in the lateral view it is rounded and quite prominent. The mandibular angles are slightly everted. Index go-go/eu-eu equals 71,9. The pelvic inlet is distorted by the rotation of pelvis to the left. The symphysis is high. The lower rami of the pubic bones form an angulus pubicus. The humeral heads are medium large, the femoral ones are larger. On the whole, the skeleton of the trunk and upper limbs appears gracile and contrarily, the femora are more robust and have cospicuously wide compacta. The majority of signs prove the male sex.

Pathological findings: In the *teeth*, we ascertained the intravital loss of the lower P_2 to M_2 and lower left P_2.

On the lower lumbar vertebral bodies it is possible to discern signs of an early stage of *osteophytosis*.

Anatomical anomaly: Hypoplasia of the frontal sinuses.

Anthropological remark: Conspicuous alveolar prognathism is present.

Conclusion: The mummy is of a 30—40 years old man with insignificant pathological changes. Mummification technics and funeral rite are of the New Kingdom types agreeing with the coffin's dating.

8. Náprstek Museum, Prague, Inv. No. P 634, Figs. 5, 12, 13, Plate IV a—e

History: Prince Frank Colloredo donated the mummy in 1822 to the Patriotic Museum of Bohemia (which was called the Czech Museum in 1846 to 1851, later the Country Museum and after 1918 the National Museum). In spring of 1851 the mummy was lent through the mediation of the police president of Prague, the Hofrat Sacher-Masoch to Physiological Institute of the Medical Faculty of the Charles' University, directed by J. Ev. Purkyně. There it was dissected and microscopically examined by the Institute's assistant J. N. Čermák, (CZERMAK 1852, 1879). In was only in 1913 that it was returned to the Country Museum (TSCHERMAK-SEYSENEGG 1935). On the 29th of November 1968 it was transferred to the Náprstek Museum in Prague.

Coffin: was not preserved.

Wrappings: have been preserved only in insignificant remains on the face, in the region of the pelvis and on the lower limbs.

Funeral rite: The body is stretched out with the upper limbs lying alongside of the body with the hands laterally from the proximal ends of the femora. The head is bent with the chin toward the neck.

Archaeological objects: A shadow of metal density and ring-like shape (3 mm) is evident on the level of the lower border of L_4 paravertebrally to the left. It could be, perhaps, a bead which could have got into the cavity of the abdomen secondarily during its opening.

Defects and dislocations: The mummy is very well preserved except for the defects caused by the dissection of J. N. Čermák. The ventral wall of the thorax was cut off with a trapezoid incision (23×14—17 cm) and it is possible to fold it up. The centre of the abdominal wall was cut off by incisions which are above and along the sides straight and caudally convex in the lower part of the abdomen (B. 16 cm, L. 14 cm) so that it, too, is possible to fold up. The thoracic vertebrae Th_{10}—Th_{12} are missing being taken out by Čermák. In the centre of the right eyelid a crosswise incision is led; on the convexity of the right ala auris about in the half of its height a similar cut is found. Both are traces of Čermák's removal of samples for histological examination. There is a subluxation of the bases of the proximal phalanges of the 3rd and 5th toes of the left foot. The intermediate phalanx of the big toe and the diaphysis of the proximal phalanx of the 2nd toe have a disturbed continuity.

Surface of the body: The skin and the soft tissues are preserved in a relatively good condition. The surface of the body has a dark-brown to black colour due to the resin which was spread in its greatest parts. Slightly waved dark brown hair, decoloured in places, were preserved on the head. The face features are well perceptible. The cartilaginous part of the nose remained preserved but sunken. The mouth is shut. In view of the overlapping of the lower lip over the upper one the mouth has an upward convex form. Both ear-lobes are preserved almost completely. The ventral wall of the trunk is covered with a thickly folded skin. Of the breasts, there remained two flat large skinfolds. The external sex organs are widely

Fig. 10 Cat. No. 4 Fig. 11 Cat. No. 4 Fig. 12. Cat. No. 8 Fig. 13 Cat. No. 8

open. The musculature of the lower limbs is very much dried up, so that the bones are perceptible in many places. The toes are partly flexed. The nails have a red-brown colour (henna?).

Measurements: Length 154 cm, width in shoulders 30 cm, width of pelvis 30 cm.

Mummification technics: External examination shows that the upper eylids are arched forwardly and the lower ones pressed inwardly. In these spaces artificial eyes were originally placed out of which on the left side, an impression and a fragment have been preserved. The nasal openings are free. In the upper rear part of the right nasal passage it is possible to ascertain an opening into the cranial cavity (1 × 1,5 cm). In the region of the apertura piriformis in the radiographs, it is not possible to distinguish the usual shadows of turbinate bones. The lower part of the septum nasi and the nasal spina are defective. However, in the cranial cavity no shadows of the radio-opaque mummification stuff are evident. The skin fillings, likewise, were not applied.

The original mummification incision was preserved on the uncovered surface of the body. It begins 4,5 cm over the left spina iliaca and stretches to the length of 7,5 cm parallelly with crista ilica. It is widely open (maximal width 4 cm). Originally it was filled to the depth of 5 cm with a linen clew.

According to the X-ray examination, there are in the right half of the thoracic cavity three sharply delimited shadows of an irregular shape in the level of Th_4–Th_{12}; they have a grainy structure. The cranial one is denser (14,5 × 5,5 cm) than the two caudal shadows (the caudal lateral one 8,5 × 2 cm, the caudal medial 8,8 × 4 cm). Most probably these are remains of the original visceral parcels. The left half of the thoracic cavity is almost completely filled with a radio-opaque stuff, manifesting a bent and a fibrous structure which corresponds to the folded fillings soaked with resin. The complete small pelvis is cast with an almost homogenous shadow caused by the fillings of a linen convolute, strongly penetrated with resin, as it is evident after the folding up the ventral wall of the abdomen. The intervertebral discs have a normal X-ray appearance.

In this mummy it is possible to control the aspective and roentgenological picture with the notions from Čermák's histological examinations. It undoubtedly proved the presence of the inner organs in both of the body cavities. In the thorax he found the edge of the diaphragm in situ, a part of the mediastinum, aorta and trachea, i. e. organs which remained in the body during evisceration. In the abdominal cavity he discovered the wedge-shaped convolute which consisted of wound together intestines and a thin wound plate composed of epidermis of the right foot. These formations were evidently placed secondarily into the abdominal cavity, either in the parcels or isolately. Čermák however didn't examine all the formations that were still in the body. It concerns e. g. the fillings of the small pelvis which he didn't dare to take away in order not to disturb the integrity of the mummy, or the contents of the right half of the thoracic cavity.

Age: General osteoporosis is evident in the radiographs in the whole skeleton. A bilateral parietal thinning in an advanced stage appears in the radiographs of the skull in lateral and anterio-posterior views. The borders of the medullary canals in the proximal ends of the humeri reach out to the surgical necks; in the major tuberosities of these bones, transparent areas are evident (stage 3—4, 49—70 years). In the thigh bones the medullary canals reach to the level of the centre of the lesser trochanters; there are transparent areas in the femoral necks and greater trochanters, too (stage 4—5, 49—70 years). The teeth are in parts defect, abrasion is remarkable (to the half of the original height of the crowns, and even more). The lambdoid suture is open, the coronal one can be differentiated only in remains; the sagittal suture is evidently obliterated. There are present several pathological changes, too, pointing to an advanced age. All these signs show clearly that the individual died at the more advanced mature or senile age between 50—70 years.

Sex: The external female sex organ remained preserved (vulva with labia maiora, remains of labia minora and remains of the breast resembling two large flat skin folds). We are also introducing other signs studied in the radiographs, in order to compare them with other cases. The forehead begins with a light supraglabellar depression; in its first section it is almost perpendicular; it gradually bends into a full arch. The glabella is undistinctly developed and slightly flattened (Broca 2), the protub. occ. ext. is humpy (Broca 2). Processus mastoidei are long, but slim, of a

finger-like form. The chin isn't wide but rounded. In the lateral view, it is also rounded and medium prominent. The angles of the mandible aren't everted. The index go-go/eu-eu makes 64,0. The pelvic inlet is widely oval, the lower branches of the pubic bones form a wide arcus pubicus. Humeral and femoral heads are relatively large, the diaphyses of these bones are however conspicuously slim. On both sides, the tuberositas deltoidea is prominent. All the signs indicate a woman.

Pathological findings: The shadow of all bones is thinned out in the sense of general *osteoporosis*. The delimited *parietal atrophy* is distinguished by the sinking of the convexity of both parietals together with their thinning which in the lateral view appear as an oval transparent area.

One of the thoracic vertebral bodies (most probably Th_7) is slightly lowered ventrally and to the left, with the deeping of the upper facies terminalis. It is a matter of *compression* evidently due to osteoporosis.

A *scoliosis* of the spine is evident; the lower thoracic and lumbar spine is deviated to the right with the maximum at the level of L_3, the upper thoracic spine is slightly bent to the left. Signs of *intervertebral disc degeneration* with *osteophytosis* were ascertained in many places. The intervertebral spaces C_4–C_5 and C_5–C_6 are lowered, the nearby edges of the intervertebral bodies carry ventral and dorsal osteophytes. Ventral and lateral osteophytes are formed on the bodies of other thoracic and lumbar vertebrae, too, the largest of them being on the left side at L_1–L_3.

The presence of *arteriosclerosis* was proved by the X-ray examination by marked calcification of both femoral arteries. The calcification possesses a predominantly ring-shape character resembling thus the X-ray findings in *Mönckeberg's medial sclerosis*, with its typical annular calcification in the arterial wall.

Intravitally the upper right M_3 and M_2 fell out of the dentition; the same applies to the upper left M_3, M_1 and both P as well as to the lower left M_2.

Anatomical anomaly: Sacralisation of L_5.

Conclusion: The mummy is of a 50—70 years old women with a number of pathological findings. On the basis of the mummification technics (visceral parcels) it is possible to date the mummy most likely into the 3rd Intermediary period (21st—25th Dynasties). The high position of the abdominal incision is however not in harmony with this determination.

9. Anthropological Department of the National Museum, Prague, Inv. No. 1997, Fig. 14, Plate V a

History: The mummy was found in 1948 by Dr. E. Vlček in the garret of the High Tatra Museum in Poprad. From here it was transferred to the Archaeological Institute of the Slovak Academy of Sciences in Nitra, then in 1958 to the Chair of Anthropology of the Comenius University in Bratislava. On July 1st, 1968, it was donated to the Antropological Department of the National Museum in Prague.

Coffin: has not been preserved.

Wrappings: remained preserved only in some places in relatively thin layers. The largest remains of the wrappings are found in the face, very few of them are preserved of the upper limbs, on the upper two thirds of the lower limbs and on the feet. On the ventral surface of the abdomen lies the convolution of wound together narrow wrappings soaked with resin.

Funeral rite: The body is lying in a stretched out position, the head with its chin bent to the thorax, the upper limbs crossed on the ventral wall of the thorax with the palms on it; the fingers are stretched out.

Archaeological objects: were not ascertained.

Defects and dislocations: On the left lower ventral border of the thorax, there is an opening with its longer axis running slantingly from the medial line to the lateral part of the thorax (L. 7 cm). The shorter axis of the opening, perpendicular to the longer one, makes 4 cm. In the radiographs, a crosswise interruption of the continuity in the distal fourth of the right femur, undoubtedly postmortal, was found.

On the right foot, the distal phalanx of the big toe and the 3rd toe, further the intermediate and distal phalanx of the 5th toe are missing. On the left foot, the distal phalanx of the big toe and all the phalanges of the other toe were lost. In these place the wrappings were not preserved so that it is probable that the loss of the toes happened recently.

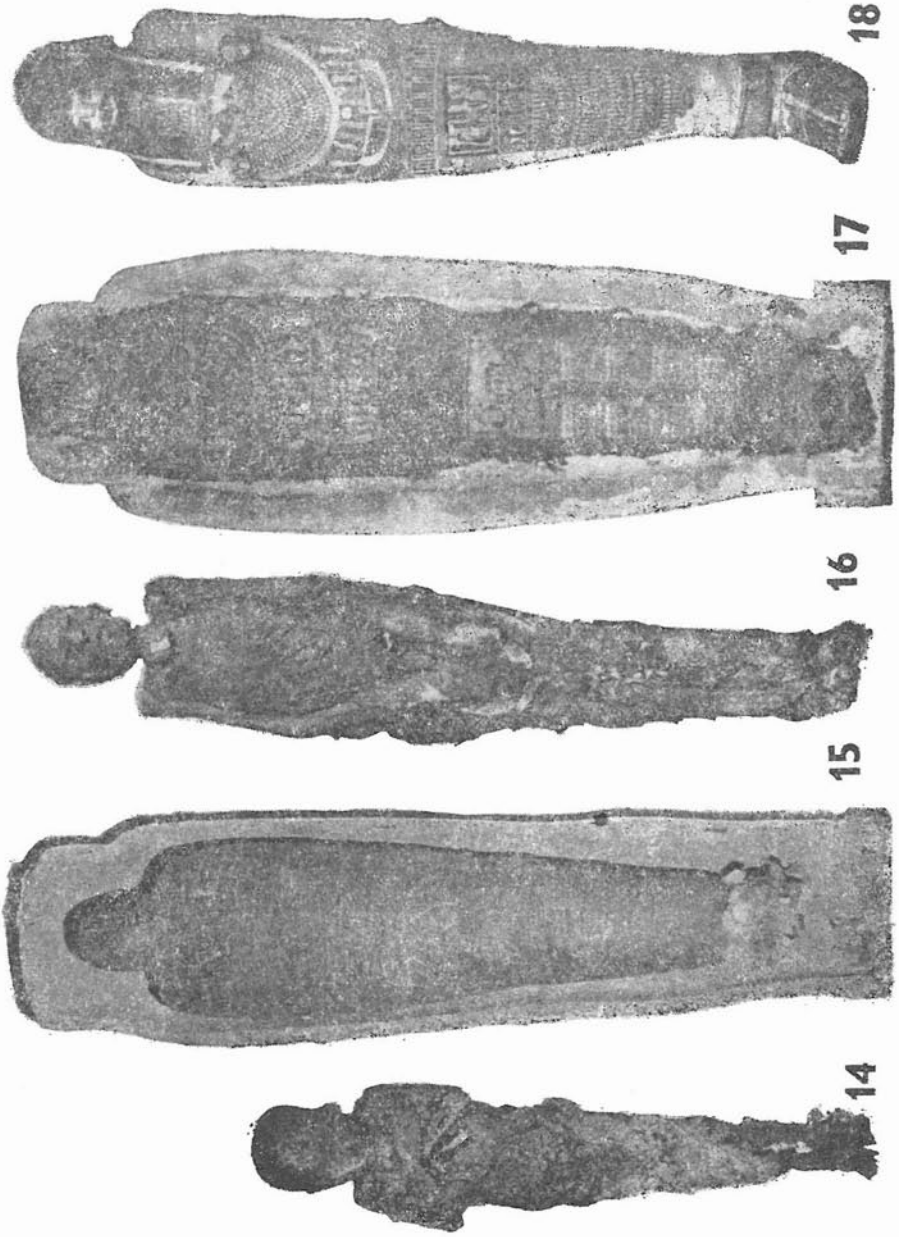


Fig. 14 Cat. No. 9 Fig. 15 Cat. No. 10 Fig. 16 Cat. No. 11 Fig. 17 Cat. No. 12 Fig. 18 Cat. No. 13

Surface of the body: In places uncovered by wrappings the skin is evident which is damaged over the central parts of the frontal bone. Under the wrappings, the facial features especially the mounth are unexpressively sketched.

Measurements: Length 102 cm.

Mummification technics: Because of the remains of the wrappings, it isn't possible to examine externally the nose and the eyes. The nasal septum in the radiographs appears as a lineary shadow, however, because of the rotation of the

head, it is not possible to evaluate the other formations in the apertura piriformis. On the inner surface of the upper half of the occipital bone, a crowd of shraply delimited medium dense irregular shadows is evident in the mid-line (the largest of them 13 × 15 mm). They lie closely to the bone according to the radiographs. It is perhaps a matter of a small amount of mummification stuff (resin). The subcutaneous fillings and the artificial eyes weren't applied.

In the left half of the thoracic cavity a medium dense shadow with sharp limits is projected belonging to a vertically extended formation (4,1 × 9,3 cm), over whose caudal end another one is placed (2,3 × 8,8 cm). It continues into the abdominal cavity up to the level of L_3. To its caudal end again a further rounded formation is projected which is of the same density. This shadow is placed above the left iliac crest (diameter 2,3 cm). These shadows with the greatest probability correspond to the visceral parcels. The fourth parcel could have eventually been covered by the shadow of the right hand in the upper half of the left hemithorax in the extent of Th_5 to Th_8. In the lateral view, the parcels are situated in the dorsal parts of the cavities of the body. Between the palms and the ventral surface of the thorax to which they are pressed, a shadow is evident in the anteroposterior and lateral view, probably as a result of the application of a layer of mummification stuff (resin). Between the lower limbs a filling is evident without sharp edges; in places it has wavy linear structure or a grainy one (linen and mummification stuff). The intervertebral discs have a normal transparency.

A g e : In the both jaws, the eruption of the complete deciduous dentition has been finished under which and over which the germs of teeth of permanent dentition are evident. All first permanent molars are in eruption and reach near the occlusal plane. The stage of formation of the crowns of the second permanent molar corresponds accordings to the data of MOORREES et al. (1963) to the age range of 4,5—7 years (mean $5^1/_4$ yrs.). All the epiphyseal cartilages are present, the cranial sutures are open. The fontanels and the metopic suture are closed. The stage of ossification of the wrist is not possible to evaluate because of the summation with the shadow of the radio-opaque mummification stuff. According to these signs the mummy is a child about 5 years old. This agrees also with its stature, somewhat lengthened by the flexion of the head.

S e x : The pelvic inlet in the radiographs is high and narrow, the rami inferiores of the pubic bones constitute an expressive sharp angle. Other signs are still missing. It probably could be a mummy of a boy, however, indications are not yet dependable at this age.

P a t h o l o g i c a l f i n d i n g s : In the distal ends of the tibia, there are evident several Harris' growth lines.

C o n c l u s i o n : The mummy is of a 5 years old child (boy?) almost without pathological findings. According to the presence of visceral parcels, it can be dated to the 3rd Intermediary period (21st—25th Dynasties). Nevertheless, the crossing of the upper limbs on the chest is in discord with this. Perhaps this custom survived from the time of the New Kingdom, or on the contrary, the mummy comes from a later period and the custom of the visceral parcels survives.

10. Gemer Museum, Rimavská Sobota, Inv. No. 623/63, Tasheritnetiakh, Abusir el-Melek, Fig. 15, Plate V b—c.

H i s t o r y : The mummy together with its own coffin was bought by the great landowner and lawyer in Rimavská Sobota, István Süteö during his travels to Egypt. In 1910, he donated it to the Gemer Museum in Rimavská Sobota.

C o f f i n : T3-šrjt-n(t)-ỉᶜh (Tasheritnetiakh), woman's name. Original dating end of Late-Greek period (VERNER 1977) has been recently shifted to the 22nd—26th Dynasties. (Inv. No. 623/63.)

W r a p p i n g s : The whole mummy is wrapped in its original wrappings whose layers are very strong according to the X-ray examination. They are wound wholly crosswise circularly, casually slantingly, and are spread with a black mass resembling resin. On the ends of the feet the wrappings were carelessly cut in the past and so the phalanges of the toes of both feet are projecting through the opening. In these places, it is possible to count more than 22 layers of wrappings.

F u n e r a l r i t e : The body is lying in a stretched out position with the upper limbs on the thorax in such a way as to touch the shoulders with the palms.

A r c h a e o l o g i c a l o b j e c t s : were not ascertained.

Defects and dislocations: The body is preserved completely. In the region of the thoracic spine, the shifting of the vertebrae Th_1—Th_4 took place to the left, ventrally and caudally as a result of the damage to continuity between Th_4 and Th_5, so that Th_4 projects over the lower edge of Th_5. At the same time, the head is turned back due to influence of hyperlordosis of the cervical spine. The result of the changes in the spine axis also brought about the anomal widening of the intercostal space between the 3rd and 4th ribs, specially to the left. The pelvis as a whole is shifted in the sacroiliacal joints against the sacrum about 3 cm cranially and at the same time it is turned ventrally by the plane of the pelvic inlet. In view of the fact the wrappings of the body are not damaged, that they are strong and firm, it is possible to ascribe these changes to the manipulations of the embalmers.

Surface of the body: Only the well preserved toes of both feet are evident includings the nails.

Measurements: Length 142,5 cm, width in shoulders 32 cm, width of pelvis 31 cm. The original height of the individual was greater, and its shortening came about through the influence of the described displacement in the spine and pelvis about 10 cm at least. A relatively greater inner length of the coffin (172 cm) also proves the stature to have been higher.

Mummification technics: In view of the wrappings, it is possible to make only the full use of the X-ray examination. In the region of the apertura piriformis, the shadows of the turbinate bones and septum nasi are missing. It is possible to distinguish here an irregularly round shadow, evidently of a linen pedget soaked densely with resin. In the lateral view, the filling of the whole occipital half of the cranial cavity with dense homogeneous shadow delimited by a distinctly cranio-caudal level is evident. In both eye-sockets, a slightly contrasting shadow which corresponds to the linen rolls, is also evident. Artificial eyes and subcutaneous fillings, however, were not used.

In the lower part of the thoracic and abdominal cavities, oblong, sharply delimited and vertically oriented shadows are visible. To the right, the most cranial one is at the level of Th_8 through L_3 (18×5 cm), the caudal one between L_1 to S_1 (13,5×6 cm). To the left, the most medial one of them is set at the edge of the spine from Th_6 to L_1 (17 × 6 cm), the lesser one more laterally and partly across the former shadow from Th_{10} to L_1 (10 × 2,8 cm). In the lateral view all of them are placed dorsally. It is evidently a matter of typical 4 parcels containing the inner organs. The other spaces of both cavities are empty. Likewise in the spaces between the thighs there are no opacifying formations. The intervertebral discs have a normal transparency.

Age: In some places evident signs of osteoporosis are present in the postcranial skeleton. The borders of the medullary canals in the proximal ends of the humeri reach out to the collum anatomicum (stage 3, 49—70 years), and in the proximal ends of the thigh bones to the level of the lesser trochanters. In addition to this, transparent areas in the femoral heads, necks and greater trochanters are evident (stage 5, 57—80 years). The dentition is partly defect; abrasion of the remaning teeth is very progressive, practically up to the roots. With the exception of the lambdoid suture, all the cranial sutures are obliterated. Death came at a more advanced mature age or at the senile age, in the range of 50—70 years.

Sex: The forehead is perpendicular and bends to a considerably vaulted arch. The glabella is slightly arched (Broca 2—3), the protub. occ. ext. weakly formed (Broca 1). Mastoid processes are medium long, lightly flattened and pointed. The chin si narrow, arched and in the lateral view, arched and conspicuously prominent. The angles of the mandible are smoothly rounded. Index go-go/eu can't be determined due to the rotation of the skull in the wrappings. The pelvic inlet is almost oval in its transverse diameter. The lower branch of the pubic bones can't be evaluated due to rotation of the pelvis. The humeral and femoral heads are small, the postcranial skeleton of medium robusticity. On the contrary, the bones of the skull seem to be more robust. The majority of signs reliably indicate the female sex which is also in harmony with the small height of the stature.

Pathological findings: The entire postcranial skeleton shows signs of general *osteoporosis* which is especially evident in the bones of the shoulder-girdle. The whole spine is affected by *osteophytosis* which is especially developed on the cervical and lumbar vertebrae. Osteophytes are formed as on the ventral so also on the lateral margins of the vertebral bodies. The intervertebral spaces between C_3 to C_6 and L_3 to S_1 are expressively narrowed, the facies terminales of these vertebrae

are uneven. Together with the advanced osteophytosis, this finding proves to be *osteochondrosis* of the intervertebral discs $C_{3, 4, 5}$ and $L_{3, 4, 5}$.

The *dentition* is considerably defect. All the upper left teeth fell out intravitally, further the upper right M_2, lower left $M_{2, 3}$ and lower right P_2.

Conclusion: The mummy, is a woman of 50—70 years with a number of pathological findings. According to the mummification technics (visceral parcels) it can be dated to the 3rd Intermediary period (21st—25th Dynasties). This is in harmony with the recent dating of the coffin but not with the ritual position of the upper limbs (crossed on the thorax).

11. Náprstek Museum, Prague, Inv. No. P 624 b, Figs. 16, 19, 20, Plate VI a

History: The mummy and its coffin belong to the old collection of the Náprstek Museum.

Coffin: Name destroyed. Original dating end of the Late till Greek period (VERNER 1977) has been recently narrowed to the Greek period. (Inv. No. P 624 a.)

Wrappings: Only the inner layers of the wrappings have been preserved in situ. A part of the external ones was unwound in the past and was placed separately (P 624 c). The wrappings are wholly missing on the head (with exception of remains on the chin, right cheek and in the hair), on the neck and both arms above the elbows. On the trunk and upper and lower limbs, circularly wound wrappings are evident.

Funeral rite: The body lies in a stretched out position with the upper limbs alongside of the body, with the forearms slanting toward the pelvis and hand between the upper halfs of the thighs.

Archaeological objects: were not found.

Defects and dislocations: The mummy itselft is intact.

Surface of the body: The facial features are well visible. The cartilaginous part of the nose is flattened. The tongue and upper front teeth are evident in the slightly open mouth. Dark-brown hair, lightly decoloured in the occipital region, have been preserved almost wholly.

Measurements: Length 150 cm, width in shoulders 25 cm (the shoulders are turned to the front and so the width is lowered), width of pelvis 27 cm.

Mummification technics: A number of important details were found at the external examination. On the surface of the skin in the frontal and parietal region, traces of red ochre were preserved. On the surface of the neck, the skin is peeled in a few places and it is evident that under it there are rolls of linen led crosswise with which the neck was filled. On the cheeks, there are incisions and fissures resulting from application of the subcutaneous fillings. Through the fissure in the hairy part of the head, the subcuteneous filling of mortar-like crumbling clay is visible.

Originally artificial eyes were inserted between the open eyelids. A roll of linen is stuffed with its two ends into the nasal openings. It makes impossible to ascertain by probing if the opening into the cranial cavity was performed. The X-ray examination didn't prove any changes in the region of apertura piriformis. The cranial cavity contains no radio-opaque stuff.

On the contrary, the covering of the oral cavity with a medium opaque non-homogenous mass is evident. It corresponds to the filling by a roll of linen whose edge is also visible in the open mouth.

The thoracic and abdominal cavities are extensively overcast by massive, very dense shadows which merge in places. Nevertheless, they do not form the typical visceral parcels. It is a matter of resin fillings and linen rolls impregnated with resin. According to the lateral view radiographs, the filling is placed predominantly in the dorsal thirds of the cavities. It continues down to the small pelvis.

Between both of the thighs from the lesser trochanters almost to the distal ends of the diaphyses, there is placed a shadow of maximal density. It is longitudinally expanding, proximaly rounded, pointed on its distal end and wholly homogeneous. The formation is surrounded by undulated and filamentous shadows of wrappings. By direct probing of the distal end of this formation, it was ascertained that it was a matter of a mortar-like mass covered lengthwise with folded cloth.

The thoracic and lumbar intervertebral discs give a dense shadow which is analogous with the dense shadow of the fillings in the bodily cavities. These shadows

Fig. 19 Cat. No. 11 Fig. 20 Cat. No. 11 Fig. 21 Cat. No. 14 Fig. 22 Cat. No. 14

are separated from the facies terminales of the vertebral bodies by narrow transparent zones.

Age: On the postcranial skeleton, a general osteoporosis is evident. The borders of the medullary canals in the proximal femoral ends reach up to the intertrochanteric level. It is possible to differentiate also transparent areas in the bases of the femoral necks (stage 5, 57—70 years). In the humeri, it is impossible to evaluate the medullary canals because of their rotation.

The abrasion of the teeth is very advanced and reaches out to two-thirds of the original height of the crowns. In places the crowns are entirely destroyed. All the cranial sutures except the lambdoid one are closed. We can conclude that the individual died at the mature or senile age (between 50 and 70 years).

Sex: The forehead is vertical in its lower third, than it passes into a fully curved arch. The glabella is insignificantly expressed (Broca 1), the protub. occ. ext. likewise (Broca 1). Mastoid processes are medium large, finger-like and less bulky. The chin is wide and angular; in the lateral view, it is arched and medium prominent. The angles of the mandible are slightly everted. Index go-go/eu-eu reaches 69,4. The pelvic inlet has a crosswise oval form. Pars symphysica of the pubic bones forms an arcus pubicus. The humeral heads are medium bulky, the femoral ones are more voluminous. The long bones of the upper limbs are gracile, those of the lower limbs are more robust. In spite of some deviations, this is probably a mummy of a woman which seems to be in harmony with the small height of the stature.

Pathological findings: General *osteoporosis* is evident very well in the postcranial skeleton, with sparse bone structure and thin compacta of the long bones especially of the humeri and of the crural bones.

On the cervical spine, in the extent of C_4 to C_7, osteophytosis is formed. In the further sections, it is not possible to evaluate the changes of the vertebrae as they are covered by the radio-opaque fillings.

In the lumbar section of the spine, a *sinistroscoliosis* is evident. The X-ray examination proved map-like calcification of the right femoral artery which signalize the presence of *arteriosclerosis* (intimal disease).

In the dentition, the upper right M_2 and M_3 and all the lower molars with the exception of the remains of one molar on the right, as well as lower left P_2 were lost intravitally.

Anthropological remarks: A more expressive aveolar prognathism is present.

Chemical remark: The subcutaneous filling of the convexity of the head according to spectral analysis contains Na, Ba, Al, Si, Ca and in traces Fe, Pb and Sn. According to X-ray diffraction analysis, thermal analysis and infrared spectroscopy, the most important constituent is sodium sulphate (thénardite), containing a mixture of alpha quartz, sodium calcium sulphate (glauberite), barium sulphate (barite) and calcium aluminosilicate (of the anorthite type) besides organic phase, probably resin.

The formation between the thighs contains, according to spectral analysis, Ca, Mg, Si and traces of Na and Sn. According to the X-ray diffraction analysis, thermal analysis and infrared spectroscopy, the main constituent is calcium carbonate (of the calcite type). It could have arisen by the influence of the atmospheric carbon dioxide from the calcium oxide (lime). The admixture contains alpha quartz, calcium magnesium silicate (of the diopside type), and the organic phase, evidently resin.

The main constituents of the subcutaneous fillings of the head (sodium sulphate) and of the formation between the thighs (originally probably calcium oxide) could have been used as *dessicatives*.

Dating remark: Parts of linen wrappings gave corrected radiocarbon dates 1028 ± 144 and 978 ± 124 years B. C. (ŠILAR 1979).

Conclusion: The mummy is a 50—70 years old woman with a number of pathological findings. Dating of the coffin (Greek period) does not agree with the mummification technics and funeral rite which are quite typical of the 3rd Intermediary period. Radiocarbon dating confirmed the same period, most probably 21st Dynasty. The possibility of displacement of an older mummy into a newer coffin has to be, therefore, taken into account.

12. District Museum Olomouc, Inv. No. A 6184, Nyankhhap, Fig. 17, Plate VI b, c

History: The mummy in its due coffin was aquired by a member of the Habsburg family, Archduke Joseph Ferdinand, general of the 93rd regiment which used

to be stationed in Olomouc. In autumn of 1906, he donated the mummy together with other Egyptian objects to the newly organized Museum of Natural History which bore his name (Das Erzherzog Joseph Ferdinand Museum) and was opened in 1909 (INGRISCH 1910, LAUS 1910). In the year 1918, it was changed to the City Museum of Natural History. In 1953 the ancient Egyptian objects were transferred to the Department of Prehistory of the District Museum in Olomouc (BURIAN and PÍSKOVÁ 1972).

Cofffin: Ní-ᶜnh-hp (Nyakhhap), man's name, end of the Saitic period to the Greek period (Inv. No. A 6184).

Wrappings: A polychromic divided cartonage lies on the front surface of the body. Under it, relatively strong layers of linen wrappings have been preserved on the whole mummy. The head is wrapped up with variously directed strips of wrappings partly penetrated with resin. The wrappings were removed in the region of the nose. The top layers of the wrappings of the larger pieces of rusty-coloured strips were well preserved on the other parts of the body. In some places they wery interrupted so that under them the layer of resin or the deeper layer of the circularly wound wrappings are evident.

Funeral rite: The body is stretched out with the upper limbs close to the body with the palms in the lap. The right fingers are stretched, the left ones flexed.

Archaeological objects: Towards the centre of the shadow of the formation in the left lumbar region, an opaque non-closed ring-like shadow (diameter 1,2 cm) with dense edges and a small half-circular protuberance (4 mm) projects. It is not possible to decide if it really is an artifact.

Defects and dislocations: The head was separated from the trunk between the vertebrae C_3 and C_4. Processus spinosi of C_2 and C_3 are broken off. An undulate fissure of a postmortal fracture runs through the left side of the brain-case, from the pterion to the asterion. Diastasis 4 cm wide is visible in both knee joints.

Surface of the body: This is evident only in the nasal region. The cartilaginous part of the nose is lacking.

Measurements: Length 164 cm, width in shoulders 32 cm, width of pelvis 32 cm.

Mummification technics: By means of the external examination it was evident that the septum nasi and the turbinate bones were removed during mummification. In the dorsal and upper part of the nasal cavity a wide opening into the cranial cavity was broken off. Even the roentgenological finding corresponds with this showing only remains of the upper part of the nasal septum. In the cranial cavity, an irregular mantle-like shadow of opaque mummification stuff is placed parieto-occipitally without any formed level. From the bregma region to the inion, an opaque strip about 6 mm wide is expanding which evidently is of the same character. Slightly to the back and left from the centre of the cranial cavity, an irregularly formed shadow (cca 3 × 3,5 cm) with a few more dense arched sharped lines is cast but its character isn't clear. In both eye-sockets, there are evident almond-like shadows with upward twisted and medially pointed ends in the antero-posterior radiographs. In the lateral view, these shadows have an irregularly oval shape. They are located in the frontal and lower part of the orbitae. They correspond to artificial eyes. The subcutaneous fillings were not applied.

A well delimited soft shadow with a longer vertical axis, laterally and caudally rounded, with a predominance of stratiform structures (9,5 × 3,8 cm) is cast in the thoracic cavity in the middle line and left paravertebrally at the level of Th_5 to Th_9. In the lumbar region at the level of Th_{10} to L_3, bilateral oval shadows with vertical orientation are placed. They are non-homogeneous, in the right side they are grainy and medium opaque (17,5 × 5 cm), in the left side finely spotted and less opaque (13 × 4,2 cm). The density is maximal in the lower part of the right shadow. In the lateral view the said formations are situated dorsally. Most probably it is a matter of the visceral parcels. The intervertebral discs have a normal transparency.

The small pelvis is filled with a stratiform shadow of a roundish cloth clew.

Between the wrappings of the medial thirds of both thighs an oval formation with longer axis oriented vertically (18 × 6 cm) is inserted. Its shadow is less dense, non-homogeneous and grainy in places. It could be the fourth visceral parcel.

Age: The bone tissues has a normal structure. In the proximal ends of the humeri the medullary canals reach to the level of the surgical necks, the greater tuberosities

of the humeri have a thinned-out structure (stage 3, 49—70 years). In the thigh bones the proximal borders of the medullary canals seem to be on level with the lower edges of the lesser trochanters (stage 3, 47—58 years). As to the dentition, all of the molars were intravitally lost and atrophy of the corresponding section of the alveolar processes took place. The set of the dentition is considerably abraded (about to the half of the original height of the crowns). The coronal and sagittal sutures are obliterated, while the lambdoid one remained open. According to these signs, death came at a maturus period at the age of 40—60 years.

Sex: The forehead has a slight supraglabellar depression above which it is fully arched. The glabella is very strongly developed (Broca 5), the protub. occ. ext. is weak (Broca 1). Mastoid processes are long, finger-like and medium bulky. The chin is wide with expressive tubercula mentalia, and it is basally concave. In the lateral view it is rounded and quite prominent. The mandibular angles are evidently everted. Index go-go/eu-eu equals 70,5. The pelvic inlet appears as rounded triangle. Pars symphysica of the pubic bones constructs the angulus pubicus. The humeral heads are medium large, the femoral heads and other formation of the proximal ends of the thigh bones are very bulky. The whole postcranial skeleton is decidedly robust. The mummy is a man.

Pathological findings: As to the *dentition*, it is evident that the intravital loss of all molars with the resulting atrophy and smoothing of alveolar processes of both jaws took place in this case. The rests of the teeth remained in situ. The etiology of this condition can't be ascertained synonymously (paradontopathia? extensive decay? very strong abrasion?).

A *sinistroscoliosis* with its maximum at L_3 is formed in the lumbar section of the spine. The intervertebral spaces between L_3 and L_4, and between L_4 and L_5 are strongly narrowed. The neighbouring facies terminales of the vertebral bodies have a highly opaque shadow and on the ventral edges of L_3 and L_5 distinct osteophytes are formed. It is a matter of *osteochondrosis* of the intervertebral discs L_4 and L_5.

Anthropological remark: A more expressive alveolar prognathism is present.

Conclusion: The mummy is a man of 40—60 years of age with a number of pathological findings. Dating according to the coffin (end of Saitic period to the beginning Greek period), and according to the presence of the divided cartonage (usual from the latest Dynasties), combines with the mummification technics of both the 3rd Intermediary period (artificial eyes, visceral parcels) and of the Late period (the probably visceral parcel between the thigs). The dating to the Late period with survival of some embalming procedures of the 3rd Intermediary period seems to be the most probable one. This possibility was admitted also by DAWSON and GRAY (1968:XIII).

13. District Museum, Olomouc, Inv. No. A 6185, Har (?), Fig. 18, Plate VII a

History: see No. 12.

Coffin: Hr (?), (Har ?), man's name (?), end of the Saitic to the beginning of the Greek period (Inv. No. A 6185).

Wrappings: The front part of the body is covered with a divided polychromic cartonage. Under it there are preserved layers of wrappings which, according to the X-ray examination, are very thick with the exception of the head. On the convexity of the head the wrappings are led in various directions and held fast across the head and back of the neck by circular bandages. On the face remains of a big piece of rusty-coloured linen are preserved. The wrappings on the other parts of the body are led predominantly circularly and over the thorax there are a few slanting strips. The bandages have a width of about 4,5 cm, their edges are not firm and they are of an ochre colour.

Funeral rite: The body lies stretched out with the upper limbs crossed on the thorax and with the palms on the shoulders.

Archaeological objects: were not ascertained.

Defects and dislocations: The mummy is intact.

Surface of the body: is entirely covered over with the wrappings.

Measurements: Length 149 cm.

Mummification technics: The upper half of apertura piriformis, septum nasi and the upper turbinate bones are missing, according to the X-ray examination. Defects are evident in the surrounding bone structure. The parieto-occipital third of

the cranial cavity is filled with highly opaque mummification stuff with an expressive cranio-caudally oriented level. Into the temporal region a wide strip (1—1,5 cm) of the same density is cast which cedes slightly arched from the parieto-occipital filling and is evidently of the same character. The artificial eyes and subcutaneous fillings are missing.

Less opaque extended formations with sharp outlines whose structure is slightly non-homogeneous and stratiform, are placed in both halves of the thorax. The first form is set to the right cranially to the extent of Th_4—L_1 (19,0 × 5,5 cm), the second one to the right caudally from Th_{10} to L_3 (15,5 × 4,5 cm). To the left, it is not possible to distinguish if it isn't a matter of two formations; there is a shadow extending from Th_5 do L_1 (14,5 × 4 cm). In the radiographs, all the formations are cast dorsally. It is probable that it is a matter of the visceral parcels. The intervertebral discs have a normal transparency.

The abdominal cavity is covered in part by a non-sharp delimited shadow of a grainy and stratiform structure, evidently a filling of a strip soaked with resin. An arched shadow of a stratiform structure fills the small pelvis and evidently is of the same character. The space between the thighs is free.

Age: The bone tissue has a normal structure. The medullary canals in the proximal ends of the humeri and femora are not widened (stage 1, 21—61 years). Visible traces of epiphyseal fusion are indicated in the proximal as well as the distal ends of both tibiae. The dentition is cut through completely including M_3 and its abrasion is almost impossible to prove roentgenologically. Due to the dispersion of the opaque mummification stuff it is no possible to evaluate the cranial sutures with the exception of the coronal one which seems to be obliterated. In spite of this, the age in the adultus period, between 25—35 years, appears to be most probable.

Sex: The forehead is perpendicular and abruptely bends on the border of the lower and middle thirds into a strongly crooked arch. The glabella is less developed (Broca 1), the protub. occ. ext. is insignificantly manifested (Broca 0—1). Mastoid processes are medium large and cone-like. The chin is wide enough and arched; in the lateral view it is flat and slightly prominent. The angles of the mandible are not everted. Index go-go/eu-eu reaches 68,4. The humeral and femoral heads are small and the postcranial skeleton gracile. The pelvic inlet is circular and the rami of the pubic bones form a wide arcus pubicus. It is a mummy of a woman.

Pathological findings: were not ascertained.

Anthropological remark: A peculiar alveolar prognathism of the upper jaw accompanied by a medium degree prognathy of alveolar processus of the mandible is evident in both the lateral and anterio-posterior views. The form of the forehead is not possible to consider carefully, only in the lateral view a strong crooked arch is evident. Apertura piriformis doesn't seem to be wider than it usually is. It is possible to think that the influence of the admixture of Negroid elements is manifested in the increased prognathy or perhaps even in the form of the forehead.

Conclusion: The mummy is a 25—35 year old woman without pathological findings with a Negroid admixture. According to the coffin it is dated into the end of the Saitic up to the beginning Greek period, according to the divided cartonage it can't be older than from the latest Dynasties. In the same time, however, the mummification technics of the 3rd Intermediary period combines with arms crossed on the breast, reoccurring with the beginning of the Greek period. It could be a further case of survival of older technics to the following periods. The situation complicates the disagreement between the female sex of the mummy and the more probable reading of the name Har (?) as of a male character. Then even the exchange of the mummy in the coffin isn't impossible.

14. Náprstek Museum, Prague, Inv. No. P 633, Figs. 21—23, Plate VII b

History: It is a mummy which is present the longest time in Prague. Already at the end of the 18th century its existence ("eine wahre ägyptische Mummie in der Lebensgrösse") is mentioned in connection with the house "At the Golden Angel" in Prague, 1, Na Perštýně 346, which in 1792 was bought by Václav Barka (Bařka?) and in which he opened a shop with materialistic goods and spice (SCHALLER 1796). Later it become the property of the archaeologist J. A. Jíra. After his death on January 21st, 1930, it was transferred to the Náprstek Museum.

Coffin: has not been preserved.

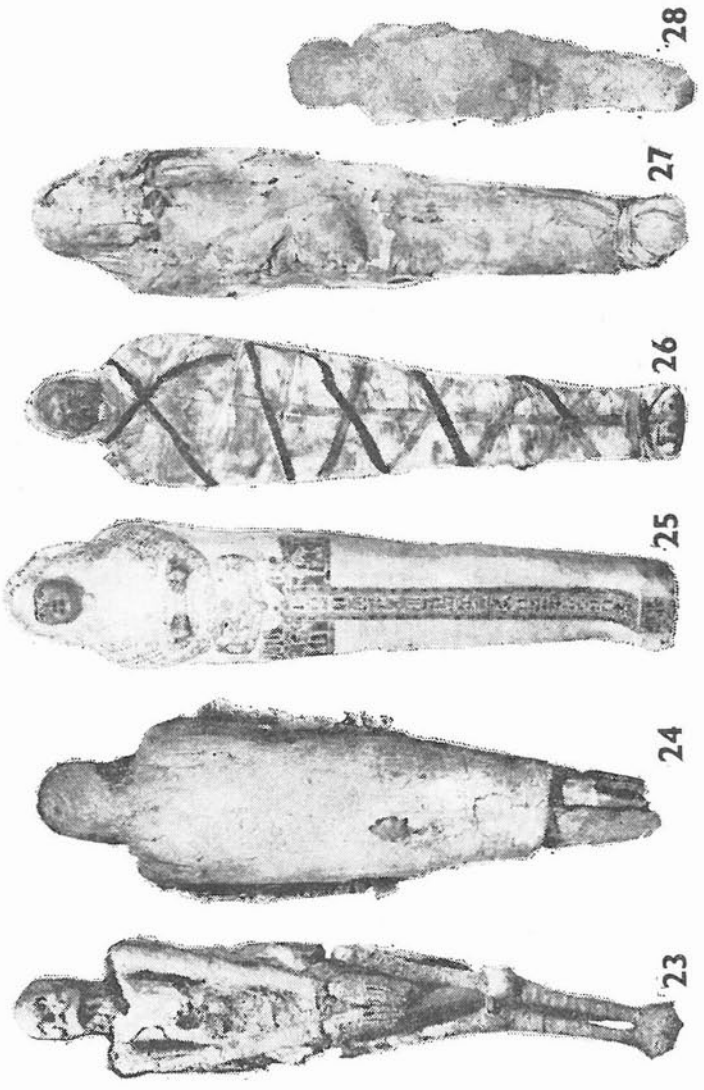


Fig. 23 Cat. No. 14 Fig. 24 Cat. No. 16 Fig. 25 Cat. No. 19
Fig. 26 Cat. No. 21 Fig. 27 Cat. No. 22 Fig. 28 Cat. No. 23

Wrappings: The mummy had been unwrapped in its greatest part in the past. The wrappings remained preserved in a relatively strong layer (3—4 cm) only in the occipital of the skull, on the dorsal part of the neck and on the back to the region of the buttocks. Remains of wrappings are on the skull convexity, lower jaw, on the ventral surface of the thorax, on the upper limbs, between the thighs and on the dorsal and lateral side of the left thigh. The wrappings in the greatest parts are penetrated with resin and coloured in black.

Funeral rite: The body lies stretched out with the upper limbs slightly slanting across the front wall of the trunk and with the palms in the lap.

Archaeological objects: have not been preserved.

Defects and dislocations: The parts of both lower limbs from the knees down and the distal end of the right femur have not been preserved. Formerly, shapeless wooden substitutes were fastened on the mummy. The loss of the parts of the lower limbs is traditionally connected with the possibility of using them for preparation of a healing powder. In the damaged surroundings of the left clavicle a wide opening (11 × 5 cm) is formed leading into the thoracic cavity. The ventral wall of the thorax in its lower part right from the midline is also broken off (6 × 2,5 cm). The X-ray examination proved a compression of the thorax with displacement of the sternum caudally and with medial dislocation of the ribs. Continuity of the upper limbs is interrupted in the carpal joints. In the left hip, a distal displacement of the femoral head appears.

Surface of the body: The soft tissues are preserved except few places where the bony support appears on the convexity of the skull, on the face and on the right thigh. The surface of the body is spread over with a layer of black resin. The facial features are considerably damaged. The soft parts of the nose, lips, the upper front teeth and the crowns of the lower front teeth are missing.

Measurements: Length 153 cm (the original height was about 10 cm higher, due to the too short substitutes), width in shoulders 31,5 cm width of pelvis 28,5 cm.

Mummification technics: In the nasal cavity the spina nasalis, turbinate bones and septum nasi are missing. In the radiographs, the apertura piriformis appears empty. The nasal roof and ethomoidal region are widely broken through into the cranial cavity (3 × 3 cm). In the parieto-occipital part of the cranial cavity, an opaque strip of mummification stuff without any formed level is evident in the radiographs. By direct examining of the eye-sockets, there are also visible formations with irregular tips consisting of linen and a thick layer of resin, on whose surface smooth prints of originally inserted artificial eyes can be discerned. The subcutaneous fillings were not applied.

In the thoracic and abdominal cavities, the visceral parcels are not differentiable in the radiographs. Only in the lower half of the right hemithorax, an unsharply delimited, more dense and mergingly spotted, not fully homogeneous shadow is found. It is a matter, perhaps, of a thin layer of resin. The rest of the space is roentgenologically empty. In the opening of the ventral wall of the thorax, it can be ascertained that masses of uncertain character and linen layers are lying only in the most dorsal parts of the thoracic cavity. The other spaces are empty. The intervertebral discs are highly radio-opaque in their periphery along the facies terminales of the vertebral bodies.

The space between the thighs is empty. Nevertheless, the filling or visceral parcel could have been removed in the past when unwrapping the mummy.

Age: The bone tissue has a normal structure. The borders of the medullary canals in the proximal ends of the humeri reach out to the region of the surgical neck (stage 2, 45—60 years), and in the thigh bones, to the level of the proximal outline of the lesser trochanters. In addition to that, there are more transparent areas in the basis of the femoral necks and in the greater trochanters (stage 4, 49—63 years). The dentition is considerably defect. The remaining teeth appear with considerably abrasion (to half and even to three quarters of the original height of the crowns). Cranial sutures are not evident so that it is possible to think that all, including the lambdoid one are obliterated. The described signs suggest the age maturus in the extent of 50—60 years.

Sex: The forehead is bent in a full arch above the lightly supraglabellar depression. The glabella is insignificantly marked (Broca 1—2), the protub. occ. ext. is only slightly expressive (Broca 1—2). Mastoid processes are long and massive. The chin is wide but not pointed. In the lateral view, it is arched and quite prominent. The mandible has its angles insignificantly everted. Index go-go/eu-eu makes 72,3. On the whole, the skull is voluminous and robust. The pelvic inlet is rounded. In the radiographs, the symphysis is shown from above, at which expressive tubercula pubica are evident. The humeral and femoral heads are bulky, the postcranial skeleton is robust. The majority of signs suggest the mummy to be of male sex.

Pathological findings: Besides postmortal losses of teeth, it is possible to ascertain also a number of intravital losses in the dentition. In the upper jaw both M_2 and M_3 are missing, in the lower jaw on the right side M_2 and M_3, on left P_2 and M_1.

Irregular humpy thickening of the tabula interna in the frontal region of the skull

bilaterally proves the presence of *frontal hyperostosis* (most probable in the scope of *Morgagni's sydrome*).

A moderate *scoliosis*, sinistro-convexed in the thoracic region and dextro-convexed in the lumbar region, changed the normal axis of the spine.

On the upper right edge of the body of L_2 an osteophyte is evident as a manifestation of moderate *osteophytosis* of the spine.

Anthropological remark: A more expressive alveolar pregnathism is present.

Technical remark: In view of the fact that the mummy is fastened to the wooden supporting board which it wasn't possible to remove without the risk of damage to the object, the X-ray examination was performed over this board and thus some artifical shadows appeared in the radiographs.

Conclusion: It is a mummy of a 50—60 years old man with the beginning of pathological changes. The original presence of artificial eyes would point to the 3rd Intermediary period. But it isn't impossible that the visceral parcels have been removed from the space between the thighs so that we have to také into account the Late period, too.

15. Náprstek Museum, Prague, Inv. No. P 623 b, Plate VII c

History: It is a part of the old collections of the Náprstek Museum.

Coffin: Name destroyed. Original dating to the end of the Late till the Greek period (VERNER 1977) has been recently narrowed to the Greek period (Inv. No. P 623 a). It is the same type as coffin Inv. No. P 624 a.

Wrappings: A very damaged and defected mummy is wrapped into a number of large pieces of linen. The majority of the wrappings was unwound in the past and has been preserved apart (Inv. No. P 623 c). The circularly wound wrappings are preserved in situ only on the lower limbs.

Funeral rite: The body lies in a stretched out position. From the position of several metacarpals and phalanges in the level of the proximal third of the thigh bones, it is possible to suppose that the upper limbs were originally placed alongside of the body with the hands in the lap.

Archaelogical objects: were not ascertained.

Defects and dislocations: In the past the loosening of the ligamental connection of the skeleton took place and also the dislocation of the majority of the bones. The skull and mandible are missing. On the cranial end of the mummy a confusion of small bones and fragments of bones (vertebrae, fragments of ribs, clavicle, caput humeri, metacarpals, etc.) is evident in the radiographs. In the thoracic region, there are found fragments of ribs and dislocated vertebrae, parts of the humeri and forearm bones and of pelvic skeleton. In the region of abdomen, further fragments of ribs and dislocated vertebrae, parts of the forearm bones, metacarpals and phalanges are scattered. Only the skeleton of the lower limbs remained, more or less, in situ. In the proximal thirds of both left crural bones and in the neck of the right fibula, several postmortal fractures took place. The distal end of the shank bilaterally and the skeleton of both feet are missing.

Surface of the body: has not been preserved.

Measurements: The length is artificially shortened to only 140 cm.

Mummification technics: In the thoracic and abdominal cavities no delimited shadows of the visceral parcels are evident. There are only scattered unsharply bordered shadows. They belong most likely to linen filling, in places penetrated with resin. In the space between the thighs, there also weren't ascertained any shadows of parcels. The intervertebral discs couldn't be evaluated because of the displacement of the vertebrae. The presence of artificial eyes and the subcutaneous fillings also could not be evaluated because of the missing head.

Age: The bone structure is normal. Traces of epiphyseal fusion are evident only in the proximal ends of the right tibia. The medullary canals are not widened (stage 1, 21—61 years) in the proximal ends of the humeri and femora. Further bases to the age diagnosis are missing. Death took place probably at the adult age between 30—40 years.

Sex: Because of the displacement of the bones, it is possible to determine only the form of the incisura ischiadica maior, which is widely open. The bones have a medium robusticity. The heads of humeri are medium large, the femoral ones are

small. In view of the fact that the other signs cannot be evaluated it is only possible with a certain probability to assume that the mummy is a woman.

Pathological findings: were not ascertained, but the very bad condition of the mummy did not allow a thorough examination of all parts of the body.

Dating remark: Parts of linen wrappings have surprisingly high corrected radiocarbon dates 1691 ± 163 and 1641 ± 127 years B. C. (ŠILAR 1979).

Conclusion: The considerably damaged mummy is a 30—40 years old woman (?) in whom it wasn't possible to prove pathological changes.

Likewise, the data on mummification technics are so in pieces that they don't allow exact dating; first of all, the head with the eventual artificial eyes or the subcutaneous fillings are missing. The only possibility is to mention the surprising similarity of the coffin of this mummy with the coffn of the mummy No. 11, both dated Greek period. Funeral rite and the high radiocarbon date of the mummy wrapping does not, however, correspond with the dating of the coffin. The possibility of another case of putting older mummy in a new coffin has to be taken into account.

16. State Castle Buchlov, District Uherské Hradiště, Inv. No. 1999, Nefersobek, Fig. 24 Plates VII d, VIII a—b

History: The mummy with its due coffin was brought from Egypt in the second half of the 19th century by Joseph Vratislav of Mitrovice, the brother-in-law of the owner of the Buchlov castle, Count Zikmund Berchtold, and he donated it to that Castle Museum.

Coffin: Nfr-śbk (Nefersobek), man's name, original dating end of the Late till Greek period (VERNER 1977) has been recently narrowed to the end of the Late till the beginning of the Greek period. (Inv. No. 1999.)

Wrappings: The entire mummy is wrapped into very strong layers of wrappings. The original condition has been preserved on the dorsal surface of the body, where the upper layers of large pieces of linen of rust brown colour are evident. In some of their places, the remains of the original cartonage pasted by resin are preserved. Their surface carries either traces of blue polychromy (especially in the region of the head) or they are covered with resin. On the ventral surface of the body about 30 layers of wrappings (3—4 cm wrappings thickness) are missing, and inner layers were revealed which are composed of circularly and slantingly led narrower stripes of wrappings in black colour. In the broken place in the region of the knees it is evident that the thickness of the original wrappings in these places reaches 4,7 cm, and that the lowest layer is penetrated with resin which has been spread over the whole body. In the breakage on the border of the lower and medium thirds of the shank, the wrapping thickness of 3 cm was determined. It is as well evident that the shanks were at first wrapped separately with circularly led bandages (about 1 cm thick layer), then folded cloth was inserted into the space between both shanks and finally the shanks were wrapped together with circular stripes (in the thickness of 2 cm).

Funeral rite: The body is lying stretched out with its limbs crossed on the thorax the hands with the palms touching the shoulders.

Archaeological objects: were not verified.

Defects and dislocations: The mummy is not complete and it is broken into two sections. The main section is 119 cm long and comprises the head, the trunk and lower limbs (to the femoral condyles). The distal section is 28 cm long and it includes the upper and medium thirds of the shanks. The end parts (distal third of the shanks and feet) are entirely missing. In the radiographs of the preserved parts no further defects and displacements are evident.

Surface of the body: is covered extensively with wrappings.

Measurements: The length of preserved parts is 147 cm, the original length of the mummy was about 20 cm longer. The stature was lying in the extent of 160—170 cm.

Mummification technics: The body is very heavy which, in the first place, is due to the strongly penetrated insides, the surface of the body and the layers of wrappings with resin. The spreading of resin on the surface of the body was possible to ascertain by externally examining in places of the disturbed wrappings in the region of the knees and shanks.

The condition of the nasal cavity can only be ascertained by X-raying. The septum nasi is evidently preserved, but the turbinate bones and the spina nasalis anterior

are missing. The dorsal half of the cranial cavity is filled with a dense shadow of mummification stuff delimited cranio-caudally. This delimitation corresponds with the solified surface after pouring of melted resin into the skull placed with the occiput downwards. In the lower part of the right eye-socket, there are evident in the antero-posterior view two linear, lightly undulating and caudally convex shadows, which appear as narrow arched shadows in the lateral view. It is perhaps the matter of the edges of linen rolls, impregnated with resin. To the right of the rolls, there are scattered bits of grainy radio-opaque shadows which might be the caught-in grains of sand. The subcutaneous fillings were not applied.

The thoracic and abdominal cavities are considerably covered by homogeneous shadows of variously folded linen fillings soaked with opaque mummification stuff (resin). The intervertebral discs have a normal transparency. Between both thighs longitudinally oriented strips of folded linen, likewise imbued with mummification opaque stuff, were inserted.

In the right eye-socket, in the region of the trunk, of the thighs and in places even of the shanks, very tiny metally radio-opaque grains are cast. Most if them are concentrated in the region of the thighs. There they are arranged in cross and slightly slanting strips, which could be identified with the edges of the circularly wound bandages. Perhaps it is a matter of grains of sand, stirred up by the wind, which got caught up to the edges of wrappings during the wrapping up of the mummy, where they were fixed by resin penetrating from the surface of the body.

Across the left half of C_3 and C_4 a dense sharply delimited triangular shadow (length 3 cm, height 2,5 cm) is cast. To the left from L_4 and over the sacroiliacal joint, a less dense rectangular shadow ($2 \times 1{,}7$ cm) is evident. In both cases it is, perhaps, a matter of larger fragment of resin, not at all of an artifact.

A planoconvexed formation of an oval outline ($13{,}5 \times 16$ cm) was separately preserved, composed of pure resin. Its shadow in the radiographs is homogeneous, divided by limits of elucidations into smaller or larger lumps.

Age: The structure of the bone tissue is normal. Traces of epiphyseal fusion are not evident, however, the distal ends of the shank bones are missing. In the proximal ends of the humeri and femora, a widening of the medullary canals isn't evident (stage 1, 21—61 years). The dentition is abraded medium intensively (roughly to a third of the original height of the crowns). All the cranial sutures are open. These indications can acertain the age at the death to the adultus period in the extent of 30—40 years.

Sex: The forehead begins with a supraglabellar depresion and it is vaulted in a flat retreating arch. The glabella is medium expressive (Broca 3), the protub. occ. ext. is not possible to evaluate because of technical reasons. Mastoid processes are bulky with rich sinuses. The chin is wider, in the lateral view it is entirely rounded and medium prominent. The angles of the mandible are slightly everted. The index go-go/eu-eu reaches 69,2. The pelvic inlet is moderately heart-shaped. The humeral and femoral heads are bulky, the shafts are robust and long. The mummy is a man.

Pathological findings: These are only concerned with the dentition, where the upper right M_2 has only its roots preserved, while the crown was destroyed perhaps by a caries.

Technical remark: Due to the difficult manipulation with a very heavy mummy divided into two sections, it was necessary to execute the lateral radiographs of the skull and spine in the horizontal course of rays.

Conclusion: The mummy is a 30—40 years old man without pathological changes except in the dentition. Its coffin is dated into the end of the Late till the beginning the Greek period. The dating is in harmony with the mummification technics, characterized by the use of a considerably amount of resin, as well as with the ritual position of the arms.

17. Náprstek Museum, Prague, Inv. No. P 625 b, Takush (?), Plates VIII c—d, IX a—b, XII d

History: The mummy with its coffin was donated on February 26, 1928, to the National Museum by Rudolf Müller from Berlin, Germany. Some time before 1960 it was transferred from the Prehistorical Department of the National Museum to the Náprstek Museum.

Coffin: T3-íkš(t) (?) (Takush?), woman's name, original dating to the Late period (VERNER 1977) has been recently narrowed to the 26th Dynasty (Inv. No. P 625 a).

Wrappings: The entire mummy is covered by wrappings whose upper layer is disintegrated in some places. It is formed of a consistent piece of a finely woven linen. It is bandaged with narrow folded stripes of the same material. Three of them are led in the long axe of the body (preserved only on the ventral side of the body), three other ones are circularly led across the lover limbs, and two stripes are slantingly placed on the thorax.

Funeral rite: The body lies stretched out with its limbs alongside of the body. The hands are placed in the lap between the proximal thirds of the thighs.

Archaeological objects: Across the dorsal section of the right seventh rib, a metally dense pear-like shadow (1 × 1,5 cm) is cast with irregular edges. Its character isn't synonymous. Tube-like beads (7 pieces) and circular ones (2 pieces) are cast laterally from both hands across the proximal ends of the thigh bones. Two more circular beads are projected in the small pelvis medially from the right hand. Another tube-like bead is caught laterally from the distal third of the right shank.

Defects and dislocations: The mummy is intact.

Measurements: Length 154 cm, width in shoulders 35 cm, width in pelvis 36 cm.

Mummification technics: The nasal skeleton appears intact in the radiographs. It isn't possible to probe it externally due to the layers of wrappings. In the occipital part of the cranial cavity, however, some mummification stuff without any clear surface is scattered. The eye-sockets haven't opaque insertions, the subcutaneous fillings aren't present, too.

In the thoracic and abdominal cavities the delimited shadows of the visceral parcels aren't evident, however, there is a screening of scattered shadows of a smalls grainy character on the whole, croweded together in the left half of the abdomen. It is, perhaps, the filling of resin, eventually of further heterogeneous stuff. The intervertebral discs are radio-opaque in the medial and lower third of the thoracic spine and in the lumbar spine.

Between the proximal halves of both thigh bones a rectangular formation placed transversally with its longer axis (20,4 × 14 cm) is projected. Its lower edge is partly reached by an extended, medially narrow, and at the ends arched formation (33,5 × 14 cm). It lies with its longer axis lengthwise, its lower edge reaches over the level of the proximal ends of the tibiae. The third extended oval formation (29 × 10 cm) is lying between the two shanks with its longer exis lengthwise, beginning from the lower end of the second formation and ending 7 cm above the distal ends of the tibiae. All these formations have a non-homogeneous grainy or spotted structure and are smoothly delimited. Both the proximal ones are considerably dense and the distal one is less dense. It is very probably a matter of the visceral parcels. Medially from the right knee joint a sharp delimited triangular-like shadow is outlined almost of a homogeneous structure (7 × 4,2 cm) with a greater density than the shadows of the visceral parcels into which it is cast. It is a matter of the crowd of resin similar to the further smaller circular formations of the same opacity in the surroundings.

Age: The whole skeleton bears signs of general osteoporosis with thinning of the compacta, evident especially on the humeri. In the proximal ends of the humeri, the borders of the medullary canals reach out to the region of the surgical necks. Besides, in the greater tuberosity on both sides the structural pattern almost disappeared (stage 3, 49—70 years). In the thigh bones, the proximal borders of the medullary canals reach to the level of the proximal edges of the lesser tronchanters, the femoral necks have a thinned structure (stage 4, 49—63 years). The dentition is abraded in the molar region about half of the original height of the crowns. In the region of the premolars the crowns are almost totally abraded. The coronal suture is evident only in traces near bregma, the sagittal one is obliterated in places, the lambdoid suture is still open. There are degenerative changes of the spine. The individual died at the maturus age perhaps between 50—60 years.

Sex: The forehead is vaulted into a fluent arch. The glabella is almost missing (Broca 1). The protub. occ. ext. is lightly marked (Broca 1). Mastoid processes are smaller and of conical shape. The chin is narrow and rounded and in the lateral view it its round and slightly prominent. The angles of the mandible are slightly

everted. The index go-go/eu-eu is 70,8. The facial part of the skull in comparison with the brain-case is visibly smaller. The pelvic inlet is crosswise oval. The lower rami of pubic bones form a widely open arcus pubicus. The heads of the humeri are smaller, those of the femora medium and the skeleton on the whole is medium robust. The majority of signs prove the female sex.

Pathological findings: The lowering of the intervertebral spaces between C_4—C_5, C_5—C_6 and C_6—C_7 together with degenerative changes on the ventral and dorsal edges of the bodies of these vertebrae give evidence of *osteochondrosis* of the intervertebral discs C_4 to C_6.

Osteophytes on the edges of vertebral bodies L_1, L_2 and L_3 are signs of degenerative *osteophytosis* of the lumbar spine of a moderate stage.

A *scoliosis* of the spine is present with dextroconvexity in the thoracic section (maximum at the level of Th_5—Th_6), and sinistroconvexity in the lumbar region (maximum at L_2).

In the dentition pathological changes were not ascertained.

Anthropological remark: A more expressive alveolar prognathism is present.

Conclusion: It is a 50—60 years old woman with pathological findings on the spine. The dating of the coffin to the 26th Dynasty is in harmony with the dating according the mummification technics to the Late period.

18. Náprstek Museum, Prague, Inv. No. P 622 b, Figs. 29—32.

History: In the thirties of the 20th century, the former owner of the castle at Poběžovice, in district Domažlice, Johann Count Coudenhove-Calergi, bought a coffin with a mummy from an antiquarian shop in Berlin and he placed it among his collection in the castle. On August 12th, 1948, the coffin was transferred as a confiscation (No. Poběž. 173) to the Náprstek Museum (Inv. No. P 622 a). It was, however, empty.

On December 29th, 1970, the workmen during reconstruction work in the castle-chapel in Poběžovice, discovered a brick-tomb in which a mummy was lying considerably damaged by the dampness; it had been forcefully jammed into a rectangular wooden coffin. It seems probable that its owner had placed it into this hiding-place during the closing stage of the World War II. The mummy was taken out by the staff of the District Centre for the Monuments Care and Protection of Nature in Plzeň (led by Dr. J. Pavlíková). On January 15th, 1971 it was examined roentgenologically by Dr. Heřt in the Department of Anatomy at the Medical Faculty of the Charles University in Plzeň. On Januar 20th, 1971 the authors concluded by means of these radiographs and the external examination of the body that very probably it really was an ancient Egyptian mummy. Due to the disintegration by putrefaction it was not possible to save the mummy by conserving intervention and so on March 16th, 1971, an autopsy took place in the Department of Anatomy in Plzeň, executed by MUDr. J. Heřt and MUDr. E. Strouhal, in the presence of MUDr. J. Goetz of the Department of Forensic Medicine, Charles University, Plzeň. The skeleton, gained by the post-mortem, rid of its coverings of white mouldiness, remains of organic material (P 622 b) and parts of the wrappings (P 622 c) were transferred to the collections of the Náprstek Museum in Prague the same day.

Coffin: Name destroyed. Original dating end of the Late period till Greek period (VERNER 1977) has bee recently narrowed to the end of the Saitic till beginning of the Greek period (Inv. No. P 622 a).

Wrappings: On the surface of the mummy were found undoubtedly recent layers of paper tied with thin strings. After their removal it was evident that large strips of finely woven linen of an ochre colour were preserved on the trunk and under them circularly led wide bandages. The limbs were wound with circular narrower bandages. Only small remains of wrappings were preserved on the skull. The edges of the wrappings were not firm and they ravelled in places. The thickness of the wrappings in the region of the pelvis was 4,5 cm, around the shanks 2—3 cm. On the right humerus and the left femur the wrappings were best preserved.

Funeral rite: The body remained in a stretched out position with the upper limbs freely alongside of the body, which — in spite of the distal shifting of the humeri — the forearms proved. They were slightly slanting towards the pelvis and the hands were placed between the medial thirds of both thigh bones.

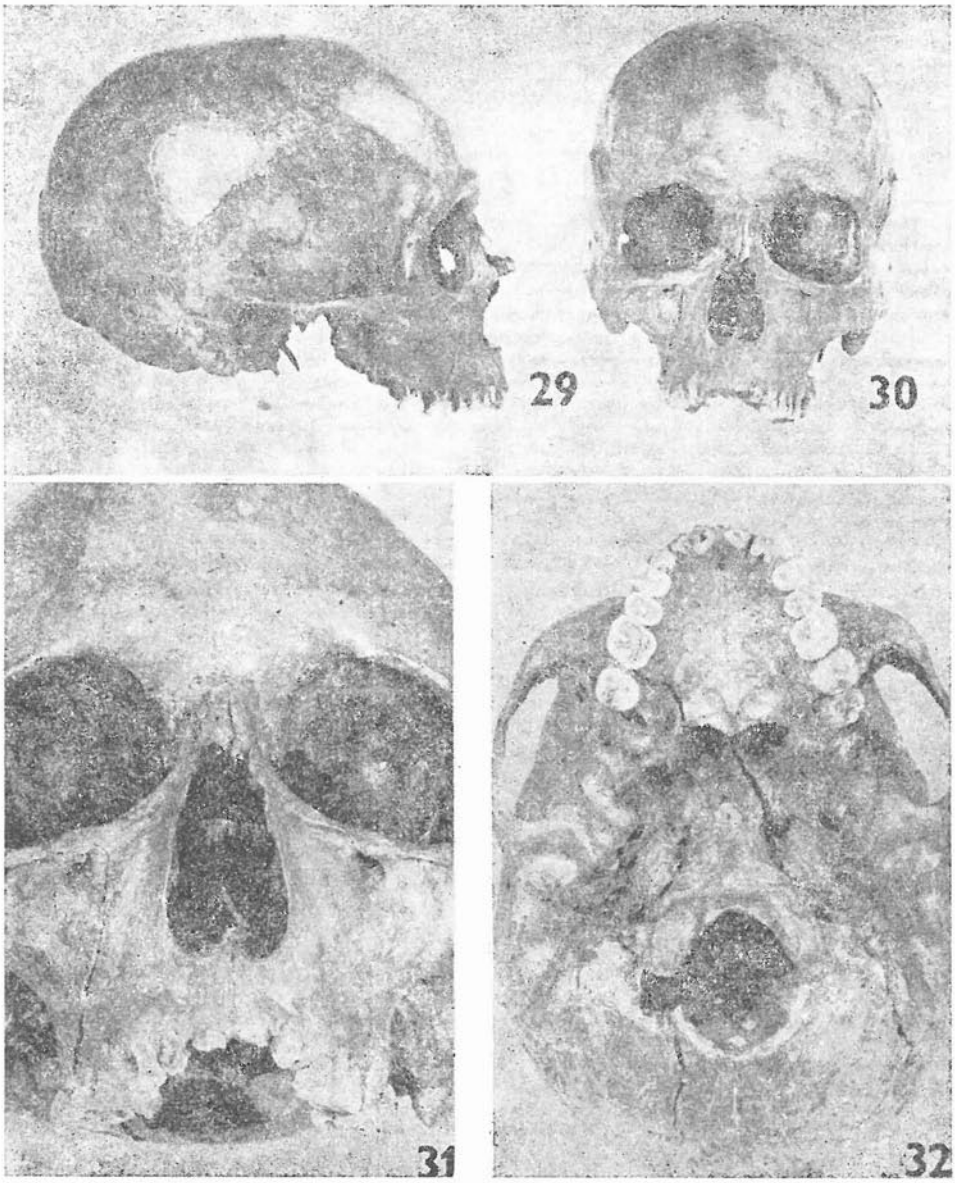


Fig. 29 Cat. No. 18 skull in norma lateralis dextra Fig. 30 Cat. No. 18 skull in norma frontalis Fig. 31 Cat. No. 18 detailed view showing destruction of the nasal skeleton and the hole into the cerebral cavity Fig. 32 Cat. No. 18 skull in norma basalis showing through the foramen occipitale magnum stiffened resin in the posterior third of the cerebral cavity

Archaeological objects: None were found in the radiographs or during the autopsy.

Defects and dislocations: Due to the influence of the mechanic deformations, the shape of the mummy remained one more of an rectangular package than of a form of a mummified body. The skull lied separated from the body with the face upward about 5 cm proximately from the upper edges of the left os ilium. The X-ray examination revealed cracks in the region of the right temporal squama and in the occipital squama right near the foramen occipitale magnum. Some of the teeth were displaced into the surroundings The mandible and some small bones including two vertebrae were missing.

The skeleton of the thorax including the neck, thoracic and lumbar spine, both scapulae and clavicles was secondarily displaced near the lower limbs bilaterally and partly even under the knee in such a condition as not bearing upon each other mutually. The clavicles and ribs showed also defects. Both humeri were shifted distally over their entire length. The two forearms remained in situ as well as the skeleton of the hands. Nevertheless, defects and displacements took place here, too.

The skeleton from the pelvis to the feet likewise remained in its original position, but it showed signs of a number of dislocations. Thus the pelvic bones were shifted upwards, the pubic bones covered each other. The thigh bones were displaced distally from the hip-joint. Os cuboides and os naviculare of the right foot were displaced. The 2^{nd} to 3^{rd} metatarsals formed together with the ossa cuneiformia an isolated distally and laterally shifted whole. On the left foot the mutual position of the majority of bones was scattered. On both feet the phalanges of the toes were missing.

Surface of the body: Under the layers of wrappings it wasn't possible on the whole to differentiate the original tissues. Only in the region of the thighs and shanks a black, sticky and easily disintegrating stuff was preserved, reminding one of peat, which evidently was the remains of the muscular tissue.

Measurements: Length of the mummy bundle 150 cm. It did not represent the original length of the mummy due to the dislocations and defects.

Mummification technics: Direct aspection of the skull showed that in the nasal cavity the septum was missing (except the remains to the left of the deviated lower edge) and the larger part of the turbinate bones. The nasal roof is widely opened in its dorsal part (3×2 cm) into the cranial cavity.

The nasal passages likewise communicate with both eye-sockets through openings, in their medial wall. Directly through the foramen occipitale magnum it is possible to see that the back third of the cranial cavity has been filled with a solid mass of resin with flat cranio-caudal delimitation, which represents solidified surface of the resin poured in melted state while the position of the head was with the nape downward. The presence of the artificial eyes and subcutaneous fillings is not possible to ascertain.

In the radiographs in places of the thorax stripes of a stratiform shadow crossed in folds were ascertained which the autopsy proved to be remains of the linen fillings. In the pelvic cavity pieces of freely folded linen were found. In places they were of a former consistency and they evidently served also as a filling. On its back side, there were remains of a stiff, red-brown stuff, perhaps remains of muscular tissues. Between the lower limbs, the remains of visceral parcels couldn't be found. There was only a cylindrical formation consisting of layers of wrappings whose form and position suggested wrappings of the penis. Inside, they have been without contents. Shadows of the intervertebral discs can't be considered because of the displacements.

Age: The bone tissue has a normal structure. In the distal ends of the tibiae horizontal shadows of epiphyseal closure are evident. The spaces between the bodies of the sacral vertebrae were not grown together. In the radiographs of the lumbar spine, signs of unfinished ossification of the vertebral bodies can be found. The borders of the medullary canals in the proximal ends of the femora are not widened (stage 1); the radiographs of the humeri due to their displacement are missing. Only medium abrasion of the complete dentition was aspectively registered (including fully cut-trought M_3). Synchrondrosis sphenooccipitalis is closed. The cranial sutures are open except an obliterated section C_3 of the coronal suture and the onset of the fusion in the section S_3 of the sagittal suture. All the signs point to death at the adultus age, perhaps between 20—30 years.

Sex: The wrappings of the penis reveal with certainty the male sex. For the sake of completeness, we are introducing also the secondary sexual features, ascertained

by direct examination of the skeleton. The forehead is gently slanting and bends fluently, the glabella is formed expressively (Broca 3), the superciliary arches are strong and the protub. occ. ext. likewise rises (Broca 3). Mastoid processes are longer, medium bulky and lightly shapened. In the radiographs, they possess considerably rich mastoid sinuses. Contrarily, the heads of the humeri and femora are quite small and the postcranial bones are slim and almost gracile. The pelvis is decidely of a male type with a narrow incisura ischiadica maior and with an expressive angulus pubicus.

Pathological findings: An osteophyte retreats slantingly and laterally from the basis of the right greater trochanter. It has a normal bone structure, smooth surface and the compacta of the femur fully passes over to the compacta of the osteophyte.

The *dentition* was found to be without pathological changes.

Technical remark: Due to the advanced decaying condition, it was necessary to X-ray the mummy through the bottom of the recent wooden coffin, furnished with connecting nails, whose remains corroded with rust imitate artifacts on some places.

Conclusion: Originally it was a mummy, now a skeleton of a 20—30 years old man, almost without pathological findings. It is reasonably possible to consider that it belongs to the coffin, placed originally in the castle Poběžovice, because according to the informations by the eye-witnesses there was before and during the World War II a mummy in the coffin. The dating of the coffin into the end of the Saitic till the beginning of the Greek period is not at variance with the ascertained mummification technics.

19. City Museum Moravská Třebová, District Svitavy, Inv. No. E 77/71, Khereret (?), Fig. 25

History: Mummy with its double coffin was bought by L. V. Holzmeister, a native of Moravská Třebová and an industrialist undertaking in the USA, during his travels around the world in the second half of the 19th century. According to the catalogue of the Museum, he gained it "at Delphi" which was obviously mistaken for the Greek name Thebes of the Upper Egyptian Weset (today's Luxor). After 1908, he donated the mumy, the coffin and other ancient Egyptian objects to the City Museum in Moravská Třebová.

Coffin: Hrrt (?) (Khereret ?), woman's name. The coffin is of the double type, of a female appearance, dated originally to the Late or Greek periods (VERNER 1977), recently, however, shifted to the end of the Greek till beginning of the Roman period (Inv. No. E 77/79—81).

Wrappings: On the most upper layers of the bandages a cartonage was formed by the help of stucco. It carries polychrome ornaments and wooden face and hands were placed into it. The terminal wall at the feet-end is missing, so that through this opening the ends of the feet of the mummy with damaged bandages of finely woven linen can be seen. The layers of wrappings in the region of the distal ends of the mummy are evident in the radiographs.

Funeral rite: Originally, the body was stretched out, but we can't say anything about the position of the upper limbs because of the dislocations.

Archaeological objects: were not ascertained. In the radiographs, details of the cartonage are distinct (face, hands and the edges of the cartonage).

Defects and dislocations: All the bones, except the shanks and feet, are displaced into freely moving confusions. The skull appears rotated 90° to the left in the radiographs, and the mandible is displaced to the frontal plane. The region of the thorax is empty. In the region of the abdomen, bones of the upper limbs, thigh bones and vertebrae, partly connected in sections, are crowded together.

Surface of the body: has not been preserved.

Measurements: Length 170 cm, width in shoulders 36 cm width of the pelvis 33 cm.

Mummification technics: In the region of the apertura piriformis all the usual structures are missing. However, in the cranial cavity the radio-opaque mummification stuff is not evident. The artificial eyes and subcutaneous fillings were not applied. In the region of the thorax, there is the filling of a densely opaque mummification stuff, evidently resin. It forms irregular spotty areas. The intervertebral discs have a normal transparency.

Age: The bone tissue appears to have a normal structure. The medullary canals in the proximal ends of the humeri and femora are not widened (stage 1, in the humeri 21—61 years). The dentition is cut through except the third molars which are congenitally missing. Abrasion of the dentition is almost imperceptible. All the cranial sutures are open. Death came at the adultus age between 20—30 years.

Sex: The forehead is vertical and it bends abrupty upward. The glabella is less developed (Broca 1), the protub. occ. ext. can't be evaluated because of the rotation of the skull. Mastoid processes are short and flattened. The chin is medium wide, gently angulated. In the lateral view, it is not possible to determine its shape because of the rotation. The mandible hasn't everted angles. Index go-go/eu-eu can't be ascertained. The heads of the humeri and femora are small and the postcranial skeleton is gracile. The pelvis can't be evaluated due to its displacement. Nevertheless, the remains are those of a woman without any doubt.

Pathological findings: were not ascertained.

Anatomical anomaly: Hypodoncy of all M_3.

Entomological remark: During the restoration works on the cartonage which could be opened in the mid-line of the bottom it was ascertained that the mummy has been attacked by a large number of beetles, which caused the above mentioned desintegration of the mummy. According to the evaluation of the Department of Entomology at the National Museum in Prague, it was matter of Gibium xyloides (DE CZEMPLINSKY 1778) from the family Ptinidae and Necrobia rufites (DE GEER 1775) from the family Claridae. Both kinds are cosmopolitally spread, voracious and they were repeatedly found in dead bodies. The mummy was rid of these saprophytes with the help of gassy methylbromid.

Conclusion: It is a considerable damaged mummy of a 20—30 years old woman without any proved pathological changes. The dating of the coffin into the end of the Greek till Roman period is in harmony with the mummification technics.

20. Natural History Institution, Slovak National Museum, Bratislava, Inv. No. A 3263, Mernebi and ... bak (?)

History: András Jurenák donated this mummy with its respective coffin to the private collection of Dr. Daniel Schimko. This collection was later transferred to the Evangelic lyceum in Bratislava (GYÖRIK 1985). After the World War II, the mummy and coffin were transferred to the Natural History Institution of the Slovak National Museum in Bratislava.

Coffin: The original owner was Mrnbj (Mernebi), the later one ... b3k (?) (... bak ?), both are man's names, 22nd—26th Dynasty (Inv. No. A 3264).

Wrappings: Torn, light-brown wrappings in very poor conditions were preserved on the surface of the mummy. Originally, the mummy was wrapped over in large pieces of linen held by circular bandages. This condition is preserved on the ends of the feet.

Funeral rite: The body is stretched out and the upper limbs, according to the humeri and dislocated bones of the forearms and hands, have been placed alongside of the body with the hands in the lap.

Archaeological objects: In the concavity of the left hip-bone, four tiny roundish shadows with central transparent area are cast, evidently representing beads.

Defects and dislocations: According to the radiographs, all bones except the two humeri outlining the thorax in situ, have been displaced. The skull is drawn with the chin to the thorax and its basis and temporal bones are missing. Continuity of the facial skeleton is horizontally interrupted in the level of the lower edge of the eye-sockets and the maxilla is lightly dislocated ventrally and caudally. The mandible is broken into three fragments. The teeth are freely scattered in the surroundings. The skeleton of the thorax is turned upside down. The lumbar spine, sacrum, hip-bones and femora lost their normal contact, however, they were dislocated in nearby places. The left femur is displaced proximally, the right one broken into a few pieces. The left tibia is shifted distally and broken into a number of fragments, the right one is badly dislocated proximally. In the neighbourhood of the left tibia, broken pieces of both fibulae are situated. The foot-end of the mummy is empty except a few broken pieces of the metatarsals and the distal ends of the fibulae.

Surface of the body: isn't evident.

Measurement: Length 156 cm. Other measures were not possible to state because of dislocation of the anatomic structures.

Mummification technics: In the radiographs, it has not been possible to evaluate the condition of the nasal cavity due to the dislocation and rotation of the skull. On the skull taken out of the mummy, a larger part of the septum nasi was found to be preserved, however, the inferior turbinates are missing and in the back part of the nasal cavity, a wide communication with the cranial cavity is formed. The cranial cavity is, however, empty. The artificial eyes and subcutaneous fillings were not applied. In spite of the shifting of separate bones, it is reasonably possible to assume that the visceral parcels were not present in the thoracic and abdominal cavities and likewise between the thighs. The space is filled with an almost transparent mass of unclear character. The small pelvis hasn't its usual cloth fillings. The intervertebral discs have a normal transparency.

Age: The bone tissue has a normal structure. The borders of the medullary canals in the proximal ends of the humeri and femora aren't widened (stage 1, in humeri 21—61 years). In the distal end of the left tibia, linear traces of epiphyseal closure are preserved. The entire dentition was erupted, except M_3 which has been preserved in situ on the right side of the mandible. Abrasion of the teeth is almost imperceptible roentgenologically. All the cranial sutures are open. The individual died at the adultus age, between 20—30 years.

Sex: The features, which were not possible to be evaluated in the radiographs due to the displacement and rotation of the skull, were deducted from the skull taken out of the mummy. The forehead is vaulted in a fluent arch. The glabella is almost missing (Broca 1—2), the protub. occ. ext. likewise (Broca 0—1). Mastoid processes weren't preserved. The chin is wide, basally considerably concave, in the lateral view bulky, rounded and considerably prominent. The angles of the mandible are lightly everted, more so on the left than on the right side. The index go-go/eu-eu reaches 73,2. The pelvis can't be evaluated because of the shifting and rotation. The acetabula and heads of the femora and humeri appear small, the collo-diaphyseal angle of the left femur is, however, perceptibly larger (cca 135°). The postcranial skeleton is medium robust. Indication of the sex is not synonymous, yet in spite of it, the majority of signs point to the male sex. This would also correspond with both man's names on the coffin.

Pathological findings: were not ascertained.

Dating remark: A wooden wedge of the coffin gave corrected radiocarbon dates 629 ± 265 and 517 ± 257 years B. C. (ŠILAR 1979).

Conclusion: The mummy is a 20—30 years old man (?) without pathological changes. Mummification technics and ritual position of arms ar in harmony with the dating of the coffin around the Saitic period (26th Dynasty).

21. Náprstek Museum, Prague, Inv. No. P 629 c, Fig. 26, Plate IX c

History: The mummy with its due coffin was gained in Egypt for his private collection by the manufacturer Wilhelm Riecken from Rauschengrund (now Šumná), western Bohemia. On September, 1st, 1894, he donated both with further antiquities to the former City Museum in Most (Brüx). The mummy and coffin were described by M. GRÜNERT (1894). In view of the bad condition of the mummy and the advancing liquidation of the Museum in Old Most, the mummy and coffin were transferred to the Náprstek Museum in Prague on June 30th, 1970.

Coffin: No name. The shape and style is of a female type. Originally dated Third Intermediary — Greek period (VERNER 1977), recently redated 19th—20th Dynasties (Inv. No. P 629 a, b).

Wrappings: On the front surface of the body a wooden board (P 629 b) was lying. Portrait of the deceased was originally fastened by wedges to its cranial end; it has not been preserved. Except the uncovered face, the whole body is wrapped with wrappings, which were, however, unwrapped in 1955—56; then they were put in their place again during the conservation work on the mummy at the Museum of Most. The wrappings are of an ochre colour, 6—6,5 cm wide. They are led circularly, crosswise and slightly slanting. They are covered by narrower (width 2—2,3 cm) and darker stripes with crooked margins, one of which runs lengthwise to the axis of the body, the others are placed slantingly from both sides with a crossing design. On some plates, the wrappings are held together with recent pins which are evident in the radiographs.

Funeral rite: The body lies stretched out with the upper limbs freely alongside of the body, and with the hands in the lap.

Archaeological objects: were not ascertained.

Defects and dislocations: The head is separated from the trunk in the atlanto-occipital joints. The right mastoid processus is broken and shifted laterally and caudally. All the other bones are in the normal position.

Surface of the body: The face was destructed by a decaying process, which the conservation at the Náprstek Museum succeeded in stopping in 1970. On some places the forehead and the chin, the bone base is evident, and in other places the skin with the soft tissues has been preserved. Some remains of the eyelids in the right orbit and the edges of the corrupted cartilaginous part of the nose can be distinguished. The lips are missing so that the teeth of both jaws are freely exposed.

Measurements: Length 152 cm, width in shoulders 34 cm, width of pelvis 29 cm.

Mummification technics: The external examination proved that the nasal cavity is free and the septum nasi is well preserved. In the back wall of the left half of the nasal cavity, an opening (height 1,5 cm, width 0,5 cm) is present. It leads to the cranial cavity. In the radiographs, the medial part of the nasal region is covered with a shadow of a metal pole which fastens the head to the body. In the lateral parts the shadow of turbinates is missing. The occipital region of the cranial cavity is filled with about 4 cm wide stripe of radio-opaque mummification stuff on which a surface is formed, running in the lateral view slatingly from the lambda to the back edge of the pyramids. This originated through the position of the head drawn by the chin to the thorax during the pouring of the melted resin into the cranial cavity. The artificial eyes and subcutaneous fillings were not used.

In the thoracic and abdominal cavities, very dense, oval, even circular shadows of fillings of a grainy and spotted structure with unsharp delimitations are evident. Two mutually merging shadows are localized in the upper half of the left hemithorax paravertebrally in the extent from Th_2 to Th_8 (15×6 cm). There are further ones on both sides of the abdominal cavity between Th_{10} and L_4 (right 16×11 cm, left $18 \times \times 13{,}5$ cm) and in the small pelvis (diameter about 11 cm). An irregular extended shadow of analogous structure is cast laterally from the left wall of the thorax; it reaches from the axilla caudally in the length of 15,5 cm (width 4 cm). A stratiform structure is evident only on the medial edge of the shadow in the right half of the abdominal cavity. It is not a matter of the visceral parcels whose form usually is more extended and their delimitation sharper, but of layers of mummification stuff (resin), partly penetrated in the linen fillings.

The space between the thighs is empty. The intervertebral discs have a radio-opaque shadow in the extent of the entire spine.

Age: The bone tissue has a normal structure. Growth plates of the long bones of the upper limbs and the bones of hands and feet are altogether evident. The medullary canals in the proximal ends of the humeri and femora are not widened (stage 1). The dentition is completely erupted with the exception of M_3 which was congenitally absent. Abrasion was not proved roentgenologically. At the external examination, it is evident that it concerned only the enamel. All the cranial sutures are open. It is a juvenile individual who died at the age of 15—17 years (in case of a woman more likely at 15—16 years).

Sex: Above a light supraglabellar depression, the forehead at first continues with a more and then with a less curved arch. The glabella is weakly marked (Broca 2); the protub. occ. ext. is insignificant (Broca 1). Mastoid processes are medially long and bulky. The chin is medially wide and arched, in the lateral view it is rounded and moderately prominent. The angles of the mandible are not everted. The index go-go/eu-eu makes 68,0. The pelvic inlet is roundly trapezoid. A wide arcus pubicus is formed. The heads of the humeri are small and the femoral ones are medium large. The entire postcranial skeleton is gracile. It is a woman.

Pathological findings: In the distal ends of the diaphyses of both tibiae 5—7 *Harris' lines* are evident. The dentition is without pathological changes.

Anatomical anomaly: Hypodoncy of M_3.

Anthropological remark: A more expressive alveolar prognathism is present.

Conclusion: It is the mummy of a 15—16 years old girl without pathological findings. Mummification technics and ritual position of the arms are not contradictory with the dating of the coffin into the 19th—20th Dynasties.

22. Náprstek Museum, Prague, Inv. No. P 630 b, Fig. 27, Plate IX d

History: The mummy with its coffin was a part of the private collection of a specialist teacher Otto Schier. From his inheritance the mummy and the coffin were bought for 200 crowns on November 17th, 1931, and placed into the Town Museum of Brno, which is located in the Brno Castle (Špilberk) since 1961. From there the coffin and mummy were transferred to the Náprstek Museum in Prague on October 27th, 1970.

Coffin: No name. Shape and style of man's type. Originally dated Third Intermediary – Greek period (VERNER 1977), recently redated 19th–20th Dynasties. (Inv. No. P 630 a.)

Wrappings: The outermost layer around the body consists of one piece of linen, under which circularly wound wrappings are evident. The head end is torn.

Funeral rite: The body is lying stretched out with the arms alongside of the body. The forearms are crossed in such a way that the right hand lies above the proximal end of the left thigh bone and the left hand is in the lap with the fingers above the proximal ends of the right femur.

Archaeological objects: weren't ascertained.

Defects and dislocations: The skull is loosened from the cervical spine and it is turned upward and to the left. The mandible is not connected with the skull and it is displaced caudally so that it lies in front of the cervical spine, being turned frontally with its occlusion plane. A number of teeth are loosened from the alveols and dislocated to various parts of the body. The cervical spine has its 1st vertebra shifted to the right and ventrally of the 2nd one. The C_3 is shifted to the right in relation to C_4. The section from C_4 to C_7 is dislocated in relation to the upper thoracic spine about the width of the vertebrae. Likewise Th_1 is displaced and turned in relation to Th_2 to the left. The section between Th_2—Th_8 is in the anatomic connection. Its longitudinal axis forms, however, and obtuse angle open to the left, with the axis of the lower thoracic spine. The Th_9 is placed out of both mentioned sections to the right and turned with its processus spinosus upward, and with its ventrodorsal axis into the sagittal plane. All the right ribs and the 9th–12th ribs left are dislocated, some even from the right to the left. The rest of the skeleton is in a normal position. Only the 3rd phalanges of the 2nd and 5th toes bilaterally, and in addition to it the 2nd phalanx of the 5th toe right are missing.

Surface of the body: It is to the entire extent covered with wrappings.

Measurements: Length 161 cm; owing to the displacements it is possible to assume that the original stature was a little higher. Width in shoulders 35 cm, width of pelvis 26,5 cm.

Mummification technics: In the radiographs, it is evident that the structure of the nasal cavity is disturbed. Direct probing is impossible owing to the wrappings. However, radio-opaque mummification stuff in the cranial cavity can't be proved. Artificial eyes and subcutaneous fillings were not used.

In the thoracic and abdominal cavities opaque shadows of visceral parcels or of the fillings are not present. Likewise, the space between the thighs is empty. The intervertebral discs are not opaque.

Age: The bony tissue has a normal structure. The medullary canals in the proximal ends of the humeri and femora are not widened (stage 1, 21—61 years). In the distal ends of the tibiae, the traces of epiphyseal closure are preserved. The dentition is completely erupted including M_3. It is almost impossible to prove roentgenologically the abrasion of the teeth. All the cranial sutures are open. It is a matter of an individual who died at the adultus age, between 20—30 years.

Sex: Owing to the rotation of the skull it isn't possible to evaluate the form of the forehead, the size of the glabella and of the protub. occ. ext. However, medium strong supraorbital ridges are evident. Mastoid processes are medium long and bulky. The angles of the mandible are everted. The index go-go/eu-eu can't be determined. The chin is wide and angularly bent. The pelvic inlet has a heart-like form. The rami inferiores of the pubic bones form a distinct angulus pubicus. The heads of the humeri and femora are massive. The bones of the postcranial skeleton have a robust built. Undoubtedly, it is a man's mummy.

Pathological findings: were not ascertained.

Conclusion: The mummy is a 20—30 years old man without pathological findings. The mummification technics and ritual position of the arms would better correspond with the dating of the coffin to the New Kingdom period.

23. District Museum, Olomouc, Inv. No. A 6119, Fig. 28.

History: The mummy was a part of the private collection of Dr. Emanuel knight Proskowetz, who already in 1862 had donated it to the former Olomouc Industrial Museum (Franz Joseph Gewerbe Museum). In 1953 it was transferred to the Antiquity Department of the District Museum (BURIAN and PÍSKOVÁ 1972).

Coffin: has not been preserved.

Wrappings: The entire body is wrapped with a relatively thin layer of circular bandages. On the surface, mutually crossing each other are narrow stripes of linen led slantingly. They are bound with knots on some places. The feet end of the wrappings is torn.

Funeral rite: The body lies in a stretched out position, the head is drawn to the thorax by the chin. The upper limbs are placed freely alongside of the body with the palms pressed to the lateral sides of the proximal ends of the thighs, the fingers of the hands being stretched.

Archaeological objects: were not ascertained.

Defects and dislocations: The brain-case is divided mosaically into a number of irregular fragments by fissures of postmortal fractures, with the exception of parietal regions. On the spine a diastasis is formed between L_1 and L_2 with the shifting of the cranial section of the spine to the right and with a sinistroscoliosis of that section showing the maximum at L_{2-3}. Between the 6^{th} and 7^{th} right ribs, the intercostal spaces are widened because of dislocations of upper ribs cranially. On the left upper limb, the distal end of the humerus, the forearm bones and the carpal bones are missing while the rest of the skeleton of the hands remained in situ. On the right upper limb, the continuity of both forearm bones is doubly interrupted, on the one hand on the border of the proximal and distal thirds without dislocation, and on the other hand on the border of the middle and distal thirds without dislocation. The skeleton of the lower limbs is not disturbed except the phalanges of the toes. On the right foot only the 1^{st} phalanges of the 1^{th} to the 3^{rd} toes are preserved, on the left one the 2^{nd} phalanx of the big toe is missing.

Surface of the body: It is possible to see the separate toes through the torn part of the wrappings at the feet end. The rest of the body is in wrappings. The ventral wall of the abdomen is deeply sunken.

Measurements: Length 78 cm.

Mummification technics: Roentgenologically, no traces of embalming intervention were ascertained on the skull. The whole thoracic cavity is obscured with a merging, grainy, inhomogeneous shadow, probably caused by filling of resin. The abdominal cavity and the space between the thighs are empty. The intervertebral spaces have a normal transparency.

Age: All the epihyseal plates of the skeleton are evident. The fontanels and metopic suture are not marked any more. The complete deciduous dentition is broken through. Of the teeth of the permanent dentition, the beginning calcification of M_1 and of I_1 is evident in the depths of alveolar processes. It isn't possible to evaluate the condition of ossification of the carpal bones, due to their covering with other shadows. According to these findings and the length of the body (about 76 cm), the age can be determined at 1,5—2 years.

Sex: The rami inferiores of the pubic bones form a relatively sharp angle. Other features either are not able to be evaluated or are not yet developed. At this age it is not possible yet to determine the sex reliably.

Pathological findings: were not ascertained.

Conclusion: The mummy is of a 1,5—2 years old child without pathological changes. On the base of the pattern of the external layers of wrappings, of the mummification technics, of the funeral rite, and of the amount of postmortal fractures, it is possible to date it most probably to the Roman period.

24. The State Cultural Property Betliar, District Rožňava, Inv. No. 1491, Fig. 8, Plate X a—d

History: During his trip to Egypt around the year 1880, Count Emanuel Andrássy bought this mummy and placed it among his private collections in the castle Betliar which is since 1945 a state cultural property.

Coffin: has not been preserved.

Wrappings: On the front surface of the trunk an incomplete stripe of the divided cartonage is lying. Its width is 2,4—3 cm, and it is decorated with geometrical

and stylized symbolic motives in red, blue, black and yellow colours. Under them, circularly led wrappings are evident of a fine woven linen, surrounding the trunk and both thighs. On the back side of the mummy, a layer of rougher woven linen has been preserved. Only a few wrappings remain on the head, being wound from the forehead to the nape.

Funeral rite: The body lies in a stretched out position with the upper limbs freely placed alongside of the body and with the hands put laterally of the proximal ends of the thighs. The head is gently bent to the right.

Archaeological objects: In the upper part of the body of the mummy, a necklace of tube-like beads of light blue and ochre colours is placed. In the radiographs, a lot of tube-like beads are cast forming loops across both shoulders and the upper thoracic aperture. They continue left across the thorax caudally to the level of the sacroiliac joint. A number of the same kind of beads is irregularly scattered independently in the surroundings of the neck and arms. Near the left arm and in the regions of L_3 and L_5 groups of bulkier barrel-formed beads are cast.

Defects and dislocations: All phalanges of both feet and four left metatarsals are missing. The skull is separated from the skeleton. The two not yet grown together halves of C_1 are displaced cranially and are quite distant from each other. Likewise C_2 and C_3 are shifted upward but they remain in the axis of the spine To the right from the neck and above the right shoulder, teeth are evident, perhaps, both upper decidous canine teeth. The left ischium is gently shifted medially. The preserved small bones of both feet are scattered at the foot end of the mummy.

Surface of the body: The soft tissues on the convexity of the skull are missing and the skeleton is shining through. The soft tissues in the face have been preserved, however, they are immensely fragile. The face features are a little preserved, the nose is free and between the open lips the frontal teeth are evident. The soft tissues on both shanks fell apart, so that the bones are exposed.

Measurements: Length 67 cm. The other measurements can't be stated because of the damaged mummy.

Mummification technics: The nasal bones are preserved only in the upper parts. The bone structures in the region of the apertura pirifirmis are missing. In the upper back part of the nasal cavity, a wide opening is evident. It communicates with the anterior cerebral fossa. The cranial cavity doesn't contain any opaque fillings. Moreover, the radiographs show a shadow of a free bone fragment in it, which moves according to the position of the head. It was perhaps broken out from the base of the skull by the embalmer during the process of its perforation. The subcutaneous fillings and artificial eyes were not applied.

Across the mummy and remains of its wrappings, most marked in the region of the bodily cavities, there is cast a large number of grainy little shadows of medium density, which likely answer for the parts of the earth and sand. To the right along Th_8 to Th_{11} and from Th_{10} to L_2 paravertebrally, there appear irregular extended, sharply delimited shadows. The same ones are placed in the region of the left sacroiliacal joint (8×4 cm) and over the right hip-bone ($6{,}5 \times 4$ cm). It is likely a matter of broken pieces of the divided cartonage. A rounded shadow of a stratiform concentrical structure (about 3 cm in diameter) at the level of the half of the thigh bones evidently belongs to the knot at the bottom of the wooden coffin over which the mummy had to be X-rayed.

Age: It wasn't possible to X-ray the skeleton of the wrist in such a way as to evaluate the bone age. All the epiphyses of the long bones are not grown together with the diaphyses and in relation to them, they are conspicuously small and roughly oval. Both the halves of the atlas have not been grown together either. The metopic suture is open. Neither the pneumatisation of the frontal sinuses nor of the sphenoideal ones is evident. The deciduous dentition was completely cut through and has been preserved, in situ, except the two dislocated c, with an unfinished mineralization of the tips of the teeth-roots. The M_1 haven't ossificated whole roots and are closed in the alveoles. The germ of M_2 is not evident. All these signs together with the length of the body around 65 cm point to the age of about 1,5 years.

Sex: It is not possible at this age to be stated.

Pathological findings: In the metaphyses of the thigh bones and tibiae, it is possible to distinguish several *Harris' lines*. Perceptibly 7 of them are marked. They are crowded mainly in the close neighbourhood of the epiphyseal plates. They

are, however, evident in the femora also on the border of the medial and distal thirds of the diaphyses.

Technical remark: Because of the very bad preservation, it was necessary to X-ray the mummy only in the antero-posterior view through the bottom of the wooden coffin in which it is placed in the collection.

Conclusion: It is a mummy of a 1,5—2 years old child. The rough base for dating to the end of the Late period up to the Graeco-Roman period is offered by the presence of the divided cartonage. The funeral rite, however, points more specifically towards the Roman period.

Chapter 5

ISOLATED HEADS OF MUMMIES

25. Hrdlička Museum of Man, Prague, Inv. No. 15/11, Thebes-West, Deir el-Medina, Burial-ground of King's Workmen, 18th—21st Dynasties

History: see No. 2.

Wrappings: Except the defect on the right half of the face, the head wrappings are preserved. A part of the neck is wrapped in variously led circular wrappings of roughly woven linen. The region of the neck spine is strongly penetrated with roentgenologically opaque mummification stuff (resin).

Archaeological objects: were not ascertained.

Defects and dislocations: The head, upper part of the neck and 4 vertebrae (C_1—C_4) have been preserved. Between the atlas and the axis, there is a wide space. The section C_2—C_4 is turned of 180° so that the vertebral arches are displaced ventrally and the vertebral bodies dorsally.

Surface of the body: In places where the wrappings are missing in the right half of the face, the surface of the right maxilla and os zygomaticum is exposed. Besides, the skeleton of the nasal cavity and the eye-sockets is evident.

Measurements: Heigth 26 cm.

Mummification technics: At the external examination and even in the radiographs, it is evident that the nasal septum and the turbinate bones are missing. In the upper back part of the nasal cavity a rough oval opening (height 2 cm, width 3 cm) leading into the cranial cavity is formed. The cranial cavity doesn't, however, contain any opaque stuff. The eye-sockets are empty, the subcutaneous fillings were not applied.

Age: The bone tissue has a normal structure. The dentition is considerably abraded (about to the half of the crowns), and it is defective. In the course of the coronal and sagittal sutures, the progressive obliteration causes their indistinct outlines. On the contrary, the lambdoid suture is open. The adultus to the maturus age in the extent of 30—50 years has to be taken into account.

Sex: The forehead is vaulted in a fluent arch. The glabella is expressive (Broca 3), the protub. occ. ext. is indistinct (Broca 1). The mastoid processes are long, massive and slightly rounded. The chin is wide, rounded, with basal concavity. In the lateral view it is slightly pointed and quite prominent. The angles of the mandible are everted. Nevertheles, the index go-go/eu-eu is only 66,1. The robusticity of the bones is medium. The mummy was most probably a man.

Pathological findings: The *dentition* is considerably defective. All the teeth in the upper jaw are missing except both I_1, M_1, the roots of the left premolars, and further the lower right M_1.

On the lower edge of the vertebral body of C_3 an osteophyte is formed dorsally, proving the presence of degenerative *osteophytosis.*

Anatomical anomaly: Rightsided hypoplasia of the frontal sinuses.

Conclusion: The head of a mummy of a 30—50 years old man with a few pathological findings. According to the mummification technics (missing features typical for the 21th Dynasty), it is possible to narrow the dating in accordance with the burial-ground (18th—21th Dynasties) to the 18th—20th Dynasties.

26. Hrdlička Museum of Man, Prague, Inv. No. 15/10, Thebes-West, Deir el-Medina, Burial-ground of King's Workmen, 18th—21st Dynasties

History: see No. 2.

Wrappings: The head and part of the neck are wrapped into variously led circular wrappings of roughly woven linen. The wrappings are interrupted only in the region of the apertura piriformis, in the subnasal region of the maxilla and on the right half of the body of the mandible.

Archaeological objects: were not ascertained.

Defects and dislocations: The head with the greater parts of the neck have been preserved, up to the level of C_6.

Surface of the body: In the section of the interrupted wrappings even the soft tissues are missing including the cartilaginous part of the nose, so that the skeleton of the nasal cavity is evident.

Measurements: Height 21 cm.

Mummification technics: The external examination as well as the radiographs prove that almost the entire septum nasi and the turbinate bones are missing. On the back upper wall of the nasal cavity, an opening (3 × 3 cm) is formed; it leads into the cranial cavity. Nevertheless, the cranial cavity is empty. The eye-sockets are also empty and the subcutaneous fillings were not used.

Age: The bone tissue has a normal structure. The dentition is considerably defective. The abrasion of the remaining teeth is extreme, almost all the crowns are removed (with the exception of the left upper M, whose antagonist was missing evidently for a long time). The cranial sutures are obliterated except the rests of the lambdoid and coronal ones. Death took place at the maturus age between 50—60 years.

Sex: The forehead is vaulted in a fluent arch over the supraglabellar depression. The glabella is weakly marked (Broca 2), the protub. occ. ext. is missing (Broca 0). Mastoid processes are long, bulky and blunt. The chin is wide and arched, in the lateral view it is round and strongly prominent. The angles of the mandible are medium everted. The index go-go/eu-eu reaches only 66,9. Robusticity of the bones is medium up to large. It is probably a matter of the remains of a man.

Pathological findings: The *dentition* was intravitally lost in its greatest parts. In the upper jaw, only the roots of the incisors, of the left C, M_1 and M_3, have been preserved. In the region of the molars, both jaws are strongly atrophic. At the same time, the change of morphology of the chin took place (round, strongly prominent).

Anatomical anomaly: Hypoplasia of the left half of the frontal sinuses.

Anthropological remark: An expressive alveolar prognathism is present.

Conclusion: The head of the mummy is of a 50—60 years old man (?) with pathological findings in the dentition. The dating according to the burial-ground (18th—21st Dynasties) it is possible to narrow in accordance with the mummification technics (the missing signs typical for the 21st Dynasty) to the 18th—20th Dynasties.

27. Hrdlička Museum of Man, Prague, Inv. No. 15/6, Thebes-West, Deir el-Medina, Burial-ground of King's Workmen, 18th—21st Dynasties, Figs. 33, 34, Plate XI a, b

History: The object was donated to the Hrdlička Museum by Prof. Dr. J. Matiegka, who gained it by the help of Dr. J. Černý from the excavations of L'Institut français d'archéologie orientale, Le Caire, in the year 1934—1935.

Wrappings: have not been preserved.

Archaeological objects: were not ascertained (except artificial eyes).

Defects and dislocations: The head and parts of the neck were preserved to the level of C_5. The axis of the preserved part of the cervical spine is lightly kyphotically bent, evidently secondarily. The arch of the 5th cervical vertebra is missing.

Surface of the body: The soft tissues have been preserved very well in the face. On the contrary, the cranial vault is entirely uncovered. The facial features are excellently evident and impress one as if living. This is caused by the artificial eyes placed between the partly open lids, by the relatively well preserved nose without too much sunken cartilaginous part and with free nasal openings, and by full cheeks. On the contrary, both lips are broken away and thus the upper frontal teeth are exposed.

Measurements: Height 20 cm.

Mummification technics: The external examination revealed the artificial eyes, formed of white glass tablets of an almond-like shape. Into their midst small black circles imitating irises were inserted. In the radiographs in the anteroposterior view, they look like inhomogeneous shadows with a disordered structure. In the lateral view, they appear as an extended oval-like dense and homogeneous shadow, frontally with a sharp convexed contour, occipitally unsharply limited. The thin glass tablets are evidently supported by other material — perhaps rolls of linen — in the eye-sockets.

The back upper wall of the right nasal passage is perforated by an opening (2 × 2 cm) which leads to the cranial cavity. In the radiographs, it is possible to distinguish the linear shadow of the preserved septum nasi, the other details are covered by the shadow of the subcutaneous fillings.

The lower half of the face is covered by a highly opaque shadow in the radio-

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Fig. 33 Cat. No. 27 Fig. 34 Cat. No. 27 Fig. 35 Cat. No. 28 Fig. 36 Cat. No. 28

graphs. This shadow reaches over the skeletal basis in both views. It is evidently the shadow of stuff placed in the subcutaneous space. Under the broken-off edges of the lips, the external examination was able to prove that the subcutaneous space was filled with a thick layer of earth. These fillings also explain the conspicuously full cheeks of the individual. The fillings were not used on the neck.

In the cranial cavity shadows of the radio-opaque mummification stuff were not ascertained.

Age: The bone tissue has a normal structure. The dentition is completely erupted including M_3. The external examination ascertained that the upper frontal teeth were medium abraded (about to the fourth of the original height of the crowns). In the radiographs, only a similar abrasion of the lower front teeth could be ascertained, due to the shadow of the subcutaneous fillings. All the cranial sutures are open. The course of the coronal suture, however, is not distinct so that it was probably obliterated. According to these signs the individual died at the adultus age of 30—40 years.

Sex: The forehead is moderately slanting, at the border of the lower and medial thirds it abruptly curves back. The glabella (Broca 1) and the protub. occ. ext. Broca 1) are slightly developed. Mastoid processes are short, thin and pointed. The chin is narrow and pointed, in the lateral view it is round and lightly prominent. The angles of the mandible are not everted. The index go-go/eu-eu reaches 70,0. The dorsal arch of the atlas in conspicuously gracile and the skull bones are medium robust. The mummy is a woman.

Pathological findings: were not ascertained. The shadow of the subcutaneous fillings doesn't allow to uncover the changes in the dentition.

Conclusion: The head of a mummy of a 30—40 years old woman, probably without pathological changes. The dating according to the burial ground (18^{th}—21^{st} Dynasties) can be narrowed to the 21^{st} Dynasty in accordance with the typical mummification technics.

28. Hrdlička Museum of Man, Prague, Inv. No. 15/7, Thebes-West, Deir el-Medina, Burial-ground of King's Workmen, 18^{th}—21^{st} Dynasties, Figs. 35, 36, Plate XII a, b

History: see No. 2.

Wrappings: have been preserved only in a few places in insignificant traces.

Archaeological objects: were not ascertained.

Defects and dislocations: The head with the neck have been preserved to the level of C_5. Half of the body C_6 is missing.

Surface of the body: The soft tissues including both auricles have been relatively well preserved on the head and neck. On some places the skin is cracked. Some of the fissures originated by spreading of the original incisions through which the subcutaneous fillings were applied. The cheeks are full, even swollen. The space between the widely open eyelids is empty, however, it originally had artificial eyes. The nose is preserved in full extent, with moderately bent cartilaginous part. The lips are medium wide; the mouth is closed.

Measurements: Height 23 cm.

Mummification technics: The entire face is covered in the radiographs with minute spotty shadows of medium density. They reach in all places over the borders of the shadow of the facial skeleton being evidently located in the subcutaneous zone. They represent the artificial subcutaneous fillings. In the cracked places of the skin it can be proved that the fillings consist of clay. The intensity of the radio-opacity of the shadows conspicuously grows to the centre in the antero-posterior view, in the lateral view towards the dorsal part of the mouth cavity. This enables to presume that the same stuff fills also both the oral and pharyngeal cavities. The region of the subcutaneous fillings has been preserved even on the ventral side of the upper part of the neck.

The nasal passages don't allow probing because they are closed with tampons of linen. In the radiographs, they appear as a medium dense tiny spotted shadows, in places with a stratiform arrangement which covers the usual anatomical structures.

The cranial cavity is filled to its entire extent with a medium radio-opaque fine grainy mass whose density and structure are analogous to the mass of the subcutaneous fillings. It is however conspicuously different from more opaque and almost homogeneous shadows of the fillings with the usual mummification stuff (resin). Evidently, it is earth which had been carefully jammed into the cranial cavity in such a way as to fill it in perfectly. In the shadow of the filling, there are transparent

stripes both in the place of tentorium cerebelli and in the place of falx cerebri which shows a deviation to the right. It is possible to believe that the above mentioned structures have been preserved to this day. The subcutaneous fillings with those of the cranial cavity explain the enormous weight of this head.

The space between the open lids is empty, however, originally the orbitae contained linen fillings upon which the tablets of the artificial eyes rested.

Age: The bone tissue has a normal structure. The dentition is completely erupted including M_3. Abrasion of the teeth appears as insignificantly in the radiographs. The condition of the sagittal and lambdoid sutures can't be determined due to the shadows of the fillings; the coronal suture seems to be open. The individual died at an adultus age, most likely between 25—35 years.

Sex: Over the supraglabellar decline, the forehead bends into a slantingly directed arch. The glabella is expressively marked (Broca 3—4), also the protub. occ. ext. is larger (Broca 2—3). Mastoid processes are long, medium bulky and arched. The chin is wide, angular, in the lateral view it is arched and medium prominent. The angles of the mandible are not everted. The index go-go/eu-eu reaches 73,4. The cranial bones are medium up to considerably robust. The mummified head belonged to a man.

Pathological findings: In the *dentition* the upper right M_1 was intravitally lost. An overbite is formed.

Anthropological remark: An expressive alveolar prognathism of the upper jaw is present. The alveolar part of the mandible is also prognathous.

Conclusion: It is the head of a 25—35 years old man with pathological findings in the dentition. The dating according to the burial-ground (18^{th}—21^{st} Dynasties) can be narrowed to the 21^{st} Dynasty in accordance with the typical mummification technics.

29. Hrdlička Museum of Man, Prague, Inv. No. 15/8, Thebes-West, Deir el-Medina, Burial-ground of King's Workmen, 18^{th}—21^{st} Dynasty, Figs. 37, 38, Plate XIII a

History: see No. 2.

Wrappings: have not been preserved.

Archaeological objects: were not ascertained except the artificial eye on the left side.

Defects and dislocations: The head with a complete neck has been preserved up to Th_1 out of which only the body remained.

Surface of the body: The soft tissues are preserved, with the exception of both auricles and the nose. On the convexity of the head, remains of predominantly straight decoloured hair are evident. On the face, the skin is artificially coloured with a yellow-brown tone. Between the widely open lids on the left side, a tablet of an artificial eye of a glass mass is placed. To the right, there is a linen filling which originally supported an analogous tablet. The cheeks are full even swollen. The upper lip is strongly arched to the front. The right cheek is partly defected, the left one shows a vertical incision, situated 5 mm laterally from the corner of the mouth. From it a short horizontal incision is extending in the dorsal direction. These are evidently the incisions through which the subcutaneous fillings of earth were inserted. The lips are medium wide. The edges of the frontal teeth can be seen through the open mouth. In the front part of the neck the skin is defective.

Measurements: Height 24 cm.

Mummification technics: The lower two-thirds of the face are in both X-ray views covered over with a dense, almost homogeneous shadow which reaches over the shadow of the skeleton. It continues even in the ventral half of the neck up to the level of C_7 where it is secondarily interrupted. Through the defects in the right cheek, on the front surface of the neck, on the edges of the described incisions in the left cheek and in the edge of the protruding lips, it is possible to prove that the shadows are caused by the subcutaneous fillings of a strong layer of fine earth without the admixture of sand. At the lips it reaches the thickness of 5—7 mm.

The radiographs show that there aren't any usual turbinate bone structures in the apertura piriformis. Nevertheless, the septum nasi is preserved; it is deviated to the left. Only one opening (2×1 cm) leading to the cranial cavity was ascertained by probing in the back upper wall of the nasal cavity. In the rear of the cranial cavity, only isolated, small, grainy and highly opaque fragments were ascertained in the radiographs which could be ascribed to fillings.

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Fig. 37 Cat. No. 29 Fig. 38 Cat. No. 29 Fig. 39 Cat. No. 30 Fig. 40 Cat. No. 30

Both eye-sockets are obscured with round shadows with a stratiform structure in the periphery. They are caused by linen fillings, which are visible also externally between the open lids on the right side. Across this shadow, in the antero-posterior view a typical spindle-like shadow is cast with its longitudinal axis placed horizontally. In the lateral view, it appears as a dense, vertically oval shadow. It is the tablet of the left artificial eye which has been preserved in situ.

Age: The bone tissue hasn't a scanty structure. The dentition cannot be evaluated because of the shadow of the subcutaneous filling. However, the upper first incisors are visible externally and show only a light degree of abrasion. The lambdoid suture is not obliterated. Out of the other sutures, only a short section remained open. It is a matter of the adultus to the maturus age of the extent of 30—50 years.

Sex: Over the insignificant supraglabellar depression, the forehead rises almost vertically and it bends rapidly higher up. The glabella is only indicated (Broca 1—2), the protub. occ. ext. likewise (Broca 1). Mastoid processes cannot be evaluated because of the shadow of the subcutaneous fillings. Likewise the chin in the antero-posterior view couldn't be differentiated for the same reason. In the lateral view, it is arched and prominent enough. The angles of the mandible aren't everted. The index go-go/eu-eu reaches 64,7. The evaluable features point synonymously to the female sex.

Pathological findings: were not ascertained. It isn't however impossible that they could have been present in the dentition which couldn't be evaluated because of the shadows of the subcutaneous fillings.

Conclusion: The head of the mummy is of a 30—50 years old woman without ascertained pathological changes. The dating according to the burial-ground (18th—21st Dynasties) can be narrowed to the 21st Dynasty in accordance with the typical mummification technics.

30. Hrdlička Museum of Man, Prague, Inv. No. 15/12, Thebes-West, Deir el-Medina, Burial-ground of the King's Workmen, 18th—21st Dynasties, Figs. 39, 40

History: see No. 2.

Wrappings: Considerably loosened stripes of light ochre linen wrappings have been preserved around the head.

Archaeological objects: were not ascertained.

Defects and dislocations: The head with parts of the neck to the level of C_5 has been preserved.

Surface of the body: The uncovered face has very well preserved soft tissues and its individual features are well evident. The skin is still of a red-brown colour of an artificial varnish. On a number of places, cracks in it are evident which are partly the original incisions executed for the purpose of inserting subcutaneous fillings. Thanks to these fillings the cheeks and other parts of the face aren't sunken. The eye-brows are marked with wide stripes of black colour. Through narrow chinks between the partly sunken upper and the slightly open lower lids, the cloth fillings of the eye-sockets are evident. The eyes are reproduced with a black coloured dots to illustrate the pupils. The external nose has been perfectly preserved without the deformation of its cartilaginous part; it has a slightly convexe back. The nasal openings are free. The lips are thin, the mouth is closed. A short beard of a light colour is present on the upper lip and lower jaw. The whole face gives an impression of a polychrome stature. After uncovering the linen wrappings, it is evident that only the remains of the auricles and some short, perhaps wavy hair of a light-brown colour have been preserved.

Measurements: Height 23 cm.

Mummification technics: The lower two thirds of the face are covered in the radiographs with a homogeneous, highly radio-opaque shadow, which in both views reach over the limits of the skeleton. It is undoubtedly a matter of subcutaneous fillings whose presence is evident even externally by the fully formed cheeks and by the presence of the incision for their insertions. A small portion of the filling has been preserved even in the upper ventral part of the neck.

In the apertura piriformis, only the upper part of the septum nasi is evident in the radiographs. The other structures can't be differentiated because of the shadow of the subcutaneous fillings. The external examination would ascertain that the septum nasi was wholly preserved but the turbinate bones were missing and the back upper wall of the nasal cavity was broken through with one large opening (2×3 cm) into

the cranial cavity. In the radiographs, the occipital region of the cranial cavity has only an inhomogeneous, medium dense shadow with a small grainy structure without a formed surface. This reveals filling of earth mixed with sand rather than filling with resin.

In both eye-sockets, rounded stratiform shadows remind of the cloth fillings (see above).

Age: The bone tissue has a normal structure. The condition of the dentition cannot be evaluated due to the subcutaneous fillings. All the cranial sutures are open. Degenerative changes were already present on the spine. Most probably the age was adult of the extent of 30—40 years.

Sex: The short beard on the upper lip and in the extent of the mandible prove the male sex. For illustration, we are adding also other followed features. Above the lightly supraglabellar depression the forehead is flatly arched and considerably receding. The glabella is expressive (Broca 3), the protub. occ. ext. is insignificant (Broca 1) but provided with a short thorn. Mastoid processes can be evaluated only partly in the lateral view due to the subcutaneous fillings. They seem to be large. Likewise the chin can also be evaluated only in the lateral view. It has an arched form and it is medium prominent. The angles of the mandible can't be differentiated. The index go-go/eu-eu is 70,2. The bones are medium robust. It is a matter of the remains of a man.

Pathological findings: The dentition couldn't be evaluated because of the subcutaneous fillings. On the lower ventral edge of the body of C_5 an osteophyte is formed answering for the presence of a moderate degree of *osteophytosis.*

Conclusion: The head is of a 30—40 years old man with single pathological finding. The dating according to the burial-ground (18th—21st Dynasties) can be narrowed to the 21st Dynasty on the basis of the typical mummification technics.

31. Hrdlička Museum of Man, Prague, Inv. No. 15/13, Thebes-West, Deir el-Medina, Burial-ground of the King's Workmen, 18th—21st Dynasties, Figs. 41, 42

History: see No. 2.

Wrappings: were not preserved.

Archaeological objects: were not ascertained.

Defects and dislocations: The head with the neck to the extent of C_4 and the front surface of the skin with the subcutaneous layers on the neck, and on the upper edge of the thorax have been preserved.

Surface of the body: Dark brown hair forming large curles averaging 1—2 cm have been preserved on the head. The relatively small closely lying auricles are intact. The skin of the face has a gray or black colour and in places there are preserved gold spots, traces of the original colouring in gold. The facial features are very well evident. The upper lids with preserved eyelashes are closed over the lower ones. The nose is preserved including its cartilaginous part. Its cavity is free. The lips are medium wide and the mouth is closed. The beard isn't evident.

Measurements: Height 23 cm.

Mummification technics: The external examination proved wide chinks between the lids of both eyes in which originally the artificial eyes were inserted. In the radiographs, the septum nasi is linearly marked, however, the probing showed that its dorsal part was missing. One opening is formed from the nasal cavity to the cranial cavity (2×2 cm). The turbinate bones are missing on both sides. The cranial cavity is empty. The subcutaneous fillings were not applied.

Age: The structure of the bone tissue is normal. The dentition is completely erupted with the exception of the 3rd molars which are hypodontic on the whole. Only the right upper M_3 is placed deeply in the alveolus and shows no formed roots. The teeth abrasion can't be proved roentgenologically. All the cranial sutures are open. The mummy is of a juvenile age (15—17 years).

Sex: From the weak supraglabellar depression, the forehead bends into a fluent arch. The glabella is weak (Broca 2), the protub. occ. ext. is slightly indicated (Broca 1). Mastoid processes are long, bulky and rounded on the ends. The chin is medium wide, lightly rounded, in the lateral view a two-fold bent is indicated on its profile. It reaches a medium prominence. The angles of the mandible are lightly everted. The index go-go/eu-eu shows only 65,1. The robusticity of the bones is medium. In view of the fact that the individual was of juvenile age, the sex is probably male.

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Fig. 41 Cat. No. 31 Fig. 42 Cat. No. 31 Fig. 43 Cat. No. 32 Fig. 44 Cat. No. 32

Pathological findings: were not ascertained.
Anatomical anomaly: Persistence of the metopic suture.
Conclusion: The head of the mummy is of a 15—17 years old boy (?) without pathological findings. The dating according to the burial-ground (18th—21st Dynasties) can be narrowed to the 21st Dynasty, on the basis of the presence of some characteristics of the mummification technics (colouring of the surface of tbe body, artificial eyes).

32. Hrdlička Museum of Man, Prague, Inv. No. 15/14, Thebes-West, Deir el-Medina, Burial-ground of the King's Workmen, 18th—21st Dynasties, Figs. 43, 44, Plate XIII b

History: see No. 2.
Wrappings: have been preserved in insignificant remains on the top of the head.
Archaeological objects: were not ascertained.
Defects and dislocations: The specimen contains the head, the neck with all the cervical vertebrae, the upper edge of the thorax with both clavicles, the right scapula, the first rib left together with Th_1 and the right shoulder with the proximal epiphysis of the right humerus.
Surface of the body: The soft tissues are preserved relatively well including the right auricle. The facial features are rather well distinct. The upper lids are in ptosis and arched forwardly, the lower ones are folded downwards. The spaces between the lids are empty. The cartilaginous part of the nose is flattened at its top, the mouth is a little open.
Measurements: Height of the head 16 cm, height of the whole preserved section of the body 21 cm.
Mummification technics: The lower half of the face is covered with a medium dense shadow which reaches over the border of the skeleton and represents the subcutaneous fillings. In the interruption in the region of the neck, however, the fillings are not evident.
In the radiographs, it is evident that the upper half of the septum nasi and the structures in the ethmoidal region are missing. In the antero-posterior view, separate shadows are cast to the centre of the apertura piriformis. In the lateral view, they are evident in the upper part of the nasal cavity and near the lower edges of the eye-sockets. It is perhaps a matter of the fillings containing in part radio-opaque mummification stuff (resin?). The probe can't penetrate into the left nasal passage, while the right one is free and it is possible to reach through it an opening in the back upper wall (5×5 mm) leading to the cranial cavity. In the radiographs, however, no opaque shadows are evident in the cranial cavity.
The eye-sockets appear to be empty in the radiographs. In view of the arching forward of the upper lids and the folding downward of the lower lids, undoubtedly, fillings were originally present.
Age: The fontanels disappeared but the metopic suture still persists. The entire deciduous dentition was already erupted; out of it evidently the upper front teeth had fallen out postmortally. In the depths of the alveolar processes, the roots of the permanent teeth are evident up to M_1. The frontal sinuses are not yet developed. The finding corresponds with the age of infans I, in the extent of 2—3 years.
Sex: cannot be determined owing to the low age.
Pathological findings: were not ascertained.
Anthropological remark: expressive alveolar prognathism.
Conclusion: The head and adjoining parts of the thorax belong to a 2—3 years old child without pathological findings. It is possible to narrow the dating according to the burial-ground (18th—21st Dynasties) to the 21st Dynasty, on the basis of some typical characteristics of the mummification technics (subcutaneous fillings, artificial eyes).

33. Náprstek Museum, Prague, Inv. No. 569, Figs. 45, 46, Plate XIV a

History: A part of the Náprstek Museum older collection funds.
Wrappings: Remains of the lower layers of the circularly led wrappings have been preserved on the forehead, left temporal region, right cheek and in the region of the mandible.

Fig. 45 Cat. No. 33 Fig. 46 Cat. No. 33 Fig. 47 Cat. No. 34 Fig. 48 Cat. No. 34

Archaeological objects: Besides the artificial eyes, a shadow of a small round bead was found which was cast in the lateral view across the vertebral body of C_3.

Defects and dislocations: The head and neck to the extent of all cervical vertebrae were preserved.

Surface of the body: On the head, lightly brown to rusty brown hair is preserved, perhaps partly decoloured hair without signs of graying, as well as the left auricle. The facial features are well visible. The skin in its uncovered parts of the face is spread over with a white microcrystallic coating (see below). The cheeks are full, well modelled, but traces of incisions for the subcutaneous fillings are not evident. In the medium wide eye chinks, the artificial eyes are inserted, made of stone. The cartilaginous part of the nose is completely preserved and isn't covered with the white varnish. The lips are medium wide. The mouth is partly open so that the front edge of the tongue is evident. The neck is cospicuously bulky because of its fillings.

Measurements: Height 25 cm.

Mummification technics: The shadow of turbinate bones in the region of the apertura piriformis is missing in the radiographs. A direct probing couldn't be executed in the right nasal passage in whose roof an opening (2×1 cm) leads into the cranial cavity. The septum nasi is preserved. The left nasal passage is constructed with rolls of cloth. The cranial cavity, however, is not filled with radio-opaque mummification stuff. In the lateral view, considerable dense shadows are visible in the eye-sockets. One of them is oval, the other one is round. They are caused by the insertion of the artificial eyes made of polished stone (carbonate of lime, see further on). It the antero-posterior view, the outline of inlay eyes has an almond shape.

The rear part of the mouth cavity is filled with a rounded formation of a medium dense homogeneous, even lightly grainy structure, representing the filling. Shadows caused by the subcutaneous fillings are evident only in the region of the neck. On viewing the object from below, a space of a width of 38 mm, tightly filled with stocked folds of the roughly woven linen, is formed between the front side of the neck and of the front edge of the cervical vertebral bodies.

Age: The skull and cervical spine are generally osteoporotic. The right tuber parietale is flattened, most undoubtedly because of the beginning of delimited parietal atrophy. The teeth are considerably abraded (up to three-quarters of the original height of the crowns). All the cranial sutures are obliterated. The hair however doesn't appear to be gray. It is possible to conclude that death came at the maturus to the senilis period of age between 50—70 years.

Sex: The forehead begins a little slantingly and continues in a fluently vaulted arch. The glabella is pronounced weakly (Broca 2), likewise also the protub. occ. ext. (Broca 1). Mastoid processes are medium. The right one is pointed, the left one is obtuse. The chin is wider and rounded, in the lateral view it is a little angular and medium prominent. The angles of the mandible are somewhat everted. The index go-go/eu-eu makes only 66,1. The robusticity of the bones is medium. The signs are ambiguous, but still the external appearance of the head and its measurements more point to the male sex.

Pathological findings: The dentition is complete except the intravital loss of both lower I_1. The calva presents *hyperostosis* of all its bones. At the same time, the bone structure of the skull and of the cervical spine points to the presence of general *osteoporosis*. In the region of both tubera parietalia there are signs of parietal circumscribed thinning (*delimited parietal atrophy*).

Chemical remark: The white microcrystallic coating, according to spectral analysis, contains Al, Si, Ca, Mg, Na, (Ti), traces of Mn, Fe, P, Pb and As. On the basis of the X-ray diffraction analysis with the help of the infrared spectroscopy, it was possible to conclude that it is formed of silica (alpha) quartz with admixture of sodium calcium aluminosilicates and a small amount of sulphates, carbonates, eventually chlorids and phosphates of the mentioned cations. The structure is analogous as on the skin of the hand No. 68.

A small amount of yellow mass, scattered in forms of small drops on the skin, especially behind the ear and on the hair was isolated. Their main constituents are sodium sulphate (thénardite), in a smaller amount alpha quartz. As admixtures, there are present alpha quartz, sodium calcium aluminosilicate (most probably of the group of plagioclasses), barium sulphate (barite) and sodium calcium sulphate (glauberite),

besides an organic phase, evidently resin. The structure of this mass is similar to the subcutaneous filling of the head of the mummy No. 11.

The X-ray diffraction analysis proved that the artificial eyes were formed of calcium carbonate (calcite).

Conclusion: The head is of a mummy of 50—60 years old man (?) with several pathological findings. According to the mummification technics it can be dated to the 21st—25th Dynasties.

34. Náprstek Museum, Prague, Inv. No. P 571, Figs. 47, 48, Plate XIV b

History: The mummy is a part of the old collection funds of the Náprstek Museum.

Wrappings: were found preserved only in few insignificant rests in the face, strongly penetrated with resin.

Archaeological objects: were not ascertained.

Defects and dislocations: Only the head has been preserved separated from the body in the atlanto-occipital joints. On the border of the lower and medial thirds of the right ramus mandibulae, continuity was lost evidently postmortally. The alveoli of the upper incisors and left canines are empty due to the postmortal falling out of the pertinent teeth. Both upper I_2 were caught in displacement behind the lower incisors.

Surface of the body: Lightly waved dark-brown hair and both auricles are preserved on the head. The facial features are very well evident even though the skin, penetrated with resin, is considerably folded. The upper right lid is open, the left one is in a slight ptosis. The lower lids are folded downward. The cartilaginous part of the external nose has a gently sunken dorsum. The mouth is slightly open, however, the teeth aren't evident because of the loss of the upper front teeth.

Measurements: Height 20 cm.

Mummification technics: The shadow of the turbinates isn't evident in the radiographs, the septum nasi is however preserved in its whole extent. The external examination ascertained that a folded roll of cloth, whose both ends are inserted in both nasal openings, is bent over the front edge of the septum. The right nasal passage is entirelly filled with it. In the left one, it was possible to probe besides the roll and ascertain the presence of an opening (1×3 cm) in its rear upper part. This opening leads to the cranial cavity. The cranial cavity doesn't however contain the shadow of the mummification stuff in the radiographs.

Over the front part of the eye-sockets, a frontally convexed stripped shadow is cast in the lateral view, which is due to the artificial eyes. In the antero-posterior view, the opacity isn't evident in any eye-socket. On the contrary, it is possible to ascertain aspectively that linen inlays covered with tablets of resin of an almond-like shape, were inserted between the open lids. They have a plastically lifted border (width 2 cm) and an oval pupil in the centre (3×5 cm). The left artificial eye was better preserved than the right one. The subcutaneous fillings are missing.

Age: The bone tissues has a normal structure. Roentgenologically, the abrasion of the teeth is almost impossible to prove. The dentition is completely erupted including M_3. All the cranial sutures are open. It is an adult individual in the age of 20—30 years.

Sex: Over the supraglabellar depression the forehead continues in a flattened arch in a slanting direction. The glabella is very strong (Broca 3—4), the protub. occ. ext. medium expressive (Broca 2). Mastoid processes are medium long; they are very bulky and obtuse. The chin is narrower but has expressively differentiated tubercula mentalia. In the lateral view, it is lightly and medium prominent. The left angle of the mandible is much everted, the right one gently so. The index go-go/eu-eu reaches only 67,5. The skull bones are medium to considerably robust. On the left half of the cheek short brown beard can be ascertained. The remains are those of a man.

Pathological findings: were not ascertained.

Anatomical anomaly: Persistence of the metopic suture, hypoplasia of the frontal sinuses, os praeinterparietale (os apicis).

Anthropological remark: A more expressive alveolar prognathism of the upper nad lower jaw is present.

Conclusion: The head of the mummy is of a 20—30 years old man without pathological findings. In view of the presence of the artificial eyes it is possible to date it probably to the 21st—25th Dynasties.

35. Náprstek Museum, Prague, Inv. No. P 572, Figs. 49, 50, Plate XV a

History: It was transferred from the Town Museum in České Budějovice to the Náprstek Museum on March 15, 1960.

Wrappings: have been preserved only in insignificant remains.

Archaeological objects: were not ascertained.

Defects and dislocations: Only the head separated in the atlanto-occipital joints has been preserved.

Surface of the body: The surface of the soft tissues is preserved with the exception of places were the uncovering of the skeleton took place (the temporal regions, cheek bones, angles of the lower jaw and, in lesser extents, in some other places). Remains of straight dark-brown hair are visible on the head. Only part of the facial features is evident. Only the right upper eyelid remained preserved, otherwise both eye-sockets are full of a formless mass, originating perhaps from dried-out eye tissues. A considerably prominent nose appears in the face with perfectly preserved cartilaginous part whose dorsum is gently sunken. On the upper lip and chin a 7—10 mm long beard remained. The lips are narrow, the mouth is shut. The soft tissues of the mouth bottom are not preserved.

Measurements: Height 19 cm.

Mummification technics: Only the lower part of the septum nasi can been distinguished in the radiographs, because of the covering by the shadow of the radio-opaque mummification stuff, which fills the cranial cavity. The external examination proves that only the frontal cartilaginous part of the septum is preserved while the back bony part is missing. In the upper back wall of the nasal cavity, there is an opening (4 × 4 cm) leading into the cranial cavity. More than the entire back half of the cranial cavity is filled with a homogeneous, dense shadow of the mummification stuff loosened off the cranial walls. It has an evident cranio-caudal delimitation which is the surface formed by pouring the melted resin during the position of the head with the occiput downward. During the pouring, a part of the resin got into the dorsal part of the antrum Highmori, where it formed a similar surface. The oval fragment of the mummification stuff (2,7 × 4,2 cm) lies close to the surface of the filling in the cranial cavity. From the external examination it is evident that, in the mass of dried out soft tissues which fill the eye-sockets, there are formed depressions in which the original spindle-like eyes were inserted. On the skin of the face, there are traces of red-brown colouring. The subcutaneous fillings were not used.

Age: General osteoporosis is evident in the bone shadow of the skull. The teeth are considerably abraded about to the half of the original height of the crowns. The sagittal suture seems to be open, the coronal one is obliterated. The lambdoid suture couldn't be evaluated due to the shadow of the stuff poured into the cranial cavity Signs of the graying of the hair are not present. The individual died at the maturus age, most probably between 50—60 years.

Sex: The male is already confirmed by the presence of the beard. The forehead over the supraglabellar depression forms a fluent, considerably vaulted arch with maximal bending between the lower and middle thirds. The glabella (Broca 3) and the protub. occ. ext. (Broca 2) are expressive, and in the external examination the strong supraorbital arches are distinct. Mastoid processes are long, medium bulky and obtuse. The chin is very wide and lightly angular; in the lateral view, it is arched and little prominent. The angles of the mandible have an insignificantly marked eversion. The index go-go/eu-eu reaches only 64,0 due, however, to the excessive width of the skull. The remains are those of a man.

Pathological findings: The right upper M_3 was evidently intravitally lost. *Osteoporosis* of the skull is connected with expressive thinning out of the calva as a whole with maximum in the vicinity of the bregma.

Anthropological remark: A more expressive alveolar prognathism of the upper jaw is evident.

Conclusion: The head of the mummy of a 50—60 years old man with a few pathological findings. According to the original presence of the artificial eyes it is possible to date it probably to the 21st—25th Dynasties.

36. Náprstek Museum, Prague, Inv. No. P 573, Figs. 51, 52, Plate XV b

History: A part of old collection funds of the Náprstek Museum.

Wrappings: An insignificant rest of wrappings is preserved in the left temporal region.

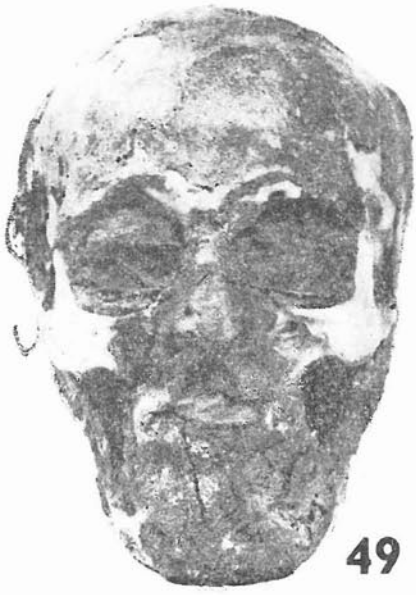

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Fig. 49 Cat. No. 35 Fig. 50 Cat. No. 35 Fig. 51 Cat. No. 36 Fig. 52 Cat. No. 36

Archaeological objects: were not ascertained.

Defects and dislocations: The head with the neck to the extent of C_1 to C_5 and the arch of C_6 have been preserved.

Surface of the body: The soft tissues are completely preserved in a perfect condition. Remains of straight rusty – coloured hair are present on the head. Both almost intact auricles are outstanding. The facial features are distinctly evident. The upper lids are lightly sunken, the lower ones are open, and both are vaulted convexly towards the front. Narrow eye-chinks, now empty, are thus limited. Likewise, the lightbrown eyebrows remained preserved. The cartilaginous part of the nose is complete and has only insignificantly sunken dorsum which originally was convex. The lips are relatively narrow. In the partly open mouth the front edge of the tongue is visible. The cheeks are deeply sunken so that their bony basis and stongly extended angles of the lower jaw are apparent. Traces of a beard aren't evident.

Measurements: Height 26 cm.

Mummification technics: The interruption of the structures in the region of the apertura piriformis is not evident. In view of the fact that both nasal passages are free, it was possible to ascertain by probing that the lower part of the bony septum is perforated and that an opening (3×1 cm) into the cranial cavity is found in the back upper wall of the nasal cavity. The cranial cavity, however, is empty in the radiographs.

It is almost sure that originally artificial eyes were inserted in the arched eyelids. Only remains of linen rolls have been preserved. In the antero-posterior view they could not be proved in the radiograps, however, in the lateral view a sickle-shaped, weakly opaque shadow placed its concavity ventraly, is cast into the eye-sockets. The subcutaneous fillings were not used.

Age: General osteoporosis of all preserved bones is present. Signs of delimited parietal atrophy, however, weren't found. In the upper jaw, all the teeth fall out intravitally, except the right M_1, and in the lower jaw all the molars. The alveolar processes of both jaws are strongly atrophic. The rest of the teeth is abraded almost to their very roots. The cranial sutures are closed except the small sections in the coronal and lambdoid sutures. The individual died at the age maturus or senilis in the extent of 50—70 years.

Sex: The forehead at first rises almost perpendicularly but soon it bends into a fluent, well-vaulted arch. The glabella (Broca 2) and the protub. occ. ext. (Broca 2) are only gently marked. The processus mastoidei are long, bulky and lightly prominent. The chin is wide and rounded, in the lateral view it is also rounded and medium prominent. The angles of the mandible are extremely everted. Due to this, the index go-go/eu-eu reaches an unusually high value of 93,3. The remains are those of a man.

Pathological findings: The entire preserved skeleton, especially the arches of the cervical vertebrae, show signs of advanced *osteoporosis.*

On the ventral edges of the bodies of the cervical vertebrae, especially of C_4 and C_5, osteophytes are formed as signs of moderate degenerative *osteophytosis.*

The *dentition* is affected by extensive intravital losses. Only the upper right M_1, the lower front teeth and lower premolars have been preserved. The alveolar processes indicate typical atrophic involution changes.

Anatomical anomaly: The left-sided aplasia of the frontal sinuses.

Conclusion: The head of the mummy is of a 50—70 years old man with a number of pathological findings. According to the original presence of the artificial eyes it can be dated probably to the 21st—25th Dynasties.

37. Náprstek Museum, Prague, Inv. No. P 574

History: A part of the old collection funds of the Náprstek Museum.

Wrappings: The face is covered with a few layers of larger pieces of linen.

Archaeological objects: were not preserved.

Defects and dislocations: There have been preserved the soft tissues of the facial part of the mummy's head. Out of the skeleton, only the upper jaw with the frontal teeth, the right P_1 and both left premolars, fragments of the left lower quarter of the frontal bone, including the upper edge of the eye-sockets and nasal bones, are available.

Surface of the body: It isn't evident because of the wrappings. Neverthe-

less, a view of the soft tissues is possible from the inside. Details are evident in the surroundings of the eye-chinks (see further), the mouth is shut.

Measurements: Height of fragments 15 cm.

Mummification technics: In the soft tissues of the eye-sockets, spacious cavities for round linen fillings, now missing, are formed. On the front edge they have a flattened almond-like form caused by the impressions of the artificial eyes. The subuctaneous fillings are missing.

The inner surface of the frontal bone and the facies nasalis maxillae are covered with resin, which shows that it was used to be poured into the cranial cavity.

Age: Almost all the usually evaluated features are missing. The bone tissues has a normal structure. According to the entire dimensions, the remains belong to a fully adult individual at the age of 20—60 years.

Sex: A fragment of the medial part of the strongly vaulted supraorbital arches suggests the most probable male sex.

Pathological findings: were impossible to be ascertained due to fragmentally preserved remains.

Conclusion: The fragment of the facial parts of a 20—60 years old man. According to the original presence of the artificial eyes, it can be dated to the 21st—25th Dynasties.

38. Náprstek Museum, Prague, Inv. No. P 576, Figs. 53, 54

History: Part of the old collection funds of Náprstek Museum.

Wrappings: Remains of the lowest layers of wrappings pasted with resin on the soft tissues were preserved on the convexity of the head, in the region of the chin and on the neck.

Archaeological objects: were not ascertained.

Defects and dislocations: The head was preserved of which the medial and right half of the upper part of the face is missing; right to the glabella, there is in the frontal bone an extensive defect. The complete neck is connected with the head; it is preserved up to level of C_7. It is possible to annex to it a convolution with the remains of wrappings, resin, soft tissues, hair and vertebra Th_1.

Surface of the body: The soft tissues are altogether preserved only in insignificant remains; in other places the bone basis comes to the surface. On the neck, the unfolded skin has been preserved with the exception of a 2 cm wide stripe in the middle of the frontal surface.

Measurements: Height 26,5 cm.

Mummification technics: The middle part of the facial skeleton including the nasal cavity is missing so that it is not possible to evaluate its condition. In the radiographs, it is evident that the occipital third of the cranial cavity is filled with a shadow of a highly opaque mummification stuff; it forms expressive tips in the rostral direction. The stripes of parallel shadows of the mummification stuff tend from the bregmatic region to the pyramids. It is possible to control this finding aspectively for the reason of the missing of a large part of the facial skeleton. It is evident that the shadows are caused by the resin which stiffened into smooth masses or formed pointed prominences. It was evidently poured through the opening in the nasal cavity into the cranial cavity.

Besides this, even the dorsal part of the mouth cavity and the naso-pharynx are filled with resin. Likewise the poured into resin is evident in places where the skin is missing in the middle part of the necks. Finally, when viewing the interruption plane of the basis of the neck, it was possible to ascertain that the entire space between the spine and skin surface is filled with stiff resin. The eye-sockets have not been preserved.

Age: The bone structure has a normal appearance in the radiographs. The preserved lower row of teeth is abraded in the front to the half of the height of crowns. and at the sides, the abrasion reaches up to the bottom edge of the crowns or even to the roots. The coronal suture is open, the sagittal one can't be evaluated, the lambdoid suture is open. The individual died at the age maturus in the extent of 40—60 years.

Sex: The forehead is gently sloping and abruptly bent higher up. The glabella is very strong (Broca 4), the protub. occ. ext. medium (Broca 2). The supraorbital arches are expressively developed, as it is possible to ascertain aspectively. Mastoid processes cannot be differentiated in the shadows of the fillings. The chin can be

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Fig. 53 Cat. No. 38 Fig. 54 Cat. No. 38 Fig. 55 Cat. No. 39 Fig. 56 Cat. No. 39

evaluated from the external examination. It is wide with strong tubercula mentalia which form almost cornices. In the lateral view, it is lightly angular and quite prominent. The angles of the mandible (especially the left one) are extended in the caudal direction. The index go-go/eu-eu, determined directly on the object, is 72,8. The bones are very robust and the teeth are big. The remains are those of a man.

Pathological findings: There are signs of *osteochondrosis* of the intervertebral disc C_3 with a lowered space between the vertebrae C_3 and C_4. The neighbouring margins of these vertebrae show a sclerotic shadow in the vicinity of their facies terminales. A localized expressive osteophytosis is formed in this spine section ventrally and dorsally. Nevertheless, degenerative *osteophytosis* was found on other cervical vertebrae, too. Further, *degenerative arthritis* of the intervertebral joints was present between C_{3-4} and C_{4-5}. Pathological changes of the *dentition* are not evident except the above mentioned strong abrasion, accompanied by retraction of the alveolar edges.

Conclusion: The head of the mummy is of 40—60 years old man with degenerative pathological changes on the cervical spine. The extensive fillings in the oral and pharyngeal cavities as well as those in the subcutaneous space of the neck suggest the dating to the 21st—25th Dynasties.

39. Náprstek Museum, Prague, Inv. No. P 577, Figs. 55, 56, Plate XVI a

History: Part of old collection funds of the Náprstek Museum.

Wrappings: The entire object is till now wrapped into its original wrappings. Viewing from the breakage surface in the region of the neck, it is evident that the neck was wrapped firstly with circularly led bandages whose entire thickness was 2,5 cm. The more external layers of the wrappings were led from the neck to the head reaching a thickness of 5,4 cm. In the lateral view radiographs, the strong layer of wrappings under the occiput is penetrated with spotty and linear opacities, caused evidently by the spreading of resin into the layers of the wrappings.

Archaeological objects: were not ascertained.

Defects and dislocations: The head and neck were preserved up to C_4 together with the fragment C_5.

Surface of the body: It is entirely covered with wrappings.

Measurements: Height 24 cm.

Mummification technics: The apertura piriformis due to the head lightly bent backwards, appears in the radiographs as a circular clear area without the shadows of the septum nasi and the turbinates. The dorsal half of the cranial cavity is filled with a dense homogeneous shadow of the mummification stuff (resin) forming a straight lightly slanting cranio-caudal border. Another stripped shadow similar in density and structure is cast in the lateral view from the upper frontal region in the temporal direction to the skull base. The temporal region is likewise covered over irregularly with a delimited shadow of a similar quality. Finally even in the dorsal part of the nasal cavity it is possible to find in the lateral view an almost homogeneous, medium opaque oval shadow of mummification stuff. The subcutaneous fillings, however, are not evident.

In both eye-sockets in the antero-posterior view, metally dense shadows are evident, in the left orbita of a disconecting ring-shape and in the right one of an irregular outline. In the lateral view the left shadow is arched, the right one dorsally convex and frontally moderately concave with a protruding short strip. It is perhaps a matter of the edge of linen rolls, penetrated with radio-opaque mummification stuff (resin).

Sex: The forehead is gently slanting into a fluently vaulted arch. The glabella is medium expressive (Broca 3), the protub. occ. ext. is weak (Broca 1). The mastoid processes are long, the left one flattened, the right robust. The chin is very broad and angular, in the lateral view it is rounded and strongly prominent. The angles of the mandible are expressively everted. The index go-go/eu-eu makes 74,6. The remains are those of a man.

Age: Because of the summation with the shadow of the mummification stuff, it wasn't possible to determine with certainty the structure of the bones. Abrasion of the teeth is advanced and reaches almost up to the roots. The cranial sutures are not differentiated except the remains of the lambdoid suture. Most probably it is a matter of the age maturus in the extent of 40—60 years.

Pathological findings: As to the *dentition*, in the left lower M_1 it is possible to distinguish a deep caries which destroyed the greater part of its crown

even to half of the mesial root. The nearby P_2 is adeptedly bent distally. Both lower M_3 are missing.

Anatomical anomaly: Hyperplasia of the frontal sinuses.

Anthropological remark: A more expressive alveolar prognathism is present.

Conclusion: The head of the mummy is of a 40—60 years old man without pathological findings and according to the suspected presence of the artificial eyes it is possible to date it probably into the 21st—25th Dynasties.

40. Náprstek Museum, Prague, Inv. No. P 2463, Figs. 61, 62, Plate XVI b

History: It was transferred from the National Museum in Prague on November 29, 1968.

Wrappings: Only a thin layer of a finely woven linen in one piece in the face has been preserved. It is darkly coloured due to the influence of resin spread over the surface of the body. Over it there are remains of further layers of rougher linen.

Archaeological objects: In the antero-posterior view, over the medial edge of the right eye-socket a ring-shaped shadow is cast extending upward and laterally (inner diameter 5 mm, external diameter 8 mm); it evidently answers for beads. A similar ring-like shadow (inner diameter 6 mm, external diameter 8 mm) is evident in the lateral view over the capitulum mandibulae (probably the right one).

Defects and dislocations: Entire head and complete neck (to C_7) have been preserved.

Surface of the body: A large amount of light-brown hair, forming curls of a medium large diameter (12—16 mm) remained on the convexity of the head except small sections in the nape of the neck. The facial features are well evident through the thin layer of the wrappings. The eyelids are closed and between them are formed narrow chinks. The cartilaginous part of the nose is preserved; its dorsum is considerably sunken. The cheeks are deeply sunken, not being supported by fillings. The beard cannot be ascertained because of the wrappings. The lips have a wide transient zone. The edge of the tongue is visible through the half open mouth. On the whole, the face gives the impression that the individual was of a coarse, muscular bodily structure.

Measurements: Height 26 cm.

Mummifications technics: The linaer shadow of the septum nasi is evident in the radiographs. The shadows of the turbinates are not, however, visible. The right nasal passage is free, the left one has a generally lowered transparency in the antero-posterior view. In the lateral view into its region are cast many mutually connected linear shadows with curves. They are perhaps due to the contrasting contouration of the stocked rolls of linen. This finding was taken over by the external probing, at which also perforation of the rear bony part of the nasal septum was found while its cartilaginous part remained undisturbed. In the back wall of the nasal cavity an opening (2×2 cm) into the cranial cavity is formed. The cranial cavity doesn't contain any radio-opaque mummification stuff. Nevertheless, over the squama temporalis similar striped well contoured shadows as those in the nasal cavity are cast in the lateral view.

In both eye-sockets, lens-shaped but not wholly homogeneous shadows of medium density are evident in the lateral view. They are hardly indicated in the antero-posterior radiographs, evidently because of their insufficient opacity. It is a matter of the shadows of the artificial eyes. Through the little opening in the wrappings over the left orbit, it was possible to ascertain by probing that a hard tablet of the artificial eye is lying inside

In the breakage plane on the basis of the neck, it is evident that the pharyngeal cavity is empty and that subcutaneously no fillings were applied.

Age: The bone tissue has a normal structure. All the teeth are abraded about to one-third of the original height of the crowns. The dentition is completely erupted including M_3, and without any intravital loss. All the cranial sutures are open. It is a matter of an adultus age extending from 25—35 years.

Sex: The forehead is over the glabellar depression slanting with a quick bent on the borders of the lower and the medial thirds of its height. The glabella (Broca 3) and the protub. occ. ext. (Broca 2) are medium expressive. The supraorbital arches are however evident but they are small at the external examination. The mastoid

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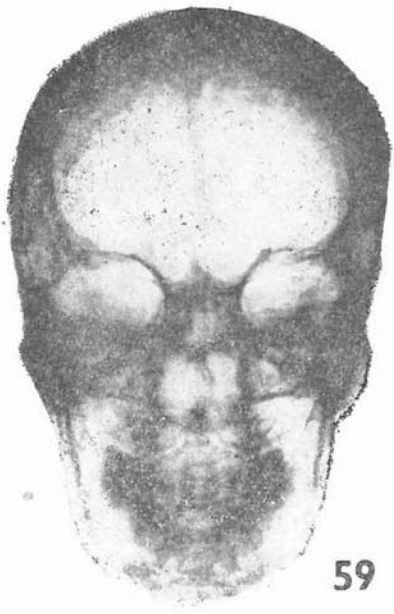

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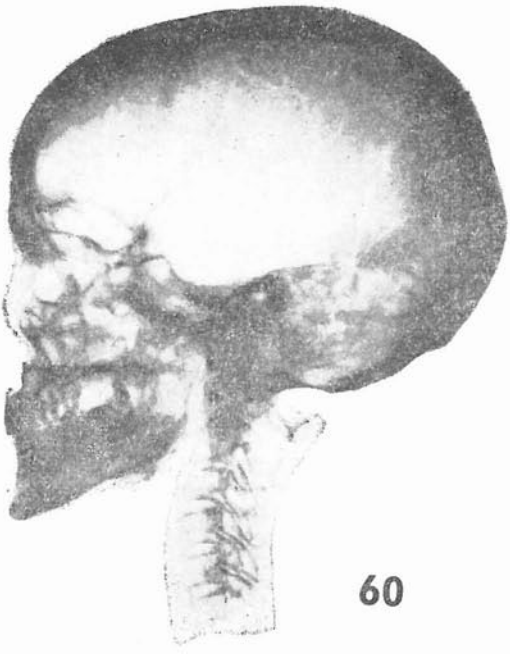

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Fig. 57 Cat. No. 41 Fig. 58 Cat. No. 41
Fig. 59 Cat. No. 41 antero-posterior radiograph Fig. 60 Cat. No. 41 lateral radiograph

Fig. 61 Cat. No. 40 Fig. 62 Cat. No. 40 Fig. 63 Cat. No. 43 Fig. 64 Cat. No. 43

processes are long, bulky and obtuse. The chin is medium wide and rounded; in the lateral view it is rounded and gently prominent. The angles of the mandible are slightly everted. The index go-go/eu-eu reaches a high value of 79,5. On the whole, the skeleton is robust and the objects is considerably heavy, even if it doesn't contain the fillings of resin. The remains are those of a man.

Pathological findings: *Osteochondrosis* of the intervertebral disc C_5 is indicated with lowered intervertebral space and secondary osteophytosis on the upper ventral margin of the body of C_6. The *dentition* was healthy.

Anthropological remark: The curly hair, small development of the supra-orbital arches, the medium high and wide nose with its typical crosswise oval nostrils when viewed from below, the high sub-nasal section with expressive alveolar prognathism and the thick lips point to the presence of Negroid component.

Conclusion: The head of the mummy is of a 25—35 years old man with a single pathological finding and with Negroid features. According to the presence of the artificial eyes, it can be dated probably into the 21st—25th Dynasties.

41. Náprstek Museum, Prague, Inv. No. P 2835, Figs. 57—60

History: The object was bought from the collector, J. Tolan from Prague on the 22nd of February 1971.

Wrappings: are preserved only in insignificant remains on some places.

Archaeological objects: were not ascertained.

Defects and dislocations: The head with the neck has been preserved to the level of C_6.

Surface of the body: The soft tissues are in a perfect condition except small defects. The hair is missing and only remains of the both auricles remain. The facial features are very well evident. A flattened almond-shaped space is formed between the extended lids. The cartilaginous part of the nose is entirely preserved with a lightly sunken dorsum. The lips have a medium wide transient zone and the mouth is shut.

Measurements: Height 22 cm.

Mummification technics: In the radiograph, the shadow of the septum nasi is preserved, however, the shadows of the turbinate bones are missing. By direct probing it can be ascertained that the left nasal passage is stuffed with rolls of linen and the right one is free. In its back upper part an opening is formed leading into the cranial cavity (1,5 × 1,5 cm). Nevertheless, in the radiographs the opaque mummification stuff isn't evident in the cranial cavity.

Likewise in the eye-sockets the shadows of the artificial eyes are missing. As the external examination shows, they were however originally inserted into the dish-like spaces with flat bottom between the open lids. The subcutaneous fillings were not applied.

Age: The preserved skeleton reveals general osteoporosis. The abrasion of the front teeth and premolars is considerably advanced reaching up to the roots. On the contrary, the lower molars are abraded only to about half of the original height of the crowns, evidently as a result of the sooner loss of their antagonists. It is the maturus age in the extent of 50—60 years.

Sex: The forehead is perpendicular, relatively high, and it gets crooked higher up. The glabella (Broca 2—3) and the protub occ. ext. (Broca 1—2) are medium expressive. The mastoid processes are medium long, and their points are flattened. The chin is wide and rounded; in the lateral view it is gently angular and strongly prominent. The angles of the mandible are visibly everted. The index go-go/eu-eu reaches 67,1. Compared with the brain part, the facial part is conspicuously very small including the mandible. The remains are those of a woman.

Pathological findings: The intravital loss of all upper molars was found in the *dentition*.

General *osteoporosis* is present in the preserved parts of the skeleton.

Osteophytes on the ventral margins of vertebral bodies of C_3–C_6 with a maximum on C_6 prove the presence of a moderate degree of *osteophytosis*.

Anatomical anomaly: The edges of sinus sagittalis are indicated in the radiographs as parallel linear shadows due to their elevation.

Anthropological remark: A more expressive alveolar prognathism is present.

Conclusion: The head of the mummy is of a 50—60 years old woman with several pathological findings. In view of the original presence of the artificial eyes, it is possible to date it into the 21st—25th Dynasties.

42. Náprstek Museum Prague, Inv. No. P 2888, Figs. 65—68, Plate XVII a

History: The object was gained about the year 1900 by the Town Museum in Jihlava, now Museum Vysočiny, from where it was transferred to the Náprstek Museum on September 23, 1972.

Wrappings: The remains of the crosswise led strips of wrappings have been preserved. Their width is about 10 cm and fringes are at their ends. The most bottom layers of wrappings penetrated with resin are pasted firmly on the surface of the soft tissues.

Archaeological objects: were not ascertained.

Defects and dislocations: It is a matter of a completely isolated head without the cervical vertebrae.

Surface of the body: The facial features are well evident. Under the wrappings are reveaeld vaulted closed eyelids and both auricles. In some places, remains of wavy dark-brown hair are exposed. Layers of soft tissues are missing on the right half of the squama ossis occipitalis and on the base of the mandible.

Measurements: Height 16 cm.

Mummification technics: The region of the nose is without signs of artificial interference in the radiographs. The left nostril is covered with the remains of wrappings, in the right one there is a small chink which was possible to probe. The probe revealed no communication between the nasal and cranial cavities.

In the antero-posterior view, cloudy shadows containing denser formations are cast in the medio-sagittal plane's surroundings. According to the lateral view they are gathered in the frontal region and in the anterior cranial fossa. One of the formations forms a widely strip-like shadow stretching from the level of the tubera frontalia to the anterior cranial fossa. Most likely it is a matter of linen fillings penetrated through with resin. Through the foramen occipitale magnum it is possible to ascertain by direct inspection that 4 small formations (the largest 4×6 cm) of a concave form with a humpy surface are freely moving in the cranial cavity. They evidently appeared through the fragmentation of the poured resin filling of the parietal region.

In the antero-posterior view, the difference between the transparency of both eye-sockets is indicated. The right one is on the whole covered by an inhomogeneous shadow, evidently of the linen rolls. The left one is empty. The external examination shows that the lids of both eyes are strongly convexly arched towards the front. Through the fissure under the left lower lid, it is possible to ascertain by probing that the space of the eye-sockets is really empty. Likewise the medial wall of the left eye-socket isn't perforated.

Into the region of the oral and pharyngeal cavities in both view radiographs, circular shadows are cast with a finely net-work structure, perhaps of rolls of linen. Nevertheless, the subcutaneous fillings were not found.

A special arrangement was ascertained by the external examination of the base of the head. Between the arch of the mandibular body and the foramen occipitale magnum, there were inserted rolls of linen saturated with resin. The filling of finely woven linen is stuffed as a gag from below into the oral cavity. Behind it, from the line connecting the border between M_2 and M_3 up to the front edge of the foramen occipitale magnum, a filling is inserted of a roughly woven piece of linen with a fringed edge which covers both condyles. The foramen occipitale magnum whose edge shows light traces of abrasion, is stuffed with a gagging tampon (6×2 cm). The said fillings on the base of the head were held with the help of strips of cloth with folded edges, 6—9 cm wide. The first one was led across the both angles of the mandible, the second one right after them (only the righ half remained), and the third one across the meati acustici externi (only one quarter remained to the right). Over them originally even the basis of the head was wrappened into obliquely laid wrappings.

From the localization of the resinous filling in the upper part of the cranial cavity, the absence of communication from the nasal cavity to the cranial cavity, the separation of the head in the atlanto-occipital joints, and from the special arrangement at the base of the head, this case shows the less often excerebration and applying of mummification stuff through the foramen occipitale magnum after the head had been separated from the rest of the body.

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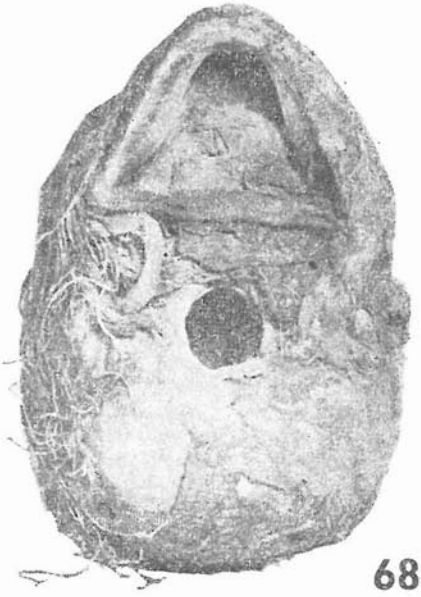

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Fig. 65 Cat. No. 42 head in norma lateralis dextra

Fig. 66 Cat. No. 42 head in norma frontalis

Fig. 67 Cat. No. 42 head in norma basalis showing linen fillings in the areas of the oral and pharyngeal cavities as well as in the foramen occipitale magnum

Fig. 68 Cat. No. 42 head in norma basalis after removing the linen fillings

Age: The preserved skeleton has a normal bone structure. In both jaws a fully erupted set of permanent teeth is present with the exception of M_3, which are still in the depths of the alveolar processes of the jaws. The upper M_3 have formed roots in the length of 40 per cent of the crowns, the lower ones in the length of 30 per cent. Abrasion of the teeth is roentgenologically missing. It is a matter of the age juvenis, most probably between 14—16 years.

Sex: The forehead is perpendicular and quickly gets crooked to almost a direct ascension of its medial and upper thirds. The glabella is only insignificantly indicated (Broca 1—2), the protub occ. ext. likewise (Broca 1—2). The mastoid processes are short, conical and pointed. The chin is medium wide and rounded. In the lateral view it is lightly pointed and retreating. The angles of the mandible have an entirely insignificant eversion. The index go-go/eu-eu is only 65,3. The robusticity of the bones is slight. Most probably it is the female sex even in reference of the age.

Pathological findings: were not revealed.

Anatomical anomaly: Hypoplasia of the right half of the frontal sinuses.

Conclusion: The head of the mummy is of a 14—16 years old woman without pathological findings. According to the fillings of the eye-sockets, pharynx and basis of the skull, it can be dated probably to the 21st—25th Dynasties.

43. Náprstek Museum, Prague, Inv. No. P 2889, Figs. 63, 64

History: At the beginning of the present century, the head was bought in Egypt by the University Professor Dr. Funke who donated it to Dr. Bohumil Klusáček, the district physician in Prague-Hradčany. At his death in 1938, it was transferred to the Town Museum in Polná, now a branch of the Museum Vysočiny in Jihlava. On September 23, 1972, it was transferred to the collection of the Náprstek Museum in Prague.

Wrappings: are preserved only in remains, mainly on the face.

Archaeological objects: were not ascertained.

Defects and dislocations: The head is preserved with three cervical vertebrae. Because of postmortal damage, all the teeth of the upper jaw are missing except the left P_1, the right M_3 and the roots of all incisors and even the left canine.

Surface of the body: The soft tissues remained in situ except the surroundings of the left tuber frontale, left eye-socket, the nasal bones and the front side of the right half of the body of the mandible. The bones are uncovered in these places. In the eye-sockets, there are evident remains of bent dried eyeballs, penetrated with resin which forms drops and little trabeculae. Roentgenologically they imitate medium dense fillings of a roughly almond outline. On the head, remains of wavy hair were preserved. The colour of the hair is dark-brown, in some places light-brown or even blond, due to the decolourization. The right auricle remained in situ, the left one is missing.

Measurements: Height 22 cm.

Mummification technics: The nasal cavity is entirely filled with compact resin poured into, containing perhaps also rolls of linen; the probing through the nasal passages is impossible. Likewise due to the radio-opaque filling, it is not possible to evaluate the condition of the nasal skeleton in the radiographs.

The cranial cavity is empty in its greater parts, however, it contains a free small inner fillings perhaps composed of resin.

An inhomogeneous, considerably dense shadow, which was projected in the radiographs close to the calvar shadow or over it, is present in the radiographs of the head. Both cheek regions are covered over with a dense, merging, spotty shadow which reaches over temporally. A shadow of similar structure fills the lower half of the oral and pharyngeal cavities.

It is possible to compare this finding with the results of the external examination. In the soft tissues of the skull convexity, there are a number of fissures by which it is possible to ascertain that fillings of resin are applied into the space under the gallea aponeurotica. Some of the fissures that have a more regular course are perhaps remains of the original incisions formed for the insertions of the fillings.

The fillings of subcutaneous space with resin were executed, as it is evident in the number of fissures in the soft part, likewise in the region of the face and neck, mostly under the bottom of the oral cavity. Some of the fissures in the soft tissues, e. g. the fissure running from the right lower edge of the nose to the mouth slantingly in the

filtrum direction, or another fissure on the neck under the base of the mandible, represent evidently the original incisions made by the embalmers.

Through the widely open mouth, it was possible to ascertain that the back parts of the oral cavity and pharyngeal cavity are filled with resin in which rests of insect chrysalises are preserved.

Through the fissure on the neck the filling of the subcutaneous resin is evident which penetrated even between the separate vertebrae. In the region of the larynx even linen fillings were used which were penetrated with resin. The spinal canal remained empty.

On the whole, the object, thanks to its numerous fillings, is very heavy.

Age: The preserved skeleton of the head and neck has a normal structure in the radiographs. The dentition is partly defect and the remaining teeth abraded to half of the height of the crowns. The coronal and sagittal sutures were only partially preserved, the lambdoid suture remained open. It is the maturus age, probably between 40—50 years.

Sex: The forehead is lightly slanting. From the border of the lower and medial thirds it gently bends into a fluent arch. The glabella is weak (Broca 2), the protub. occ. ext. is a little more expressive (Broca 1—2). The mastoid processes are long, bulky and obtuse. The chin is medium wide and rounded, in the lateral view it is gently angulated and strongly prominent. The angles of the mandible are insignificantly everted. The index go-go/eu-eu is 69,4. The bones are medium robust. It is most probable that the remains are of a man (?).

Pathological findings: All the lower molars with the exception of the left M_1 fell out from the jaw, evidently intravitally.

Anthropological remark: The occiput is more flattened than in other examined individuals. The form of the head at the same time is mesocephalic, the face is high and narrow.

Conclusion: The head of the mummy is of a 40—50 years old man (?), except for the dentition without pathological findings. According to the extensive subcutaneous fillings it is possible to date it into the 21st—25th Dynasties. It is not impossible that it comes from the same individual as the foot No. 97.

44. Private Collection of Dr. T. Pavlík, Prague, without Inv. No., Figs. 69, 70

History: Mr. Charuza found this head in the year 1910 in Choceň, east Bohemia, in the house to which he had moved. Before him there lived the proprietor and manager of a textile factory, Dr. Kantor. Mr. Charuza hid the head in the garret where his doughter, Mrs. Anežka Březinová, found it and, in March 1970 she presented it to Dr. Pavlík.

Wrappings: Remains of the lower layers of wrappings have been preserved except a few uncovered places on the cranium, on the right half of the face and on the neck (in the thickness of 15—25 mm). In places they are penetrated with resin, which explains the considerable weight of the object.

Archaeological objects: were not ascertained.

Defects and dislocations: The head and neck were preserved to the level of C_6. The head was cut in the sagittal plane 0,5—1 cm left from the mediosagittal line. The cut wasn't made exactly, it doesn't join together and isn't finished.

Surface of the body: The soft tissues were preserved to a full extent with the exception of the triangular flat area above the left maxilla in the extent of the frontal teeth and premolars, where the bone was uncovered. In places of the torn-off wrappings, gently wavy hair of a brown colour are evident. The facial features are uncovered in the left half of the face. On the right side they are lightly covered by the lower layers of wrappings. The eyelids, eyebrows and beard have not been preserved. Both eyelids of the left eye are wide open and the space is filled with rolls of linen with a flattened surface. The cartilaginous part of the nose is completely preserved with an insignificant decline of the dorsum, which originally was straight and even lightly convex. Both lips have a medium wide transient zone. The mouth is a little open so that the upper row of teeth is visible. On the frontal edge of the sagittal cut, it is possible to study all the layers of the facial parts. In the region of the mandibular body, the thickness of the bone is 6 mm, of the skin 4 mm and of the wrappings 5 mm.

Measurements: Heigth 23 cm.

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Fig. 69 Cat. No. 44 Fig. 70 Cat. No. 44 **Fig. 71** Cat. No. 45 Fig. 72 Cat. No. 45

Mummification technics: The septum nasi is preserved according to the radiographs. The shadow of the turbinates is missing on the left; on the right side, it isn't possible to evaluate this region because of its covering by the occipital part of the cut. In the lateral view, an inhomogoneous, medially opaque overshadowing of an almost circular form, is evident in the region of the nasal cavity. The sagittal cut had uncovered the front part of the left nasal passage in which the rolls of linen, penetrated with resin, were preserved. In the back upper part an opening can be ascertained by probing (2 × 2 cm); it leads to the cranial cavity. The radiographs, however, don't show shadows of opaque mummification stuff in the cranial cavity.

Moderately opaque circular shadows of the fillings in both eye-sockets are present in the radiographs. The external examination made it possible to ascertain in the left eye-socket the rolls of linen with a flattened surface, on which most probably the artificial eyes were pasted. The analogical condition can be supposed as well on the right side which is covered over with wrappings. The subcutaneous fillings were not applied.

Age: The bone tissue has a normal structure. The dentition is completely erupted including M_3. Abrasion of the teeth is almost imperceptible roentgenologically. All the cranial sutures are open. The age is of adult period in the extent of 20—30 years.

Sex: The forehead is shortly perpendicular and then abruptely bends into a flat arch. The glabella (Broca 2) and the protub. occ. ext. (Broca 1), are only slightly indicated. The mastoid processes are short; their thickness couldn't be evaluated in the radiographs. The chin is narrow and rounded; in the lateral view it is pointed and strongly prominent. The angles of the mandible are perceptively everted. The index go-go/eu-eu reaches 69,6. On the whole, the bones of the skull and the vertebrae are gracile. Most probably the remains are those of a woman.

Pathological findings: A small osteophyte on the body of C_3 points to the beginning of cervical *osteophytosis*,

Conclusion: The head of the mummy is of a 20—30 years old woman with the incipient degenerative process on the cervical spine. According to the original presence of the artificial eyes it can be dated probably to the 21st—25th Dynasties.

45. The City Museum of Dvůr Králové, Inv. No. 2590 a, Figs. 71, 72

History: MUDr. Bedřich Barth (born 1855, died 1908) bought this object in Egypt and donated it to the Town Museum in Dvůr Králové.

Wrappings: The lower layers of very fine linen wrappings have been preserved on the brain-case and small remains of wrappings of a rougher woven linen in places of the face.

Defects and dislocations: The head with the complete neck (to the level of C_7) was preserved.

Surface of the body: The soft tissues, except some defects, are preserved. Gently waving hair of a dark-brown colour and both auricles are evident in the places of the torn-out wrappings on the head. The facial features are well visible. The upper lids are almost closed and their half-circular lower edges still carry remains of the eyelashes. They are especially in the left lid convexly vaulted to the front so that behind them a lens-like space (8—10 cm), now empty, is formed. The lower lids were preserved only in small inwardly-pressed remains. The cartilaginous part of the nose has its external parts broken off. The cartilaginous part of the septum nasi is considerably deviated to the right (about 5 mm) so that the left nasal passage is very much widened (14 mm), while the right one is only narrow (3 mm). The upper lip and part of the lower one are broken off, the mouth is a little open. In it a considerably broken remains of the crowns of both teeth rows are visible.

Measurements: Height 23 cm.

Mummification technics: The septum nasi, linearly indicated in the radiographs, is deviated; the shadows of the turbinate bones and the bone structure in the ethmoidal region are missing. By direct probing, it was possible to ascertain that in the left nasal passage the upper back wall is widely broken into the cranial cavity. In the radiographs, however, the radio-opaque fillings of the cranial cavity are not evident.

In the radiographs, the eye-sockets are empty. Nevertheless, there is no doubt that in the spaces behind the vaulted eyelids the artificial eyes were inserted originally. The subcutaneous fillings were not however applied.

The medial parts of all the intervertebral spaces of the cervical spine are opaque.

Age: The bones have a normal structure. On the crowns of the front teeth and the premolars, it is not possible to evaluate the degree of their abrasion due to the secondary breakage. The molars are insignificantly abraded. The dentition is entirely erupted including M_3. All the cranial sutures are open. Death arrived at the age adultus, between 20—30 years.

Sex: The forehead is almost perpendicular and bends abruptely higher up. The glabella (Broca 2) is insignificantly indicated, the protub. occ. ext. (Broca 0) is missing. The mastoid processes are short and pointed. The chin is narrow and rounded; in the lateral view, it is rounded and gently prominent. The angles of the mandible are smoothly arched. The index go-go/eu-eu is 69,0. The bones of the face and the cervical vertebrae are very gracile. The remains are those of a woman.

Pathological findings: were not ascertained.

Anatomical anomaly: a small os praeinterparietale (os apicis).

Anthropological remark: An expressive alveolar prognathism is present.

Conclusion: The head of the mummy is of a 20—30 years old woman without pathological findings. Owing to the original presence of the artificial eyes, it is possible to date it into the 21st—25th Dynasties.

46. Náprstek Museum, Prague, Inv. No. P 570, allegedly Aswan, Rock Tombs, Figs. 73, 74, Plate XVIII a

History: The head was donated by Prof. F. Štolba in 1891 to the Náprstek Museum.

Wrappings: The bottom layers of circularly and slantingly led wrappings have been preserved. They are missing in the middle part of the right half of the face. According to the breakage in the region of the neck, it is evident that the surface of the body, before being wrapped, was covered with resin which penetrated into the lower layers of wrappings.

Archaeological objects: were not ascertained.

Defects and dislocations: The head with a part of the neck to the level of C_5 has been preserved. The head is strongly drawn with its chin to the neck. One of the upper M_1 is displaced into the region of the right half of the pharynx.

Surface of the body: The skeleton is evident in the surroundings of the apertura piriformis, over the right maxilla and near the dentition. It is only in places covered by remains of the soft tissues. In the mouth the remains of the tongue are evident.

Measurements: Height 21 cm.

Mummification technics: The remains of the lower edge of the septum nasi are visible in the radiographs. The shadows of the turbinates are not evident. By probing, it was possible to ascertain that in the upper back part of the nasal cavity an opening into the cranial cavity was formed (3×2 cm wide). Nevertheless, according to the radiographs, the cranial cavity is not filled with the shadow of the mummification radio-opaque stuff. Likewise the eye-sockets are empty. The signs of subcutaneous fillings are also missing.

Age: The bone tissue has a normal structure. The dentition is considerably abraded almost to half of the original height of the crowns. Nevertheless, all the cranial sutures are open. It is an individual in the adultus age in the extent of 30—40 years.

Sex: The forehead is slightly slanting and then, higher up, it bends abruptely. The glabella (Broca 2—3) and the protub. occ. ext. (Broca 2) are medium developed. The mastoid processes are medium long, finger-like and slightly pointed. The chin is wide and rounded, in the lateral view it is slightly angular and prominent. The angles of the mandible are gently everted. The index go-go/eu-eu is 69,5. The cranial bones are considerably robust. The individual is more likely a man.

Pathological findings: In the *dentition* one of the upper M_3 was lost intravitally.

Anthropological remark: A more expressive alveolar prognathism is present.

Conclusion: The head of the mummy is of 30—40 years old man (?) almost without pathological findings. Owing to the missing signs of mummification technics of the 21st—25ht Dynasties, and in view of proved excerebration, it can be dated either to the New Empire or to the Late period, or even to the Graeco-Roman period. The dating to the 12th Dynasty based on the date given by the finder and written down in the Inventory of the Náprstek Museum under No. 5338, can't be considered.

Fig. 73 Cat. No. 46 Fig. 74 Cat. No. 46 Fig. 75 Cat. No. 47 Fig. 76 Cat. No. 47

47. Náprstek Museum, Prague, Inv. No. P 2462, Luxor-West, Valley of Kings (?), Figs. 75, 76, Plate XVII b, c

History: At Luxor, Dr. O. Čapek bought the object and on February 20, 1931 donated it to the National Museum in Prague from where it was transferred to the Náprstek Museum on November 29, 1968.

Wrappings: The entire head is covered with a thin layer of variously led wrappings of finely woven linen. In the face they run almost paralelly to its height. There are small fissures in places of the wrappings, through whis the skin, eventually the skeleton are evident. On the neck, the thickness of the circularly led wrappings makes 13—15 mm.

Archaeological objects: Oblong sticks with a blue faience surface are inserted into the wrappings on some places. The first one is situated in a vertical direction on the glabella (length 12 mm, width 4 mm). The second one, also in the vertical direction, lies to the right from the root of the nose, about in the localization of the lacrimal duct (length 18 mm, width 4 mm). The third one lies symetrically to it, left from the nasal root (length 20 mm, width 5 mm). The fourth one evidently isn't fully preserved and rests horizontally on the mouth (length 12 mm, width 5 mm). The fifth stick is placed vertically in the right auricle between the tragus and antitragus (length 12 mm, width 5 mm). The sixth one which was perhaps located in the left auricle has not been preserved. In the radiographs, 4 of the sticks can be distinguished in the face. It isn't possible to differentiate the fifth one in the region of the right auricle.

Defects and dislocations: The head and neck have been preserved to the level of C_6. The vertebrae C_5 and C_6 are gently pushed backward and caudally.

Surface of the body: Through the relatively thin layer of wrappings in the face, it is possible to recognize some details of the structure of the face. The eyelids are closed. The cartilaginous part of the nose is preserved completely and its dorsum is gently sunken. The cheeks are sunken as they weren't filled subcutaneously. The mouth is a little open. Through the fissures in the wrappings considerably wrinkled and damaged auricles of small dimensions are projecting.

Measurements: Height 26 cm.

Mummification technics: In the region of the apertura piriformis in the radiographs, a linear thin septum nasi is indicated. The shadows of the turbinate bones are, however, missing. A direct probing isn't possible owing to the wrappings. While in the antero-posterior view the filling of the cranial cavity forms only unsharp delimited shadows localized in the medial third, it is possible to differentiate it very well in the lateral view. Unlike with others, in this case the shadow of radioopaque mummification stuff covers the frontal region of the cranial cavity. This shadow is connected with the strip of the dense overshadowing which covers the upper two-thirds of the ventral part of the nasal region. Both frontal and nasal shadows are dorsally delimited with an evident cranio-caudal surface, which reveals the position on the head with the face downward at the time when the poured resin became solidified. The surroundings of the foramen occipitale magnum as well as the squama ossis occipitalis show no sign of damage so that the liquid resin must have been poured through the nose. The inner surface of the parieto-occipital region is covered with a relatively thiny layer of opaque mummification stuff. Artificial eyes and subcutaneous fillings were not used.

Age: The bone tissue has normal structure. Abrasion of the lower row of teeth is considerable mostly up to the roots, with maximum in the region of the frontal teeth. Some of the teeth, e. g. M_2 and M_3, are less abraded, perhaps due to the early loss of their antagonists. The maxilla is entirely atrophic due to the completely intravital loss of the teeth. All the cranial sutures are open. With reference to the possible quickening of the abrasion of the teeth, and contrarily, the retardation of the closure of the cranial sutures, it is necessary to take into consideration the age adultus as well as the age maturus in the extent of 30—50 years.

Sex: The forehead is fluently arched, lightly slanting. The glabella (Broca 3–4) is expressive, the protub. occ. ext. (Broca 2) medially developed. The mastoid processes are medium long and bulky. The chin isn't wide but rounded, in the lateral view rounded and medially prominent. The angles of the mandible have a light eversion. The index go-go/eu-eu is 75,6. The structure of the cranium is, however, rather gracile. Most probably the individual belonged to the male sex.

Pathological findings: While in the lower jaw only the right P_1 is missing, complete atrophy of the alveolar processes of the upper law took place, due to the intravital loss of all the teeth with exception of the in situ preserved roots of both I_1. This condition could be caused etiologically by *extreme abrasion* or by *paradontopathy.*

On the cervical spine, we find signs of moderate *osteophytosis* on the bodies of C_2 and C_3.

Anthropological remark: A more expressive alveolar prognathims is present.

Conclusion: The head of the mummy is of a 30—50 years old man with a few pathological findings. Due to the missing signs of mummification technics of the 21st—25th Dynasties, and because of the fillings of the cranial cavity, it is possible to date it the New Kingdom or to the Late period, or even to the Greaco-Roman period.

48. Náprstek Museum, Prague, Inv. No. P 2849, Figs. 77, 78

History: Baron Schäffer of Úmonín gained this object for his own collections and in 1881 he donated it to the former Town Museum, today's District Museum in Kutná Hora. On the 14th of October 1971, it was transferred to the Náprstek Museum in Prague.

Wrappings: Insignificant remains of the lower layers of wrappings were preserved in a few places (on the cranium convexity, mandible and neck). They were of a roughly woven linen.

Archaeological objects: were not ascertained.

Defects and dislocations: The head with a complete neck has been preserved to the level of C_7, out of which only the cranial half remained.

Surface of the body: The head and neck are covered with a dark-brown, even a black skin. The dark colour was partly caused by the thin layer of resin varnish. The hair isn't preserved. The left auricle is missing, and from the right one the back half part remained in situ. The facial features are well visible. The eyelids are closed and the chinks between them are insignificant. The cartilaginous part of the nose is preserved, its dorsum is rather sunken. The nostrils are widely open. The cheeks are sunken and unfilled. The transitional zone of the lips is conspicuously narrow. A part of the crowns of the lower row of teeth is visible through the moderately open mouth. The neck is conspicuously thin, due to the drying out of the soft tissues.

Measurements: Heigth 23 cm.

Mummification technics: It is possible to distinguish the linear shadow of the septum nasi in the radiographs. The shadows of the turbinate bones are, however, missing. The direct probing proved that the rear part of the septum nasi is perforated and the back upper part of the nasal cavity is broken through with a larger opening (3 × 2 cm), leading into the cranial cavity. In the radiographs the shadows of the radio-opaque mummification stuff are not present in the cranial cavity. Only a small, linear, irregular shadow in the lateral view is cast to the centre of the cranium, in the antero-posterior view closely to the left of the medio-sagittal plane. It is perhaps a clew of linen.

At the breakage on the neck basis, it is evident that there are no subcutaneuos fillings. In the eye-sockets, no shadows of the artificial eyes are evident.

Age: The bone tissue has normal structure. While the frontal teeth and premolars have quite strongly abraded crowns (about to half of their original height), the molars are less so (about to a quarter of their height). The entire dentition including M_3, is erupted. All the cranial sutures are open. The individual died at the age adultus, rather between 30—40 years.

Sex: Over the slight supraglabellar depression, the forehead bends into a flattened arch. The glabella (Broca 2) and the protub. occ. ext. (Broca 1) are formed weakly. The mastoid processes are medium long and medium bulky. The chin is wider, lightly angular, in the lateral view, it is rounded and medium prominent. The angles of the mandible are not everted on the right, insignificantly everted on the left. The index go-go/eu-eu shows a conspicuously low value of 59,9. The skull is small and the preserved skeleton is decidely gracile. It is most likely the head of a woman.

Pathological findings: In the *dentition,* the intravital loss of the left upper M_1 can be stated.

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Fig. 77 Cat. No. 48 Fig. 78 Cat. No. 48 Fig. 79 Cat. No. 49 Fig. 80 Cat. No. 49

The intervertebral space between C_2 and C_3 is lowered. The finding, however, has no decidely pathological character, because there are no osteophytic changes on the neighbouring margins of the vertebral bodies or change of the structure near the facies terminales.

Conclusion: The head of the mummy is of a 30—40 years old woman almost without pathological findings. Due to the missing of the signs of mummification technics of the 21st—25th Dynasties and because of the proved excerebration, it can be dated either to the New Kingdom or to the Late period, even to the Graeco-Roman period.

49. Castle Lešná, District Gottwaldov, Inv. No. 1006, Figs. 79, 80

History: The former owner of the castle, Count Joseph Seilern, brought this head from his journey around the world in 1929—1931.

Wrappings: On the top of the head a few layers of wrappings have been preserved of a roughly linen whose external layers are light ochre in colour, the inner layers are dark, even black due to the penetrating resin. In the radiographs, in the same place stripped shadows of the wrappings are cast, penetrated with the radio-opaque mummification stuff.

Archaeological objects: were not ascertained.

Defects and dislocations: The head with the neck to the level of C_3 has been preserved.

Surface of the body: Thanks to the covered surface of the body with a layer of resin, which is strongest in the occipital region, the soft tissues including the two auricles are preserved very well. All the characteristical facial features of a small child remained preserved, even the fine remains of the eyebrows and the slightly wavy hair, whose colour can't be evaluated because of the resinous cover. On the cheeks, in the surroundings of the eye-sockets and on the root of the nose, traces of gold foil which perhaps originally covered the face, are evident.

Measurements: Height 14 cm.

Mummification technics: The structure of the nasal skeleton is without roentgenologically differentiated changes. By direct probing of the left nasal passage, a communication into the cranial cavity was ascertained (2 × 2 cm). According to the radiographs, the cranial cavity is mostly empty except for the oval shadow cast into the medio-sagittal line in the anterior fossa of the skull. Tiny fragments of the mummification stuff in the cranial cavity rattle when the object is shaken.

In the radiographs, the eye-sockets are empty and, according to the unvaulted form of the eyelids, they had never bee filled. Likewise the subcutaneous fillings weren't applied.

Age: In the dentition, all the deciduous teeth are completely erupted. The roots of permanent teeth are immersed in the depths of the bodies of both jaws. M_1 already has an almost complete crown formed but without roots. The fontanels are already gone, however, the metopic suture is still open. The frontal sinuses are not yet developed. The age is that of an infans I, more likely between 2—3 years.

Sex: cannot be ascertained at this age.

Pathological findings: weren't observed.

Conclusion: The head is of a 2—3 years old child without pathological findings. Owing to the absence of the signs of mummification technics of the 21st—25th Dynasties and to the proved excerebration, it is possible to date it either to the New Kingdom or to the Late period, or even to the Graeco-Roman period.

50. Náprstek Museum, Prague, Inv. No. P 2901, Figs. 81, 82

History: The object comes from the former collection of J. Slovák of Kroměříž, which in 1934 was transferred to the Town Museum in Kroměříž. From here, it was given over to the Náprstek Museum on January 1st, 1974.

Wrappings: have been preserved in insignificant remains in the surroundings of the nose.

Archaeological objects: were not ascertained.

Defects and dislocations: The head and the neck have been preserved to the level of C_6. Postmortally the upper left I_2 fell out and the crown of the upper I_1 was broken.

Surface of the body: The soft tissues are preserved, except on the surface of the parietal bones which are exposed. The fragment of the right auricle is present,

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Fig. 81 Cat. No. 50 Fig. 82 Cat. No. 50 Fig. 83 Cat. No. 51 Fig. 84 Cat. No. 51

but the left auricle is missing. In both eye-sockets deeply sunken closed eyelids are evident. Their surface is rough due to dessication and their edges are bent. The anterior half of the cartilaginous part of the nose is missing. The rests of the nose are covered with a layer of linen, through which linen tampons are shining through in both nose passages. In a little open mouth, partly defect row of the upper teeth and the edge of the tongue are visible. It is not possible to ascertain the transitional zone of the lips.

Measurements: Height 23 cm.

Mummification technics: In the radiographs, the shadow of the septum nasi is preserved, however, the turbinates are missing. Direct probing isn't possible because of the tampons and the covering of nasal passages. It seems that the arrangement of the external nose is original. Most probably the embalmers performed it as the frontal part of the nose had already been defective (whether intravitally or more likely as result of postmortal decay). In the cranial cavity, the shadows of opaque mummification stuff are not evident in the radiographs. In the eye-sockets the shadows of the artificial eyes cannot be proved and likewise, the subcutaneous fillings were not applied.

Age: The bone tissue has a normal structure. It is almost impossible to recognize the abrasion of the teeth roentgenologically. The external examination of the upper right frontal teeth ascertained its insignificant intensity. The dentition is completely erupted including the M_3. All the cranial sutures are open. The individual died at the adultus age in the extent of 20—30 years.

Sex: The forehead is vertical and higher up it bends abruptely. The glabella is less developed (Broca 1), the protub. occ. ext. is insignificantly indicated (Broca 0—1). The mastoid processes are medium long and medium robust. The chin is medium wide and rounded, in the lateral view it is rounded and non-prominent. The angles of the mandible are not everted. The index go-go/eu-eu makes only 65,6. The robusticity of the skeleton is medium. The remains are those of a woman.

Anatomical anomaly: Retention of the upper right P_2 whose space is narrowed by the adaptive shift of the neighbouring teeth.

Anthropological remark: Somewhat more expressive alveolar prognathism is present.

Conclusion: The head of the mummy is of a 20—30 years old woman almost without pathological findings. Due to the missing signs of the mummification technics of the 21st—25th Dynasties and in view of the probable excerebration, it can be dated either to the New Kingdom or to the Late period, even to the Graeco-Roman period.

51. Náprstek Musum, Prague, Inv. No. P 2902, Figs. 83, 84, Plate XII c

History: see No. 50.

Wrappings: With the exception of uncovered places (left auricle, nose, mouth and chin), slantigly led circular wrappings of finely and roughly woven linen have been preserved. Resin, with which the surface of the entire object was spread, penetrates through the bottom layers.

Archaeological objects: were not ascertained.

Defects and dislocations: The head and neck have been preserved to the level of C_6. A postmortal defect through which it is possible to look into the cranial cavity is formed in the right parietal bone and in the closely lying section of the frontal bone.

Surface of the body: Through the fissure in the wrappings, a well preserved left auricle of a medial size is evident. In the face the cartilaginous part of the nose with a sunken and flattened spine is preserved. The transitional zone of the lips is narrow. The tongue and partly damaged crowns of the upper row of teeth are visible in the open mouth.

Measurements: Height 24,5 cm.

Mummification technics: According to the X-ray examination, the septum nasi is preserved in its lower two thirds; the upper one is missing. The shadows of the turbinates aren't evident. The external probing of the empty nasal passages proved that in the back upper wall of the nasal cavity there is a small opening ($1 \times 1,5$ cm) into the cranial cavity, which, however, isn't filled with the shadow of the radio-opaque stuff. Through a defect in the skull convexity, is is possible to see pieces of linen in the skull interior which must have got there secondarily. There

are no traces of resin. The eye-sockets are empty roentgenologically. In the breakage on the basis of the neck, it is evident that no subcutaneous fillings were used.

Age: The bones are porotic. The dentition is considerably defect; the abrasion of the remaining teeth reaches up to the roots. The alveolar processes of both jaws are entirely atrophic to the extent of the molars and partly of the premolars. The cranial sutures are closed except the unobliterated remains in the lamboid suture. The individual reached the age maturus or even senilis in the range from 50—70 years.

Sex: Above the slight supraglabellar depression, the forehead bends into an almost fluent arch. The glabella (Broca 3) is medium, the protub. occ. ext. (Broca 1) is only insignificantly indicated. The mastoid processes are very long and have a finger-like form. The chin is wide and rounded; in the lateral view, it is rounded and gently prominent. The angles of the mandible are visibly everted. The index go-go/eu-eu is 72,2. The robusticity of the bones is medium on the whole, the dimensions of the skull are smaller. In spite of it, it is undoubtedly the male sex.

Pathological findings: Except the torso of postmortally damaged front teeth, the upper M_1 and lower M_3, the majority of teeth fell out intravitally and atrophy of the alveolar processes of both jaws took place. *Extreme abrasion* or *paradontopathy* could have caused this.

The preserved skeleton reveals a general structural rarefaction in the sense of *osteoporosis.*

On the ventral edges of the bodies of C_5 and C_6 which look like "low vertebrae" unexpressive *osteophytosis* is present.

Anatomical anomaly: Hypoplasia of the frontal sinuses.

Conclusion: The head of the mummy is of a 50—70 years old man with several pathological findings. Due to the missing signs of mummification technics of the 21st—25th Dynasties, and in view of the undoubtable excerebration, it can be dated either to the New Kingdom or Late period, or even to the Graeco-Roman period.

52. Náprstek Museum, Prague, Inv. No. P 2903, Figs. 85, 86

History: see No. 50.

Wrappings: The lower layers of wrappings have been preserved on the cranium and partly also on the face where they are missing only in the surroundings of the eyes, on the nose, on the left cheek and on the neck. The direction of the uppermost windings is on the brain-case sagittal and partly slanting, on the neck it is crosswise-circular.

Archaeological objects: were not ascertained.

Defects and dislocations: The head and neck have been preserved to the level of the vertebra C_7 out of which only the cranial half remains.

Surface of the body: Well preserved soft tissues are evident in places where the wrappings are missing. Between the half-opened eyelids, 4 mm wide chinks are visible. The cartilaginous part of the nose is completely preserved, the dorsum of the nose is gently sunken and the surface is wrinkled. The ends of linen tampons (in the length of 27 mm left, 18 mm right) jut out from both patent nostrils. The mouth, uncovered only in the medial part, is shut.

Measurements: Height 26 cm.

Mummification technics: The septum nasi is clearly indicated in the radiographs. On the contrary, the shadows of the turbinate bones are missing. Considering the presence of the nasal tampons, it wasn't possible to probe the opening of the back wall in the nasal cavity. Its presence is, however, mostly probable as the turbinates are missing and tamponade was performed. In spite of it, the radio-opaque fillings aren't roentgenologically confirmed in the cranial cavity. Likewise, the eye-sockets are empty. In the chinks between the eyelids the artificial eyes could not have been inserted and even the fillings of the linen tampons are missing. Neither were the subcutaneous fillings applied.

Age: The structure of the bone tissue is porotic in general. The preserved laryngeal and tracheal skeleton has a calcification density. The upper teeth are mostly fallen out intravitally and the alveolar processus of the maxilla is almost entriely atrophic. Abrasion of the preserved upper inscisors and of the lower row of teeth is advanced with a maximum in M_1 whose crowns are almost wholly carried down. On the contrary, all the cranial sutures are open. In spite of this, the age maturus in the extent of 50—60 years is most probable.

Fig. 85 Cat. No. 52 Fig. 86 Cat. No. 52 Fig. 87 Cat. No. 53 Fig. 88 Cat. No. 53

Sex: The forehead is fluently arched and generally retreating. The glabella is strongly formed (Broca 3—4), the protub. occ. ext. si medium (Broca 2). The mastoid processes are long and medium bulky. The chin is wide and angular; in the lateral view, it is round and almost unprominent. The angles of the mandible are insignificantly everted. The index go-go/eu-eu reaches 77,4. The remains are those of a man.

Pathological findings: We ascertained a complete atrophy of the region of the intermaxillary bone where both I_1 and a part of the right-side I_2 are preserved. The reason for the intravital loss of all the upper teeth was *paradontopathy* or *extreme abrasion*. The alveolar processus of the lower jaw is considerably prognathic and the frontal teeth prodentic so that a relative progeny results.

The intervertebral discs C_2 and C_3 were seized with *osteochondrosis* with the lowering of the intervertebral spaces, undulated facies terminales of the vertebral bodies and with localized *osteophytosis*. *Degenerative arthritis* of the intervertebral joints of the cervical spine is also evident.

General *osteoporosis* of all preserved bones is present.

Technical remark: In the radiographs, an intracranially located fragment of a nail is cast in the left parieto-occipital region.

Anatomical anomaly: Leftsided hypoplasia of the frontal sinuses.

Conclusion: The head of the mummy is of a 50—60 years old man with a number of pathological findings. Considering the absence of the mummification technical signs of the 21st—26th Dynasties and the presence of signs of removing the brain by the nasal way, it can be dated to the New Kingdom or the Late period, or even to the Graeco-Roman period.

53. Hrdlička Museum of Man, Prague, Inv. No. 15/9, Oasis Kharga, Figs. 87, 88, Plate XVIII b

History: The head was donated by Dr. Aleš Hrdlička. It most probably comes from his research in the Oasis Kharga in 1909.

Wrappings: are not present on the object.

Archaeological objects: were not ascertained.

Defects and dislocations: The head with a part of the neck has been preserved to the level of C_4.

Surface of the body: The soft tissues remained well preserved except the missing cartilaginous part of the nose, covered with an adherent skin lobe. The facial features are evident, the eyelids closed (the right one is deformed), the cheeks sunken, the mouth slightly open, the transitional zone of the lips medium wide. Straight hair slightly waved of a partly dark-brown and partly gray colour are preserved just as the eyebrows and lashes of a light and even gray colour. The traces of a beard are missing. Both auricles remain in situ.

Measurements: Height 21 cm.

Mummification technics: It is possible to distinguish only the medial part of the shadow of the nasal septum in the radiographs, while the shadows of the turbinates are missing. In the lateral view, on the front edge of the apertura piriformis, a vertical stripped shadow of a shutter is cast, formed artificially by the skin lobe. Due to this, a direct probing isn't possible. The presence of the opening from the nasal cavity to the cranial cavity proves its filling indirectly. The cranial cavity is covered with a tiny spotted, even grainy shadow in the parieto-occipital region, and less expressively in the frontal region, too. In the antero-posterior view, it is medium dense, in the lateral view highly opaque. No delimited surface can be distinguished. Without doubt, it is earth mixed with sand.

In the lower half of the right eye-socket in the lateral view, a feebly opaque lens-like shadow (2,3 × 0,7 cm) is cast, with most probably resulted from the deformed right lid. The subcutaneous fillings were not applied. The skin of the face, however, carries traces of a yellow, even red-brown colouring tone and the lips have remains of a blue-black varnish.

Age: The skeleton shows signs of osteoporosis. The graying of the hair, eyebrows and eyelashes has already been mentioned. The dentition is defect in its greatest part and the alveolar processes of both jaws are atrophic. The remained upper left I_2 and C, and the lower frontal teeth are abraded up to the roots. On the contrary, the upper P_2 and M_1 only are grinded insignificantly, evidently because of the early loss of their antagonists. The cranial sutures are mostly covered by the shadow of the radio-opaque fillings of the cranial cavity. It is possible to evaluate only the coronal

suture in the lateral view and the lambdoid one in the antero-posterior view; both of them are obliterated. According to the said signs, death came at the age maturus or senilis between 50—70 years.

Sex: The forehead rises in a gentle slant and on the borders of its lower and medial thirds it bends into a fluently vaulted arch. The glabella (Broca 2) and also the protub. occ. ext. (Broca 1) are only feebly indicated. The mastoid processes are long, bulky and lightly pointed. The chin is wide and rounded. In the lateral view, it is slightly angular and not very prominent. The angles of the mandible are slightly everted. The index go-go/eu-eu is only 67,5. The remains are but more or less those of a man with some of the secondary sex signs rubbed off because of the high age.

Pathological findings: The bone shadow is rarefacted especially in the lower jaw and vertebrae in the sense of general *osteoporosis.*

The *dentition* is afflicted with an extensive intravital loss. Only the upper left I_2 and C, right P_2 and M_1, and the lower front teeth remained in situ. The alveolar processes of both jaws are lowered because of expressive involution *atrophy.*

Conclusion: The head of the mummy is of a 50—70 years old man (?) with a few pathological findings. Considering the missing of signs typical for the mummification technics of the 21^{st}—25^{th} Dynasties, and in view of the proved fillings of the cranial cavity, it can be dated either to the New Kingdom or the Late period, or even to the Graeco-Roman period.

According to the excavation report about the burial-grounds in Kharga, the materials were dated predominantly into the 4^{th}—5^{th} centuries A. D. (LYTHGOE 1908, 1909), i. e. from the Late Roman to the Early Byzantine period.

Chapter 6

ISOLATED PARTS OF THE UPPER LIMBS OF MUMMIES

54. Hrdlička Museum of Man, Prague, Inv. No. 15/15, Fig. 100

Right hand with distal half of the forearm. The fingers are stretched out, the hand is bent ulnarly against the axis of the forearm.

History: It comes from the old collection funds of the Hrdlička Museum.

Wrappings: have not been preserved.

Defects and dislocations: The extremitas distalis phalangis distalis of the 5th finger is missing. The continuity of the diaphysis of the 1st metacarpal, basis of the 5th metacarpal, and the distal ends of the both forearm bones are interrupted.

Surface of the body: The soft tissues are preserved and are covered on both sides with traces of the original golden foil.

Measurements: Length of hand 16 cm, length of whole object 29 cm, A: 16,5 cm (?), B: 16,7 cm (?), C: 15,8 cm (?), D: 9,1 cm (?).

Age: The bone tissue has a normal structure. Basis of the 1st metacarpal can't be evaluated, due to the covering of the proximal epiphyseal plate zone by the other shadows. It is a mater of a grown-up individual who died at the age adultus or maturus.

Sex: The robusticity of the bones is medium. According to the measures, it is more or less a woman.

Anatomic variety: Cystoid formation in the os triquetrum.

Conclusion: It is the hand of an adult woman (?).

55. Hrdlička Museum of Man, Prague, Inv. No. 15/16

Right hand with distal epiphysis of radius. Fingers are stretched.

History: From the old collection funds of Hrdlička Museum.

Wrappings: weren't preserved.

Archaeological objects: On the basis of the thumb and little finger, rings with a blue faience surface are threaded.

Surface of the body: The soft tissues are preserved in a good condition.

Measurements: Length 15 cm, A: 13,8 cm, B: 13,6 cm, C: 13,2 cm, D: 6,9 cm.

Age and sex: The state of ossification corresponds with the girl's standard 17 (8 years 10 month) or the boy's standard 20 (11 years) of the Atlas by GREULICH and PYLE (1959). The size and robusticity approach more the woman's standard.

Conclusion: It is a hand of a child aged 9—11 years, probably a girl.

56. Náprstek Museum, Prague, Inv. No. P 578, allegedly Aswan, Rock Tombs, Figs. 89, 90

Left hand. The thumb is stretched. The other fingers are in flexion.

History: Prof. František Štolba granted it to the Náprstek Museum in 1891.

Wrappings: Each finger is bandaged independently with 5 layers of narrow circularly led wrappings. Into the closed palm, rolls of woven linen have been placed. On the dorsum and palm of the hand, two kinds of finely woven linen wrappings are evident.

Defects and dislocations: The scaphoid, semilunar and pisiform bones are missing.

Surface of the body: The soft tissues including the exposed nail of the second finger are preserved. The tendons of the finger flexors, fringed on the ends, are uncovered in the wrist.

Measurements: Length 12 cm, breadth 5,8 cm, D: 8,3 cm.

Age: The bone tissue has a normal structure. The traces of the epiphyseal plates are missing. Adult individual, most likely in the age maturus.

Sex: The bones are medium robust, they have a wide compacta and narrow medullary canals. According to the measures, it is more or less a woman's hand.

Conclusion: The hand is of an adult (maturus?) woman (?).

57. Náprstek Museum, Prague, Inv. No. P 579

Left hand. Thumb is stretched. The other fingers are firmly bent.

History: Part of the old collection funds of the Náprstek Museum.

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Fig. 89 Cat. No. 56 dorsal side
Fig. 90 Cat. No. 56 palmar side
Fig. 91 Cat. No. 67 dorsal side
Fig. 92 Cat. No. 67 palmar side

Wrappings: are preserved in insignificant remains.
Defects and dislocations: The scaphoid and semilunar bones, further the 3rd phalanx of the 2nd and 3rd fingers are missing.
Surface of the body: The soft tissues are preserved only in part on the palm, thumb (including the nail) and the dorsum of the first phalanges.
Measurements: Length 12 cm, breadth 5,9 cm, D: 9,2 cm.
Age: The bone tissúe has a normal structure. Traces of epiphyseal plates are missing. Adult individual, rather in the maturus age.
Sex: The bones are medially robust. According to the measures, it is rather a woman.
Conclusion: The hand is of an adult (maturus?) woman (?).

58. Náprstek Museum, Prague, Inv. No. P 580

Right hand. The fingers are stretched.
History: Part of the old collection funds of the Náprstek Museum.
Wrappings: Remains of roughly woven linen resembling sacking are preserved on the dorsal side. Under it on the palm side there are finely woven wrappings.
Defects and dislocations: The distal phalanx of the 2nd finger is missing. The nail is preserved in situ on the uncovered distal phalanx of the thumb.
Surface of the body: The soft tissues are preserved to a full extent.
Measurement: Length 10,5 cm, breadth of palm 4,3 cm, C: 10,1 cm, D: 4,9 cm.
Age and sex: The state of the ossification corresponds with the girl's standard 12 (4 years, 2 months) and the boy's standard 15 (6 years). The small measures and the gracility are nearer to the girl's standard.
Conclusion: The hand is of a 4—6 years old child, more likely a girl (?).

59. Náprstek Museum, Prague, Inv. No. P 581

Left hand. The fingers are stretched.
History: Part of the old collection of the Náprstek Museum.
Wrappings: have not been preserved.
Defects and dislocations: The os semilunare, triquetrum and pisiforme are missing.
Surface of the body: Soft tissues, covered in several places by resin, are preserved. Nails are not visible.
Measurements: Length 12 cm, breadth 4,7 cm, C: 11,8 cm, D: 6,3 cm.
Age and sex: The os scaphoideum has a pea-like ossification centre. The os capitatum has an oval form and it is on the ulnar side flattened. The os hamatum is almost triangular. The two last bones are separated by a narrow chink. Basal epiphysis of the 1st metacarpal and the distal epiphysis of the 2nd—4th metacarpal are still circular. This condition is near to the girl's standard 12 (4 years, 2 months) and boy's standard 15 (6 years). The robusticity and size correspond with the boy's standard.
Conclusion: The hand is of a 4—6 years old child, more likely a boy (?).

60. Náprstek Museum, Prague, Inv. No. P 582

Right hand. Fingers are stretched.
History: Transferred from the castle in Mnichovo Hradiště in 1948.
Wrappings: were preserved in insignificant traces.
Defects and dislocations: All the phalanges of the 5tn finger are missing.
Surface of the body: The soft tissues including the nails have been preserved.
Measurements: Length 16,7 cm, breadth 5,0 cm, A: 17,1 cm, C: 16,5 cm, D: 9,2 cm.
Age: The bone tissue has a normal structure. Traces of the epiphyseal plates are missing. Adult, more likely of the maturus age.
Sex: The bones are medium robust. The metacarpals have slim diaphyses with a wide compacta and narrow medullary canals. According to this and to the measures, it is a woman's hand.
Anatomical anomaly: Small cystoid formation in the os triquetrum, capitatum and scaphoideum.
Conclusion: It is the hand of an adult (maturus?) woman (?).

61. Náprstek Museum, Prague, Inv. No. P 583

Right hand with distal end of the forearm in the length of 6 cm. Fingers are stretched.

History: Part of the old collection funds of the Náprstek Museum.

Wrappings: Small remains of the wrappings are preserved on the dorsal side.

Defects and dislocations: The extremitas distalis phalangis distalis of the 4th finger is missing.

Surface of the body: The soft tissues have been preserved with the exception of the thumb, however, without the nails. The tendons of the muscles of the forearm are fringed at the breakage.

Measurements: Length 22 cm, length of hand 16,5 cm, breadth of hand 5,6 cm, A: 17,1 cm, B: 16,8 cm (?), C: 16,4 cm, D: 9,0 cm.

Age: The bone tissue presents signs of general osteoporosis with lienar compacta of the diaphyses. Traces of the epiphyseal plates are missing. Adult age, perhaps senilis.

Sex: The robusticity of the bones is medium. According to the measures, it is perhaps the hand of a woman.

Conclusion: It is the hand of an adult (senile?) woman (?).

62. Náprstek Museum, Prague, Inv. No. P 584

Right hand. Fingers are stretched.

History: Part of the old collection funds of the Náprstek Museum.

Wrappings: have not been preserved.

Defects and dislocations: The phalanges of the 1st, 4th (with the exception of the basis of the proximal ones) and the 5th fingers, further the proximal row of carpal bones are missing.

Surface of the body: The skeleton, which appears on the surface in places, is covered with a dried out coloured skin. The nail of the 2nd finger is missing and on the 3rd one it is preserved.

Measurements: Length 16 cm, C: 16,2 cm.

Age: Linear shadows are preserved in places of epiphyseal plates of the finger phalanges and in the basis of the 1st metacarpal. The bone tissue has a normal structure. Adult individual, perhaps of adultus age.

Sex: The robusticity of the bones is medium. According to the measures, it is more likely a woman.

Conclusion: The hand is of a maturus (adult) woman (?).

63. Náprstek Museum, Prague, Inv. No. P 585

Right hand. The fingers are stretched.

History: Part of the old collection funds of the Náprstek Museum.

Wrappings: have not been preserved.

Surface of the body: The soft tissues are preserved with the exception of the distal phalanx of the 5th finger. The nail remained in situ only on the thumb.

Measurements: Length 17,1 cm, breadth 5,7 cm, A: 16,6 cm, C: 15,9 cm, D: 9,1 cm.

Age: The bone tissue has a normal structure. Traces of the epiphyseal plates are missing. Adult individual, perhaps of the maturus age.

Sex: The bones are gracile. The diaphyses of the 2nd—5th metacarpals are considerably narrow with a wide compacta and narrowed medullary canals. According to this and to the measures, it is likely the remain of a woman.

Conclusion: The hand is of an adult (maturus?) woman.

64. Náprstek Museum, Prague, Inv. No. P 593

Fragment of the left hand. The thumb is stretched.

History: Part of the old collection funds of the Náprstek Museum.

Wrappings: weren't preserved.

Defects and dislocations: Only the os trapezium, trapezoideum, the 1st and 2nd metacarpals, both phalanges of the thumb and a fragment of the basis of the 1st phalanx of the 2nd finger have been preserved.

Surface of the body: The soft tissues are completely preserved. On the dorsal side they are covered by resinous varnish.

Measurements: Length of fragment 11,2 cm, D: 10,2 cm.

Age: The bone tissue has a normal structure. Traces of the epiphyseal plates are missing. Adult individual, more likely of maturus age.

Sex: The robusticity of the bones is medium. According to the measures, it is more likely a man's hand.

Conclusion: The fragment of the hand is of an adult (maturus?) man (?).

65. Náprstek Museum, Prague, Inv. No. P 2465

Left hand. The fingers are stretched.

History: Transferred from the National Museum in Prague on November 29, 1968.

Wrappings: Insignificant remains of finely woven linen have been preserved in the region of the 5th metacarpal.

Defects and dislocations: The proximal row of carpal bones and the phalanges of the 5th finger, except the basis of the 1st phalanx, are missing.

Surface of the body: The soft tissues penetrated with resin are preserved, partly deranged on the dorsal side, including the nails. On the volar side of the fingers the skin is perfectly preserved, including the dermatoglyphes.

Measurements: Length 19 cm, C: 18,8 cm, D: 9,9 cm.

Age: The bone tissue has a normal structure. Traces of the epiphyseal plates are missing. Adult individual, more likely of the maturus age.

Sex: The robusticity of the bones is remarkable. According to this and to the measures, it is the hand of a man.

Conclusion: The hand is of an adult (maturus?) man.

66. Náprstek Museum, Prague, Inv. No. P 2466

Left hand with the distal end of the forearm. The fingers are stretched.

History: Transferred from the National Museum in Prague on November, 29, 1968.

Wrappings: Layers of single, roughly woven linen have been preserved on the dorsal surface of the hand and partly also on the volar side of the wrist. The windings of separate fingers are missing.

Surface of the body: The soft tissues, strongly penetrated with resin are preserved, including the nails (with the exception of the 4tn finger). On the palmar side of the fingers there are traces of varnish of white earth in places.

Measurements: Length 24,5 cm, length of hand cannot be determined, breadth of hand 6,7 cm, A: 20,4 cm, B: 20,1 cm (?), C: 19,6 cm, D: 10,8 cm.

Age: A shadowy trace is evident in the places of epiphyseal plate in the basis of the 1st metacarpal. The bone tissue has a normal structure. Adult individual of more likely adultus age.

Sex: The robusticity of the bones is considerable. According to it and to the measures, it is more likely the hand of a man.

Conclusion: The hand is of a maturus (adultus?) man.

67. Náprstek Museum, Prague, Inv. No. P 2467, Figs. 91, 92

Right hand. The fingers are stretched.

History: Transferred from the National Museum in Prague on November 11, 1968.

Wrappings: These have been preserved on the entire dorsal side, with the exception of the tips of the 2nd and 4th fingers, and on the palm. They consist of larger pieces of a finely woven linen.

Archaeological objects: On the dorsal surface of the proximal phalanx of the 5th finger, a blue faience amulet is inserted among the remains of the wrappings. It has the form of a sitting god with bended legs drawn to the body (length 12 mm).

Surface of the body:: The soft tissues are preserved with a brown-coloured skin without traces of resin and with all the nails, except the nail of the 4th finger.

Measurements: Length 18,0 cm, breadth 6,0 cm, A: 19,0 cm, C: 17,9 cm, D: 9,8 cm.

Age: The bone tissue has a normal structure. Traces of the epiphyseal plates are missing. Adult individual, more likely of the maturus age.

Sex: The robusticity of the bones is medium. According to the measurements, it is more likely the hand of a man.

Conclusion: The hand is of an adult (maturus?) man (?).

68. Náprstek Museum, Prague, Inv. No. P 2468, Figs. 93, 94

Right hand with distal end of the forearm. The fingers are stretched.

History: Transferred from the National Museum in Prague on November 11, 1968.

Wrappings: Remains of a linen cloths enclosed as a whole on both sides have been preserved. Fingers weren't bandaged separately.

Surface of the body: The soft tissues, penetrated with resin are preserved, including the nails. A white coating of microcrystallic structure is present on the palmar skin under the wrappings (see further).

Measurements: Length 24,3 cm, length of hand 17,5 cm, breadth of hand 5,8 cm, A: 18,7 cm, B: 18,2 cm, C: 17,8 cm, D: 9,9 cm (?).

Age: The bone tissue shows general porotic rarefaction. The compacta of the diaphyses is linearly thinned out. The entire skeleton is conspicuously gracile. The traces of epiphyseal plates are missing. It is an adult individual, more likely of senilis age.

Sex: Despite the gracile structure connected with age, it is, according to the measures, more likely to be the hand of a man.

Conclusion: The hand is of an adult (senilis?) man (?).

Chemical remark: The white microcrystallic coating contains, according to the spectral analysis, Al, Si, Ca, Mg, Na, Ba, Ti, and traces of Mn, Fe, P, Pb and As. On the basis of the X-ray diffraction analysis and the infrared spectroscopy, it was possible to conclude, that it is formed of alpha quartz with admixed sodium magnesium aluminosilicates, besides small amounts of sulphate, carbonates, eventually chlorides and phosphates of the mentioned cations. The composition is thus analogous with the findings on the head No. 33.

69. Náprstek Museum, Prague, Inv. No. P 2469, Luxor-West, Valley of Kings (?), Fig. 99

Left hand. The 1st—3rd fingers are stretched, the 4th and 5th one are in a moderate flexion.

History: On February 20, 1931, Dr. O. Čapek donated the hand to the National Museum in Prague. From there it was transferred on November 11, 1968, to the Náprstek Museum.

Wrappings: have not been preserved.

Defects and dislocations: The carpal bones are missing except the os trapezium and the os trapezoideum.

Surface of the body: The soft parts including the nails are preserved. They are conspicuously wrinkled due to desiccation. The dermatoglyphes are well evident on the skin of the palm and partly also on the dorsal side of the hand. The surface of the skin is painted over with a white varnish.

Measurements: Length 16 cm, width 5,9 cm, D: 8,7 cm.

Age: A linear shadow is evident in the place of the proximal epiphyseal plate of the 1st metacarpal. The bone tissue has a normal structure. It is an adult individual of likely the adultus age.

Sex: The robusticity of the bones is medium. According to the measures it is more likely the remain of a woman.

Conclusion: The hand is of an adult (adultus?) woman (?).

70. Náprstek Museum, Prague, Inv. No. P 2497, Plate XIX a

Righ hand with outstretched fingers.

History: Transferred from the National Museum in Prague on November 11, 1968.

Wrappings: It is evident that at first, a filling of folded finely woven linen cloth was inserted into the palm, and then the whole hand was wound with circularly led wrappings, whose edges are folded.

Defects and dislocations: The os scaphoideum, semilunare and triquetrum and further, the distal phalanx of the 3rd finger are missing. Continuity is interrupted in the distal part of the proximal phalanx of the 4th finger, evidently postmortally.

Surface of the body: The nails of the 2nd, 4th and 5th fingers jut out from under the wrapping. Traces of resin are missing.

Measurements: Length 15,5 cm, D: 9,2 cm.

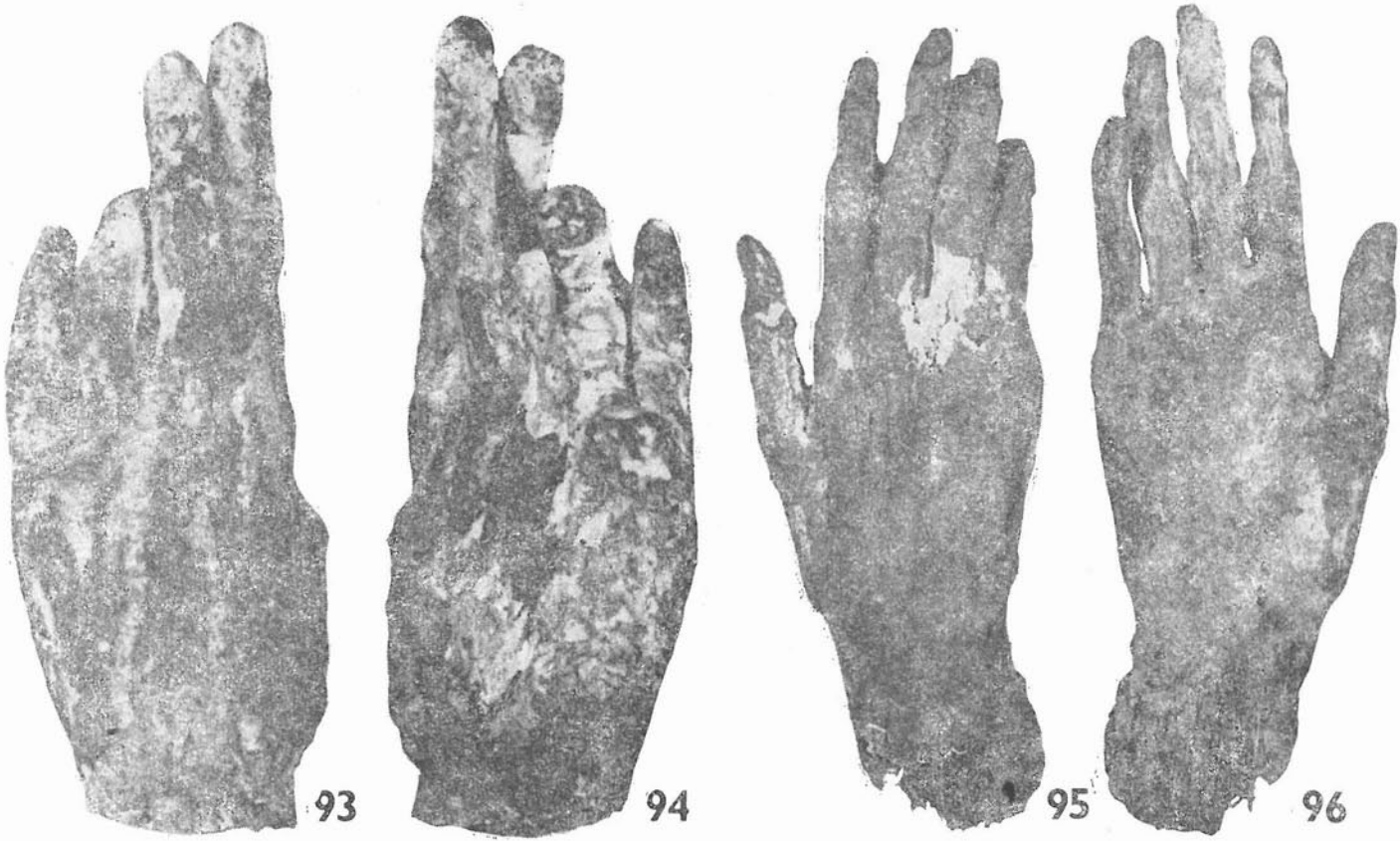

Fig. 93 Cat. No. 68 dorsal side
Fig. 94 Cat. No. 68 palmar side
Fig. 95 Cat. No. 71 dorsal side
Fig. 96 Cat. No. 71 palmar side

Age: Signs of general osteoporosis are present with fibrously thinned out compacta of the 1st, 4th and 5th metacarpals. Traces of the epiphyseal plates are missing. It is an adult individual, more likely of senilis age.

Sex: The bones are medium robust. According to the measures, it is more likely the hand of a woman.

Pathological findings: Besides the osteoporosis also signs of *degenerative arthritis* of the 1st metacarpo-phalangeal joint with osteophytes on the palmar side of the head of the 1st metacarpal are present.

Conclusion: The hand is of a mature (senile) woman (?) with pathological changes.

71. Náprstek Museum, Prague, Inv. No. P 2790, Figs. 95, 96

Right hand with distal end of the forearm. The fingers are stretched.

History: The object was a gift of the artist painter from Most, Emil Uhl to the Town Museum in Most on July 28, 1894. From there it was transferred to the Náprstek Museum on June 30, 1970.

Wrappings: Remains of wrappings still cover the dorsum of the hand.

Surface of the body: The soft tissues, including the nail of the thumb are well preserved. On the skin, the dermatoglyphes are evident. The skin of the palm surface of the fingers is folded due to the desiccation. The tendons of the finger flexors are exposed on the forearm.

Measurements: Length 23 cm, length of hand 19,3 cm, breadth of hand 6,8 cm, A: 20,7 cm, B: 20,1 cm, C: 19,2 cm, D: 11,3 cm.

Age: A linear epiphyseal closure shadow is indicated in the basis of the 1st metacarpal. The bone tissue has a normal structure. It is an adult individual, more likely of the adultus age.

Sex: The robusticity of the bones is remarkable. According to it and to the big dimensions, it is the hand of a man.

Conclusion: It is the hand of an adult (adultus?) man.

72. Náprstek Museum, Prague, Inv. No. P 2836

Left hand. The fingers are stretched with the exception of the partly flexed little finger.

History: The object was bought from J. Tolan of Prague on February 22, 1971.

Wrappings: Insignificant remains of the wrappings of roughly woven linen have been preserved especially on the palm and the sides of the hand.

Surface of the body: The soft tissues including the nails of the 2nd, 3rd and 5th fingers, also in parts of the 4tn one, were preserved very well. Even the detailed dermatoglyphic pattern is evident.

Measurements: Length 19,7 cm, breadth 6,2 cm, A: 19,7 cm, C: 18,8 cm, D: 10,4 cm.

Age: The bones tissue has a normal structure. The traces of epiphyseal plates are missing. It is an adult individual, more likely of the maturus age.

Sex: The robusticity of the bones is remarkable. According to this and to the large dimensions, it is most probably the hand of a man.

Conclusion: The hand is of an adult (maturus?) man.

73. Náprstek Museum, Prague, Inv. No. P 2850

Right hand with distal half of the forearm. The forearm is in supination, the hand in the wrist is semiflexed and the fingers are stretched.

History: Dr. Č. Stáně donated the hand to the Regional Museum in Kutná Hora, in 1880 and from there it was transferred to the Náprstek Museum on October 14, 1971.

Wrappings: Remains of bandages of roughly woven linen have been preserved on the dorsum of the hand.

Surface of the body: The soft tissues with the skin, penetrated with resin, are well preserved.

Measurement: Length 23,5 cm, length of hand 13,2 cm, breadth of hand 4,1 cm, A: 13,5 cm, B: 12,9 cm (?), C: 12,8 cm, D: 7,2 cm.

Age and sex: The state of ossification is near to the girl's standard 17 (8 years 10 months) or to the boy's standard 20 (11 years), but the ossificated surface of the carpal bones is larger than at the standards. On the contrary, the distal epi-

physes of the forearm bones are more rounded. The size and gracility correspond more likely with the girl's standard.

Conclusion: The hand is of a 9—11 years old child, more likely a girl (?).

74. Náprstek Museum, Prague, Inv. No. P 2852 a, b

Left (a) and right (b) forearm with a small part of the right carpus. The bones of both forearms are in the position between pronation and supination.

History: Dr. Č. Stáně donated it in 1880 to the Town, today Regional Museum at Kutná Hora and from there it was transferred to the Náprstek Museum on October 14, 1971.

Wrappings: of finely woven linen have been preserved on the radial side of the left forearm. On the right forearm, there are remains of wrappings on the dorsal and ulnar sides of its distal half.

Surface of the body: The soft tissues with the skin are preserved, penetrated in places with resin. A part of the ulna is uncovered on the left forearm. On the right forearm, a part of the radius is exposed.

Measurements: Length of the left forearm 18 cm, length of right forearm 18,8 cm (it is longer due to remains of the carpus). In the radiographs, the length of diaphyses of the preserved forearm bones was ascertained: left radius 15,6 cm, right radius 15,7 cm, left ulna 16,8 cm, right ulna 17 cm.

Age and sex: The proximal epiphyses of the forearm bones were already ossificated. The distal epiphysis of the ulna isn't yet founded bilaterally. The distal epiphysis of the radius on both sides has still a triangular, radially rounded and ulnarly pointed form. The os triquetrum is irregularly oval and the os semilunare round. This state corresponds with the girl's standard 14 (5 years 9 months) or with the boy's standard 15 (6 years). The length of the diaphyses of the forearm bones, taking into account the possibility of the enlargement by the X-ray divergency, corresponds with the age of about 9—10 years. Either the maturing of the bones was slowed down or the growth was quickened. It is impossible to ascertain the sex.

Conclusion: The forearm bones of a 6—10 years old child with undeterminable sex.

75. Náprstek Museum, Prague, Inv. No. P 2853

Left hand. The thumb is stretched, the 2nd to the 4th fingers are firmly bent. The 5th finger is missing.

History: The hand was donated by Dr. Č. Stáně in 1880 to the today's Regional Museum at Kutná Hora. From there, it was transferred to the Náprstek Museum on October 14, 1971.

Wrappings: The space between the palm and strongly flexed fingers is filled with rolls of finely woven linen. Remains of wrappings on the tips of the 2nd and 3rd fingers have been as well preserved.

Defects and dislocations: The distal part of the 4th metacarpal, part of the basis and distal half of the 5th metacarpal, the 2nd plalanx of the thumb, basis of the 1st phalanx and complete 2nd and 3rd phalanges of the 4th finger, and all phalanges of the 5th finger are missing. Continuity is interrupted on the border of the middle and proximal thirds of the diaphysis of the 3rd metacarpal.

Surface of the body: The soft tissues with the skin are partly preserved covered with a thin layer of resin, and the bones are partly uncovered. The nail has been preserved under the wrappings only on the 3rd finger.

Measurements: Length 8,3 cm; in view of the defectiveness and strong flexion of the fingers, it is not possible to measure the separate sections in the radiographs, not even the width of the hand.

Age and sex: The state of ossification corresponds with the girl's standards 14—15 (5 years 9 month to 6 years 10 months), or with the boy's standards 16—17 (7—8 years). The larger dimensions and robusticity approach more likely the boy's standards.

Conclusion: The hand of a 6—8 years old child, more likely a boy (?).

76. Náprstek Museum, Prague, Inv. No. P 2854

Fragment of the right hand. The fingers are stretched.

History: The fragment was donated by Dr. Č. Stáně to today's Regional Museum at Kutná Hora in 1880. From there, it was transferred to the Náprstek Museum on October 14, 1971.

Wrappings: Remains of finely woven linen wrappings were preserved only on the dorsal side of the 5th finger.

Defects and dislocations: Only the 3rd metacarpal without a larger part of the distal epiphysis, and the 4th and 5tn fingers have been preserved. The other parts of the hand are missing.

Surface of the body: Remains of the soft tissues with the skin penetrated with resin are partly preserved. The diaphyses of the phalanges are partly uncovered.

Measurements: Length 10,6 cm, length of the small finger including the 5th metacarpal in the radiographs is 8,5 cm.

Age and sex: The state of ossification corresponds with the girl's standard 15 (6 years 10 month) or the boy's standard 17 (8 years). The size approaches more likely the boy's standards.

Conclusion: The fragment of a hand is of a 7—8 years old child, more likely a boy (?).

77. Náprstek Museum, Prague, Inv. No. P 2892

Right hand. The fingers are stretched.

History: The merchant Otto Retz, who gained this object on his journey to Egypt, donated it in 1920 to the Town Museum at Krnov, and from there in 1951—2 it was transferred to the Silesian Museum in Opava. On March 7, 1972, it was added to the collection of the Náprstek Museum in Prague.

Wrappings: On the most parts of the dorsal side, on the palm and both sides of the thumb, circularly and slantingly led wrappings have been preserved in wide stripes (4,4 cm). On the palm they have an ochre-brown colour, in other places they are dark even black due to the penetrating resin with which the body's surface was spread.

Defects and dislocations: The 5th finger and the distal phalanx of the 3sd and 4th fingers are missing.

Surface of the body: On the palmar side from the 2nd to the 4th fingers, the original skin covering with the dermatoglyphes is uncovered. The soft tissues are evident on the proximal edge of the palm. On the thumb and the 2nd finger, whose distal phalanges have been preserved, the nails are missing.

Measurements: Length 17,3 cm, breadth of hand 5,5 cm (?), D: 9,3 cm, distance from the top of the middle phalanx of the 3rd finger to the most proximal point of the semilunar bone is 16,2 cm.

Age: The bone tissue has a normal structure. On the basis of the 1st metacarpal and the 1st phalanx of the thumb, there are linear traces of epiphyseal plates, which are slightly indicated as well in the base of the proximal phalanges of the other preserved fingers. It is an adult individual, more likely of the adultus age.

Sex: The bones are medium robust, except the more robust proximal phalanges of the fingers. According to the measures, however, it is a matter of a woman.

Conclusion: The hand is of an adult (adultus?) woman (?).

78. Náprstek Museum, Prague, Inv. No. P 2904

Left hand. The fingers are stretched.

History: The object comes from the collection of J. Slovák of Kroměříž, which was gained by the Town Museum of Kroměříž in 1934. From there is was transferred to the Náprstek Museum on January 1, 1974.

Wrappings: Each finger was wound separately with wrappings with folded edges (width 16 mm). On these windings a layer of one piece of finely woven linen which has been preserved on the dorsal surface, is placed.

Defects and dislocations: The os scaphoideum, semilunare, the proximal part of os capitatum and the medial third of the diaphysis of the 4th metacarpal are all missing. In the diaphyses of all the metacarpals, the continuity is interrupted with a wide diastasis, evidently postmortally. Further, the ulnar section of the proximal phalanx of the 3rd finger is broken off lengthwise.

Surface of the body: The soft tissues with the skin, covered with a layer of resin, are preserved including the nails, from which the nail of the thumb is exposed.

Measurements: Length 20,5 cm, breadth 5,9 cm, D: 10,1 cm (?).

Age: A linear shadow is indicated in the base of the 1st metacarpal as a trace

of the epiphyseal closure. The bone structure appears to be normal. It is an adult individual, more likely of the adultus age.

Sex: The robusticity of the bones is remarkable. According to it and to the large dimensions, it is more likely a man.

Conclusion: The hand is of an adult (adultus?) man.

79. Náprstek Museum, Prague, Inv. No. P 2905, Plate XIX b

Left hand. The fingers are stretched with a moderate ulnar deviation.

History: see No. 78.

Wrappings: Circularly led wrappings of separate fingers have been preserved of roughly woven linen. The wrappings are missing on the palm and the dorsum of the hand.

Surface of the body: The soft tissues are preserved; the skin is covered with a layer of resin.

Measurements: Length 17,5 cm, breadth 5,3 cm, A: 17,0 cm (?), D: 8,7 cm.

Age: A linear shadow indicates the place of the epiphyseal closure in the base of the 1st metacarcal. The bone tissue has a normal structure. It is an adult individual, more likely of the adultus age.

Sex: The robusticity of the bones is medium, the diaphyses of the metacarpals are slim. According to this and to the small measure, it is the hand of a woman.

Conclusion: It is the hand of an adult (adultus?) woman.

80. Náprstek Museum, Prague, Inv. No. P 2906, Figs. 97, 98

Left hand. The fingers are stretched.

History: see No. 78.

Wrappings: are missing.

Defects and dislocations: The proximal part of os scaphoideum, and further, the os semilunare and triquetrum are missing.

Surface of the body: The soft tissues, except in some disturbed places, are preserved. On some places they are spread with a relatively strong layer of resin, on which remains of a golden foil (see further on) have been preserved on the dorsal side of the thumb, of the 2nd finger and of the intermetacarpal space of these fingers. The dermatoglyphic pattern is likewise well evident.

Measurements: lenght 17 cm, breadth 5,9 cm, C: 16,4 cm, D: 8,9 cm.

Age: Porotic rarefaction is evident of the joint ends of the metacarpals and the proximal phalanges. The compacta isn't thinned out fundamentally. The traces of the epiphyseal plates are missing. It is an adult individual, more likely of senile age.

Sex: The bones are medium robust. The diaphyses of the metacarpals are slim. According to this and the smaller dimensions, it is more likely a woman's hand.

Anatomical anomaly: Cystoid formation in the os capitatum.

Chemical remark: According to the chemical and spectral analysis of a sample of the metal covering of the hand, it was ascertained that it is formed of gold (more than 80 per cent) with an admixture of silver (less than 20 per cent) and a trace of copper.

Conclusion: The hand is of an adult (senile) woman.

81. Castle Lešná, District Gottwaldov, Inv. No. 1008

Right hand. The fingers are stretched.

History: The former owner of the castle, Count Joseph Seilern, brought this object from his journey around the world in 1929—31.

Wrappings: These have been preserved only in insignificant remains of finely woven linen.

Defects and dislocations: The distal phalanx of the 3rd finger is missing.

Surface of the body: The palm concavity up to the level of the tip of the thumb, drawn to the 2nd finger, is filled up by a thick consistent layer of resin. A thinner layer of resin covers the remaining palmar side of the other fingers. Remains of a golden foil have been preserved on the surface of the soft tissues of the thumb, the dorsum of the fingers and the dorsum of the hand itself, less on the palm. The genuineness of the gold was conformed chemically. The nails of the 2nd, 4th and 5th fingers remain in situ.

Measurements: Length 17,5 cm, breadth of hand 5,9 cm, D: 9,0 cm, the distance from the top of the middle phalanx of the 3rd finger to the most proximal point of the os semilunare 16 mm.

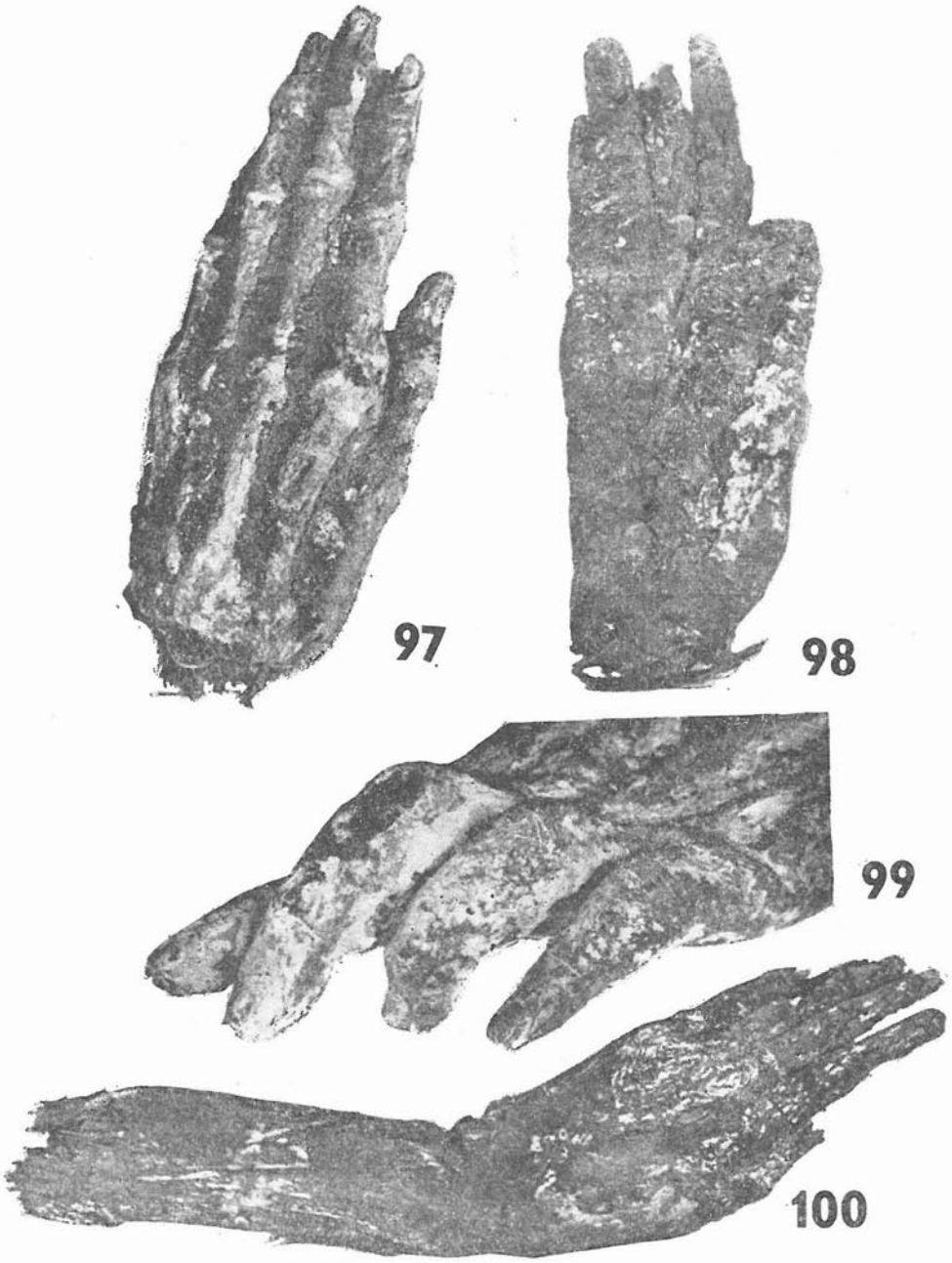

Fig. 97 Cat. No. 80 dorsal side with traces of golden foil
Fig. 98 Cat. No. 80 palmar side with traces of golden foil
Fig. 99 Cat. No. 69 detailed view of the dorsal side of fingers
Fig. 100 Cat. No. 54 palmar side with traces of golden foil

Age: The bone tissue has a normal structure. Traces of epiphyseal closure are missing. It is an adult individual, more likely of the maturus age.
Sex: The robusticity of the bones is medium. According to the dimensions, it is a hand of a woman.
Anatomical anomaly: Metacarpal sign.
Conclusion: The hand is of an adult (maturus?) woman.

82. Castle Lešná, District Gottwaldov, Inv. No. 1009

Right hand. The fingers are stretched.
History: The former owner of the castle, Count Joseph Seilern, brought this object from his journey around the world in 1929—31.
Wrappings: A number of layers of circularly led wrappings of separate fingers and of the hand itself have been preserved. They are 1,4—1,7 cm wide with non-firmed edges, made of two kinds of finely woven linen. On the surface, the wrappings are lightly-ochre with darker spots in places.
Defects and dislocations: From the proximal phalanx of the thumb, only the basis was preserved, the distal phalanx of the thumb is missing.
Surface of the body: The soft tissues are evident only on the proximal ends of the palm and dorsum of the hand, where fringed sinews jut out. Spreading resin on the surface wasn't performed.
Measurements: Length 20,5 cm, breadth of hand 6,3 cm, A: 20,1 cm, C: 18,9 cm.
Age: The bone tissue has a normal structure, traces of epiphyseal closure are not evident. It is an adult individual, more likely of maturus age.
Sex: The bones are robust. According to this and to the dimension, it is the hand of a man.
Conclusion: The hand is of an adult (maturus?) man.

83. Castle Lešná, District Gottwaldov, Inv. No. 1010

Left hand. The fingers are stretched.
History: The object was brought by the former owner of the castle, Count Joseph Seilern, from his journey around the world in the years 1929—31.
Wrappings: There are preserved several layers of circularly and slightly slantingly led wrappings in the width of 2,3—4,3 cm, with non-firmed edges. They have a light-ochre colour; in places, there are darker spots on the surface. It is surprising that the wrappings cover the end of the 2nd finger which is defect, too.
Defects and dislocations: The medial part of os scaphoideum, os lunatum, os triquetrum as well as the distal phalanx of the 3rd finger are missing. There are left only basal fragments of the distal phalanges of the 2nd and 4th finger.
Surface of the body: The soft tissues are evident only on the palm side of the wrist, where the fringed tendons jut out. The spreading with resin wasn't performed.
Measurements: Length 17 cm, breadth of hand 6,0 cm, D: 10,8 cm, the distance from the top of the middle phalanx of the 3rd finger to the most proximal point of os hamatum is 16,3 cm.
Age: The bone tissue has a normal structure. The traces of epiphyseal closure aren't evident. It is an adult individual, more likely of the maturus age.
Sex: The bones are robust. According to this and to the dimensions, it is more likely the hand of a man.
Conclusion: The hand is of an adult (maturus?) man.

84. District Museum, Olomouc, Inv. No. A 6142, Plate XIX c

Right hand. The fingers are stretched.
History: see No. 12.
Wrappings: Each finger is wound separately with 1 cm wide strips of wrappings. On the dorsal side, remains of a stucco covering of a gray colour have been preserved on the wrappings.
Defects and dislocations: The 2nd and 3rd phalanges of the 5th finger are missing.
Surface of the body: The soft tissues including the nails have been preserved.
Measurements: Length 13 cm, breadth 3,7 cm, A: 12,5 cm, C: 11,8 cm, D: 6,3 cm.
Age and sex: The state of ossification corresponds with the girl's standard 13

(5 years) or the boy's standard 15 (6 years). The specimen seem still a little smaller and more gracile than the girl's standard.

Conclusion: The hand is of a 5—6 years old child, more likely a girl (?).

85. Private Collection of K. Řandová, Prague, without Inv. No., Luxor-West

Left hand with distal end of the forearm. The fingers are stretched.

History: In 1970, D. Řanda bought the specimen in the region Luxor-West.

Wrappings: have been preserved only in insignificant traces on the palm.

Defects and dislocations: The phalanges of the 2nd finger are missing. Continuity is interrupted in the basis of the 2nd metacarpal and in the os trapezium.

Surface of the body: The soft tissues with the skin are preserved and they are covered with a layer of resin; in places they are cracked. On the distal phalanges of the 1st, 3rd and 4th fingers, they are missing. The sinews of extensors are well evident on the dorsum of the hand.

Measurements: Length 17 cm, length of hand 14 cm, breadth of hand 4,8 cm, A: 14,3 cm (?), B: 14,6 cm, C: 13,8 cm, D: 7,2 cm.

Age and sex: The state of ossification corresponds with the girl's standard 19 (11 years) or the boy's standard 22 (12 years 6 months). The bones are gracile and still smaller than at the girl's standard.

Conclusion: The hand is of a 11—12 years old child, more likely a girl (?).

Chapter 7

ISOLATED PARTS OF THE LOWER LIMBS OF MUMMIES

86. Náprstek Museum, Prague, Inv. No. P 587, allegedly Aswan, Rock Tombs

Right shank and foot.

History: The object was donated to the Náprstek Museum by Prof. František Štolba in 1891.

Wrappings: The bottom layers of circular led wrappings have been preserved with the thickness of 6—8 mm with the exception of the lower third of the shank, where the layer of wrappings is thinner.

Defects and dislocations: The continuity is interrupted in the talocrural joint. The 2nd toe is flexed with a lateral deviation of its distal phalanx.

Surface of the body: The soft tissues have been preserved under the wrappings with the exception of the lower third of the shank, where the bones are exposed Between the skin and the wrappings, a relatively strong layer of resin was inserted which explains the large weight of the object.

Measurements: Length from the proximal end (articular surface of the proximal epiphysis of the tibia) to the heelbone 42,5 cm, length of foot 22 cm, E: 21,6 cm,

Age: The bone tissue has a normal structure. In the distal end of the tibia, traces of epiphyseal closure are evident. It is an adult individual, more likely of the adultus age.

Sex: The bones are considerably robust. According to this and to the dimension, they are most probably the remains of a man.

Pathological findings: Small calcar calcanei.

Conclusion: The fragment of the lower limb is of an adult (adultus?) man.

87. Náprstek Museum, Prague, Inv. No. P 588 a, b, Figs. 105—108.

Two incomplete feet, the left (a) and the right (b) ones.

History: The object was transferred in 1948 from the castle in Mnichovo Hradiště.

Wrappings: Circular wrappings have been preserved. On the top, they are of a finely woven linen, the lower ones of a roughly woven linen. Their total thickness makes 7 mm. Parts are missing on the soles. The circular wrappings on the feet reach out to the toes and are partly pushed into the space between the toes.

Defects and dislocations: The astragalus and os calcis are missing on both feet. On the left one, further the 5th toe and the 2nd and 3rd phalanges of the 2nd and 4th toes have not been preserved.

Surface of the body: The soft tissues are interrupted in places where the wrappings are missing on the soles. The skeleton is here exposed.

Measurements: Lenght left 20 cm, right 16,5 cm, F: left 15,3 cm, right 15,0 cm.

Age: The bone tissue has a normal structure. Traces of the epiphyseal closure are missing. It is an adult individual, more likely of the maturus age.

Sex: The bones are remarkably robust. Due to this and to the dimensions, the specimens most likely belong to a man.

Conclusion: The feet of an adult (maturus?) man.

88. Náprstek Museum, Prague, Inv. No. P 589

Right foot.

History: Part of the old collection funds of the Náprstek Museum.

Wrappings: Only parts of the linen rolls inserted into the plantar spaces between the 2nd—5th toes have been preserved as well as the remains of wrappings on the sole supported with a layer of resin.

Surface of the body: The soft tissues have been well preserved. The toe flexors stand out against the skin of the sole. The nails are in situ with exception of the nail of the big toe.

Measurements: Length 21 cm, E: 21,5 cm, F: 14,3 cm.

Age: The bone tissue has a normal structure. Traces of the epiphyseal closure are missing. Adult individual, more likely of the maturus age.

Sex: The bones are medium robust. According to the measures, it is more likely the foot of a man.

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103

104

Fig. 101 Cat. No. 94 dorsal side
Fig. 103 Cat. No. 95 dorsal side

Fig. 102 Cat. No. 94 plantar side
Fig. 104 Cat. No. 95 plantar side

Pathological findings: Moderate *degenerative arthritis* of the 1st metatarso-phalangeal joint with appositions at the medial border of the head of the 1st metatarsal.

Conclusion: The foot is of an adult (maturus) man.

89. Náprstek Museum, Prague, Inv. No. P 590

Left foot.

History: Part of the old collection funds of the Náprstek Museum.

Wrappings: Remains were preserved in the region of the heelbone and the astragalus.

Fig. 105 Cat. No. 87 dorsal side
Fig. 106 Cat. No. 87 dorsal side
Fig. 107 Cat. No. 87 plantar side
Fig. 108 Cat. No. 87 plantar side

Defects and dislocations: The distal phalanx of the 2nd toe and the 2nd and 3rd phalanges of the 5th toe are missing.
Surface of the body: The soft tissues remained in situ, however, the nails have not been preserved.
Measurements: Length 20 cm, E: 20,7 cm, F: 13,8 cm.
Age: The bone tissue has a normal structure. In the basis of the 1st phalanx of the big toe and of the 2nd toe, there are insignificant traces of epiphyseal closure. The remains are of a grown-up individual, probably of the age adultus.
Sex: The bones are medium robust, almost gracile. According to this and to the measures, it is more likely the foot of a woman.
Conclusion: The foot of an adult (adultus?) woman (?).

90. Náprstek Museum, Prague, Inv. No. P 591

Left foot.
History: Transferred on December 14, 1950, from the Industrial Art Museum in Brno.
Wrappings: Remains of wrappings have been preserved. The lower layers are of a rougher linen and the top ones of a finer linen. On the dorsal side and in the concavity of the sole, there are strong layers of resin under the layers of wrappings.
Defects and dislocations: The astragalus is missing. The navicular bone is displaced distally.
Surface of the body: The soft tissues remained in situ, but the nails are missing.
Measurements: Length 17,7 cm, E: 18,1 cm.
Age: The epiphyseal plates are evident in all bones. According to this and to the measures, it is a juvenile individual.
Sex: The bones are gracile and slim. In view of the juvenile age it is, however, impossible to ascertain the age.
Conclusion: The foot is of a non-adult (juvenile) individual of an uncertain sex.

91. Náprstek Museum, Prague, Inv. No. P 592, allegedly Aswan, Rock Tombs

Right foot with the incomplete distal third of the shank.
History: It was donated to the Náprstek Museum by Prof. František Štolba in 1891.
Wrappings: Remains of wrappings are only in the shank and part of the dorsum of the foot.
Surface of the body: There have been preserved soft tissues, damaged on the sole, in places covered with a layer of resin. A large part of the surface of the heelbone and of the dorsal surface of the tibia are uncovered.
Measurements: Length of the preserved part of the shank to the base of the heelbone 11 cm, length of foot 12 cm, E: 12,4 cm, F: 8,1 cm.
Age: Epiphyseal plates are evident in all preserved bones. According to this and to the dimensions, it is an individual in the age infans II.
Sex: The bones are gracile. In view of the infantile age, it is impossible to ascertain the sex.
Conclusion: The foot and part of the shank is of an non-adult individual (infans II) of uncertain sex.

92. Náprstek Museum, Prague, Inv. No. P 2471 a, b

Both feet, the left (a) and right (b) ones.
History: Transferred from the National Museum in Prague on November 11, 1968.
Wrappings: have not been preserved; the layer of resin is also missing.
Defects and dislocations: The astragalus, os calcis and os cuboideum are missing on the left foot, but the right one is complete.
Surface of the body: The soft tissues are well preserved including the nails and dermatoglyphes.
Measurements: Length left 9 cm, right 10 cm, E: right 11 cm, left 6,7 cm.
Age: All the epiphyseal plates are evident. According to this and to the dimensions, it is the age infans I.
Sex: cannot be ascertained.
Conclusion: The feet are of an infant (infans I) of an uncertain sex.

93. Náprstek Museum, Prague, Inv. No. P 2472

Right foot.

History: Transferred from the National Museum on November 11, 1968.

Wrappings: Incomplete top layers of rougher wrappings led in variously directed strips and lower layers of finely woven wrappings, placed as a whole, have been preserved. The traces of resin are missing.

Defects and dislocations: The astragalus, os calcis, os cuboideum and os cuneiforme III are missing.

Surface of the body: The soft tissues are evident only on the edge of the breakage.

Measurements: Length 18 cm, F: 14,7 cm.

Age: The bone tissue has a normal structure. Linear traces of the epiphyseal closure are evident in the basis of the 1st phalanx of the big toe. According to this it is an up-grown individual, more likely of the age adultus.

Sex: The bones are medium robust. According to the dimensions, it is more likely the foot of a man.

Conclusion: The feet are of an adult (adultus?) man (?).

94. Náprstek Museum, Prague, Inv. No. P 2473, Figs. 101, 102

Right foot with the adjoining fragment of fibular ankle.

History: Transferred from the National Museum on November 11, 1968.

Wrappings: have been preserved except on the toes. The foot was firstly wrapped in several layers of larger sheets of coarsely woven linen, arround which circular strips of finely woven wrappings were turned. In the heel region the wrappings are penetrated with resin.

Surface of the body: all soft parts including nails (except the nail of the 2nd toe) have been preserved.

Measurements: Length 22 cm, E: 22,9 cm, F: 14,7 cm.

Age: The bone tissue is not rarefied. No traces of epiphyseal closure are present. Adult individual, more probably of maturus age.

Sex: The bones are medium robust. The dimensions would suit better to a man's foot.

Conclusion: The foot is of an adult (maturus?) man.

95. Náprstek Museum, Prague, Inv. No. P 2851, Figs. 103, 104

Right foot.

History: In 1880, the object was donated by Dr. Č. Stáně to the former Town Museum, today Regional Museum of Kutná Hora. From there, it was transferred to the Náprstek Museum on October 14, 1971.

Wrappings: These have been preserved almost completely, except on the defects of the plantar side. Each of the toes is separately wound and wedges of folded rolls of linen are inserted into the space between the toes. There is a strip of wrappings placed from the fibular side across the distal edge to the tibial side of the foot. The foot is wrapped with wider strips of wrappings led circularly starting from the basis of the toes to the heel. The lower layers are penetrated with resin, by which the surface of the soft tissues was spread.

Defects and dislocations: The astragalus and the distal phalanx of the 2nd and 5th toes are missing.

Surface of the body: In place of the interrupted wrappings on the plantar surface, the skin or the exposed skeleton are evident.

Measurements: Length 23,3 cm, E: 23,1 cm, F: 14,8 cm.

Age: The bone tissue has a normal structure. Traces of the epiphyseal closure are missing. It is an adult individual, more likely of the maturus age.

Sex: The bones are very robust. According to this and to the large dimensions, it is most probably the foot of a man.

Pathological findings: A small ossification in the insertion of the Achilles' tendon.

Anatomical anomaly: Os peroneum.

Conclusion: The foot is of an adult (maturus?) man.

96. Náprstek Museum, Prague, Inv. No. P 2890

Right foot.

History: In 1900, this object was gained by the Town Museum of Jihlava, today's Museum Vysočiny. From there it was transferred to the Náprstek Museum on September 23, 1972.

Wrappings: Remains of wrappings, strongly penetrated with resin, have been preserved more on the dorsal side, and less on the sole of the foot. The most bottom layers are of very finely woven linen, the middle layers are rougher, and those on the surface form a network with larger holes, woven crosswise of two fibres.

Surface of the body: On the toes, larger part of the sole and in the region of the talo-crural joint, the surface of the soft tissues with well evident dermatoglyphes and with preserved nails is uncovered. On the heads of the metacarpals, the skin is loosened from the hypodermic; it protruds and it is in places defect. The skin is spred with a thin layer of resin with the exception of the sole.

Measurements: Length 23,6 cm, E: 24,1 cm, F: 15,4 cm.

Age: The bone tissue has a normal structure. A linear trace of epiphyseal closure is evident in the basis of the proximal phalanx of the big toe. It is an adult individual, more likely of the adultus age.

Sex: The bones are medium or even considerably robust. The layer of the muscular tissue is considerably strong and causes the deep excavation of the tibial side of the sole. According to this and to the dimensions, it is a man's foot.

Conclusion: The foot is of an adult (adultus?) man.

97. Náprstek Museum, Prague, Inv. No. P 2891

Rigth foot with adjoining distal ends of both shank bones.

History: Dr. Bohumil Klusáček, later district physician in Prague-Hradčany, brought this objct from his journey to Egypt in 1900. After his death, the object was donated in 1938 to the Town Museum in Polná, now a branch of the Museum Vysočiny in Jihlava. From there it was transferred to the collections of the Náprstek Museum on September 23, 1972.

Wrappings: Remains of finely woven linen wrappings were preserved only in the region of the tibial ankle.

Defects and dislocations: The continuity of the distal phalanx of the big toe is interrupted on the medial side of its basis, evidently postmortally.

Surface of the body: The uncovered surface of the skin penetrated with resin, which forms stronger layers in places, has been preserved on the plantar side of the foot. The dermatoglyphes are well preserved on the plantar side of the toes. On the dorsal side, the skin is defect so that the sinews of the toe extensors are evident. Only the nail of the 3rd finger is preserved. The distal ends of both shank bones have been deprived of soft tissues.

Measurements: Length 21,8 cm, E: 21,8 cm, F: 4,6 cm.

Age: The bone tissue has a normal structure. Traces of the epiphyseal closure are not evident. It is an adult individual, more likely of the maturus age.

Sex: The bones are medium robust. According to this and to the dimensions, it is more likely the foot of a man.

Anatomical anomaly: Os tibiale externum.

Conclusion: The foot is of an adult (maturus?) man (?). It isn't impossible that it comes from the same individual as the head No. 43.

98. Town Museum, Dvůr Králové, Inv. No. 2590

Right foot.

History: The object was bought in Egypt by MUDr. Bedřich Barth (1855—1908) and donated to the Museum.

Wrappings: Only insignificant remains of finely woven linen have been preserved.

Defects and dislocations: The distal phalanx of the big toe and the middle and distal phalanges of the 2nd toe are missing.

Surface of the body: The soft tissues including the nails have been preserved in a good condition.

Measurements: Length 22,5 cm, E (from tip of the 3rd toe): 23,1 cm F (from tip of the 3rd toe): 14,2 cm.

Age: The bone tissue has a normal structure. In the basis of the proximal pha-

lanx of the big toe, the course of the former epiphyseal plate is linearly indicated. It is an adult individual, more likely of the adultus age.

Sex: The bones are considerably robust. According to this and to the large dimensions, it is perhaps the foot of a man.

Anatomical anomaly: Os peroneum.

Conclusion: The foot is of an adult (adultus?) man.

99. Private Collection of K. Řandová, without Inv. No., Luxor-West

Left foot.

History: In the year 1970, the object was bought in the region of Luxor-West by D. Řanda.

Wrappings: A few layers of circularly led wrappings of finely woven linen have been preserved.

Defects and dislocations: The phalanges of toes except the bases of the proximal phalanx of the big toe and the 2nd finger are missing. Further, a part of the basis of the 5th metatarsal is broken off.

Surface of the body: The soft tissues have been preserved under the wrappings.

Measurements: Length 17 cm, the distance from the dorsal edge of tuber calcanei to the head of the 1th metatarsal 16,7 cm.

Age: The bone tissue has a normal structure. Traces of epiphyseal closure are missing. It is an adult individual, more likely of the maturus age.

Sex: The bones are medium robust. According to the dimensions, it is more likely the foot of a woman.

Pathological findings: Plantar calcar calcanei; low ossification in the insertion of the Achilles' tendon.

Conclusion: The foot is of an adult (maturus?) woman (?).

Chapter 8

MUMMIES OF FISH AND REPTILES

(Written in co-operation of J. ČIHAŘ and J. HANZÁK)

100. Náprstek Museum, Prague, Inv. No. P 604, Plate XIX d

History: Part of the old collection funds of the Náprstek Museum.
External form: A roughly executed mummy of a fish.
Wrappings: The mummy is wrapped into four pieces of fine, light-brown linen; the largest piece around the body itself, the smaller one around the head and the two smallest around the tail. Circular strips of rougher woven dark-brown linen are led on the joinings of these bandages. On the head eyes are indicated with a black colour.
Measurements: Length 65 cm.
Zoological determination: The body of the fish is considerably deformed and difficult to determine exactly. According to some features (hints of spinal fins of type of brachypterygium on the back side of the body, bodily proportions, e. g. length of head etd.) it is evidently some kind of the genus Polypterus.

101. Náprstek Museum, Prague, Inv. No. P 605, Fig. 109

History: Part of the old collection funds of the Náprstek Museum.
External form: Mummy of a fish.
Wrappings: The mummy is wrapped into one piece of a roughly woven linen. On the ventral side, a strip of finer linen is placed lengthwise. The bandages are caught together with two circular strips with folded edges (width 9 mm) of finer material. All the bandages have an ochre colour. The eyes are indicated with a black colour.
Measurements: Length 33 cm.
Zoological determination: The body of the fish is considerably deformed and details are badly distinguished. Perhaps Polypterus sp.

102. Náprstek Museum, Prague, Inv. No. P 606, Fig. 110

History: Part of the old collection funds of the Náprstek Museum.
External form: Mummy of a fish.
Wrappings: The mummy is wrapped into one piece of finely woven ochre linen. A small section on the ventral side and the end of the tail are covered with the same rosy linen. In the back side of the head, a dark-brown strip is led circularly with folded edges (width 10—12 cm). Eyes are marked with a black colour.
Measurements: Length 33 cm.
Zoological determination: The body of the fish is considerably deformed and details are badly distinguishable. Perhaps Polypterus sp.

103. Náprstek Museum, Prague, Inv. No. P 608, Fig. 112

History: Part of the old collection funds of the Náprstek Museum.
External form: Ractangular package, torn on the upper surface.
Wrappings: One layer of finely woven linen. Inside, pieces of rought woven linen are inserted among the bodies of crocodiles as fillings.
Measurements: Length 40 cm, breadth 10 cm, thickness 6 cm.
Zoological determination: About 10—15 young specimens of Crocodylus niloticus Laurenti (Nile crocodile) with length of body about 20 cm.

104. Náprstek Museum, Prague, Inv. No. P 609

History: Part of the old collection funds of the Náprstek Museum.
External form: Extended bundle of 13 bodies of little crocodiles.
Wrappings: The wrapping is of circular strips of fine and very rough woven linen.
Measurements: Length 30 cm.
Zoological determination: Young specimens of Crocodylus niloticus Laurenti with length of body around 20 cm.

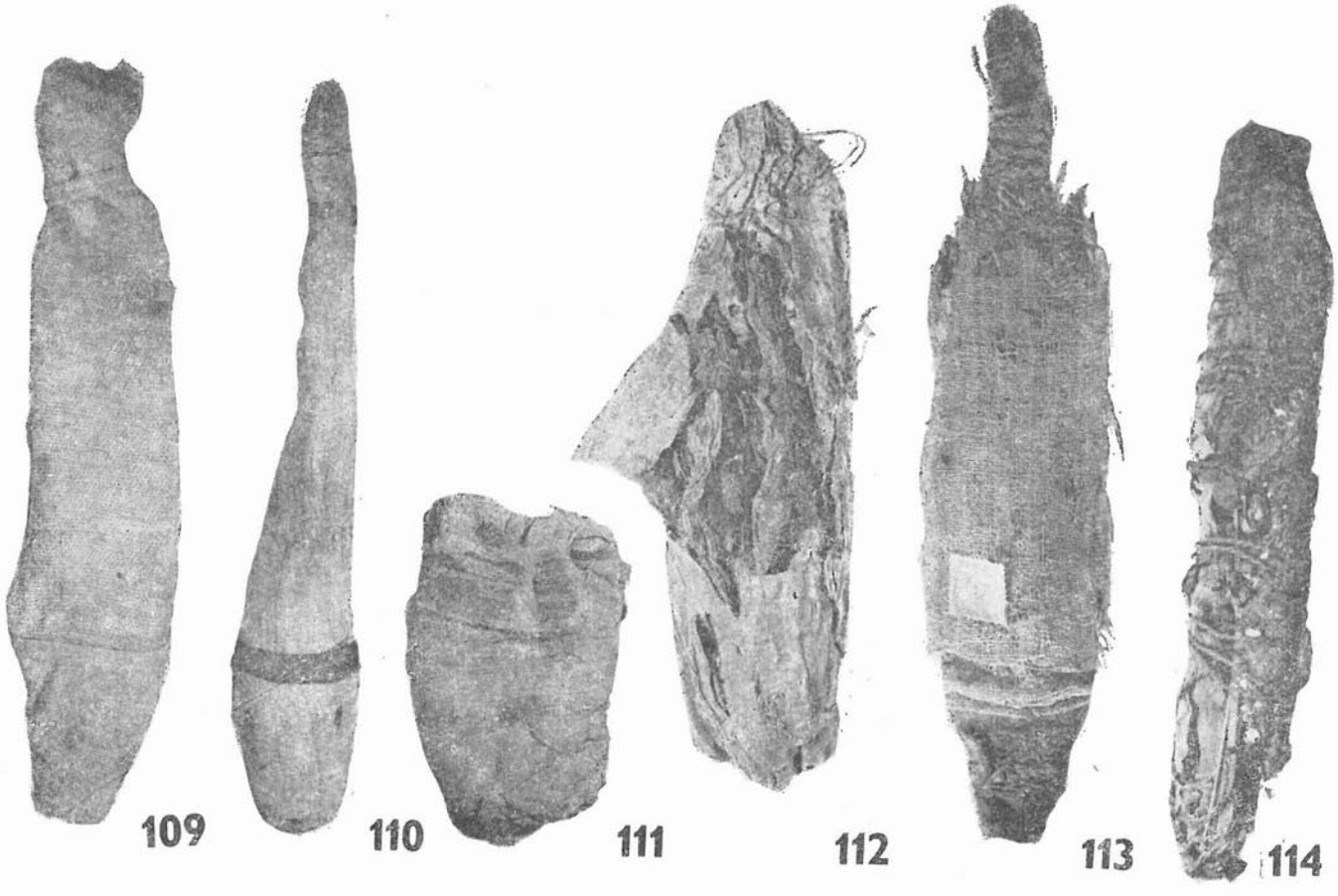

Fig. 109 Cat. No. 101
Fig. 110 Cat. No. 102
Fig. 111 Cat. No. 121
Fig. 112 Cat. No. 103
Fig. 113 Cat. No. 116
Fig. 114 Cat. No. 119

105. Náprstek Museum, Prague, Inv. No. P 610

History: Part of the old collection fund of the Náprstek Museum.
External form: Extended bundle of the bodies of several crocodiles and a fish.
Wrappings: The wrapping is of circular strips of fine and rough woven linen.
Measurements: Length 26 cm.
Zoological determination: The bundle contains three young specimens of Crocodylus niloticus Laurenti, of which the middle one is complete with a length of 26 cm, and the other two have a missing skull. To them a fish is attached with the skull separated from the body, most probably a Polypterus sp.

106. Náprstek Museum, Prague, Inv. No. P 614

History: Part of the old collection funds of the Náprstek Museum.
External form: Proximal half of the body of a young crocodile.
Wrappings: The mummy is wrapped into one piece of linen and tied up with a string.
Measurements: Length 13 cm.
Zoological determination: Incomplete skeleton of a Crocodylus niloticus Laurenti. The length of the skull is 45 mm.

107. Náprstek Museum, Prague, Inv. No. P 2478

History: Transfered from the National Museum in Prague on November 11, 1968.
External form: Body of a young crocodile.
Wrappings: Insignificant traces.
Measurements: Length 25,5 cm.
Zoological determination: A complete skeleton of a young Crocodylus niloticus Laurenti, mummified in a wavy reptile position.

108. Náprstek Museum, Prague, Inv. No. P 2492

History: Transferred from the National Museum of Prague on November 11, 1968.
External form: Mummy of a young crocodile fastened between two rods of a planty material with the help of a thin string and resin.
Wrappings: Only remains of a roughly woven linen on the head and dorsal side of the body have been preserved.
Measurements: Length 34 cm.
Zoological determination: A young example of Crocodylus niloticus Laurenti with a length cca 30 cm, fixed with the help of reinforcements into a horizontal position.

109. Náprstek Museum, Prague, Inv. No. P 2793

History: Emil Uhl, artist painter, donated the object to the Town Museum at Most on July 28, 1894. From there it was transferred on June 30, 1970 to the Náprstek Museum.
External form: Cylindrical formation with a damaged end.
Wrappings: The formation is wrapped with circularly led, narrow strips of finely woven linen with folded ends.
Measurements: Length 19,5 cm.
Zoological determination: A young specimen of Crocodilus niloticus Laurenti. The distal fifth of the mummy is empty.

110. Náprstek Museum, Prague, Inv. No. P 2797

History: see Cat. No. 109.
External form: Cylindrical formation with a damaged end.
Wrappings: The formation is wrapped circularly with narrow strips of finely woven linen.
Measurements: Length 14 cm.
Zoological determination: Incomplete skeleton of Crocodylus niloticus Laurenti.

111.—115. City Museum, Bratislava, Inv. No. VE 45 a—e

History: Part of the old museum funds of the City Museum.
External form: Mummies of 5 small crocodiles, one of them (VE 45 e) damaged.
Wrappings: Every specimen is wrapped into light-brown pieces of rough woven linen.
Measurements: Length Cat. No. 111: 30 cm, Cat. No. 112: 27 cm, Cat. No. 113: 29 cm, Cat. No. 114: 33 cm, Cat. No. 115: 32 cm.
Zoological determination: Complete skeletons of five young Crocodylus niloticus Laurenti with body lengths 27 to 33 cm.

116. Podlipanské Museum, Český Brod, District Kolín, Inv. No. 516, Fig. 113, Plate XX b

History: Around 1900 this object was gained in Egypt by J. Zounek from the parish Mrzky of the district Kolín. In 1930 he gave it to Museum of Český Brod.
External form: A wrapped object in the shape of a fish.
Wrappings: Circularly wound strips of bandages of different colour and quality are preserved. The head is covered with a fine dark-brown linen in half-circles with an indicated eye. Behind the head, folded edges of two layers of bandages of a light-brown, roughly woven linen are evident; and behind them there is a piece of unfolded edge of a finely woven linen. The rest of the body is covered with a roughly woven linen of a light-brown colour, resembling sacking. On the interrupted ventral side it is possible to distinguish a few layers of bandages and traces of resin.
Measurements: Length 28,5 cm.
Zoological determination: A young specimen of Crocodylus niloticus Laurenti. The skeleton is complete. Three homogeneous shadows are evident in the antero-posterior as well as in the lateral views in the region of the belly, most likely the resin fillings. It is a matter of a fake in the sense of exchanging the contents of the mummy.

117. State Castle Kynžvart, Inv. No. 3480

History: see Cat. No. 6.
External form: A convolution of 17 young crocodiles.
Wrappings: A number of layers of fine and also rough woven linen.
Measurements: Length 37 cm.
Zoological determination: Complete skeleton of a number of young specimens of Crocodylus niloticus Laurenti, arranged with heads to both ends.

118. State Castle Kynžvart, Inv. No. 3487, Plate XX a

History: see Cat. No. 6.
External form: The crocodile fastened to a pole of palm wood.
Wrappings: It has been wrapped into finely woven linen, which is in its largest parts damaged.
Measurements: Length 92 cm.
Zoological determination: It is a medium grown specimen of Crocodylus niloticus Laurenti. Only the end vertebrae of the tail are missing.

119. State Castle Kynžvart, Inv. No. 3488 (KY 3776), Fig. 114

History: see Cat. No. 6.
External form: Convolution in linen bandages, fixed firmly with axial rays of palm leaves.
Wrappings: The convolute was wrapped into roughly woven linen, much damaged, and tied with a double stranded string of fibres of palm leaves.
Measurements: Length 95 cm.
Zoological and radiological determinations: The formation consists of a majority of irregular round almost homogeneous shadows of the fillings, further of a great number of linearly, very dense shadows, of maximal length 3 cm and many stratiform linen layers. At its border, it was possible, to distingush a young specimen of Crocodylus niloticus Laurenti; other ones are suspected perhaps in superposition with the shadows of the fillings.

120. Castle Lešná, District Gottwaldov, Inv. No. 1007

History: Former owner of the castle, Joseph Seilern, brought the object from his trips around the world in 1929—31.

External form: An oblong wrapped cylindrical object, from which the head of a crocodile and the distal end of the content jut out.

Measurements: Length 54,5 cm.

Wrappings: The head is wrapped into roughly woven bandages of an ochre colour with black spots. The other part of the formation is covered with connecting strips and a few windings of finely woven linen of a light-ochre colour. The distal end is wound with a still finer stripped bandage of the same colour.

Zoological and radiological determinations: The shadow of the skeleton of the skull of a young specimen of Crocodylus niloticus Laurenti is evident on the cranial end of the formation. The other part of the body was substituted with artificial supports. It is a matter of two long boards (length 27,5 cm and 29,7 cm), of which one is shifted against the other about 3,5 cm cranially. In the shadow of the boards, a clearance of 7 openings is evident. Over them, scattered, irregular and dense homogeneous shadows are cast, the largest of which are arranged with radial cracks and are lying nearer both ends of the boards. The formation is wrapped with many layers of bandages with maximal thickness 2,2 cm. It is a matter of a fake — in the sense of filling up a large parts of the missing body.

121. Náprstek Museum, Prague, Inv. No. P 611, Fig. 111, Plate XXI d

History: Transferred in 1948 from the castle in Mnichovo Hradiště.

External form: A flat irregular oval formation.

Wrappings: The formation is wrapped in slantingly led strips of fine woven linen of a slight ochre colour.

Measurements: Length 12 cm.

Zoological determination: A firmly wound snake is shown in the radiograps, however, its specific determination is not possible.

Chapter 9

MUMMIES OF BIRDS

(Written in co-operation of J. HANZÁK)

122. Náprstek Museum, Prague, Inv. No. P 596

History: Part of the old collection funds of the Náprstek Museum.
External form: The mummy of a bird with preserved soft tissues. The beak and wings, folded on the front side of the body are evident through the torn parts of bandages.
Wrappings: The mummy is wrapped into circular and slantingly led strips of fine linen bandages.
Measurements: Length 35 cm.
Zoological determination: Threskiornis aethiopicus (Latham) (sacred ibis). Due to the small size it is most probably a young specimen. The mummy is made in the typical way in which ibises generally were mummified, i. e. with the head turned over the body.

123. Náprstek Museum, Prague, Inv. No. P 607, Fig. 115

History: Part of the old collection funds of the Náprstek Museum.
External form: Mummy of a form typical for ibises. It is considerably heavy.
Wrappings: Variously directed bandages of a rust-brown colour of finely woven linen are preserved on the front side of the body which is convexly arched. On the flat back side, deeper layers of darker colour, penetrated with resin, are uncovered.
Measurements: Length 37 cm.
Zoological determination: A complete specimen Threskiornis aethiopicus (Latham). The neck is turned over the body so that the beak reaches over the heel joints; the feet are bent in the heels.

124. Náprstek Museum, Prague, Inv. No. P 2479

History: Transferred from the National Museum in Prague, on November 11, 1968.
External form: Mummy of a club form, typical for ibises.
Wrappings: A lew layers have been preserved; the top layer is formed of finely woven linen.
Measurements: Length 43 cm.
Zoological determination: Threskiornis aethiopicus (Latham), The mummy contains a larger number of bones and their fragments, including one-half of the beak. Probably only the single bones of the bird were wrapped up. It is the matter of a case of a fake with the symbolic contents.

125. Náprstek Museum, Prague, Inv. No. P 2487, Surroundings of Esna (?), Fig. 116, Plate XXI c

History: H. Palme of Kamenický Šenov bought the bird in Luxor. His collection was overtaken by the National Museum in Prague in 1949. From there it was transferred to the Náprstek Museum on January 30, 1969.
External form: The mummified bird resembles a falcon. The head is modelled out of linen and stucco, the facial features are painted in black, gold and red colours on a white basis. A wig lies over the head on which black and yellow strips alternate along the sides. On the back, a black leafy pattern on a yellow basis is painted.
Wrappings: Crosswise, slantingly led narrow bandages with folded edges form a casket-like pattern on the front surface of the body. In this pattern, ochre strips, forming the upper half of the rhombuses and their delimitations, and dark-brown strips, penetrating on the surface in the lower half of the rhombuses, are alterating. The dorsal part of the body is covered with a few strips of ochre linen. The end of the feet is wound with a few crossing windings of the same material.
Measurements: Length 33,5 cm.
Zoological determination: Threskiornis aethiopicus(Latham). The mummy contains only a part of the skeleton. A part of the tibia, tarsus and fingers of

Fig. 115 Cat. No. 123

Fig. 116 Cat. No. 125

Fig. 117 Cat. No. 126

Fig. 118 Cat. No. 126

Fig. 119 Cat. No. 128

one foot, tarsus and fingers of the second foot, the beak and fragments of a few other bones are evident. The head end of the mummy is empty. It is an example of a fake with exchange of the contents.

Dating remark: According to the arrangement of the bandages, probably the Roman period.

126. Náprstek Museum, Prague, Inv. No. P 2501, Figs. 117, 118, Plate XXI a

History: On February 20, 1933, the mummy was transferred from the Castle Talloš in Slovakia to the National Museum in Prague (Department of Prehistory). From there it was given over to the Náprstek Museum on January 29, 1968.

External form: Antero-posteriorly flattened club-shaped formation with the feet end bent in an right angle, resembling thus human feet of the mummies. In the National Museum Inventory, it was considered a mummy of a little child. The right front quarter of the cranial end in extent of 6 × 9 cm was cut off in the past and is now sewn together with wire. After uncovering it, it is possible to evaluate the torso of the bird's beak. On the left upper quarter of the front surface and in the middle of the upper medial third of the dorsal surface, remains of the bird wings are pasted.

Wrappings: The mummy is wrapped in a number of layers of larger pieces of finely woven linen of an ochre to a rusty colour. In its defects, it is evident that deeper layers are formed of a rougher woven linen. Over the bandages, circular windings of strips of finely woven linen with folded edges (width 7—8 mm) are led in a distance of 9—12 mm; the placing of the now missing strips is evident according to the alternation of the lighter and darker coloured strips on the surface of the cover bandage. Dark spots of resin penetrate from the depths in some places. On the proximal end, it is possible to ascertain that the bandages reach a thickness over 1 cm and inside, besides the bird, also linen fillings have been inserted.

Measurements: Length 57 cm, largest breadth 19,5 cm, thickness 14,3 cm.

Zoological determination: Sphenorhynchus abdimii (Lichtenstein?) (Abdim's stork). From the somewhat damaged cranial end of the mummy, a part of the beak juts out and according to it and the entire form of the skeleton, it is a bird of the wading order (Ciconiiformes), even if the number of the neck vertebrae cannot be precisely ascertained in the radiographs. The skeleton is complete, however, only the basis in the length of 45 mm of the beak has been preserved. At first sight, it reminds one of the skeleton of the sacred ibis, but it is more massive, and the length of the long bones (femur about 90 mm, tibia 185—195 mm, tarsus 125—130 mm) surpasses fundamentally the upper limits of the variation width of this species. On the basis of literary data about the length of the tarsus, this measure falls into the range of the stork simbil, which is indicated to the extent of 117—126 cm.

This mummy, imitating a child, is another example of a fake with the exchange of contents.

127. Náprstek Museum, Prague, Inv. No. P 2792

History: Emil Uhl, artist painter, donated the bird to the Town Museum in Most on July 29, 1894. It was transferred to the Náprstek Museum on June 30, 1970.

External form: Mummy of a bird.

Wrappings: Remains of the bottom layers of a roughly woven linen.

Measurements: Length 22,3 cm.

Zoological determination: Elanus caeruleus (Desfontaines) (black-winged kite). The bird was mummified in a twisted position. The skeleton of only one lower limb is evident in the radiographs, it is however clear that the skeleton is complete. The skull is pressed together firmly to the body, so that the neck vertebrae are not visible. The length of the bone limbs corresponds with the range of the determined species: ulna 92 mm, femur 49 mm, tibia 64 cm, tarsus 40 mm, back finger without claw 25 mm.

128. State Castle Opočno, District Rychnov nad Kněžnou, Inv. No. 7349 B, Fig. 119, Plate XXII a

History: Perhaps the Prince Joseph II Colloredo-Mansfeld gained this bird at his hunting trips to Egypt and Sudan in the years of 1901—1902.

External form: Mummy of a bird. The head and shoulders are remodelled of ochre-brown earth with a black patinated surface. The details of the face are

missing, but a wooden beak with traces of gold has been inserted. The remodelled part lies above the bandages. The ventral side is uncovered in its greatest extent. The wings are evident, also the pecten of the sternum and the right lower limb.

Wrappings: Remains of bandages of a fine woven linen are preserved especially on the dorsal side.

Measurements: Length 19 cm.

Zoological determination: Elanus caeruleus (Desfontaines). The skeleton is without the skull. The measurements and massiveness of the bone limbs correspond with the range of the determined species: humerus 78 mm, ulna 97 mm, tibia 55 mm, tarsus 30 mm. The length of the fingers cannot be measured.

129. Náprstek Museum, Prague, Inv. No. P 597, Plate XXII b

History: Part of the old collection funds of the Náprstek Museum.

External form: The extended object is in the form of a headless bird. The dorsal side is flattened, the ventral one is convexly arched and in the half of the length it stands out into a rounded hump of an diameter about 3 cm.

Wrappings: The formation is wrapped into circularly and slantingly wound bandages of very fine woven texture.

Measurements: Length 28 cm.

Zoological determination: Milvus migrans (Boddaert) (black kite). The bird is mummified with the head turned to the thorax. It was possible, on the radiographs, to measure some skull parts and the majority of the long bones: humerus 65 mm, ulna 111 mm, tibia 93 mm, tarsus 70 mm. The toes of the feet are twisted and therefore can't be measured.

130. Náprstek Museum, Prague, Inv. P 2485, Surroundings of Esna (?), Fig. 123, Plate XXIII a

History: see Cat. No. 125.

External form: A mummified bird resembling a falcon with a consipicuously flattened body. The head is modelled out of linen and stucco; the facial features are painted with a black and red colour on a white basis. The object is strikingly light.

Wrappings: A part of the specimen from the head to the distal end is wrapped into larger pieces of fine and also rough woven linen. On the sides, two wide strips lengthwise with the longer axis of the object. Across the breast, there are led slantingly two narrow strips crossing each other in the middle.

Measurements: Length 43 cm.

Zoological determination: The mummy is empty except a fragment of the upper part of beak placed on the level of the neck of the mummy. Its length (clumen measured with a pair of compasses) is 61 mm. Most probably it belongs to the species Haliaëtus albicilla L. (sea eagle). It thus seems to be a fake with symbolic (partial) contents and, at the same time, with an exchange of the contents.

Dating remark: According to the analogy of the arrangement of the head with Cat. No. 125, it belongs probably as well into the Roman period.

131. Náprstek Museum, Prague, Inv. No. P 600, Fig. 124

History: Part of the old collection funds of the Náprstek Museum.

External form: The mummy of a bird with evident part of the face including the beak and part of the lower limbs on the damaged distal ends.

Wrappings: Remains of a few layers of variously directed bandages of roughly woven linen.

Measurements: Length 20,2 cm.

Zoological determination: Accipiter nisus (L.) (sparrow-hawk). An adult bird mummified in the normal position. The radiograph reveals the complete skeleton in the lateral view. The bones can well be measured with the exception of the fingers, which are only partly preserved on one side and on the other side are entirely missing. The length of the tarsus — 56 mm — and the whole size of the bird correspond with the range of a male.

132. Náprstek Museum, Prague, Inv. No. P 2486, Surroundings of Esna (?), Fig. 122, Plate XXI b

History: see Cat. No. 125.

External form: A mummified bird resembling a falcon. The head is modelled from linen and stucco, the facial features are painted in a black and red colour on

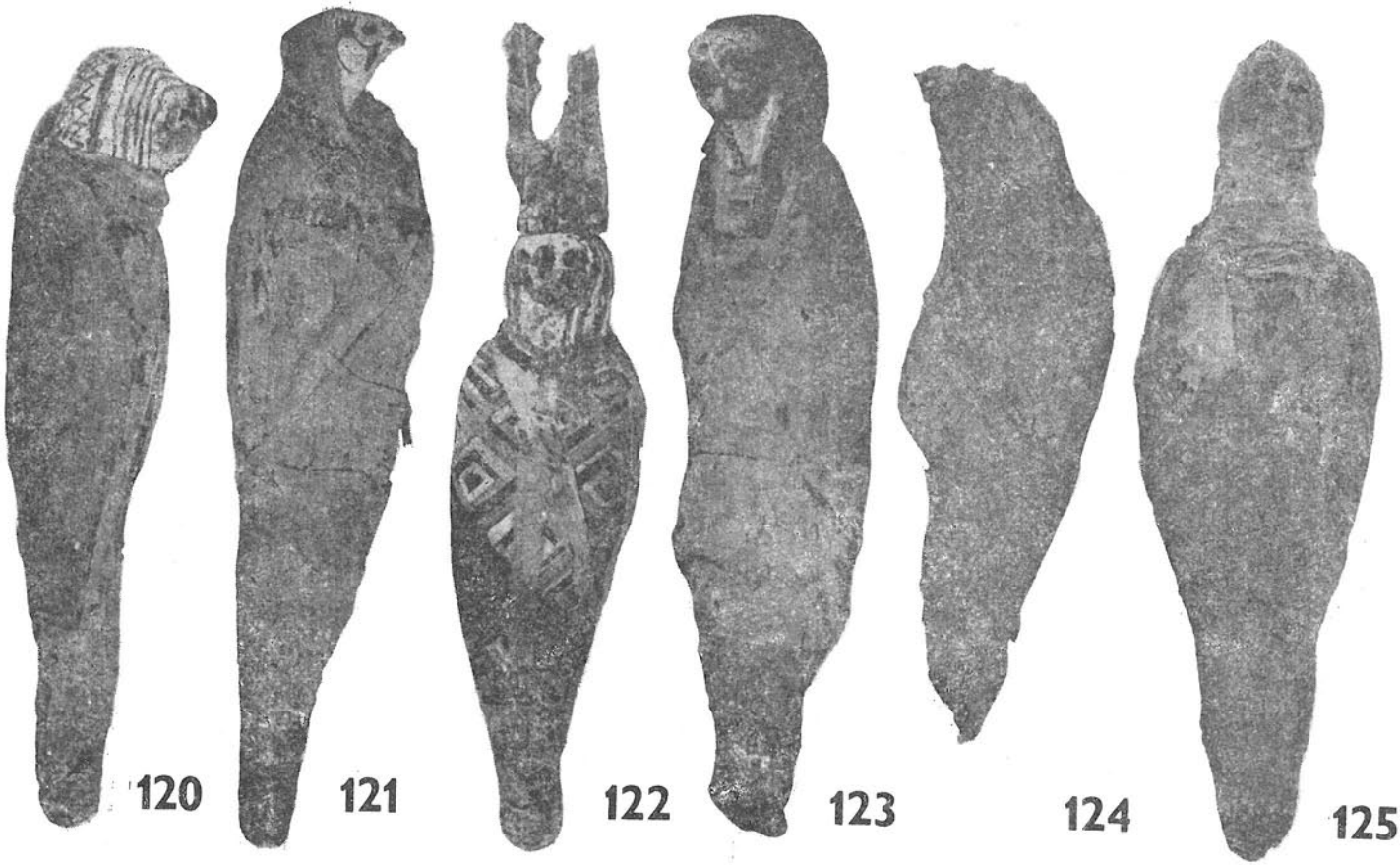

Fig. 120 Cat. No. 133 Fig. 121 Cat. No. 135 Fig. 122 Cat. No. 132
Fig. 123 Cat. No. 130 Fig. 124 Cat. No. 131 Fig. 125 Cat. No. 137

a white basis. A wig merges over the head with alternate black and white strips. On top of the head, two black painted Amun feathers are fastened and over their lower ends a sun-disk is indicated, originally performed perhaps with a red colour.

Wrappings: A casket-like pattern is formed on the front surface of the body with crossed slantingly led, narrow bandages (width 6—10 mm) with folded edges. Ochre, light-brown and dark-brown strips regularly alternate. Over the casket-like pattern an oblong and a slanting strip of a rough linen are placed. The dorsal side of the body is covered with one big piece, damaged in some places and in others penetrated with resin. The feet end is wound with circularly led bandages of a finely woven linen.

Measurements: Length 32 cm.

Zoological determination: In comparison with the contents, the mummy is disproportionately big. The mummified bird takes up only two thirds of its whole length. It is a matter of genus Accipiter sp. or Melierax sp. The length of tarsus — 50 mm — excludes the kestrel (Falco tinnunculus and Falco naumanni) and falls into the variation range of both Accipiter nisus or Accipiter brevipes. According to the entire length of the fingers, which unfortunately cannot be measured precisely, it is more likely Accipiter brevipes (Severtzov) (Levant sparrow-hawk ?). It is again a fake with exchange of contents.

Dating remark: According to the arrangement of the bandages, the mummy is probably of the Roman period.

133. Náprstek Museum, Prague, Inv. No. P 595, Fig. 120

History: Part of the old collection funds of the Náprstek Museum.

External form: A mummified bird resembling a falcon. The head is modelled from linen and stucco; the facial features are indicated quite simply with a black and red colour on a white basis. The wig is indicated with numerous black zigzags.

Wrappings: On the front surface, crosswise and lengthy placed strips (width 1,5—2 cm) are alternating. They consist of finely woven linen of a light-brown colour and folded edges. On the dorsal side, the uppermost layers are coloured rusty brown and the lowest layers are black due to the resin.

Measurements: Length 40 cm.

Zoological determination: Buteo buteo (L.) (buzzard). The radiograph shows an adult individual, mummified in a normal position. The skull is cast to the height of the neck. The space of the head and also the distal end of the mummy are empty. The head is turned in such a way that the beak rests upon the thorax. The bones of the limbs are well measurable: tibia 100 mm, tarsus 70 mm, middle finger 36 mm (?). Here it is again a matter of a fake with exchanged contents.

Dating remark: According to the arrangement of the bandages, the mummy is probably of the Roman period.

134. Náprstek Museum, Prague, Inv. No. P 2484, Surroundings of Esna (?), Plate XXIII b

History: see Cat. No. 125.

External form: A mummified bird resembling a falcon. The head is modelled from linen and stucco; the facial features are painted in black colour on a white basis. The back half of the head is broken off.

Wrappings: The upper half of the body itself is wrapped into circular layers of finely woven linen, completed with slanting and crosswise led narrow bandages of a light-brown or dark-brown colour. A typical casket-like pattern is not formed. The lower half of the body has circular windings of bandages.

Measurements: Length 43 cm.

Zoological determination: Buteo buteo (L.) (buzzard). An adult specimen, mummified in an extended position. In spite of this, however, the head does not reach to the head end of the mummy, but lies on the level with its neck. The bones of the limbs can well be measured: femur 70 mm, tibia 95 mm, tarsus 71 mm. The measurements do not correspond with the species Buteo rufinus (Cretschmar), which usually is another species of mummified buzzards. It is again the case of a fake with exchanged contents.

Dating remark: According to the analogy of the arrangements of the head with Cat. No. 125 and others, it probably belongs also to the Roman period.

135. Náprstek Museum, Prague, Inv. No. P 2489, Surroundings of Esna (?), Fig. 121

History: see Cat. No. 125.

External form: A mummified bird, resembling the falcon. The head is plastically modelled from linen and stucco; the facial features are painted black, red, and yellow on an ochre basis. A wig merges over the head with black and yellow long strips.

Wrappings: The body is wrapped into larger pieces of light-brown colour, over which, in the front, three narrow strips of bandages are led slantingly. The distal third has circular windings of an ochre finely woven linen.

Measurements: Length 43 cm.

Zoological determination: An adult specimen of Buteo buteo (L.) (buzzard). It was mummified in an interesting position with the right foot extended about 10 cm over the left one and with the head turned to the side. The skull is not visible in the radiographs. The bones of the limbs can be well measured: tarsus 70 mm, middle finger without the claw 38—39 mm. Similarly as with the mummy Cat. No. 134 it is possible to exclude the species Buteo rufinus (Cretschmar). It is again a matter of a fake with exchanged contents.

Dating remark: Analogically to Cat. No. 125 and other data, it is possible to consider the Roman period.

136. Chair of Systematic Zoology of the Faculty of Natural History, Charles University, Prague, without Inv. No., Plate XXII c

History: Part of the old collection funds of the Chair of Systematic Zoology.

External form: Mummy of a bird. Out of the bandages juts the beak the front part of which is broken off, the thoracic region with the carina, a large part of the wings, the limbs from the knee to the halves of the shanks and the fingers with claws.

Wrappings: Remains of roughly woven bandages have been preserved on the back surface of the body, on the head, neck and limbs.

Measurements: Length 41 cm.

Zoological determination: Falco biarmicus (Temminck) (Lanner falcon). An adult specimen, mummified in the normal position with crossed feet. The skull shows typical features of the falcon. The beak is clearly seen but the "tooth" isn't visible. The majority of the measurements of the long bones falls into the variation range of this species similarly as the length ratio of the fingers.

137. Dept. of Natural History in Valašské Meziříčí, District Museum, Vsetín, Inv. No. 2124, Fig. 125

History: Bohumil Jaroněk brought this object from his strip to Egypt in 1899 and donated it to the Museum in Valašské Meziříčí.

External form: The mummy of a bird with an expressively arched carina. Through a defect in the wrappings, it is possible to see the beak whose end is broken off as well as the claws on the fingers.

Wrappings: The uppermost circularly wound layers of finely woven ochre and brown linen are preserved on the neck, in places on the back and in the middle section of the limbs. In other places, deeper consistent layer of rougher woven linen, of two threads in a crossed pattern, are exposed. Through the defects in it is possible to see that the bottom layers are of a material similar to the upper layers.

Measurements: Length 34 cm.

Zoological determination: Falco biarmicus (Temminck). A complete skeleton of an adult individual mummified in the typical position. The X-ray investigation doesn't make it possible to study the skull; the bones of the limbs with the exception of the femur can, however, be measured very well. The length of humerus, tibia and tarsus fall into the variation range of the species. The mutual relation of the length of fingers excludes Falco peregrinus and also Falco peregrinoides. The length of the middle finger without the claw is 49—50 mm.

138. Náprstek Museum, Prague, Inv. No. P 2477, Fig. 126

History: Transferred on November 11, 1968 from the National Museum in Prague.

External form: Mummy of a bird with and uncovered surface in the proximal half.

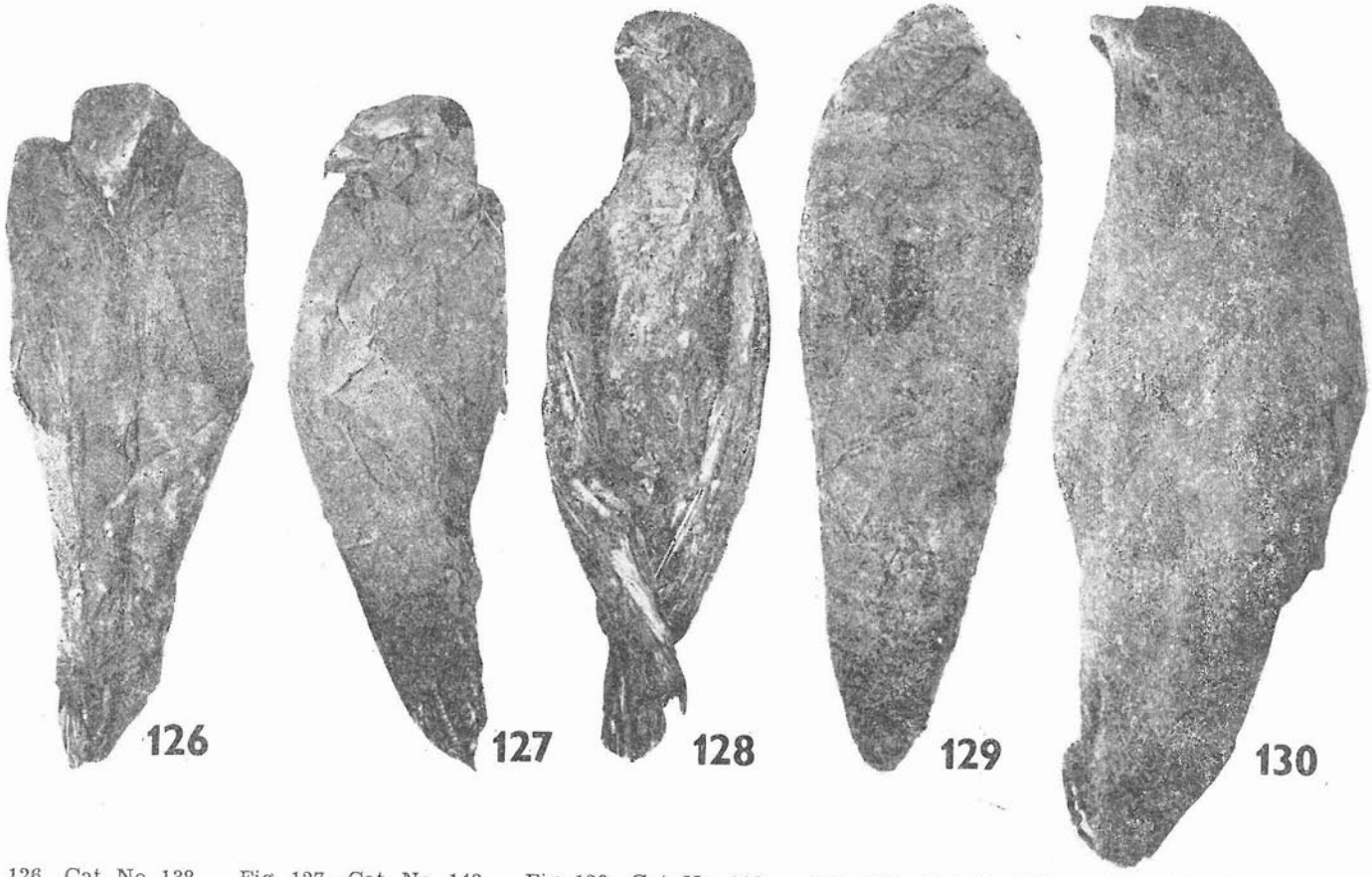

Fig. 126 Cat. No. 138 Fig. 127 Cat. No. 143 Fig. 128 Cat. No. 146 Fig. 129 Cat. No. 147 Fig. 130 Cat. No. 152

Wrappings: Remains of bandages on the distal half remained preserved. The uppermost ones are of a fine woven linen, the deeper ones of a rougher woven cloth.
Measurements: Length 21 cm.
Zoological determination: Falco subbuteo (L.) (hobby). A complete body of an adult bird with head pressed to the thorax. Almost all the limb bones can be measured. The tarsus is shorter than the kestrel's one (33—34 mm), the middle finger measures 33—34 mm. The skeleton is, on the whole, more massive than that of the Falco tinnunculus.

139. Náprstek Museum, Prague, Inv. No. P 598

History: Bought from Dr. A. Schallerová of Prague-Vinohrady on September 9, 1960.
External form: Mummy of a bird. The beak is evident through the opening in the bandages.
Wrappings: The mummy is wrapped in variously directed bandages of a light-brown colour. The top ones have a finer structure and the lower ones a rougher structure.
Measurements: Length 26 cm.
Zoological determination: Falco tinnunculus (L.) (kestrel). An adult bird. mummified in a rather extended position. The complete skeleton is evident in the radiograph. The limb bones can be well measured, e. g. tarsus 40 and 41 mm; the fingers of both feet are but unclearly pictured. The beak is evident but not measureable, the "tooth" is not perceptible.

140. Náprstek Museum, Prague, Inv. No. P 599

History: Transferred from the castle in Mnichova Hradiště in 1948.
External form: Mummy of a bird. The upper part of the face and some fingers are exposed.
Wrappings: Variously led bandages of light-brown colour have been preserved.
Measurement: Length 23,5 cm.
Zoological determination: Falco tinnunculus (L.) (kestrel). An adult mummified bird in a normal position with limbs drawn to the skeleton is complete. The tibia, tarsus and fingers can well be measured: tarsus 40 mm, middle finger without claw 29—30 mm.

141. Náprstek Museum, Prague, Inv. No. P 601

History: Transferred in 1948 from the castle in Mnichovo Hradiště.
External form: Mummy of a bird. The beak and fingers jut out from the torn bandages.
Wrappings: The mummy is wrapped in variously directed bandages of rough woven linen.
Measurements: Length 18,7 cm.
Zoological determination: Falco tinnunculus (L.) (kestrel). An adult specimen, mummified in a rather twisted position, so that the head and neck are shifted to the side. The roentgenological investigation doesn't present all details sufficiently and so only the tarsus can be measured (length 37 mm). The middle finger is twisted and so it is not measurable. In the related smaller species of the Falco naumanni (Fleischer), the tarsus is significantly shorter.

142. Náprstek Museum, Prague, Inv. No. P 602

History: Transferred in 1948 from the castle in Mnichovo Hradiště.
External form: The mummy of a bird almost wholly unwrapped.
Wrappings: Remains of bandages of a finely woven light-brown strips have been preserved on the neck and between the wings on the front part of the body, where they have been inserted as well as fillings.
Measurements: Length 19,2 cm.
Zoological determination: Falco tinnuculus (L.) (kestrel). An adult bird mummified in the normal position with crossed lower limbs. A complete skeleton is evident in the radiographs with measurable long bones of the wings and also of the limbs: tarsus 37—38 mm, middle finger without the claw about 27 mm.

143. Náprstek Museum, Prague, Inv. No. P 2474, Fig. 127

History: Transferred from the National Museum in Prague on November 11, 1968.

External form: Mummy of a bird. The head turned at 90° to the right, part of the wings and fingers of the limbs are exposed.
Wrappings: Remains of larger pieces of finely woven linen have been preserved.
Measurements: Length 20 cm.
Zoological determination: Falco tinnunculus (L.) (kestrel). An adult specimen, mummified in the normal position. Externally, it is possible to study the fingers of the feet with dark claws and the beak with the typical "tooth".

144. Náprstek Museum, Prague, Inv. No. P 2475

History: Transferred from the National Museum in Prague on November 11, 1968.
External form: Mummy of a bird. The head, part of the wings and fingers of the limbs are uncovered.
Wrappings: Remains of bandages of roughly woven linen have been preserved.
Measurements: Length 23 cm.
Zoological determination: Falco tinnunculus (L.) (kestrel). An adult bird mummified in a normal position. Several neck vertebrae are not visible in the radiographs in the lateral view so that a part of the neck is possibly missing. The skull is very well visible and the beak has a distinct "tooth". On the bones of the feet it is possible to measure the tarsus (length 40 mm).

145. Náprstek Museum, Prague, Inv. No. P 2476

History: Transferred from the National Museum in Prague on November 11, 1968.
External form: Mummy of bird. The face and upper part of the head are exposed.
Wrappings: The mummy is wrapped in variously directed strips of finely and also of roughly woven linen.
Measurements: Length 24,7 cm.
Zoological determination: An adult specimen of Falco tinnunculus (L.) The neck is shrugged so that skull lies pressed to the thorax. The skeleton is complete but it is possible to measure only some long bones. The tarsus measures 40 mm, and the length of the claws of the back finger likewise corresponds with the range of the determined species.

146. Náprstek Museum, Prague, Inv. No. P 2496, Fig. 128

History: Transferred from the Town Museum of České Budějovice to the National Museum in Prague, and brought to the Náprstek Museum on November, 11, 1968.
External form: Mummy of an almost wholly exposed bird.
Wrappings: Insignificant remains.
Measurements: Length 19 cm.
Zoological determination: Falco sp. (kestrel). The bird was mummified in an uncustomary position with an uplifted head and with the feet pressed against the body. The radiographs don't allow to take any measurements. According to the skull and condition of some of the long bones it is either a Falco tinnunculus or a Falco naumanni. According to the fingers, which can be evaluated externally, but are in a twisted positon, it is more likely a Falco naumanni.

147. Náprstek Museum, Prague, Inv. No. P 2837 a, Saqqara, Fig. 129

History: On April 12, 1971, Jiří Urban donated the specimen to the Náprstek Museum.
External form: Mummy of a club form typical for ibises with a half rounded hump in the place of the head. On the front surface, 11 cm, from the upper edge, it is secondarily disturbed with a roughly oval opening (2 × 3 cm), reaching a depth of 4 cm. The mummy has been placed in a ceramic vase (P 2837 b) of an egg-shape with a slightly convex base, and with a body flattened out on both sides and elliptical on the section. Such vases were used for storage of mummified ibises.
Wrappings: The mummy is wrapped into many layers of larger pieces of linen, which are held together by variously led thread-like strings.
Measurements: Length 30 cm.

Zoological determination: Falco tinnunculus (L.) (kestrel). An adult specimen, mummified in the normal position. The skeleton is complete. In the radiographs the skull is not well visible. Te skeleton of the left foot is more clear. The length of the tarsus is 42—43 cm. It is another case of a fake with the exchange of contents.

148. Náprstek Museum, Prague, Inv. No. P 2893

History: Businessman Otto Retz gained this object in Egypt and in 1920, he donated it to the Museum in Krnov, from where it was transferred in 1951—52 to the Silesian Museum in Opava. This institution transferred it on February 7, 1973 to the Náprstek Museum.

External form: Mummy of a bird. Through the deranged bandages on the head, the upper edge of the left eye-socket and the beak on which a piece of golden foil has been preserved, are evident.

Wrappings: The mummy is wrapped into slantingly led strips of finely woven linen, coloured in black perhaps due to the penetrating resin. On the lower end the windings are led crosswise.

Measurements: Length 23 cm.

Zoological and radiological determinations: Falco tinnunculus (L.) (?). An adult bird mummified in a normal position, with one foot a little shifted. The body of the bird, with the exception of the skull and lower limbs, is, in the radiographs, surrounded on both sides by a densely opaque shadow of a homogeneous structure, at the distal end of a more spotted structure. The body cavity of the bird is not filled. It is, most likely, a matter of resin. Due to these fillings, however, the skeleton of the bird is not well visible, which causes the determination rather uncertain. The length of the tarsus is 39—40 mm, but the fingers appear to be short, which could be caused by their twisted position.

149. Hrdlička Museum of Man, Prague, Inv. No. 15/17

History: Part of the old collection funds of Hrdlička Museum.

External form: Mummy of a bird. The beak and wings on the thorax and also on the damaged end of the mummy are evident.

Wrappings: Remains of the bottom layers of roughly woven linen, in places covered with finely woven bandages, have been preserved.

Measurements: Length 22 cm.

Zoological determination: Falco tinnunculus (L.). An adult specimen mummified in a normal position. The skeleton is complete, only the upper part of the beak is broken. The length of the tarsus is 42—43 mm, and the length of the fingers corresponds with the variation range of the determined species.

150. Podlipanské Museum, Český Brod, District Kolín, Inv. No. 517

History: J. Zounek of the parish Mrzky, district Kolín, gained this object in Egypt about the year of 1900. In 1930 it came to the collections of the Museum at Český Brod.

External form: The mummy of a bird. The left half of the uncovered head is broken and the surface and the cavities of the bones are evident. On the distal end there is an opening through which the ends of the feathers of the wings jut out, as well as the claws or ends of the fingers from which the claws were broken off.

Wrappings: The mummy has been wrapped into circular bandages of finely woven linen of an ochre colour and in places penetrated with black spots of resin. Lengthwise placed strips caught together with a few circular windings on the neck have been preserved on the front surface of the body.

Measurements: Length 22,5 cm.

Zoological determination: Falco tinnunculus (L.). A complete body of an adult specimen, mummified in a normal position with crossed feet. The skull and limb bones can be well measured (tarsus 30 mm, middle finger 28—29 mm). The "tooth" is well evident on the beak.

151. Town Museum, Moravská Třebová, District Svitavy, Inv. No. E 79/71, Plate XXII d

History: L. V. Holzmeister donated the object to the museum in 1908.

External form: The mummy is completely wrapped into slanting and crosswise led bandages of finely woven light-brown linen.

Measurements: Length 22 cm.
Zoological determination: Falco tinnunculus (L.). An adult specimen with head and neck turned to the side and crossed feet. The complete skeleton is shown in the radiographs. All the limb bones can be measured (tarsus 41 mm, middle finger without claw 28 mm).

152. State Castle Opočno, District Rychnov nad Kněžnou, Inv. No. 7349 A, Fig. 130, Plate XXII c

History: Prince Joseph II Colloredo-Mansfeld probably gained the mummy on his hunting trips to Egypt and Sudan in 1901—1902.
External form: Mummy of a bird. The surface of the body including the open beak and wings are evident. The body is flattened out on the sides.
Wrappings: Only remains of the bandages have been preserved, the top ones of fine, and the bottom ones of roughly woven linen.
Measurements: Length 22,2 cm.
Zoological determination: Falco tinnunculus (L.). An adult specimen, mummified in a disorderly position with a very shifted right foot. The skeleton is complete, the bones can be measured (tarsus 40 mm, middle finger without claw 30 mm).

153. Department of Natural History at Valašské Meziříčí, District Museum Vsetín, Inv. No. 2123 a

History: The bird was brought probably by Bohumil Jaroněk from his trip to Egypt in 1899. He donated it to the Museum in Valašské Meziříčí.
External form: Mummy of a bird. The beak juts out of a damaged spot of the bandages.
Wrappings: The mummy is wrapped with crosswise and slantingly led windings of finely woven linen of an ochre-brown colour. In the defects in the top layers on the head, on the back and damaged distal end, it is evident that layers of roughly woven linen are lying deeper within.
Measurements: Length 25,9 cm.
Zoological determination: Falco tinnunculus (L.). An adult specimen, mummified with the head twisted to one side. In the radiographs, a complete skeleton is evident, with well measurable bones of the limbs (tarsus 39—40 mm, middle finger without claw about 28 mm).

Chapter 10

MUMMIES OF MAMMALS

(Written in co-operation of V. MAZÁK)

154. Náprstek Museum, Prague, Inv. No. P 594, Fig. 131

History: Gained from the inheritance of the traveller R. Štorch.
External form: Mummy of a cat. The head is modelled in linen penetrated with resin, including the ears; the facial features are indicated in black colour.
Wrappings: The neck is wound with a few of circular windings of narrow strips of finely woven linen which is folded on the sides (width 7—10 mm). From strips of the same character an elaborated casket-like pattern is formed on the body.
Measurements: Length 46 cm.
Zoological determination: Felis silvestris lybica Forster (African wild cat) [Felis catus (L.)?]. A young specimen, filling only the cranial half of the mummy. According to the radiographs the skeleton is complete. The total length of the skull is about 59 mm.
Dating: According to the arrangement of the bandages it probably is from the Roman period.

155. Náprstek Museum, Prague, Inv. No. P 617

History: Part of the old collection funds of the Náprstek Museum.
External form: The head of a cat with preserved soft tissue which are missing only on the bottom and right half of the cranium.
Wrappings: Remains of roughly woven light-brown linen bandages are preserved only on the left upper part of the cranium.
Measurements: Length 10,3 cm.
Zoological determination: Felis silvestris lybica Forster [Felis catus (L.)?]. Condylobasal length about 87 mm, total length of skull about 92 mm; most probably a male.

156. Náprstek Museum, Prague, Inv. No. P 2482, Fig. 132

History: Transferred on November 11, 1968 from the National Museum in Prague.
External form: A roughly executed mummy of a cat.
Wrappings: The mummy is wrapped into a big piece of roughly woven linen, over which a net-work is placed with large holes (up to 3 × 3 mm). On a number of places it is tied with a string intertwined with thread.
Measurements: Length 36 cm.
Zoological determination: Felis silvestris lybica Forster [Felis catus (L.)?]. The mummy contains only the skull with two cervical vertebrae and the complete skeleton of one anterior limb. It is a fully grown-up, big and old specimen with the total length of the skull about 100 mm. The measurements indicate quite clearly that the specimen was of male sex.

157. Náprstek Museum, Prague, Inv. No. P 2491, Fig. 133

History: Transferred on November 11, 1968 from the National Museum in Prague.
External form: A cylindrical object resembling a simple animal mummy with the head formed of folded linen. The mouth opening is indicated by a chink in the linen filled up with darker cloth penetrated with resin.
Wrappings: On the surface, the formation is wrapped in one piece of roughly woven linen, under which circularly led windings of narrower bandages are evident.
Measurements: Length 34 cm.
Zoological determination: Felis silvestris lybica Forster [Felis catus (L.)?]. It is the mummy of a young cat. The complete skeleton is visible in radiographs. The total length of the skull is about 69 cm, the condylobasal length about 64 mm.

158. Náprstek Museum, Prague, Inv. No. P 2794

History: Transferred on June 30, 1970 from the District Museum in Most.
External form: Cylindrical formation of unclear character.

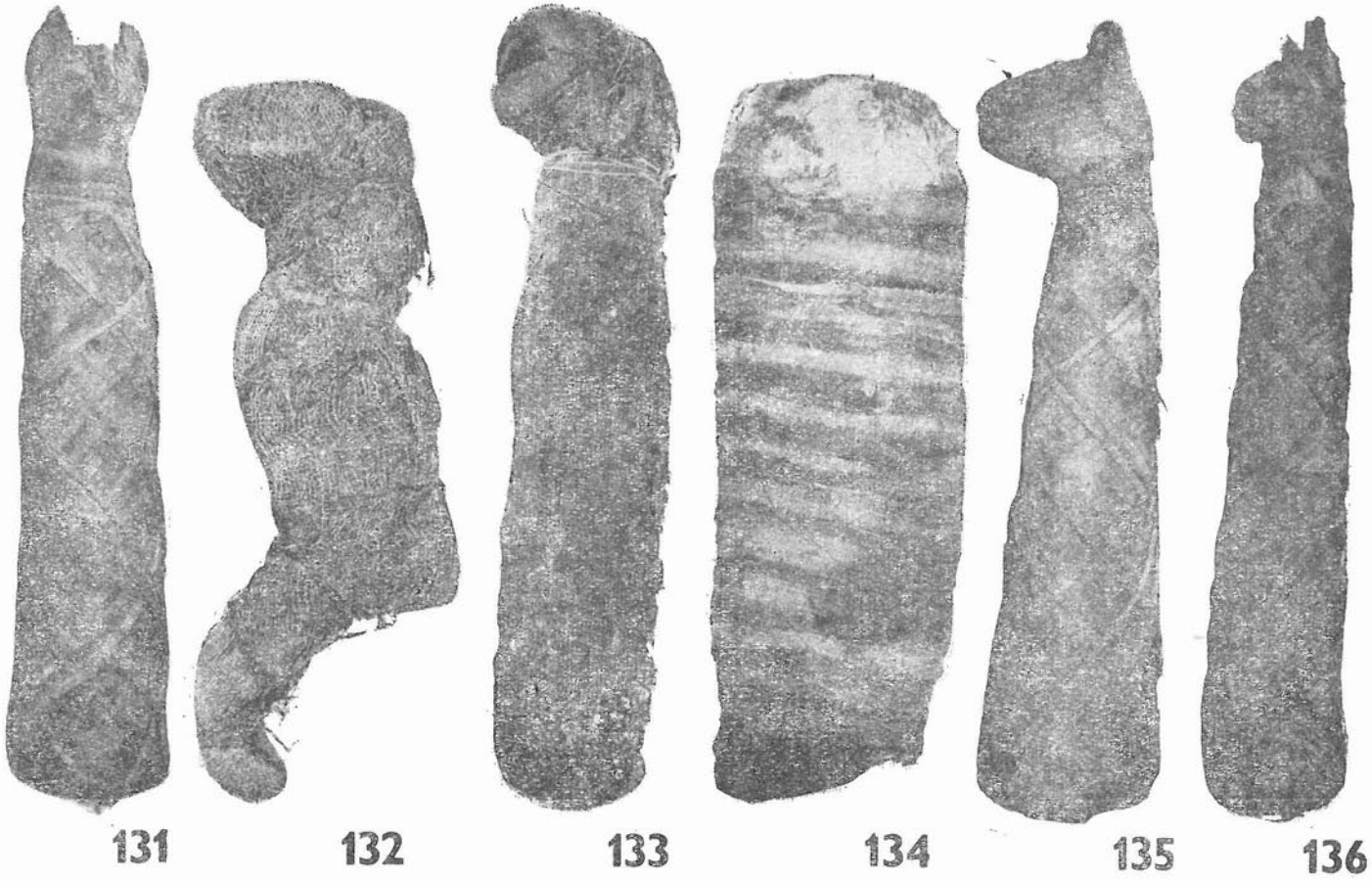

Fig. 131 Cat. No. 154
Fig. 132 Cat. No. 156
Fig. 133 Cat. No. 157
Fig. 134 Cat. No. 160
Fig. 135 Cat. No. 162
Fig. 136 Cat. No. 164

Wrappings: The formation is wound with circular strips of finely woven linen with folded edges. In the damaged places it is evident that the deeper layers of bandages form wider strips of rougher woven linen.

Measurements: Length 19,5 cm.

Zoological determination: The greatest part of the mummy is empty. It contains only two small skulls of mammals, probably cats, placed in the proximal third of the mummy. It is a case of a fake with the symbolic (partial) contents.

159. Náprstek Museum, Prague, Inv. No. P 2796

History: Transferred on June 30, 1970 from the District Museum in Most.

External form: Mummy of an animal with a cylindrical body and the head including ears modelled roughly in linen penetrated with resin. Its character is not evident.

Wrappings: The body is wound with a light-gray linen, fastened together with a string. It undoubtedly was recently arranged. Under it lies a layer of the original finely woven rusty-brown linen. Through the damaged distal end, it is evident that the inside is filled partly with folded pieces of plant materials.

Measurements: Length 26 cm.

Zoological determination: Felis silvestris lybica Forster [Felis catus (L.)?] The entire mummy is filled with the complete skeleton of an immature specimen. The total length of the skull is about 59 mm.

160. Náprstek Museum, Prague, Inv. No. P 2798, Fig. 134

History: Transferred on June 30, 1970 from the District Museum in Most.

External form: A cylindrical formation, strongly flattened in the frontal-back diameter, of an unclear character.

Wrappings: The formation is wrapped with circularly narrow strips of finely woven linen with folded edges. Strips of ochre and dark-brown colour alternate. One of the ends is damaged so that it is possible to ascertain that the thickness of the bandages reaches 7 mm. The inside is filled with rolls of linen.

Measurements: Length 22 cm.

Zoological determination: Felis silvestris lybica Forster (?). The mummy contains only a part of the skeleton of a young cat without the skull.

161. Town Museum, Moravská Třebová, District Svitavy, Inv. No. E 78/71, Plate XXIV b

History: L. V. Holzmeister donated the mummy to the Museum in 1908.

External form: Mummy of a cat. The head is modelled in linen penetrated with resin. The original ear of the cat was preserved on the right side. A wig is indicated in black and red colours on the head.

Wrappings: The body itself is wound with circularly led strips of linen of unequal width with folded and unfolged edges. On the ventral side they bend in a slanting direction.

Measurements: Length 33 cm.

Zoological determination: Felis silvestris lybica Forster [Felis catus (L.)?], an immature specimen. The complete skeleton is evident in the radiographs. The total skull length is about 69 mm, condylobasal length of the skull is about 59 mm.

162. District Museum, Olomouc, Inv. No. A 6121 a, Fig. 135, Plate XXIV c

History: see Cat. No. 12.

External form: Mummy of a cat. The head is modelled in linen penetrated with resin, including the ears.

Wrappings: The neck is covered by a few circular windings of narrow strips of finely woven linen, folded along the sides (width 6—10 mm). An elaborated casket-like pattern is formed on the body of strips of the same character.

Measurements: Length 46 cm.

Zoological determination: Felis silvestris lybica Forster [Felica catus (L.)?]. An adult specimen. The skeleton is complete according to the radiographs. The total length of the skull is about 86 mm, condylobasal length about 80 mm. Probably a female.

Dating: According to the arrangement of the bandages, it is probably of the Roman period.

163. District Museum, Olomouc, Inv. No. A 6121 b

History: see Cat. No. 12.
External form: Mummy of a cat. The head is modelled in linen penetrated with resin, including the ears; the facial features are painted in black and red colour. The body is conspicuously flattened on the sides.
Wrappings: The body is wrapped in circularly led light-brown strips of finely woven linen. The deeper layers of darker colours penetrated with resin are evident in the damaged places.
Measurements: Length 44 cm.
Zoological determination: Felis silvestris lybica Forster [Felis catus (L.)?]. An adult specimen. The radiographs show a complete skeleton. Length of the skull about 88 mm, condylobasal length about 85 mm.

164. District Museum, Olomouc, Inv. No. A 6121 c, Fig. 136

History: see Cat. No. 121.
External form: Mummy of a cat. The head including the ears is modelled in strips of linen pasted with resin. The eyes are indicated with the help of pasted small linen discs (the right eye is missing).
Wrappings: The body is wrapped with narrow strips of light-brown finely woven linen with folded edges (width 7—10 mm), which form a simple casket-like pattern. Some strips have a darker colouring.
Measurements: Length 54 cm.
Zoological determination: Felis silvestris lybica Forster [Felis catus (L.)?]. It is a young specimen filling only the cranial half of the mummy. The radiographs show that the skeleton is complete.
Dating: According to the arrangement of the bandages, the mummy belong probably to the Roman period.

165. District Museum, Olomouc, Inv. No. A 6340

History: see Cat. No. 121.
External form: Mummy of a cat. The head including the ears is modelled in linen, which is penetrated with resin so strongly that it is almost black.
Wrappings: The body is wrapped with narrow strips of light-brown finely woven linen with folded edges (width 8—11 mm), which form a step-like pattern on the side of the body.
Measurements: Length 46,5 cm.
Zoological determination: Felis silvestris lybica Forster [Felis catus (L.)?]. It is an immature cat which fills only the cranial two-thirds of the mummy. According to the X-ray examination, the skeleton isn't complete, the tail vertebrae are missing.
Dating: According to the arrangement of the bandages, it is of the Roman period.

166. Náprstek Museum, Prague, Inv. No. P 2481, Fig. 138, Plate XXIV a

History: Transferred on November 29, 1968 from the National Museum in Prague.
External form: A rough formation resembling an animal of unclear character. The head projects in the snout.
Wrappings: The formation is wrapped into connected layers of rough woven light-brown linen, covered with net work with holes 2×2 mm. It is tied several times with a string of partly inter-woven threads.
Measurements: Length 22,5 cm.
Zoological determination: Canis sp., most probably Canis familiaris (L.), (the house dog). An immature specimen. The total length of the skull is about 70 mm.

167. Náprstek Museum, Prague, Inv. No. P 2490, Surroundings of Esna (?), Fig. 137

History: see Cat. No. 125.
External form: Mummy of a young dog. The head is modelled in a finely woven linen penetrated with resin so that it almost has a black colour. The ears are broken off. Pasted small discs of light-brown linen with an especial finger-ring-like border of the same material designate the eyes. The body is strongly crushed in two places on the left side.

Fig. 137 Cat. No 167 Fig. 138 Cat. No. 166 Fig. 139 Cat. No. 169 Fig. 140 Cat. No. 171 Fig. 141 Cat. No. 173

Wrappings: The body is wrapped with narrow strips of finely woven linen with folded edges (width 5—9 mm), which form a perfectly casket-like pattern. The majority of strips are light-brown, smaller parts are dark-brown; these form a regular contour of rhombs and of the lower delimitation of their centers.

Measurements: Length 34 cm.

Zoological determination: Canis sp., probably Canis familiaris (L.). Immature specimen, which fills in only the proximal two-thirds of the mummy. The complete skeleton is evident in the radiographs. The length of the skull is about 86 mm.

168. Náprstek Museum, Prague, Inv. No. P 618 a

History: Part of the old collection funds of the Náprstek Museum.

External form: Almost wholly uncovered skull of a piece of cattle without the lower jaw and with the missing right horn and the closely lying part of the cranium. The left horn has a broken end. Remains of soft tissues are preserved on the surface.

Wrappings: Insignificant remains of finely woven linen of a light-brown colour are preserved on the left horn.

Measurements: Length of the skull without the horn 39 cm, length of the preserved part of the left horn 20 cm.

Zoological determination: Bos taurus (L.) (domestic cattle). According to the abrasion of the molars, it can be evaluated as a rather young specimen.

Chapter 11

VARIETIES AND FAKES

169. Náprstek Museum, Prague, Inv. No. P 2488, Surroundings of Esna (?), Fig. 139

History: see Cat. No. 125.

External form: A mummified bird resembling a falcon. The head is modelled plastically out of linen and stucco. The facial features are painted black and red on an ochre basis. A wig merges over the head with black and ochre lengthly strips. The back half of the head is missing. The object is conspicuously light.

Wrappings: A complex casket-like pattern is formed on the body out of narrow finely woven strips (6—9 mm wide). The ochre strips project on the surface in the uppper part and the black strips in the lower part of the casket-like rhombs. The rhombs are separated by superficially and slantingly led light-brown strips which cross over each other. On the back side of the body, this arrangement is covered with a large piece of light-brown linen. On some of its places, penetrating resin reveals by dark spots. The feet end is wound with circularly led dark-brown bandages.

Measurements: Length 44 cm.

Radiological examination: The radiograph shows that the object is entiry empty. It is probable that originally the body of some bird of prey was placed in the mummy which was, however, removed secondarily. The arrangement of the bandages is so perfect that it can't be a matter of a recent fake and likewise, it is not possible to assume that ancient mummificators would not place in such a carefully prepared mummy at least some compensation for its contents.

Dating: According to the arrangement of the bandages, the mummy was wrapped probably in the Roman period.

170. Náprstek Museum, Prague, Inv. No. P 2493

History: Transferred on November 11, 1968 from the National Museum in Prague.

External form: An egg.

Wrappings: The egg is wrapped into a half cm thick layer of finely woven light-brown linen which is covered over on the surface with a layer of roughly woven black linen. In one place there is a patch of very fine rusty-coloured linen.

Measurements: Length 8 cm.

Zoologocal determination: It is a bird's egg. It is smaller (6,6 × 5,2 cm) than the average size of the egg of a crocodile (9 × 6 cm) and the form, on the whole, corresponds with a bird's egg. Inside, the dried-out albumen and yolk (4,2 × 3,8 cm) are evident.

It is most likely a fake, because the ritual use of eggs in the ancient Egyptian culture has not been reported.

171. Náprstek Museum, Prague, Inv. No. P 2495, Fig. 140, Plate XXIV d

History: Transferred on November 11, 1968 from the National Museum in Prague.

External form: A roughly modelled cylindrical form resembling a cat. It is divided into a body, a narrowed neck and widened head with conspicuous ears, formed of rolls of linen. On top of the head and in places of the snout, a filling of roughly woven linen penetrated with some hardening means is evident.

Wrappings: The formation is wrapped into variously directed pieces of thickly woven linen.

Measurements: Length 27,5 cm.

Radiological examination: The shadow of the bandages is formed by a number of layers of linen, penetrated irregularly with scattered, denser, very small shadows of radio-opaque material, perhaps of resin. In place of the supposed skeleton of the animal a human humerus is placed in the lengthy axis of the formation. Its medial border is found on the right side of the body of the pretended animal mummy. The proximal end of the bone is broken in the level of the surgical neck, and likewise, on the distal end the bone is interrupted transversally, above the base of the ulnar epicondyle, above the fossa coronoidea and in the course of the radial epicondyle. The incorrupted ends of the wrappings suggest that the humerus was wrapped already in a defective condition. The continuity of the bone is further interrupted by a slanting fissure going from the lateral border of the distal end of the diaphysis to the medial edge of the fossa coronoidea.

The humerus size and robusticity correspond with the range of an adult person. It is not possible to ascertain the sex dependably, even if a relatively smaller robusticity and a small, flat tuberositas deltoidea would allow to suppose the female sex.

Conclusion: It is most certainly a matter a complete fake, with the greatest probability not of ancient Egyptian origin, i. e. from the workshop of mummificators. Most probably it is a recent fake of some forgers of antiquities. If it were an ancient Egyptian fake we would expect analogically with the number of cases introduced in Chapters 9–10 a fake with substituted contents (another kind of animal) or with a symbolic content (part of a body of the same kind).

172. Náprstek Museum, Prague, Inv. No. P 2499

History: Transferred on November 11, 1968 from the National Museum in Prague.

External form: A formation of an oval outline, on one surface gently flattened.

Wrappings: Over the greatest circumference, a winding of ochre finely woven linen is placed, holding together one deeper-lying piece of linen of the same texture over the flattened basis. On the arched dorsal side of the formation, a patch of very fine linen is pasted with the help of resin, which causes black spots.

Measurements: Length 8,5 cm.

Radiological examination: It is a matter of entangled linen without any visible formation inside.

Conclusion: Fake, most probably recently performed.

173. Náprstek Museum, Prague, Inv. No. P 2795, Fig. 141

History: Transferred from the Town Museum in Most on June 30, 1970.

External form: Cylindrical object, narrowed in the middle, of an unclear character.

Wrappings: The formation is very carelessly and irregularly wound into circular windings of roughly woven, and in places, of finely woven linen.

Measurements: Length 23 cm.

Radiological examination: The formation consists of clearly visible circular windings of bandages; otherwise, it is empty.

Conclusion: Fake, most probably of recent origin.

Remark: The five examples referred to in this chapter do not, by far, exhaust the palette of the small seemingly mummified objects in several collections, which our radiological examination ascertained as being empty or as containing only filling. In the Náprstek Museum in Prague these further ones belong to them: Inv. Nos. P 612, P 613, P 2470, P 2480, P 2498, P 2500 and P 2791.

Likewise, the fragments of the bandages of the mummies, especially the often found wrappings of the penis, deposited in some collections, were not included into this Catalogue.

Chapter 12

RESULTS OF DATING AND INVESTIGATION OF MUMMIFICATION TECHNICS

A) Dating of Mummies

Dating according to ascertained details of mummification technics with reference to funeral rites, in a few cases helped by radiocarbon dating or by peculiarities of the arrangements of wrappings, was performed at complete mummies, and with a certain probability as well at isolated heads; on the whole, therefore, with 53 individuals.

At 4 complete mummies and 9 isolated heads, the known provenance made it possible to confront their dating with the general dating of the burial-ground. In 12 of these cases from the burial-ground of Royal workmen of the 18th—21st Dynasties at Deir el-Medina on the western Nile shore at Luxor, both of these data were not contradictory. The direct dating of the mummies enabled to establish more accurate estimation in the scope of the general burial-ground dating: 6 cases were ascribed to the 18th—20th Dynasties; 6 to the 21st Dynasty. In a further case from the Oasis Kharga, the mummification technics admitted a very wide dating in a broad scope, on the one hand of the New Kingdom, on the other hand of the Late period until the decline of the Roman period. The archaeological dating of the burial ground into the 4th—5th century A. D. became, of course, authoritative. On the whole, it is possible to express agreement of the direct dating with the general dating of the burial-ground.

The further 15 complete mummies are lying still in coffins, which are considered to be their original burial containers. With them, it was possible to confront the dating of the mummy with the dating of the coffin, which Dr. Miroslav Verner executed independently of our results. In 9 cases the two ascertainments were entirely or almost identical (Cat. Nos. 7, 10, 12, 13, 16, 17, 18, 20, 22), allowing in 2 cases for the possibility of survival of older embalming technics of the 3rd Intermediary period into the later periods, to which DAWSON and GRAY (1968:XIII) drew attention (Cat. Nos. 12, 13). In one of these cases, however, the sex of the mummy (woman) and the name on the coffin (man's) do not agee (Cat. No. 13). If there is not an error in one of the two identifications of the sex, this case should be excluded because of the possibility of the exchange of the mummy in the coffin.

In 3 instances the proposed date of the coffin yielded a narrower range for the more extended possibility of dating by means of the embalming techniques and funeral rite (Cat. Nos. 1, 19, 21).

In the remaining 3 cases a disagreement between the dating of the coffin and the dating of the mummy was found (Cat. Nos. 6, 11, 15). In all instaces coffins were younger than mummies. If both identifications are valid, the possibility of putting older mummy into a newer coffin has to be taken into account.

On the whole, it is possible to conclude that the confrontation of the direct dating of mummies with the dating of the coffins shows precise or rough agreement in 11 cases (73,3 per cent), disagreement only in 3 cases (20,0 per cent); in one case (Cat. No. 13) the confrontation was complicated by the disagreement of both sex determinations (6,7 per cent).

The other complete mummies and isolated heads were dated with more or less exactness only according to the mummification technics (with the exception of Cat. No. 24 dated according to the divided cartonage and funeral rite). The results of dating have to be considered less exact in the isolated heads where some important criteria of other parts of the body are missing. Authoritative dating was reached only in those cases, where the sole habit of the 3rd Intermediary period is present, i. e. the presence of subcutaneous fillings. The other used criterion, the presence of artificial eyes, doesn't seem to be fully specific.

A review of the dating of complete mummies and isolated heads is summarized in Table 2. According to it, it is evident that the mummies from the Czechoslovak collection were dated from the 18th Dynasty (16th century B. C.) to the break of the Roman and Byzantine period (4th—5th century A. D.) so that they represent material from more than two thousand years of development of ancient Egyptian civilisation.

Table 2

Review of the Dating of Mummies

Dating	Complete mummies				Isolated heads			
	Cat. No	n	Sums		Cat. No.	n	Sums	
			n	per cent			n	per cent
18th Dynasty	1	1	9	37,5	—	—	2	6,9
18th—20th Dynasty	2—7, 21, 22	8			25, 26	2		
21st Dynasty	—	—	4	16,7	27—32	6	19	65,5
21st—25th Dynasties	8, 9, 10, 11	4			33—45	13		
21st—30th Dynasties	14	1	7	29,2	—	—	8	27,6
Late period (26th—30th Dynasties)	12, 13, 17, 18, 20	5			—	—		
older than Greek period	15	1			—	—		
Greek period	16	1	4	16,7	—	—		
Graeco-Roman period	19	1			—	—		
New Kingdom or Late to Graeco-Roman period	—	—			46—52	7		
Roman period	23, 24	2			—	—		
Roman to Byzantine periods	—	—			53	1		

More than one third of complete mummies comes from them New Kingdom period (1575 to 1087 B. C.), almost a half from the 3rd Intermediary period up to the Late period (1087 to 332 B. C.), and one sixth from the Graeco-Roman period (332 B. C. to 395 A. D.).

In isolated heads it is possible to notice the conspicuous majority of cases classified into the 3rd Intermediary period, while the remaining cases belong to all other represented periods. That all the 8 cases with subcutaneous fillings belong to the 3rd Intermediary period (27,6 per cent) seems highly probable. In further 11 heads (37,9 per cent) dated into the same period according to artificial eyes is not possible to exclude that a part of them belongs to the following Late period, by which the arrangement would become less irregular.

Even so, it is an indisputable fact that in the entire material, the dating into the 3rd Intermediary period and to the Late period is considerably predominant. We consider it to be bearing upon the fact that mummification technics during these periods reached their heights. Not only was a larger number of people mummified than in other periods, but also because of more perfect execution of mummification, more mummies have been preserved.

We consider to be important that among our material, mummies also from the New Kingdom are represented (9 complete, 2 isolated heads and perhaps some of the further 7 heads, dated either into the New Kingdom or the Late up to the Graeco-Roman period). Mummies from this period are rarer, e. g. in the Catalogue of the British Museum they aren't represented even in one case (DAWSON and GRAY 1968).

B) Excerebration

Extraction of the brain belonged to one of the most important operations in first and second "class" of mummification quoted by HERODOTUS. Several proofs of it were possible to be studied in our material.

First of all, it was a matter of either a radiological or a direct evidence of *mechanical damage of the inner nasal skeleton.* In most of these cases the conchae are missing, often also a smaller or larger part of the septum nasi and eventually the whole septum. In the skull of the disturbed mummy Cat. No. 18 the broken through medial wall of both eye-sockets could be ascertained which in intact mummies isn't possible to prove directly or roentgenologically. A similar case was presented by JONCKHEERE (1942:86) ascertained at the autopsy.

As in 5 specimens the nasal region was either disturbed secondarily or it wasn't possible to study it for other reasons, the entire number of evaluated cases is 48. In 24 of them damage of the nasal skeleton was ascertained both in the radiographs and also by direct probing, eventually aspectively. In 10 specimens, due to the covering of nostrils by wrappings or skin patches, it was able to be proved only radiologically. In 2 cases, the damage of nasal skeleton was ascretained directly. however, it wasn't visible in the radiographs because of the inconvenient view (Cat. No. 20, 30). In a further specimen, where it was directly ascertained, it wasn't evident even in perfect radiographs of the skull (Cat. No. 36). These cases draw our attention to the partly independable evaluation of damaged nasal skeleton in the radiographs.

In 4 cases by both direct and radiological examination it was shown conformably that nasal skeleton isn't damaged (Cat. No. 4, 6, 42, 49). However, in 3 cases of them, a small opening in the skull base into the cranial cavity was formed in its upper back part, but in one case any opening wasn't present (Cat. No. 42). In further 4 cases the undisturbed nasal skeleton was distinguished only radiologically, because direct examination wasn't possible through the wrappings or through the tampons. In these cases even the possibility of proving the perforated skull basis was missing. In 3 of these cases also the cranial cavity was without evident radio-opaque fillings so that it isn't sure whether excerebration took place at all (Cat. No. 3, 11, 23). In one of the mentioned cases (Cat. No. 11) a tampon which was placed with both ends in the nostrils would answer for it and for the nasal access.

In further 3 cases, it wasn't possible to ascertain either directly or radiologically the condition of the skeleton of the nasal passage, because it was blocked or covered with tampons (Cat. No. 28), subcutaneous fillings (Cat. No. 27) or with the resinous fillings (Cat. No. 43). However, excerebration was proved by other criteria in these cases.

As an auxilliary sign of excerebration it is possible to consider the *presence of tampons in nasal passages.* It is usually a roll of linen, sometimes penetrated with resin, in consequence of which its stratiform shadow in the radiographs is more clearly evident (Plate XVI b). The tampon was found, on the whole, in 12 cases and it is not possible to exclude that it could have been removed in the past in further unfolded mummies. It was placed with both ends in both nostrils in 4 cases, only in the left one in 4 cases, only in the right one in 1 case. In further 3 cases it was escertained together with resin penetrated into the depth of the nasal passages only in the radiographs, at which it wasn't possible to determine the side where it was placed (Cat. No. 10, 32, 43).

The proof of *perforation of the skull basis* in the back upper part of the nasal passage was the further criterion of excerebration. It was intended to remove the brain substance out of the cranial cavity and to its replacement by the mummification stuff. If we substract the cases, where probing, by the help of a bent probe, couldn't be executed due to the damaged nasal region or to its covering with bandages, tampons and fillings, there remain 30 evaluated cases on the whole. In 29 of them, the perforation was found, in one case it was not distinguished (Cat. No. 42). The opening was ascertained in 7 cases in the right nasal passage, in 5 cases in the left one and in 17 cases, where even the back upper part of the septum was perforrated, the cranial cavity was accessible from both passages. The measures of the openings range from 0,5 × 0,5 up to 2 × 2 cm in one-sided perforations and from 1 × 1,5 cm to 4 × 4 cm and even more in openings accessible from both passages.

Frequency of the perforation openings was followed up many times in various osteological collections. Thus OETTEGING (1909) found in in the skulls allegedly belonging

to mummies of the 18th Dynasty of Thebes in 50 per cent, NICOLAEFF (1930) in skulls of the Mariette collections and further ones from the Musée de l'Homme in Paris, summarily only in 23,2 per cent, with maximum in the Greek period (50,4 per cent). Recently, the frequency was studied by LEEK (1969) in a collection of skulls of priests from the temple in Aswan, in which he found it in 56 per cent. The differences in the results are evidently dependent on the social structure of the collections, because this operation wasn't executed in the cheapest "class" of mummifications.

The last studied criterion of excerebration was *the filling of the cranial cavity with mummification stuff*, first of all, with melted resin, which, according to LEEK (1969), was to stop further decay of the unremoved remains of the brain substance. Out of 51 cases which could be evaluted, 24 were found with radio-opaque shadows in the radiographs. In a further case, it wasn't evident in the radiographs, but by direct looking into the cranial cavity, a thin layer of resin was ascertained, projecting in tips in the occipital region (Cat. No. 4). In another case, in which the X-ray examination wasn't performed because of fragmental state of the object, a covering of resin on the inner surface of the frontal bone was found (Cat. No. 37). In 25 cases signs of radio-opaque fillings were missing in the radiographs and their direct ascertainment wasn't possible. It isn't impossible that a thin layer of resin on the inner surface of the cranium, which cannot be proven by X-rays, was applied in some of these cases.

The frequency of fillings shows to be smaller in our series during the Greek and Roman priods than in the older periods. So among the 5 evaluated complete mummies of these period, 4 were without signs of fillings and among 8 isolated heads, dated either to the New Kingdom or to the Late, even to Graeco-Roman periods, there were 5 without fillings.

Resin was most often used as a filling, forming a densely opaque homogeneous or lumpy spotted shadow. It was applied either in the form of a covering on the inner surface of the cranial cavity, or it was poured into this cavity in the position of the head with the nape downward for a certain time so that it hardened with the typical craniocaudally directed surface which delimitates the frontal edge of the cast. Sometimes tips run out of the edges of the filling. In a small number of cases the filling consisted of linen penetrated with resin.

In our series, resin was used in 21 specimens. Out of them in 5 cases it formed a peripheral covering in the occipital or parieto-occipital region, eventually in the entire extent of the cranial cavity, in one case in the frontal region only (the other parts of the skeleton being missing). In other 15 specimens resinous fillings were found. In one case it formed a small cast in the occipital region, in 4 cases it occupied the rear quarter and even the third, and in 4 cases the whole back half of the cranial cavity. It also happened during the outpouring of the resin into the back half of the cranial cavity that the resin at the same time filled the antrum Highmori, where it formed a similarly directed surface (Cat. No. 35), or it filled as well the posterior part of the nasal cavity, the temporal region and formed a strip from the frontal to the temporal region (Cat. No. 39).

In a single case, the cast was found in an entirely anomal position; it occupied the middle part of the frontal third of the cranial cavity and reached up to the upper two-thirds of the ventral part of the nasal region (Cat. No. 47). The craniocaudal delimitation in this case was formed on the occipital edge of the cast, so that it is possible to assume that the mummy was placed with face downward soon after the outpouring of the melted resin.

In another case where the excerebration was executed through the foramen occipitale magnum, there were found on the one hand fragments of the cast probably of the filling of the parietal region, on the other hand stripped shadows of the linen fillings penetrated with resin, in the frontal region and anterior cranial fossa (Cat. No. 42). Stripped shadows of linen fillings penetrated with resin were ascertained also in a further case (Cat. No. 40). In the remaining cases it was a matter of small fragments of casts, freely moving in the cranial cavity.

With 5 specimens the filling of the cranial cavity differed from the other ones as to the quality of its radio-opacity. It was of medium or even higher density with tiny grainy and/or spotty structure without delimited surface. It was most probably a matter of earth mixed with fine or rough sand, because the shadow of the same character was noticed in subcutaneous fillings where the material could have been ascertained directly. It was a matter of filling of the occipital region (Cat. No. 30), fragments of filling, scattered in the rear half of the cranial cavity (Cat. No. 29), filling

of the parieto-occipital and partly of the frontal region (Cat. No. 53) or of the entire cranial cavity (Cat. No. 2 and 28). In the lastly mentioned case (Cat. No. 28, Plate XII a, b) a clearance was distinguished in the radio-opaque filling which corresponds with the position of tentorium cerebelli and falx cerebri. Our own experiences from autopsy of a well-preserved mummy dated to the Greek period, performed in Detroit, Mich., U.S.A., have shown, that both structures can be preserved in an absolute intact condition in the interior of the skull (STROUHAL 1974).

It is interesting that 4 of the mentioned cases with fillings of earth and sand come from the burial-ground of the King's workmen at Deir el-Medina, where resin fillings appeared only in two cases, i. e. only in thin layer in the occipital region or on the whole inner surface of the cranial cavity, while 6 remaining heads were without fillings. It seems that the fillings with sand and earth were substitutes for the resin fillings, which in ancient Egypt represented surely a relatively expensive raw material, partly imported. The last of our cases of earth and sand fillings comes from far-a-way Oasis Kharga and is dated up to the 4th—5th century A. D., when mummification was at the very end of its development.

The frequency of fillings, ascertained in our material, seems to be larger than in other series. Thus in the catalogue of 73 mummies from the British Museum (DAWSON and GRAY 1968) are mentioned only 4 cases (Cat. No. 45, 49, 58, 71) from the Greek and Roman period. It had either a lobe-like or spotty form or it formed a homogeneous structure with the typical levelled delimination.

If we take into consideration all the mentioned criteria of excerebration in all individuals at once, we can conclude, that at least with one of the criteria it was possible to prove excerebration out of the 51 evaluated cases (i. e. without Cat. No. 15 and 24) in the absolute majority of 49 individuals. In the remaining two cases (Cat. No. 3 and 23) a radiological proof wasn't given, and in the same time, however, an external wasn't possible to be performed. Taking into account the possibility of looking over a smaller degree of damage of the nasal skeleton or the cover filling of the inner surface of the cranial cavity, it is not possible, even in these cases, to exclude absolutely the excerebration. Therefore, we can assume, that excerebration in our series of mummies was an usual performance, even in the 12 individuals from the burial-ground of the King's workmen at Deir el-Medina.

As to the way by which the brain was taken out of the cranial cavity, it was possible in the majority of cases (44 i. e. 89,8 per cent) to prove the removal of the brain by the nasal way with the perforation of the base of the skull in the rear upper part of the nasal passage. In one of the mentioned cases (Cat. No. 38), in which the nasal skeleton wasn't preserved, it was possible to infer to this passage with the greatest probability, according to the surface of the cast in the occipital third of the cranial cavity. In a single case (i. e. 2,0 per cent) (Cat. No. 42) dated probably into the 21st—25th Dynasties, it was possible to prove the way through the foramen occipitale magnum. In the remaining cases (8,2 per cent) it wasn't possible to decide surely because of the damage nasal skeleton (Cat. No. 7, 37), or the covering of the bandages and the turning of the head (Cat. No. 9), or the covering of the bandages and the negative finding in the radiograph (Cat. No. 17).

In the majority of other series of examined ancient Egyptian mummies, excerebration, as in our cases, predominates through the nasal passage. The way through the foramen occipitale magnum was found more rarely. In the Catalogue of mummies from the British Museum, there is mentioned the nasal way in 7 cases (Cat. No. 23, 45, 49, 54, 58, 64, 71), whereas the way through the foramen occipitale magnum with a certain probability in 3 cases (Cat. No. 47, 50, 51), all dating from the Greek period (DAWSON and GRAY 1968). The way through the foramen occipitale magnum with its widening was found by JONCKHEERE (1942:88) in the skull No. 207 from the Greek period from Saqqara, belonging to the Mariette collection in the Musée de l'Homme in Paris.

In 25 mummies from the Roman period found in Delta, located in the Budapest National Museum, the brain was removed in 17 cases by the nasal way, by which also the nasal septum was interrupted. Through the foramen occipitale magnum, widened by the breaking off its edges, excerebration was executed only 2 cases. In the remaing specimens, it wasn't possible to ascertain the way (MÉREI and NEMESKÉRI 1958 a, b).

Thus the majority of the described cases of excerebration through the foramen occipitale magnum fall into the Greek and Roman periods. The fact that it was

already formerly executed sporadically is shown, e. g. by mummy of King Ahmose, the founder of the 18th Dynasty (TULLI 1941) and even by our finding (21st–25th Dynasty). In our material no further atypical ways were ascertained, e. g. the breaking through of the clinoid bone, mentioned by SMITH and DAWSON (1924) or the perforation of the roof of the orbits mentioned by FOUQUET (1886).

C) Subcutaneous Fillings and Artificial Eyes

The application of subcutaneous fillings through short cuts in the skin is a typical custom of the 21st Dynasty and was performed as well during the further Dynasties of the 3rd Intermediary period.

Subcutaneous fillings were found in 9 cases out of the 51 evaluated mummies and isolated heads. In uncovered mummies the fillings were evident already externally for their striking appearance with conspicuously stretched, in places cracked skin, and with full cheeks. It was likewise possible to distinguish them in the radiographs according to the characteristic medium, or even conspicuously dense, fine and/or rougher grained shadow, which reached over the shadow of the skeleton. 5 cases with subcutaneous fillings were dated into the 21st Dynasty, 3 into the 21st—25th Dynasties. In one case (Cat. No. 11), due to the coffin, dated to the Late up to the Graeco-Roman periods, the possibility of the survival of this technics into the Late period was taken into account.

Three different kinds of the filling material were ascertained. In 3 cases (Cat. No. 27, 28, 29) earth was used with certainty and 2 further cases with probability (Cat. No. 30, 32; Plates XI a, b, XII a, b, XIII a, b). All these specimens were the mummies of the burial-ground of the Royal workmen at Deir el-Medina. In two cases (Cat. No. 38 and 43) the filling was of resin. The last two cases (Cat. No. 11 and 33) showed pieces of folded linen used as subcutaneous fillings.

The subcutaneous fillings were applied in the face, especially in thick layers in the cheeks, even in the hairy part of the head and in the neck, with the exception of Cat. No. 27, where the filling of the neck was missing. In Cat. No. 11, a mortar mass composed of sulphate sodium with some admixtures was ascertained in the hairy part of the head. In Cat. No. 33, the fillings were found only in the region of the neck. Likewise, in Cat. No. 38, where most of the face is missing, the fillings could only be ascertained in the neck.

In some individuals remains of the original incisions through which the subcutaneous fillings were inserted were preserved in the face (Cat. No. 11, 28, 29, 30, 33).

In some cases with subcutaneous fillings, rounded fillings of the oral cavity, continuing even into the naso-pharyngeal cavity, were noticed. In Cat. No. 11 this filling agrees with the subcutaneous fillings of folden linen, in Cat. No. 28 it agrees with the fillings of earth. In Cat. No. 33 (Plate XIV a) it is manifested by medium dense homogeneous shadow up to a lightly grainy structure, corresponding evidently with resin (although the subcutaneous fillings of the neck are of folded linen). In Cat. No. 38 and 43, the oro-pharyngeal fillings agree with the subcutaneous fillings of resin. A further case of filling the pharynx with rolls of linen was found in Cat. No. 42 (Plate XVII a), where it is connected with the analogous filling of the entire basal part of the skull, out of which the brain was extracted through the foramen occipitale magnum. The subcutaneous filling, in this case, is missing.

Artificial eyes, made of stone (according to analysis in Cat. No. 33 of calcium carbonate) were found according to their characteristic dense shadow, eventually also by external examination, on the whole in 6 cases. These stone tablets of almond-like outline were usually pasted on the linen rolls filling up the eye-sockets (Plate XIII a). In the antero-posterior view, their shadow is usually weakly contrasting and it could escape notice, while in the lateral view in consequence of the artificial eye being shown tangentially, it usually is very dense.

In further 14 cases, prints of these artificial eyes tablets were preserved undisputedly on the front surface of the linen rolls, eventually on the dried eye tissues.

As a substitute for artificial eyes, it is possible to consider the plastic modelling of eyes in the resinous covering of the face (Cat. No. 34, Fig. 47) or on the linen rolls, on whose surface the eye pupils were indicated in black colour (Cat. No. 30, Fig. 40).

In further 4 cases, only linen rolls without imprints of artificial eyes (Cat. No. 3 and 10) were inserted between the eyelids and their ends were pentrated with resin (Cat. No. 16, 39, Plate XVI a).

Most of the artificial eyes and their substitutes were present in mummies dated into the 21th or 21st—25th Dynasties. In one case of artificial eyes (Cat. No. 14) it is necessary to consider even the possibility of dating into the Late period, where according to the dating of the coffin, also other mummy with merely linen fillings is dated (Cat. No. 16). As long as this survival of technics of the 3rd Intermediary period shows to be correct, even a number of further isolated heads, which were dated into the 21st—25th Dynastie just according to the presence of the artifical eyes, could also belong into the following Late period (compare with p. 156). It seems probable that mere linen rolls could have been inserted into the eyes also before the 21st Dynasty, as was suggested by one case (Cat. No. 3) in which signs of the 21st Dynasty technics are missing and therefore it had to be dated into the remaining range of the burial-ground, into the 18th—20th Dynasties.

In mummies from the British Museum, the artificial eyes were described in 5 cases dated into the 21st Dynasty (Cat. No. 25—28, 23) and in a further case with uncertain dating (Cat. No. 38) (DAWSON and GRAY 1968).

D) Visceral Parcels and Fillings of Bodily Cavities

From the diagnostical point of view, it is most difficult to ascertain the correct character of the contents of the bodily cavities of mummies in the radiographs. Cartain experiences are necessary for distinguishing from other fillings the visceral parcels, a custom of the 3rd Intermediary period and of the Late period, which because of this, has an important dating significance.

Visceral parcels are, as a rule, cylindrical formations extended in the direction of the bodily axis, sharply delimited, medium dense and of a non-homogeneous structure. Out of the 23 evaluated cases of complete mummies the visceral parcels in the bodily cavities were ascertained in 5 cases, three of which dated into the 21st—25th Dynasties (Cat. No. 8, Plate IV b; Cat. No. 9, Plate V a; Cat. No. 10). Two other specimens belong, according to the coffin, more likely into the Late period (Cat. No. 12, Plate VI b, and Cat. No. 13).

The typical custom of the Late period — placing of the visceral parcels into the space between the thighs or legs — was revealed only in one case (Cat. No. 17, Plate IX a, b), dated in agreement with mummification technics and according to the coffin into the Late period. It is interesting that one of the parcels was placed down to the space between the calves. The suspected fourth parcel between the thighs was ascertained also in one of the above mentioned cases (Cat. No. 12, Plate VI c), where only three parcels were distinguished in the bodily cavities. The parcel between the thighs would support the dating of the mummy into the Late period in agreement with the dating of the coffin. Simple linen fillings, penetrated more or less with resin, were found in the space between the thighs in further two mummies (Cat. No. 9, 21st—25th Dynasties, Cat. No. 16, Plate VIII b, Late period).

An entirely peculiar finding is an extended formation of maximal density, consisting of a mortar-like mass, chemically compounded of calcium carbonate in Cat. No. 11 (Plate VI a), dated into the 3rd Intermediary period. Its function isn't quite evident. As long as it was a matter of caustic lime it could have been used as a strong desiccation mean. A similar formation — an extensive opaque shadow between the thighs — was ascertained in one mummy of the 21st Dynasty from the British Museum (DAWSON and GRAY, 1968, Cat. No. 18, frontispice, fig. a).

The fillings of the bodily cavities have a considerably polymorphic character as compared with those of the parcels. It was possible in 6 cases to verify, by direct examination, this radiological finding. Most often it is a matter of linen fillings, characterized in the radiographs by a stratiform, striped or fibrous structure, in places bent, with an un-sharp delimitation. Dense, spotty places of merging shadows, penetrating the shadows of the linen fillings reveal their being saturated with resin. The unsharp, delimited, round or oval spotty or lumpy dense shadows, of various large extentions, somewhere merging even to an expressively dense, uniform, almost homogeneous mass, reveal the filling of pure resin. The grainy, almost metally dense ingredient comes from sand. Sawdust isn't possible to be proved radiologically. From further structures which weren't possible to verify, the shadows were of an irregular, angular form from the size of grain to size of 5×6 cm of the highest degree of density. It is, perhaps, a matter of various fragments, splinters, tiny stones, etc. The character of the weakly opaque filling in Cat. No. 20 isn't clear.

Fillings were ascertained in 18 cases out of the 23 evaluated ones in the body ca-

vities. In two of these, they were present at the same time together with visceral parcels: the cloth fillings in the left half of the thorax in Cat. No. 8 (Plate IV b) and linen impregnated with resin in the abdominal cavity in Cat. No. 13. The further 3 cases with the visceral parcels had no other fillings. Finally, 2 cases (Cat. No. 1 and 22) had entirely empty bodily cavities.

As far as it is a matter of the extent of the fillings, in 8 cases they were evident in the antero-posterior view diffusively in the whole extent of both bodily cavities (e. g. Cat. No. 11). The side views, however, as a rule showed that they were mostly present in the dorsal thirds of the bodily cavities. In 7 cases, only a part or the whole thoracic cavity was filled, in one case only the abdominal cavity and in 2 cases the partly filling of the thoracic cavity with that of the abdominal cavity was combined.

At one of the last mentioned cases (Cat. No. 21) it is necessary to draw especially one's attention, because it seems to imitate the visceral parcels, placed in the bodily cavities. However, the density and even the roentgenological structure of all the formations are absolutely different and correspond with the layers of mummification stuff, most likely of resin, penetrating partly the linen fillings. An irregular extended shadow of analogous structure and density is placed outside the body laterally from the left side of the thorax and likewise, a round filling is present in the small pelvis of the same density and structure (Plate IX c).

It is necessary to deal in detail with the fillings of the small pelvis which could be evaluated in 22 cases. In the radiographs they were evident as round, in places stratiform, in other places merging spotty and/or even entirely homogeneous shadows of medial to very strongly opacity in 8 cases (e. g. Plates VI a, IX c). In two of them it was possible to ascertain by direct examination that it was a matter of convolution of the folded linen penetrated with resin. In further 3 cases the fillings, likewise, were probably present, however, they merge with highly radio-opaque fillings of the abdomen. In 11 cases the fillings of the small pelvis were not found. The fillings of the small pelvis belong to current findings as well in mummies of the British Museum (DAWSON and GRAY 1968).

No dependance was ascertained as to the occurence of various types of fillings and their extent in relation to the dating of the mummies.

In the past, only in 6 out of the 24 complete mummies the bandages have been removed in such a way as to make it possible to ascertain the presence, position and form of the mummification incision. It was found only in one case (Cat. No. 8), in a high position over the spina ilica anterior superior, parallelly with the crista ilica. According to LEEK (1972, p. 25) and SMITH (1912) this should be a type current before the time of Thutmosis III. Artificial eyes and visceral parcels, however, date the mummy into the 21st—25th Dynasties.

E) Insufficiency of Work and Fakes of the Embalmers

Some observations show that the activities of the embalmers weren't free of various inaccuracies and carelessness. Every dead body wasn't perhaps mummified at once after having been brought to the place of mummification. Some of the organic structures, because of this, must have decayed sooner than a further spreading of the decomposition could have been stopped by the sophisticated mummification procedures.

Thus, in 2 specimens the cartilaginous part of the nose was missing. The defect was covered with a layer of linen through which linen tampons in both nasal openings are apparent (Cat. No. 50, Fig. 82) or with a lobe of skin (Cat. No. 53, Fig. 88). In further mummy dislocation and loss of some phalanges of the toes under the undamaged layers of bandages were recorded (Cat. No. 7, Plate III d). In an isolated hand of a mummy (Cat. No. 83), the defective end of the second finger was covered with intact bandages.

For unknown reasons the embalmers shortened the length of the mummy Cat. No. 10 by turning the head backwards and dislocating the upper part of the thoracic spine to the left, ventrally and caudally. Furthermore, they shifted the pelvis, loosened in the sacroilical joints, against the sacrum about 3 cm cranially at the simultaneous rotation of the pelvic inlet plane forwards.

The careless manipulation of the embalmers with the mummies could be revealed by often postmortal fractures and dislocations in the joints in consequence of the loosening of the ligamental connections. However, besides this, we believe that part of these changes could have happened after the mummy was taken out of the

grave, especially during its various transportations from place to place. Numerous fractures and dislocations were found in 9 complete mummies; single ones in 5 mummies, only dislocations in 4 mummies. Only 4 mummies were found completely intact. In isolated heads, fractures, as a rule, aren't present with the exceptions of single 2 cases and the further 2 fragmental objects. In contradiction to DAWSON and GRAY (1968), who observed frequent fractures in specimens of the Roman period, we didn't record any relation to the dating in the frequency of postmoral fractures and dislocations.

Also the numerous probably ancient Egyptian fakes ascertained in the analysis of mummified animals, cast a light upon the work of the embalmers. It is possible to divide these fakes, on the one hand, into those with the exchange of contents, on the other hand, into fakes with symbolic (partial) contents, eventually with the artificial completing of the contents.

8 of found cases of fakes belong to the first group. Most often it was the matter of a bird, whose external form with the artificial modelling of the head represented the sacred falcon, the incarnated god Horus. In 3 cases (Cat. No. 133, 134, 135) a buzzard [Bute buteo (L.)] was found in the mummy; in another one a sacred ibis [Threskiornis aethiopicus (Latham), Cat. No. 125] and in still another one a sparrow-hawk (Accipiter sp., or Melierax sp., Cat. No. 132). In the mummy of the typical form of the sacred ibis, placed in a ceramic vase and most probably coming from some subterranean passage with the sacred ibises in Saqqara (Cat. No. 147), a kestrel [Falco tinnunculus (L.)] was found. In a mummy in the form of a fish (Cat. No. 116) a crocodile was found, and in a further one, imitating the form of a small child (Cat. No. 126), the stork simbil [Sphenorhynchus abdimii (Lichtenstein)] was revealed.

Three of our findings belong to the cases of fakes with symbolic contents eventually with completing of part of the contents. In one of them there was the body of a crocodile substituted by two boards with the exception of the present skull (Cat. No. 120). In another one, there were wrapped into the mummy only single bones and bone fragments of a sacred ibis including half of the beak (Cat. No. 124). In the last case, the skull and the right shoulder of the mummy of the grey kite [Elanus coeruleus (Desfontaines)] were replaced by modelling in clay including a wooden beak with traces of gilding (Cat. No. 128).

There remains still one more case, the twelfth one of the revealed ancient Egyptian fakes (Cat. No. 130), which falls into both categories at the same time. In the mummy of the form of a falcon only the beak (symbolic content) was found in the radiographs, however, of another zoological group, perhaps of the sea eagle [Haliaeëtus albicilla (L.) — change of content].

Similar fakes of the embalmers were already described several times in literature. MOODIE (1931:56—57) for instance, presented, from the collections of the Field Museum in Chicago, a mummy in a form of a cat, containing only the skull and another similar one entirely empty inside. In another mummy "a package of mixed bones" was ascertained but not further determined. In the mummy of the supposed Princess Moutemhet, lying in the coffin of Queen Makare from the 21st Dynasty, there was found the body of a baboon hamadryas (HARRIS and WEEKS 1973).

In chapter 11, we included some examples of further fakes for which we don't blame the ancient Egyptian embalmers, but more likely the modern dealers with antiquities. To them belong the original ancient Egyptian mummy of the sacred falcon, deprived, perhaps secondarily, of its contents (Cat. No. 169), the mummified egg (Cat. No. 170), mummy in form of a cat, containing the human humerus (Cat. No. 171), and presumably mummified formations which were entirely without contents (Cat. No. 172, 173).

The working conditions of the mummificators in workshops at the border of the desert where sand was often whirled up in the air, are sketched the radiological finding of the numerous grains of sand, caught on the edges of the bandages, to which they were attached by resin soaking through (Cat. No. 16, Plate VIII a, b). MOODIE (1931:14) analogically ascertained in one of the mummies in the Field Museum "clumps of sand and small gravels which have drifted in the wrappings".

F) Special Arrangements of the Surface of the Body

The surprisingly good preservation of the skin and surface formations was described in detail in due parts of the catalogue. In a number of cases it was the result of the spreading of the surface with a thin layer of resin, which was part of the current

procedures. The surface of the mummies, protected in this way, is indicated with dark even up to black colouring.

In some cases, however, at some parts of the surface an especially thick layer of resin was applied. Thus in Cat. No. 9 it was ascertained roentgenologically between the ventral surface of the thorax and the palms crossed on the thorax. In Cat. No. 16 a wast amount of resin was used both for the fillings of the bodily and cranial cavities as well as on the spreading of the whole surface, which caused soaking of the lower layers of bandages and also of the subcutaneous tissues. In Cat. No. 19 a layer of strongly spread resin was found radiologically laterally from the left wall of the thorax.

Traces of red-brown or yellow-brown colouring on the skin of the face were revealed in 3 specimens, dated into various periods (Cat. No. 11, 3rd Intermediary period, Cat. No. 29 and Cat. No. 30, both 21st Dynasty; Cat. No. 53, 4th—5th century A. D.).

G) Remark on Funeral Rites

One of the best specialists in the study of mummification, the late W. R. DAWSON (1953) in his manuscript remarks to JONCKHEERE'S (1942) monograph stated that the crossed position of the upper limbs on the thorax began to take place during the time of Thutmosis II (1510 B. C.), more often with men; it wasn't at all used since the 21st Dynasty and it re-appeared since the Late period. According to GRAY (1972) this rite was typical anew for the Greek period.

According to our observations, it seems that this rule isn't valid in all cases. Out of the whole number of 24 complete mummies it wasn't possible to ascertain the exact position of the upper limbs in 3 cases. From the other ones, the crossed position was found in 5 cases, the upper limbs beside the body with hands on the external surface of the thighs in 6 cases, and the upper limbs beside the body with hands on the pubic region or between the inner spaces of the thighs in 10 cases. All these ritual positions were both with men and also with women, with adults as well as with non-adults. As to the dating, both positions with hands stretched beside the body appeared in the whole chronological extent of our series. Contrarily to this, the crossed position appeared in a mummy dated into the New Kingdom period (Cat. No. 7), in two mummies dated according to the typical visceral parcels into the 21st—25th Dynasties (Cat. No. 9, 10) in a mummy with the probably surviving technics of the 3rd Intermediary period into the Late one (Cat. No. 13) and in a mummy of the end of the Late or beginning of the Greek pariod (Cat. No. 16), thus also in periods, in which, according to DAWSON, they should not have appeared.

In the materials of the British Museum the position of the crossed hands of the upper limbs appeared from the end of the Dynastic and beginning of the Greek period, but it was present even in a mummy dated into the 25th Dynasty (Cat. No. 25) and in an other one with the 4 visceral parcels, according to which they belong most likely into the 21st—25th Dynasties (Cat. No. 37, DAWSON and GRAY 1968).

Chapter 13

SURVEY OF DEMOGRAPHIC DATA

Human mummified material of the Czechoslovak collections, described in chapters 4—7, has 99 catalogue numbers. It represents complete or partial remains of 99 or 98 individuals. (It isn't sure if the isolated head Cat. No. 43 and the isolated part of the lower limb Cat. No. 97 really belong together, although both are evaluated as remains of a mature man).

This material isn't well qualified for a study of demographic conditions in ancient Egypt. In the first place, it is so because it comes from various periods of development of ancient Egypt (see chapter 12). Likewise, it is not homogeneous as to the place of its origin which, in the majority of cases, is unknown. And finaly it is different as concerns the social layers from which the material comes. Besides the individuals undoubtedly of the aristocratic class (Qenamun, Cat. No. 1), also the re-

Table 3

Review of Demographic Data of Complete Mummies and Isolated Heads

Immature individuals			Adult men				Adult women			
Cat. No.	Sex	Age range	Cat. No.	Sex	Age range	Age mean	Cat. No.	Sex	Age range	Age mean
9	?	3—4	1	M	60—70	65	4	W	50—60	55
21	W		2	M	50—70	60	8	W	50—70	60
23	?	1½—2	3	M	25—35	30	10	W	50—70	60
24	?		5	M	40—50	45	11	W	50—70	60
31	M?	15—17	6	M?	30—40	35	13	W	50—70	60
32	?	2—3	7	M	30—40	35	15	W	30—40	35
42	W	14—16	12	M	40—60	50	17	W	50—60	55
49	?	2—4	14	M	50—60	55	19	W	20—30	25
			16	M	30—40	35	27	W	30—40	35
			18	M	20—30	25	29	W	30—50	40
			20	M?	20—30	25	41	W	50—60	55
			22	M	20—30	25	44	W	20—30	25
			25	M	30—50	40	45	W	20—30	25
			26	M?	50—60	55	48	W	30—40	35
			28	M	25—35	30	50	W	20—30	25
			30	M	30—40	35				
			33	M?	50—70	60				
			34	M	20—30	25				
			35	M	50—60	55				
			36	M	50—70	60				
			37	M	20—60	40				
			38	M	40—60	50				
			39	M	40—60	50				
			40	M	25—35	30				
			43	M?	40—50	45				
			46	M?	30—40	35				
			47	M	30—50	40				
			51	M	50—70	60				
			52	M	50—60	55				
			53	M	50—70	60				
Total 8 (15,1 per cent)			Total 30 (56,6 per cent)				Total 15 (28,3 per cent)			

Explanations: M = man, W = woman, ? = sex undeterminable.

mains of the Royal workmen of Deir el-Medina (Cat. Nos. 2—5, 25—32) are included The greatest part of the material represents most likely the medium wealthly class.

It isn't possible likewise, to elaborate all the described specimens as a whole, because the criteria indicating age and sex differed considerably on the one hand in complete mummies and isolated heads, on the other hand, in isolated parts of the upper and lower limbs. Therefore, we were compelled to work up both indicated groups separately in the following summary of demographic data, which is necessary to consider as merely an illustration of the structure of our material in relation to further conclusions (first of all, the paleopathological ones, see chapter 14).

According to complete mummies and isolated heads, our material consists of 53 individuals, 8 of whom are juvenils (15,1 per cent) and 45 adults (84,9 per cent), among which 30 are men (56,6 per cent) and 15 women (28,3 per cent). (See Table 3).

Out of the non-adult individuals, 5 belong to the category of the youngest age (infans I), and 3 into the juvenile category, of which 2 are girls and 1 is a boy. It is evident that the representation of the non-adults is insufficient in relation to the high death rate of children of that time.

The double predominance of number of men over women is surprising in the adult individuals. Even if we take into consideration that our evaluation could be mistaken in 6 men classified as "probable men" (Cat. No. 5, 20, 26, 33, 45 and 46) still there are 24 men over 21 women. It isn't impossible that is an expression of the fact that men were more often mummified or more sophisticately mummified than women.

Our results can be compared with those of the series of mummies in the British Museum in London. In the text of the Catalogue (DAWSON and GRAY 1968:1—40), on the whole, we may find 73 mummified individuals described when excepting the 9 naturally dessiccated bodies of the Predynastic period. 24 of them (32,9 per cent) are non-adults and 49 (67,1 per cent) are adults. The sex couldn't be ascertained in 3 of them. In the remaining adult individuals, an almost identical number as well as the same numerous relation 31 men to 15 woman was ascertained, just as in the material from the Czechoslovak collection. This would support the pronounced hypothesis about the more frequent or better mummification of men. Nevertheless, it still will have to be confirmed in further more extensive series.

As far as the age of the adult individuals is concerned (Table 4), it is possible to state that there is a distinct predominance of younger women over men (in the category of 20—30 years old individuals), and contrarily, predominance of older men over women (in the categories of 40—50 and 50—60 years old individuals). In the remaining two categories, the differences are not so expressive: between 30—40 years a few more men were ascertained, between 50—70 years more women. On the whole, we can state there was a small death-rate among the youngest category, followed by

Table 4

Representation of Age Categories of Adults In Complete Mummies and Isolated Heads

Sex	20—30 yrs.		30—40 yrs.		40—50 yrs.		50—60 yrs.		60—70 yrs.		Total
	n	per cent	n	per cent	n	per cent	n	per cent	n	per cent	n
Men	3	10,0	9	30,0	5	16,7	8	26,7	5	16,7	30
Women	4	26,7	4	26,7	1	6,7	3	20,0	3	20,0	15
Both sexes	7	15,6	13	28,9	6	13,3	11	24,4	8	17,8	45

Remark: as the basis of arrangement into categories, the age average of each individual was taken (Table 3). The cases of bordering values (e. g. 40 yrs.) were arranged into the following higher category (e. g. 40—50 yrs).

Explanations: n = number of cases, per cent = the share from the total.

a clear rise after 30 years. The relatively considerable representation of individuals in the category over 60 years is interesting.

The indicated differences between men and women are reflected as well in the average length of life in the adult individuals which is 43,7 years in men and 41,3 years in women. The adult men of our collection, therefore, lived on the average almost two and a half years longer than the women. The longer average length of life of men in comparison with that of women is a generally accepted fact established by research work in prehistoric burial-grounds. The cause is mostly attributed to greater risks of younger women in connection with pregnancy, giving birth and puerperium. It is interesting that this situation evidently didn't changes even under the con-

Table 5

Review of Demographic Data in Isolated Parts of Lower and Upper Limbs of Mummies

Immature individuals			Adult men		Adult women	
Cat. No.	Sex	Age range or category	Cat. No.	Age category	Cat. No.	Age category
55	W	9—11	64	maturus	54	?
58	W	4—6	65	maturus	56	maturus
59	M?	4—6	66	adultus	57	maturus
73	W?	9—11	67	maturus	60	maturus
74	?	6—10	88	senilis	61	senilis
75	M?	6—8	71	adultus	62	adultus
76	M?	7—8	72	maturus	63	maturus
84	W?	5—6	78	adultus	69	adultus
85	W?	11—12	82	maturus	70	senilis
90	?	juvenis	83	maturus	77	adultus
91	?	infans II	86	adultus	79	adultus
92	?	infans I	87	maturus	80	senilis
			88	maturus	81	maturus
			93	adultus	89	adultus
			94	maturus	99	maturus
			95	maturus		
			96	adultus		
			97	maturus		
			98	adultus		
Total 13 (26,1 per cent)			Total 9 (41,3 per cent)		Total 15 (32,6 per cent)	

Explanation: M = man, W = woman, Infans I = 0—6 yrs., Infans II = 6—14 yrs. juvenis = 14—20 yrs., adultus = 20—40 yrs., maturus = 40—60 yrs., senilis over 40 yrs. All given categories and sex indications are only approximate.

ditions of the high civilization of the historical periods of ancient Egypt. Taken together, the average length of life of adult men and women was 42,9 years.

For comparison we again will use the mummy series of the British Museum. The Catalogue (DAWSON and GRAY 1968) doesn't state, in all cases, the exact numerical range in years of the indicated age. Of the 49 adults a more exact age indication was missing in 14 individuals. Of the remaining, 15 (42,9 per cent) were young adults (corresponding with the age of 20—40 years), 11 (31,4 per cent) middle aged adults (between 40—50 years) and 9 (25,7 per cent) old adults (from 50—65 years). The average length of life cannot be ascertained from this data precisely. Still it is evident that it lies somewhere in the interval of 40—45 years, which corresponds well with the result of the elaboration of our material.

The difference between both sexes doesn't appear in the London material. In the old-age category, women indeed had smaller representation (3 individuals, i. t. 21,4 per cent) than men (6; 30,0 per cent), however, at the same time they got also a smaller representation in the youngest category (5; 35,7 per cent) than the men (9; 45,0 per cent). Most of the women died at the middle age (6; 42,9 per cent), at which the men died least (5; 25,0 per cent).

In the series of isolated parts of the lower and upper limbs it is necessary to consider the demographic data only as an approximate evaluation. Of the entire number of 46 individuals, 12 (26,1 per cent) were non-adults and 34 (73,9 per cent) adults. Out of these 19 were men (41,3 per cent) and 15 women (32,6 per cent) (Table 5).

Among the non-adults 4 belong to the category of the youngest age, infans I (0—6 years), 7 into the infans II (6—14 years) and 1 into the juvenile age (14—20 years). Also this distribution doesn't express, of course, the true death-rate of children.

The predominance of men over women appears again in adult individuals even though it is less expressive than in the materials of complete mummies and isolated heads. It is evident especially in the remains of the lower limbs, whereas, in the upper limbs it was ascertained a little more of probable women than men.

In the category of the age adultus (30—40 years) a difference wasn't shown between men (7 individuals, i. e. 36,8 per cent) and women (5 individuals, i. e. 35,7 per cent). In the category of the age maturus the men predominated (11; 57,9 per cent) over the women (6; 42,9 per cent). On the contrary, the senile age comprised more women (3; 21,4 per cent), than men (1; 5,3 per cent). One woman in whom the general adult age couldn't be more precisely specified, wasn't considered in this comparison.

Chapter 14

RESULTS OF THE RADIOLOGICAL EXAMINATION OF MUMMIES IN VIEW OF THE BONE VARIATIONS AND PALEOPATHOLOGY

The congenital anomalies and the acquired pathological changes can be traced, without interrupting the mummy and its bandages, only by the X-ray examination. In the series of ancient Egyptian mummies from the Czechoslovak collections, it was possible to complete this examination by comparing it with the results of other methods only there, where they had already been used (Cat. No. 8) or there, where the poor condition of the mumy finally led to its destruction and to the preservation of the skeleton only (Cat. No. 18). This situation, however, appeared only exceptionally. When analysing the ascertained changes, it is therefore necessary to keep continually in mind that it was possible to record only those congenital and acquired deviations and changes, which could have appeared in the radiographs. This fact is necessary to emphasize because it must be clearly stressed that the performed reserach doesn't exclude the existence of further congenital and acquired pathological conditions in our series of mummies.

It is possible that other examinations methods — which, unfortunately, lead to the destruction of the integrity of the mummy or of the bandages — could uncover further and even more important facts, which would yield a still deeper view on the health conditions in the ancient Egyptian population. As example, the cases of arteriosclerosis can be introduced there. The X-ray examination can reveal arteriosclerosis only when its calcification manifestations are so expressive and in such a localization that it would be possible to distinguish them even in the summation with the mummified soft tissues and the structure of the bandages. So the statistic evaluation do not show the real frequency of this condition in ancient Egypt but only the presence of the radiologically demonstrated cases in the studied series.

A) Congenital Deviations

Congenital deviations represent altogether the insignificant clinical findings which didn't cause an alteration in life's functions for their bearers. Most of them were indicated on the skull. Here it is necessary to mention deviations in the *configuration of the frontal sinuses.* However, the evaluation of the variability of configuration of these sinuses is considerably afflicted by the different methodic access of the authors to this problem as e. g. BROTHWELL, MOLLESON and METREWELLI (1968) inform us. The standard X-ray technics is necessary for exact metrical evaluation. Uniformly performed views of the paranasal sinuses allow detailed metrical evaluation, however, in some intact mummies kept in their original wrappings they can't be executed because of the unsuitably bent head. Therefore. we considered it more dependable to evaluate the frontal sinuses, first of all from the standpoint of their aplasy or hypoplasy (when the sinuses cannot be differentiated in the films of the head in two views, or when the frontal sinuses are only small and simple), or hyperplasy (when the frontal sinuses, richly arranged, reach expressively into the frontal bone upward and laterally above the eye-sockets, eventually even far into the roof of the orbits). Signs of hypoplasy or aplasy of the frontal sinuses were, on the whole, ascertained in 7 skull of adult men (Cat. No. 7, 25, 26, 34, 36, 52 and 53), i. e. in 24,1 per cent of the total number of 29 radiologically evaluated skulls of men. In adult women (14 evaluated skulls), neither aplasy or hypoplasy of the frontal sinuses were found. Hypoplasy of the frontal sinuses was ascertained only in one girl (Cat. No. 42), who died at the age of 14—16 years. In one of the mentioned cases — hypoplasy in a man (Cat. No. 34) — this finding was connected with the preserved metopic suture. The contemporary occurence of these two deviations is usual. However, while the persisting metopic suture is often accompanied by aplasy or hypoplasy of the frontal sinuses, the decreased pneumatisation often occurs independently of it. The mentioned finding, therefore, doesn't deviate from the scope of the usual relation of these two conditions.

An extremely contrary finding — hyperplasy of the frontal sinuses — was found only once, in a man Cat. No. 39 (3,4 per cent). Here the highly transparent sinuses reach conspicuously not only high into the frontal bone, but also deeply over the eye-sockets. The spacious sinuses are multiply articulated.

Metopismus, the persisting frontal suture, was ascertained in the series of 29 skulls of adult men only in the one mentioned case of the skull of a man Cat. No. 34 (3,4 per cent). In 14 adult women it wasn't found at all. However, it was distinguished on the skull of a boy who died at the age of 15—17 years (Cat. No. 31), of a 2—3 year-old child (Cat. No. 32) and of another 2—4 year-old child (Cat. No. 50).

Further deviation of the calvar bones is the *os apicis*, which is similarily as the persistent metopic suture without clinical significance but which belongs among the anthropologically recorded features. This small bone which arouses by isolation of the apical section from the rest of squama ossis occipitalis by a transverse suture, was ascertained in the mummy Cat. No. 34 (man, 20—30 years) and Cat. No. 45 (woman, 20—30 years). However, it is possible that this small bone escapes the recognition when the skull radiographs cannot be performed in suitable views. Its outline can be, moreover, covered by the mummification stuff situated often in the occipital part of the cranial cavity. Statistical evaluation of its presence, therefore, would not offer authentical data.

Among further congenital bone deviations it is necessary to introduce a striking bilateral *hypoplasy of the 12th rib*, which is indicated on the skeleton of the mummy of a man Cat. No. 5 (40—50 years). The *sacralization of the 5th lumbar vertebra* on the skeleton of the mummy of a woman Cat. No. 8 (50—60 years) deserves mentioning, too.

Os peroneum, an additional bone in the sinews of m. peroneus longus, was ascertained on the right feet Cat. No. 95 and 98. In both cases it was an adult man. Another ascertained accessorial element is the *os tibiale externum* of the right foot of an adult man Cat. No. 97. It is an additional small bone lying besides os naviculare in the space between this bone and the caput of the astragalus.

B) Traumatic Changes

In the majority of cases of examined mummies, it is possible to differentiate signs of disturbed continuity of bones on various parts of the skeleton. In some of the mummies even extensive bone defects are evident. It is a matter of damage of secondary origin, whether it happened by the activity of the mummificators or during the later manipulations with the mummies.

From a number of these findings, the one on the left thigh bone of the mummy Cat. No. 1 (man, 60—70 years) stands out most expressively, because there the typical *pertrochanteric fracture* is evident. In character known from numerous comparisons from clinical practise, it is clearly different from the other chance disturbances of the continuity of the skeletons of the mummies. The picture of the fissure, slantingly running across the trochanteric mass, completed by the breaking off of the lesser trochanter and by the dislocation of the femoral diaphysis with diminished colodiaphyseal angle led us, therefore, to state that the described fracture happened intravitally. No signs of healing could be differentiated. It is well known what serious results can take place when the thigh bone is broken in old age and how often such a trauma is accompanied with dangerous complications, first of all with bronchopneumonia. Death of the individual seized with this broken bone could have happened within a short time after the accident.

The described finding is the unique ascertainment of traumatic lesion in examining our series of mummies, however, it isn't and exceptional observation. GRAY (1967 b) e. g. described a typical broken thigh bone in a mummy, namely the fracture of the femoral neck. SALIB (1962, 1967) even introduces the femur in his evaluation of the frequency of fractured bones in ancient Egypt into the 3rd place after the forearm and clavicle fractures.

Signs of compressive lowering of the vertebral bodies were differentiated on the spines of a number of mummies, however, we ascribe these findings to the disfiguration of the vertebrae on the osteoporotic basis and therefore, we introduce them farther on in the scope of senile changes of bones.

C) Changes of Degenerative Character

It is a known fact that degeneration changes in the form of osteophytosis of the spine and degenerative arthritis of the small and large joints belong to the most often findings on the skeletons of ancient populations. It is proved even in the collections of ancient Egyptian mummies (GRAY 1966 a, SALIB 1962, DAWSON and GRAY 1968, BOURKE 1971). Likewise at the research of ancient Egyptian mummies from

Table 6

Presence of Spinal Osteophytosis in Mummies with Completely Evaluated Vertebral Column

Sex	Age	Number of examined mummies with evaluated complete spine	Mummies with osteophytosis of the spine			Mummies with osteophytosis without regard to localisation
			cervical	thoracic	lumbar	
Men	adultus, 20—40 yrs.	7	—	—	1	1
	ad.-maturus, 30—50 yrs.	—	—	—	—	—
	maturus, 40—60 yrs.	3	—	1	2	3
	mat.-senilis, 50—70 yrs.	1	1	1	—	1
	senilis, over 60 yrs.	1	—	1	1	1
	not regarding age	12	1	3	4	6
Women	adultus, 20—40 yrs.	2	—	—	—	—
	ad.-maturus, 30—50 yrs.	1	—	—	—	—
	maturus, 40—60 yrs.	2	1	—	1	1
	mat.-senilis, 50—70 yrs.	2	2	2	2	2
	senilis, over 60 yrs.	—	—	—	—	—
	not regarding age	7	3	2	3	3

Czechoslovak collections, it was possible to indicate osteophytosis as being the most often diagnosed bone pathological process. Degenerative arthritis, on the contrary, was rare.

The radiological examination of the spine of mummies was always executed in two mutually perpendicular views. The whole spine was evaluated from the standpoind of *osteophytosis* in 12 mummies of adult men and 7 women; in them it was preserved to a full extent and wasn't covered by the shadow of the radio-opaque mummification stuff or similarly inconvenient shadows of bandages and fillings. A review of findings of osteophytes in the mentioned series is presented in Table 6.

Table 7

Presence of Spinal Osteophytosis in Mummificated Heads with Preserved Cervical Spine

Sex	Age	No. of examined head with cervical spines	No. of vervical spines with osteophytosis
Men	adultus, 20—40 yrs.	5	2
	ad.-maturus, 30—50 yrs.	2	2
	maturus, 40—60 yrs.	4	2
	mat.-senilis, 50—70 yrs.	3	2
	senilis, oves 60 yrs.	—	—
	not regarding age	14	8
Women	adultus, 20—40 yrs.	5	1
	ad.-maturus, 30—50 yrs.	1	—
	maturus, 40—60 yrs.	1	1
	mat.-senilis, 50—70 yrs.	1	1
	senilis, over 60 yrs.	—	—
	not regarding age	8	3

The cervical spine was, moreover, evaluated in further cases where it remained preserved with isolated mummified heads and in those few cases, when the other section of the spine weren't possible to be evaluated althouh they were preserved. Thus it was possible to evalute the cervical spines in 14 men and 8 women (Table 7) in addition to the complete spines mentioned above.

On the whole, it was possible to characterize ascertained osteophytosis in the following points:

1. Osteophytosis of the spine was the most often roentgeonologically diagnosed pathological condition.

2. Osteophytosis of the spine was altogether developed only in a moderate degree. Mostly it was represented only by insignificant outgrowths on the lateral or ventral edges of the vertebral bodies. Massively developed osteophytes were exceptions and osseous bridging over the intervertebral spaces wasn't ascertained at all. The findings, therefore, correspond mostly with the degree 2, exceptionally with 3, of STLOUKAL et al. (1970). As the comparison with literary data indicates, the findings of the

bridging over osteophytes are exceptionally ascertained not only in mummies but even in ancient Egyptian bone material (e. g. WATERMANN 1960, BOURKE 1971 and 1972). The moderate degree of osteophytosis belongs, however, among the most expressive features of this process in mummies.

3. The degree of osteophytosis wasn't dependent on age. Even in the senile age, this process was represented by only tiny osteophytes (STROUHAL and VYHNÁNEK 1972, 1974). However, they were more frequent in higher than adult age. In view of the small number of cases, however, it wasn't possible to dependently express this difference statistically.

4. The difference between the presence of osteophytosis in men and women could not be safely stated .

5. Localization of osteophytes didn't show specific features as far as it concerns separate parts of the spine. In some cases, however, it appeared as a complementary sign of *osteochondrosis* of the cervical or lumbar intervertebral discs. The corresponding ventral edges of the neighbouring vertebral bodies were extended in a beak-shaped form when the intervertebral space between the vertebrae was lowered as a sign of the disc degeneration. Such a picture it is possible to differentiate on the cervical spine of the skeleton of mummy Cat. wo. 8 (woman 50—70 years), No. 10 (woman 50—70 years), No. 17 (woman 50—60 years), No. 38 (man 40—60 years), No. 48 (man 30—50 years) and No. 53 (man 50—60 years). On the lumbar spine, it was possible to state an analogous finding on the skeleton of mummy of a man Cat. No. 12 (40—60 years), where an osteophytosis of the lower lumbar vertebrae was indicated with the simultaneous lowering of the intervertebral spaces between the 4th and 5th lumbar and the 5th lumbar and 1st sacral vertebrae. As long as osteophytosis was developed in the further sections of the spine in the above mentioned cases, it was always most striking in the neighbourhood of the lowered intervertebral discs.

In some cases, simultaneously with the ostephytosis, a *scoliosis* of the spine was ascertained (Cat. Nos. 5, 12 and 14, men, and Nos. 8 and 17, women). Scoliosis was only once ascertained without osteophytosis (Cat. No. 11, woman 50—70 years). It is possible to state that the change of the axis of the spine in the above mentioned cases had a certain influence on the development of the osteophytosis.

The differences in the findings among the examined series of ancient Egyptian mummies and the remains of other ancient populations appear expressively when judging *degenerative arthritis.* From the standpoint of degenerative arthritic changes, it was possible to evaluate the joints of the mummies of 12 men and 8 women, which were entirely preserved. We could enlarge this number by evaluating the isolated hands in 10 adult men and 13 women, and isolated feet of 9 men and 2 women. The results can thus be summed up:

1. The presence of degenerative arthritis in the examined mummies which were preserved completely and also in the isolated parts of the upper and lower limbs, was minimal. It wasn' at all ascertained in the large joints. Here our experiences differ from some literary data. Thus GRAY (1967 b) noticed degenerative arthritis less often than osteophytosis, but in a number of cases. In our series, however, degenerative arthritis was ascertained only on the head of the 1st metacarpal of a senile woman (Cat. No. 70) and on the head of the 1st metatarsal of the right foot of an adult (maturus?) man (Cat. No. 88). Further it appeared in the intervertebral joints of the cervical spine together with osteochondrosis of the intervertebral disc (Cat. Nos. 38 and 53).

2. As the negative findings on large and even small joints of the mummies of individuals who died at the maturus or senile age indicated, the higher age did not influence the accentuation of the development of degenerative arthritis as often as it is customary in sets of another provenance.

The appearance of the spine osteophytosis and degenerative arthritis is bound to a large complicated complex of etiological factors. One of them, whose presence seriously influences the development of these processes, is the functional overload of the spine and joints. The data mentioned above enable to consider the diminished significance of this factor in mummified individuals of our collection. Because of the complicated etiology of osteophytosis and degenerative arthritis, however, it is not possible to simply conclude that it is a matter of indisputable proof of lowered physical activities. It is necessary to consider the entire possible width of etiological influences from the climatic ones up to the genetic ones, which could have taken part in the restricted appearance and development of degenerative spine and joint changes.

When solving these problems, it is then possible to expect help more likely from the collection of one period and from one locality than from accidentally gathered sets which are, moreover, frequently numerously small, too. The study of degenerative changes in these collections, however, has significance as a basis to further systematic research.

Into this group we arrange as well *calcar calcanei*, a bony thorn, which is formed on the heel bone in the insertion of the plantar aponeurosis of the right foot Cat. No. 86 (adult man). In the insertion of the plantar aponeurosis and of the Achilles tendon, it was also found on the heel bone of the left foot Cat. No. 99 (adult woman), and in the insertion of the Achilles tendon on the heel bone of the right foot Cat. No. 95 (adult man).

D) Senile Bone Changes

Bone changes, connected with an advanced individual age, were represented mainly by *general osteoporosis* and its consequences. First of all, there was the rarefaction of structure of the entire skeleton with low opacity of the bones in the radiographs, with poor and thinned bone trabeculae and narrow compacta. Further it was possible to diagnose in these individuals the *delimited "parietal thinning"*. The parietal tubera lose their convex shape, become sunken and their thickness becomes surprisingly deminished. This finding is distinguished both in the antero-posterior view of the skull, where the typical change of the outline of the skull takes place, and in the lateral view, in which an oval or circular area of higher transparency is evident in the thinned out regions of the parietal bones. The side view of the thoracic and lumbar spine of the mummies with expressive structural signs of general osteoporosis shows *compressions of the vertebral bodies*, appearing on the basis of this process. The vertebral bodies are lowered, their cranial and caudal facies terminales became concave, the intervertebral spaces are biconcavely widened. All the indicated signs of osteoporosis were noticed e. g. in the mummy Cat. No. 1 (man 60—70 years). Here they are so expressive that they leave no doubts as to the advanced age of the deceased man. Even in further mummies they were always carefully evaluated which helped to state the individual age of the mummy.

E) Other Bone Abnormalities

Cystoid formation in the carpal bones appeared as single findings in the radiographs of the isolated mummified hands of women Cat. Nos. 54, 60 and 80. Their etiology in uncertain and their picture isn't characteristic enough for a definite diagnosis of a pathological condition. As is known from recent materials, even at a younger age they appear without an ascertained reason. It isn't possible to consider them as a dependable indicator of the advanced individual age.

In a number of mummies it was possible to differentiate the *Harris' lines* in the radiographs of the lower limbs (Cat. No. 1, man, 60—70 years, Cat. No. 9, child, 3—4 years, Cat. No. 21, girl, 15—16 years, Cat. No. 24, child, $1^1/_2$ year). They were most marked in the distal parts of the tibial diaphysis. It is a matter of transverse linear shadows which are projected in various distances from the epiphyses. They are present more oftes in the younger individuals than in the older ones (GARN and SCHWAGER 1967). According to latest research, it isn't a matter of a real line of arrested growth, which would lead to growth retardation (SCHWAGER GINDHART 1969) and their former considered relation to malnutrition, metabolic disturbances or hunger was not safely proved (DREIZEN, SPIRAKIS and STONE 1964). However, undoubtedly, they are highly correlated with childhood diseases (SCHWAGER GINDHART 1969). In ancient Egyptian mummies, the Harris' lines od not belong to exceptional findings (DAWSON and GRAY 1968, GRAY and SLOW 1968), as far as the mummies were subject to the X-ray examination and detailed roentgenological analysis.

Further it is necessary to mention the finding on the skull Cat. No. 14 (man, 50—60 years); here, according to the radiographs, the inner surface of the frontal shows an expressive irregular lumpy deformation, which is divided by deep grooves. It is a matter of *hyperostosis frontalis interna*, a finding which occurs more often in women than in men, and in them it appears in the sphere of endocraniosis as a result of hormonal disturbances. With its typical picture (especially by the dividing of the thickened bone by the grooves into separate protuberances) this finding differs from the mummification mass clinging to the inner surface of the cranial bones, by

Table 8

Presence of Arterial Calcification in Complete Mummies

Sex	Age	No. of examined complete mummies	Mummie with arterial calcification	
			n	per cent
Men	juv.-adultus, 15—30 yrs.	3	—	—
	ad.-maturus, 30—50 yrs.	6	—	—
	mat.-senilis, 50—70 yrs.	2	1	50,0
	not regarding age	11	1	9,1
Women	juv.-adultus, 15—30 yrs.	4	—	—
	ad.-maturus, 30—50 yrs.	3	—	—
	mat.-senilis, 50—70 yrs.	3	2	66,6
	not regarding age	10	2	20,0
Men + Women	juv.-adultus, 15—30 yrs.	7	—	—
	ad.-maturus, 30—50 yrs.	9	—	—
	mat.-senilis, 50—70 yrs.	5	3	60,0
	not regarding age	21	3	14,3

which it could be imitated to a certain degree. The picture of *diffuse calvar hyperostosis* with its entire thickening of the skull flat bones was shown in the radiographs of the head of the mummy Cat. No. 33 (man, 50—70 years). Here is moreover indicated an interesting combination of the general hyperostosis process with the delimited parietal atrophy. Tubera parietalia are thinned out and deformed in shape. This finding is evidently in connection with an advanced age.

F) Arteriosclerosis

Arteriosclerosis in ancient Egyptian mummies belong to those findings which were always traced with the greatest interest. It was ascertained in most various localizations in the great arteries, in the arteries of the limbs, head and even of some inner organs (RUFFER 1910 a, 1911 b and 1921, SMITH and DAWSON 1924, LONG 1931, MOODIE 1931, SANDISON 1963 b, GRAY 1966 a, 1967 b). SANDISON (1967) believes

that arteriosclerosis appeared already at a younger age; this opinion leads him to coclude that arteriosclerosis is not possible to be considered as a sign of an advanced individual age in ancient Egyptian mummies. Nevertheless, the most known findings of arteriosclerotic changes were ascertained at the age senilis, e. g. in King Merenptah (1224—1214 B. C.) (BARRY 1969, HENSCHEN 1969). Arteriosclerosis was mostly ascertained histologically; in this branch the collaborator of Purkyně, the physiologist ČERMÁK (CZERMAK 1852) has the world's priority. Radiologically it was diagnosticated less often (DAWSON and GRAY 1968).

In our collections we ascertained arteriosclerosis radiologically in three cases (Table 8).

In the first case, it concerns a mummy of an old man, who died at the age of 60—70 years (Cat. No. 1), and was mentioned already in connection with senile bone changes and with other pathological findings. The X-ray examination proved calcifications in the thighs bilaterally, arranged in stripes. Their course corresponds with the course of femoral arteries. They have an overwhelming spotty character, which increases in the direction of the popliteal region. In the region of the Hunter's channel the irregularity of calcification is expressively indicated on both sides, which points to the considerable deformation of the vascular lumen. Further it is possible to differentiate the calcification in the course of the anterior tibial artery of the left shank. The characteristic features of the calcification — spotty character with pronounced irregularity — suggest intimal disease as the most probable one.

In the second case it also is a matter of an expressive radiological finding. In the mummy of a woman who died at the age of 50—70 years (Cat. No. 8), it is possible to distinguish the expressive calcification shadows, which can be bilaterally traced from the inquinal region down to the popliteal level. On the contrary, from the above mentioned finding in the mummy of the old man, these calcifications are mostly ring-shaped. They preserve their anular character in their entire course, being again localized in the supposed course of both femoral arteries. The lumen of the arteries is indicated by these ring-shaped calcifications as symmetrical, on the whole. Therefore, the X-ray finding reminds most likely of the medial sclerosis of the Mönckeberg's type. It is worth while to remind one that this mummy was the first to be examined histologically. As was already mentioned the histological examination was executed in 1852 and published by ČERMÁK. In his report he introduced calcification of the ascendent aorta and of the aortal arch which remained preserved in the thorax. Our X-ray examination is therefore a complement to this historical study.

In the third case it was a mummy of a woman who died at the age of 50—70 years (Cat. No. 11). The spotty calcification in the proximal third of the right thigh could be differentiated in the radiographs, is the localization corresponding with the course of the right femoral artery. The spotty character of the calcification reminds of the arteriosclerotic changes in the first mentioned mummy; most probably they are due to the intimal disease, too.

Radiological diagnosis of arteriosclerosis in mummies is founded in the presence of calcification in the walls of the arteries; it is therefore possible to evaluate its occurrence only from this point of view. In all the cases of ascertained arterial calcification, it is the matter of an individual who died at an advanced age. Table 8 illustrates a review of these findings in relation to the total number of radiologically examined complete mummies and in relation to their individual age. The findings of arteriosclerosis in our materials didn't confirm the presence of arteriosclerosis in the ancient Egyptian population in younger individuals as considered by SANDISON (1967)

G) Pathological Findings in the Dentition

It was possible to evaluate the dentition, only on the basis of radiological examination. This means — similar as in other categories of pathological changes — a certain restriction of diagnostic possibilities. However, it wasn't possible to evaluate the teeth in mummies where subcutaneous fillings of the faces were present. The radioopaque shadows covered the teeth in such a way that the shadows of single teeth weren't differentiated at all or they were only indicated.

Adult men and women were divided into two large groups, the first one comprising the individuals of 20—40 years of age, the other one the individuals older than 40 years. Rare cases with individual age between 30—50 years were placed in the group of older individuals.

Table 9

Frequency of Dental Caries in Adult Men and Women

Sex	Age	Total number of examined individuals	nCE	F-CE
Men	adultus, (20—40 yrs.)	10	6	60,0
	over 40 yrs.	16	14	87,5
	not regarding age	26	20	77,3
Women	adultus, (20—40 yrs.)	6	1	16,6
	over 40 yrs.	6	5	83,3
	not regarding age	12	6	50,0
Men + Women	adultus, (20—40 yrs.)	16	7	43,7
	over 40 yrs.	22	19	86,7
	not regarding age	38	26	68,4

Explanation: nCE = number of individuals with caries and intravital losses of teeth; F-CE = percentage of the individuals with caries or intravital losses out of the total number of examined ones.

The findings of dental caries were considered analogically to the index CRE (= caries, radices, extractiones) of SCHRANZ and HUSZÁR (1955; further see STROUHAL 1959, 1964). According to the difficulty of evaluating the torsa of the roots, in our case it is a matter of percentage of the dental caries and intravital losses, i. e. of the CE index. On the one hand, we evaluate the percentage of individuals with intravital losses or dental caries from the total number of individuals in each age-group (F—CE).On the other hand, we determine the percentage of the teeth intravitally lost and with caries from the total number of teeth (I—CE).

The F—CE in men made 77,3, in women 50,0 when no regard to the individual age was taken into account. In both sexes together the F—CE was 68,4 (Tab. 9). In both sexes the highest frequency of dental caries and intravital losses was found in individuals of the age group maturus, i. e. individuals older than 40 years of age. The difference between the F—CE of both sexes in the group adultus (60,0 in men and 16,6 in women) appears as important in spite of the low number of investigated individuals in the group (Tab. 9).

When evaluating the intensity of dental caries (Tab. 10) a striking difference is evident in the I—CE of both age-groups both in men and women (in men 5,64 in the younger group, against 34,90 in the older group, and in women 0,53 against 21,67). As shown without any doubts, the I—CE in the higher age-group is evidently higher, similarly to the F—CE. The general evaluation shows higher value (23,45) of the I—CE in man against women (11,34)

Table 10

Intensity of Dental Caries in Adult Men and Women

Sex	Age	Total number of teeth	Number of teeth with caries	Number of preserved alveoli	Number of healed alveoli	I-CE
Men	adultus, (20—40 yrs.)	302	1 = 0,33 per cent	320	17 = 5,31 per cent	5,64
	over 40 yrs.	310	1 = 0,32 per cent	512	175 = 34,17 per cent	34,49
	not regarding age	612	2 = 0,32 per cent	832	192 = 24,03 per cent	24,35
Women	adultus, (20—40 yrs.)	186	0	187	1 = 0,53 per cent	0,53
	over 40 yrs.	142	0	192	42 = 21,87 per cent	21,87
	not regarding age	328	0	397	43 = 11,34 per cent	11,34
Men and Women	adultus, (20—40 yrs.)	488	1 = 0,20 per cent	507	18 = 3,15 per cent	3,35
	over 40 yrs.	452	1 = 0,22 per cent	704	217 = 30,82 per cent	31,04
	not regarding age	940	2 = 0,21 per cent	1211	235 = 19,48 per cent	19,69

Explanation: I-CE-= percentage of teeth with caries or intravital losses out of the total number of teeth.

The mentioned results were, however, influenced by the high number of healed alveali after the intravital losses of teeth in the higher age-group of men and women. It was possible to diagnose the dental caries only in single cases, however, it is probable that its low number is influenced by the dependence on its X-ray manifestations. The diagnosis of the dental caries was rendered more difficult especially in teeth with abrasion. It is also possible that some of the caries could have escaped radiologically unrecognized due to an unsuitable view or summation of the shadows in the radiographs.

An isolated finding was the retention of the upper right 2nd premolar of the woman Cat. No. 51 (20—30 years). It remained completely closed in the depth of the bone. The space in its place is narrowed by the compensatory bending of the neigbouring teeth. In adult individuals, hypodoncy of all last molars appeared as a single finding in the woman Cat. No. 19 (20—30 years).

The review of intravital losses of separate teeth proved, that in cases where in more than 50 % of the loss of teeth took place, with only one exception, the frontal teeth always remained preserved. As far as this loss happened only in one jaw, it was always the upper one (Tab. 11). It is not possible to ascertain with absolute certainty the reason of these extensive intravital losses. First of all, paradontosis can be taken into consideration, but also an extensive dental caries or an enormous abrasion of teeth.

Table 11

Review of Cases with more than 50 per cent Loss of Teeth Intravitally

Sex	Cat. No.	Age	Upper jaw	Lower jaw
Men	1	60—70 yrs.	+	–
	12	40—60 yrs.	+	+
	25	30—50 yrs.	+	–
	26	50—60 yrs.	+	–
	36	50—70 yrs.	+	–
	47	30—40 yrs.	+	–
	51	50—70 yrs.	+	+
	52	50—60 yrs.	+	–
	53	50—70 yrs.	+	–
Women	10	50—70 yrs.	+	–
	41	50—60 yrs.	+	–

Explanation: + = more than 50 per cent of the teeth of the jaw lost intravitally.

H) Pseudopathology

Pseudopathological findings can appear in radiological examination of ancient Egyptian mummies for many reasons. First of all, it is because of summation of bandages and the radio-opaque mummification stuff. This summation quite significantly influences the X-ray picture of the mummified soft tissues in the first place. In some cases, it is very difficult to distinguish them from the shadows of the wrappings. The reason of pseudopathological skeletal findings are often results of the careless handling with mummies by which various bone fractures and dislocations of its parts take place. In the majority of cases, the postmortal origin of the interrupted continuity of the skeleton is evident. However, it is always necessary to consider all the circumstances — especially the character of the fracture — which leads to consider the origin of the X-ray findings as intravital.

Serious pseudopathological radiological picture can appear by the change of the opacity of the tissues as a result of their imbibition by mummification stuff. Here it is necessary to draw attention especially to the cospicuously dense intervertebral discs. Table 12 gives a review of these findings in our set. Besides some cases of discs with opaque periphery and a transparent center fully opaque intervertebral discs were found. In two cases only, the cervical discs had abnormal transparency. In other cases the discs of thoracic and lumbar spine were involved.

The mentioned radiologically opaque intervertebral discs in mummies have already been the object of discussions by radiologists and other experts in view of the fact that this picture is characteristic for alcaptonuria, a pathological condition whose basis is the disturbance of metabolism of the homogentissine acid. The picture of opaque intervertebral discs in ancient Egyptian mummies was therefore at first ascribed to this condition (SIMON and ZORAB 1961, WELLS and MAXWELL 1962). Today, the opinion predominates that it is a matter of the results of the mummification process. The origin of opaque intervertebral discs is now ascribed to the mixture of silicates, calcium and iron salts in the natron which was used at the mummification (GRAY 1966 a, DAWSON and GRAY 1968:43).

Table 12

Review of Findings of Radio-opaque Intervertebral Discs

Cat. No.	Sex	Age	Dating	Localisation	Character of the shadow of the discs
2	man	50—70 yrs.	18th—20th Dynasties	thoracic and lumbar region	opaque periphery
11	woman	50—70 yrs.	Late period with survival of technics of the 3rd intermediary period	thoracic and lumbar region	completely opaque
14	man	50—60 yrs.	21st—30th Dynasties	thoracic and lumbar region	opaque periphery
17	woman	50—60 yrs.	Late period	lower thoracic and lumbar region	completely opaque
21	woman	15—16 yrs.	Roman period	entire spine	completely opaque
45	woman	20—30 yrs.	21st—25th Dynasties	cervical spine	central part opaque

Chapter 15

MUMMIFIED FAUNA

(Written by J. HANZÁK)

The mummies of animals, described in chapters 8—10, were submitted, for the determining the species, to the Zoological Department of the National Museum in Prague. Considering the rarity of the objects, it wasn't possible in any case to take the separate mummified animals out of their original wrappings. The ascertainment of the species was therefore executed on the basis of the radiographs. This method was already used with success several times, because the X-ray examination in the majority of cases shows the skeleton of the mummified animals very well. LORTET and GAILLARD (1909) could afford an exact ascertainment on the basis of osteological examination of the objects taken out of the wrappings, eventually taken to pieces, because they had at their disposal a large number of mummies, regardless of the fact that, at that time, it wasn't fully possible to apply the X-raying because of the lack of X-ray equipments.

The radiographs, which were at disposal in our cases, were taken approximately in the scale 1:1. Even if the measurements of separate parts of the skeletons result in a certain inexactness, it is possible to use the measurements for identification. The gained values were compared with recent material and with literary reports with respect to the individual variation. Besides this, the relative length of the separate bones of the individual, their shape, the formation of the dentition, beak, etc. were evaluated. In birds, the length of the tarsus and of the single fingers were made use of as important comparative criteria. Some of the mummies of birds had damaged wrappings, so that it was possible to support the diagnosis by seeing to the structure of the feathers, feet, etc.

Mummification of animals was a customary process in ancient Egypt, because respect for some animals connected with the worship of the god belonging to each of them was very wide-spread. The mummified animals were placed as sacrificed gifts of the believers in the corridors of temples and in special underground galleries, sometimes in pretty big quantities. Some fundamental species to the worshipped "sacred animals" were considered the incarnation of a certain god, e. g. the ram, bull, cat and crocodile; from the birds it was the falcon or the sacred ibis. In connection with the cult of the falcon or the great falcon, which species were evidently often mistaken one for the other, even other wild birds were mummified. MOODIE (1931) introduced about one hundred species of animals found in a mummified condition, from which Evertebrates belonged to the rarities.

In our material only Vertebrates are represented, namely fish (Pisces), reptiles (Reptilia), birds (Aves) and mammals (Mammalia). Dr. Jiří Čihař determined fish and reptiles, Dr. Vrat. Mazák the mammals, Dr. Jan Hanzák CSc. the birds. In some cases it wasn't possible to determine the species of respective mummified animal, as some of the radiographs were either insufficient for the exact diagnosis, or they showed only undeterminable fragments of animals. On the basis of literary sources dealing with mummified fauna, and also of our own results it is possible to a certain degree, to form a conception about the structure of the fauna in ancient Egypt, eventually even to deduct some changes in the structure or speading of single species.

A) Fish (Pisces)

Mummified fish are far less numerous than birds or mammals. Despite of this, however, fourteen species were identified from among the mummies, which overwhelmingly contained more individuals.

In our material they are represented insignificantly and in such a pitiful condition that an exact identification is impossible. With a certain probability, it is possible in four cases, to consider the genus bichir (Polypterus) belonging to the order Polypteriformes, which is represented in 10 species in the waters of Africa. From the Nile river-basin there is the most known African bichir (Polypterus bichir). One fish was mummified together with five young crocodile.

B) Reptiles (Reptilia)

The most often mummified species of this class was the Nile crocodile (Crocodylus nilotisuc). Formerly it used to be in abundance in the waters of the entire Africa, with the exception of the Atlas region. In the time of ancient Egypt it appeared in all the river-basin of the Nile. In some of the rock tombs thousands of these mummies in various sizes were placed. Crocodile penetrated along the current all the way to the Nile Delta. In the last century, it still existed in abundance in Egypt. Today it only appears south of Sahara, and in Egypt, with the exception of a few places in Nubia, it no longer exists. We find it, however, present on the upper Nile and its tributaries.

In our material the crocodile is represented in 18 cases in which some mummies contain single individuals, whilst others contain as many asi 15 specimens. It is a matter of altogether young and little individuals. Some of them are not complete, the head or the tail being missing.

The order of snakes (Ophidia) is represented by a single unidentified species, mummified in a rolled up position. On the basis of literary reports, it can be said that the snakes were mummified very rarely.

C) Birds (Aves)

Birds are the most often objects of mummification out of all the Vertebrates. As it seems, representatives of all the bird species, living in ancient Egypt were mum-

Table 13

Species of Birds Found in Mummies from Czechoslovak Collections

Scientific name	English name	No. of mummies
Threskiornis aethiopicus	Sacred ibis	4
Sphenorhynchus abdimii	Abdim's stork	1
Elanus coeruleus	Black-winged kite	2+
Milvus migrans	Black kite	1
Haliaeëtus albicilla	White-tailed eagle	1?++
Accipiter nisus	Sparrow-hawk	1
Accipiter brevipes or Melierax sp.	Levant Sparrow-hawk or Melierax	1?
Buteo buteo	Buzzard	3
Falco biarmicus	Lanner falcon	2
Falco subbuteo	Hobby	1
Falco tinnunculus	Common kestrel	14
Falco sp.	Kestrel	1
Total number of mummfied birds		32

Explanations:

? The determination is probable.
\+ One specimen is incomplete, the determination is uncertain.
++ Ascertained only according to preserved parts of the beak.

mified with the exception of the raking (Galliformes). LORTET and GAILLARD (1909) based their studies on more than 1000 bird mummies and ascertained 38 species, on the whole.

All 32 bird mummies in our material contain always a single individual. Only two orders are represented — the wading-birds (Ciconiiformes) and the birds of prey (Falconiformes). As to number, the kestrel (Falco tinnunculus) and the sacred ibis (Threskiornis aethiopicus) are the most frequent ones. The Table 13 introduces the structure of the whole species composition.

Let us briefly introduce the principal notions about the spreading of the single species. The Threskiornis aethiopicus (sacred ibis) lives in Africa, south of the Sahara and in south Iraq. Since half of the last century it doesn't build its nests in Egypt.

Sphenorhynchus abdimii (the Abdim's stork) is an abundant bird in the tropical regions of east and south Africa. It reaches up to the southern border of the Palearctic region (Nubia and south Arabia). In Egypt it used to appear more abundantly than today. It seeks the periphery of human dwelling places, where it likes to build its nests in the trees or roofs of houses.

Elanus coeruleus (black-winged kite) is abundant in Portugal, south Arabia, south Asia, in the Philippines, in Malaya, in Celebes and New Guinea. It also nestles in Egypt and used to be a common bird of prey.

Milvus migrans (black kite) is spread in Europe, Asia, Malaya and Australia. In Egypt it is represented by the subspecies of Milvus migrans aegypticus (Gmel.) LORTET and GAILLARD (1909) introduce this species under the synonym Milvus aegypticus, and in accordance with MOODIE (1931) consider it to be one of the most often mummified birds. This bird likes to stay near the human dwellings.

Haliaetus albicilla (white-tailed eagle) nestles in Europe, north and central Asia and south-west Greenland. As evident from the report of A. Brehm and Hauglin, it formerly nestled in territories of Egypt, too.

Accipiter nisus (sparrow-hawk) nestles in Europe, Asia and north Africa. KOENIG (1936) considers it to be an abundant bird in Egypt, especially during the winter months (the northern populations spending the winter season there).

Accipiter brevipes (Levant sparrow-hawk) has its nestling area in south-east Europe and Asia Minor. It spends winters in north-east Africa and Asia. This species is evidently conspecific with the species Accipiter badius and appears in Africa south of Sahara and in the south-west Arabia.

Buteo buteo (buzzard) nestles in Europe except its most northern parts and from Middle East to eastern Asia. It doesn't nestle in Egypt but in the winter months (September to March) it strays as far as Sudan

Falco biarmicus (Lanner falcon) is spread in Africa, in Europe, however, only in the eastern Mediterranean, from Asia Minor up to Armenia and to the south up to Iraq (VAURIE 1965). In Egypt it is one of the most numerous of the big falcons.

Falco subbuteo (hobby) has its nestling area in the forest regions of Europe and Asia and in the north-west Africa. In Egypt it appears only in the time of migrations (KOENIG 1936).

Falco tinnunculus (kestrel) is found in the most parts of Europe, Asia and Africa with the exception of the deserts and tropical virgin forests. In Egypt it is an abundant bird.

Our ascertainments of the mummified Abdim's stork (Sphenorhynchus abdimii) and Levant sparrow-hawk (Accipiter brevipes) are worthy of notice and neither LORTET and GAILLARD (1909) nor MOODIE (1931) introduced them in the mummified materials. Also the hobby (Falco subbuteo) was mummified rarely, because — just like the moving falcon — it only is present during the time of migrations in the regions of Egypt.

In ancient Egypt, the most worshipped bird of prey was the Falco sensu lato. From the ornithological point of view out of the big falcons, first of all, can be considered the Lanner falcon (Falco biarmicus), the barbary falcon (Falco peregrinoides) and the west Asian race of the peregrine falcon (Falco peregrinus babylonicus). The European peregrine falcon is present in the regions of Egypt only during the period of migration. As was indicated, first of all, the Lanner falcon (Falco biarmicus) which nestles in Egypt, were mummified. The present sources introduce them under the synonym Falco feldeggi. The fact that the great falcons were preferred for mummification to other birds of prey, is proved by mummies whose head ends of the wrappings have the stylized sketch of a falcon, but where the mummified bird

inside belongs to another species. Further proof are the fakes (Cat. No. 169), which, although they bear a stylized sketch of a falcon, don't contain any mummified bird at all. Obviously great falcons and falcons were more precious in ancient Egypt than any other species of birds of prey and so in their place, the almost similarly big hawks, kites and even smaller species of eagles became used for mummification purposes. In our material in the mummies with the sketched head of a falcon, were found kites, sparrow-hawks or Melierax, the beak of the sea eagle and in one case even the sacred ibis, a member of another order.

In our material, we didn't identify the lesser kestrel (Falco naumanni), which similarly to the black kite was, and still is frequent species in north Africa and nestles at the edges and even inside the human dwellings. Both mentioned species are introduced as current mummified birds in the mentioned sources.

D) Mammals (Mammalia)

Of the numerous species of mammals described in mummies (species Insectivora, Primates, Rodentia, Carnivora, Perissodactyla, Artiodactyla) there are represented in the material of our collections only the beasts of prey (Carnivora), namely by two genera — the dog (Canis) and the cat (Felis).

LORTET and GAILLARD (1909) and MOODIE (1911) indicate the mummified cats from the regions of Egypt under the synonym Felis maniculata. In the light of HALTENORTH's (1953) new conception, it is necessary to consider these cats only as a subspecies of the wild cat, properly named Felis silvestris lybica Forster, 1780, which formerly was awarded validity of an independent species. The question of the systematic relationship of mummified cats was studied in detail by MORRISON-SCOTT (1952). He studied the skulls of cats from the period of 600—200 years B. P. and compared them with the skulls of recent cats. Out of this material 12 pieces belonged to the jungle cat (Felis chaus), the others 178 in their skull measurements are in accordance with the recent African wild cat and the house cat. An insignificantly larger measurements of the condylobasal length of the skull prove that the ancient Egyptian cats were insignificantly bigger because of the careful breeding. The cats, therefore, are not considered by him as wild species.

Six out of the nine mummified cats in our material are young. It is not possible to decide in our material, whether it was a matter of a wild or household form.

Similar as in cats, also in the two cases of ascertained dogs, it was a matter of juvenile individuals with the greatest possibility of the domesticated form. LORTET and GAILLARD (1909) arranged the domesticated dogs of ancient Egypt into four breeds. Nevertheless, according to the well known variation of the morphological characteristics of domestic dogs it is hard to adjudge any taxonomic validity to these conclusions, the less so in the time, when the dog breeds were only in the beginnings of their bringing forth.

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CZECH SUMMARY — ČESKÝ SOUHRN

EVŽEN STROUHAL A LUBOŠ VYHNÁNEK

EGYPTSKÉ MUMIE V ČESKOSLOVENSKÝCH SBÍRKÁCH

Staroegyptské mumie, rozptýlené ve sbírkách čs. muzeí a státních zámků, nebyly donedávna vědecky využity. V letech 1971—73 provedli autoři této publikace jejich soupis a svoz do Náprstkova muzea v Praze, kde byly konzervačně zajištěny a podrobeny multidisciplinárnímu výzkumu. Hlavní výsledky zevního vyšetření a rentgenologického výzkumu jsou shrnuty v této knížce, zatímco výsledky dalších specializovaných výzkumů byly publikovány v odborném tisku.

V 1. kapitole je podán nástin historie výzkumu mumií a mumifikace s pokusem o základní periodizaci. Do prvního období vědeckého zájmu o mumie, zahájeného Napoleonovou výpravou do Egypta (1798—1801), spadá i prioritní dílo J. N. ČERMÁKA (1952), který poprvé použil k studiu mumií histologické techniky a popsal první paleopatologický nález.

2. kapitola se zabývá průběhem staroegyptské mumifikace jak po stránce technické, tak po stránce doprovodných rituálů. Hlavním zdrojem informací jsou údaje HERODOTA a DIODORA SICILSKÉHO, které jsou konfrontovány s poznatky o mumifikační technice, získanými přímým studiem mumií.

3. kapitola shrnuje metodiku výzkumu mumií z čs. sbírek, zahrnující zevní vyšetření, rentgenologický výzkum, stanovení sledovaných věcných hledisek, způsob měření, zásady datování mumií podle chronologických změn mumifikační techniky, podklady pro stanovení demografických údajů (stáří a pohlaví) a hlavní kritéria studia patologických nálezů. Kapitolu uzavírá přehled materiálu a jeho uložení v čs. sbírkách.

Největší část publikace zaujímá systematický soupis mumií z čs. sbírek, provedený podle jednotlivých věcných hledisek. Nejprve je popsáno 34 celých mumifikovaných těl (4. kapitola), dále izolované hlavy mumií (5. kapitola), izolované části horních končetin (6. kapitola) a izolované části dolních končetin (7. kapitola). Celkem je předvedeno 99 celých nebo zlomkovitých mumií lidí. Následuje popis mumií ryb a plazů (8. kapitola), mumií ptáků (9. kapitola) a mumií savců (10. kapitola). Dohromady je popsáno 69 mumifikovaných zvířat. 11. kapitola přináší několik ukázek varií a falz.

Soupisové kapitoly jsou doplněny dalšími čtyřmi kapitolami, které se zabývají podrobněji vědeckými výsledky studia mumií.

12. kapitola analyzuje výsledky datování 53 lidských mumií, které vyplňují období od počátku Nové říše (cca 1575 př. n. l.) do přelomu 4. a 5. století n. l. U 15 celých mumií, doprovázených příslušnými rakvemi, mohlo být datování mumií zkonfrontováno s datováním rakví. Dále jsou podrobně probrány různé aspekty mumifikační techniky jako vyjímání mozku a vyplňování mozkové dutiny, aplikace podkožních výplní a umělých očí, problematika rozlišování viscerálních balíčků od jiných výplní tělesných dutin, nedostatky práce a podvrhy mumifikátorů, zvláštní úpravy povrchu těla a vztah pohřebního ritu k datování. Jednotlivé údaje jsou konfrontovány s poznatky z výzkumu mumií z Britského muzea v Londýně.

V 13. kapitole jsou rozpracovány demografické údaje o 99 lidských mumiích. Vysvítá z nich převaha mužů nad ženami a vzácnost dětských mumií. Mumifikované ženy umíraly o něco dříve (průměrný věk 41,3 let) než muži (43,7 roku).

14. kapitola analyzuje výsledky rentgenologického vyšetření mumií z hlediska kostních variací a paleopatologie. Je rozčleněna na stať o vrozených odchylkách, traumatických změnách, degenerativně-produktivních změnách, stařeckých změnách a jiných kostních odchylkách. Samostatnou stať si vyžádaly nálezy na měkkých tkáních, především tři zjištěné případy pokročilé arteriosklerózy, z nichž jeden připomíná sklerózu Mönckebergova typu. Pozornost je věnována také nálezům na chrupu a diferenciálně diagnostickému odlišení pseudopatologií, např. sytosti stínů meziobratlových disků.

15. kapitola zhodnocuje způsob určování druhu zvířat podle rentgenogramů, v zoologické praxi neobvyklý, a podává výčet určených druhů, mezi nimi jsou dva druhy ptáků (Sphenorhynchus abdimii a Accipiter brevipes), dosud v literatuře o mumiích nepopsané.

Text uzavírá bibliografický přehled nejdůležitějších děl o staroegyptských mumiích a mumifikaci.

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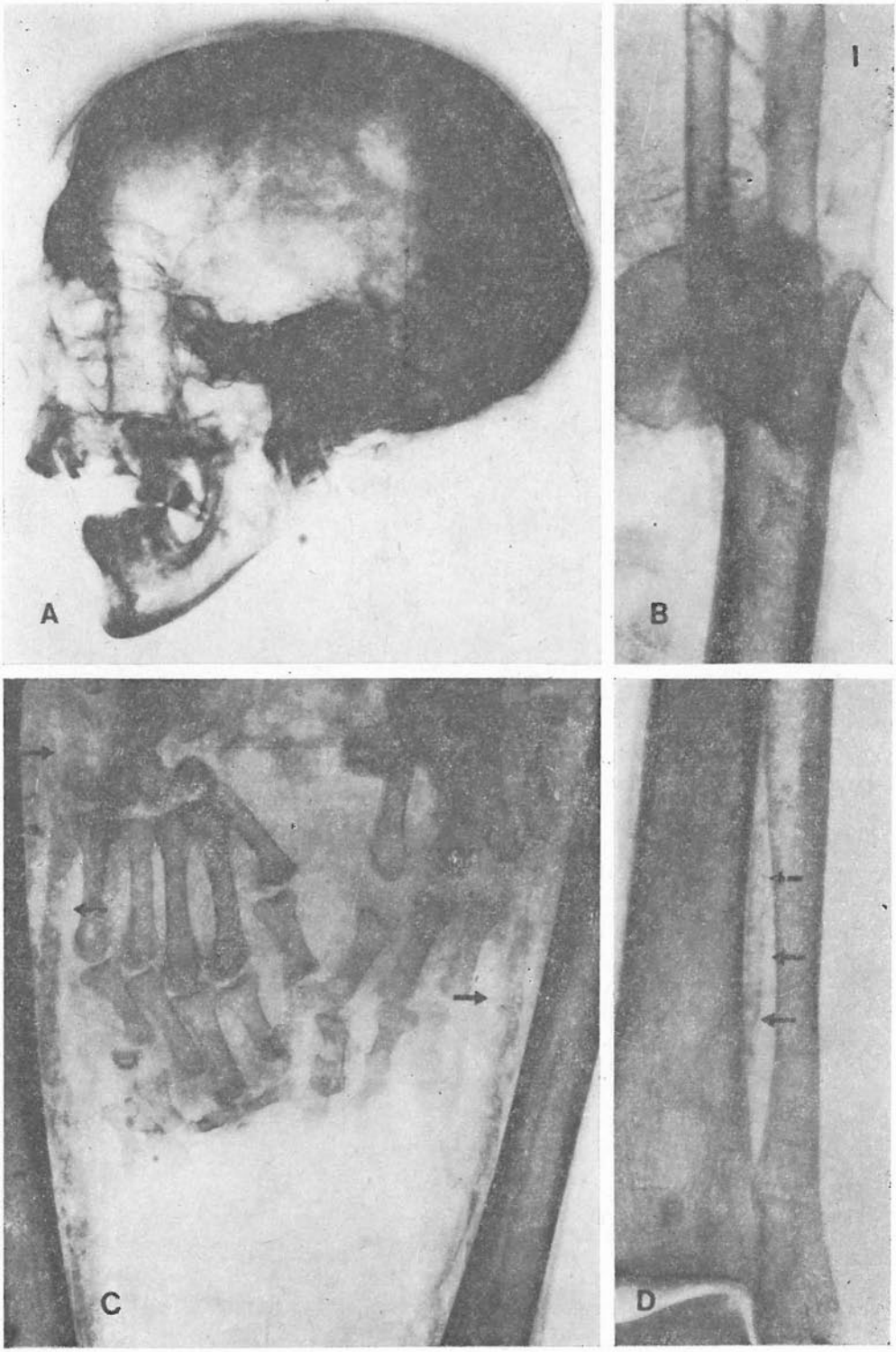
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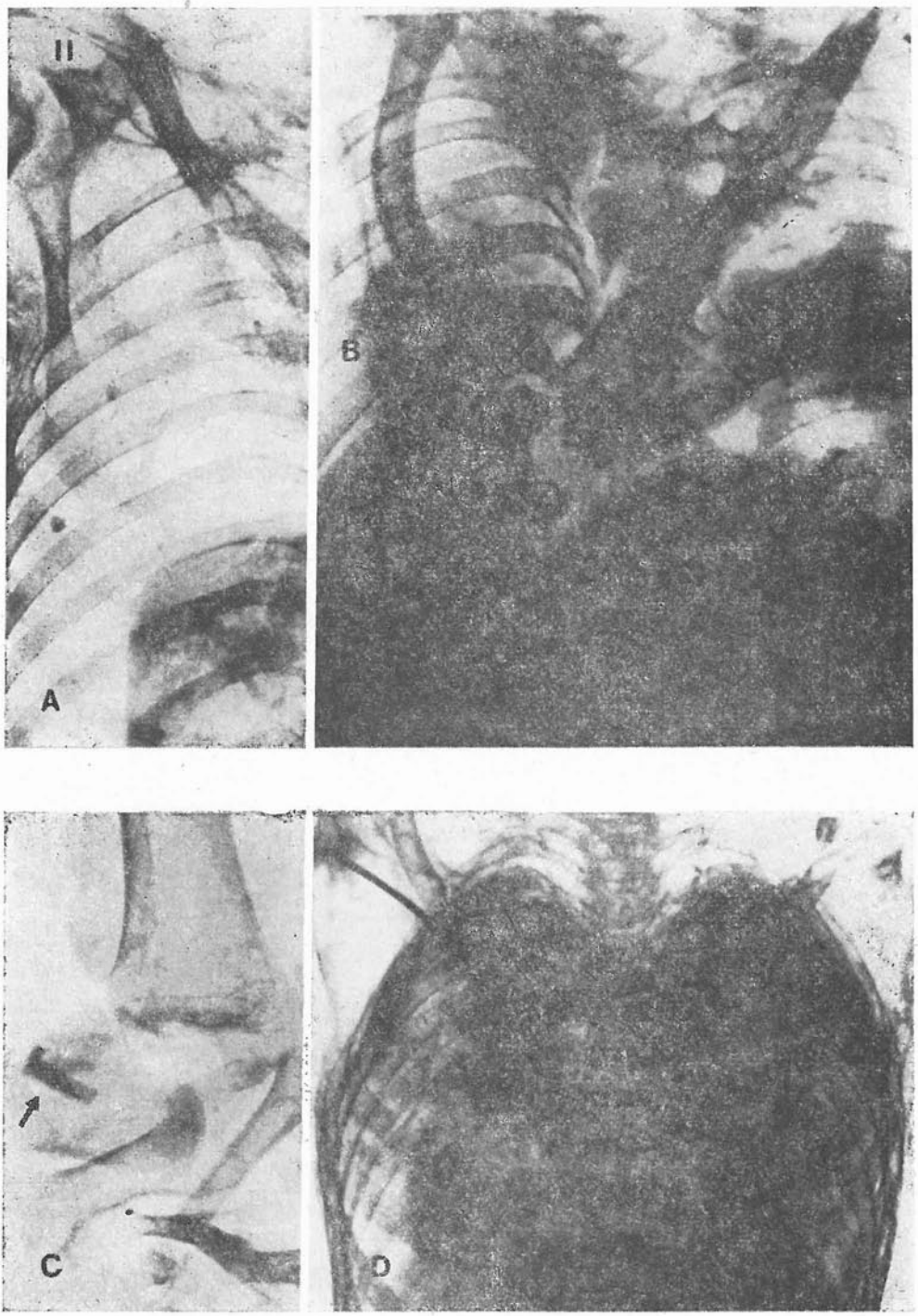
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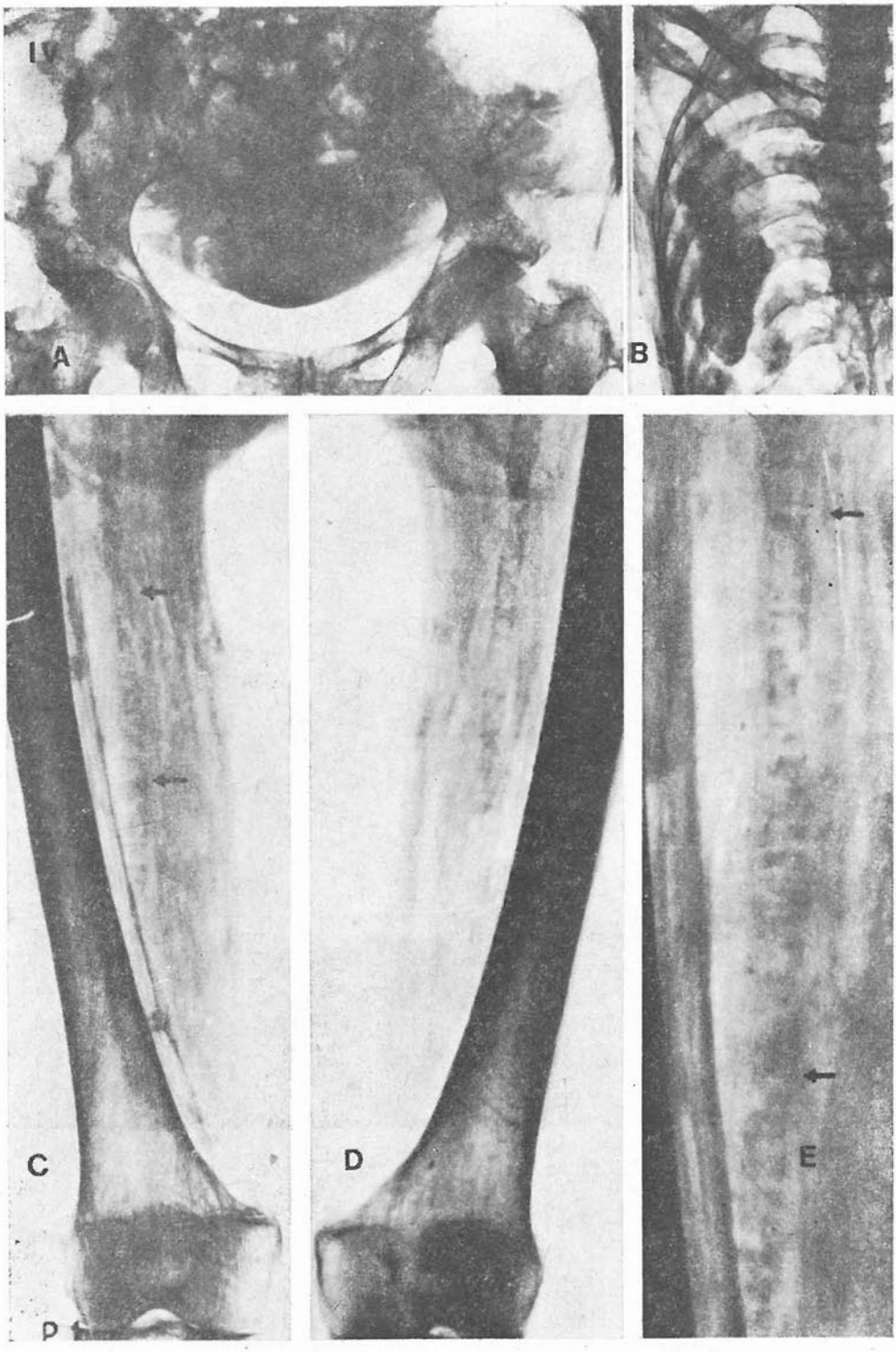
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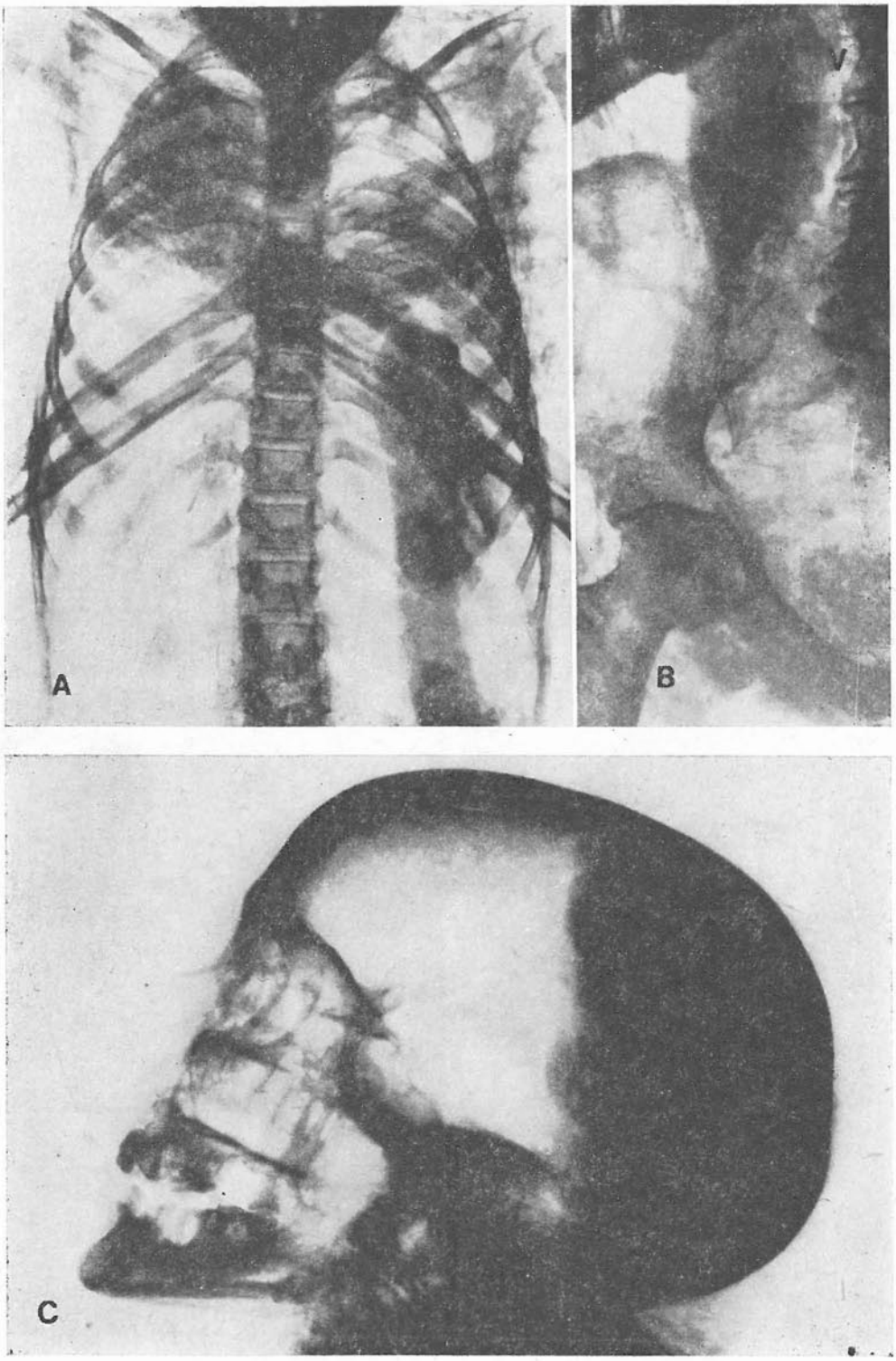
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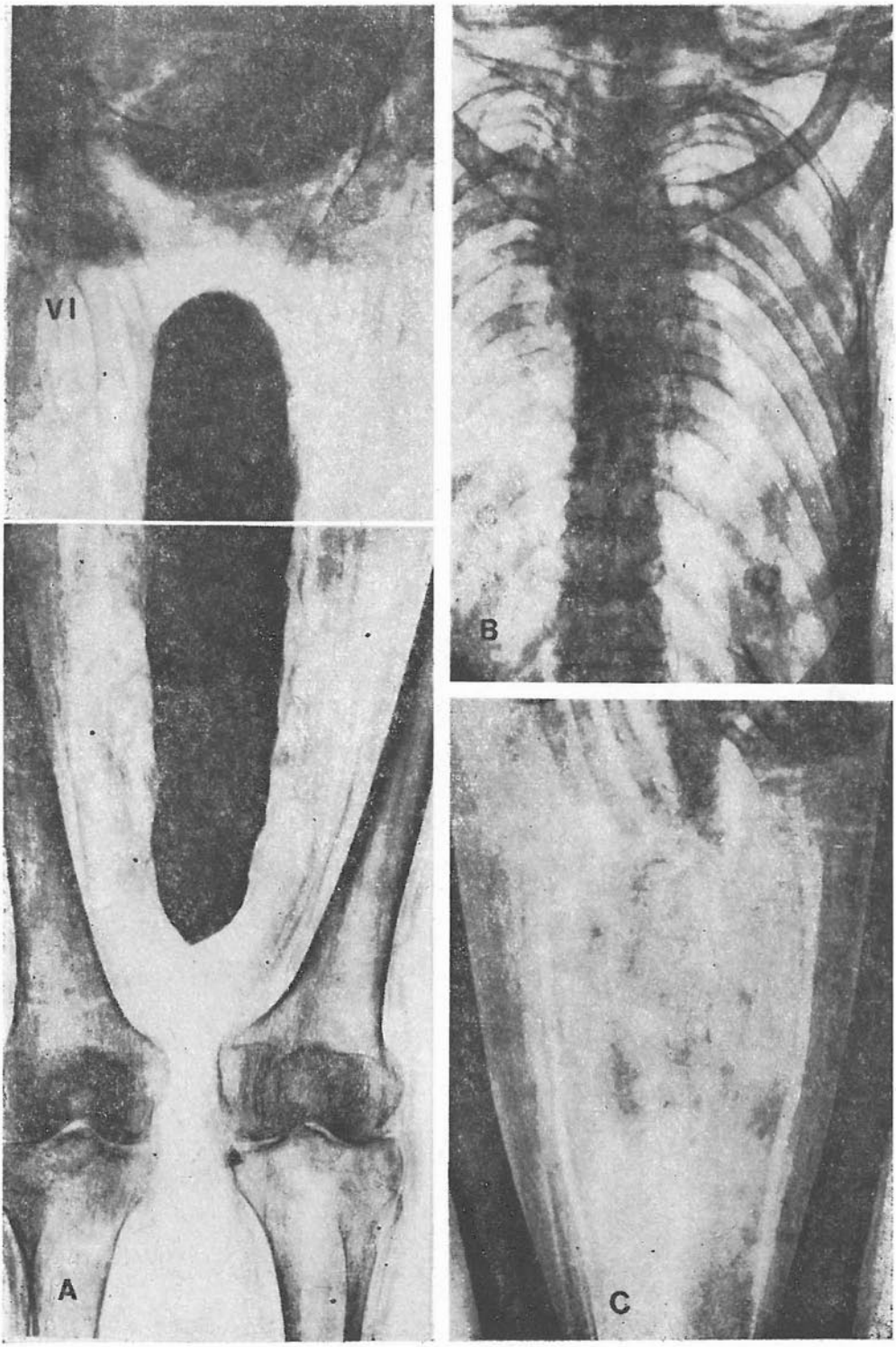
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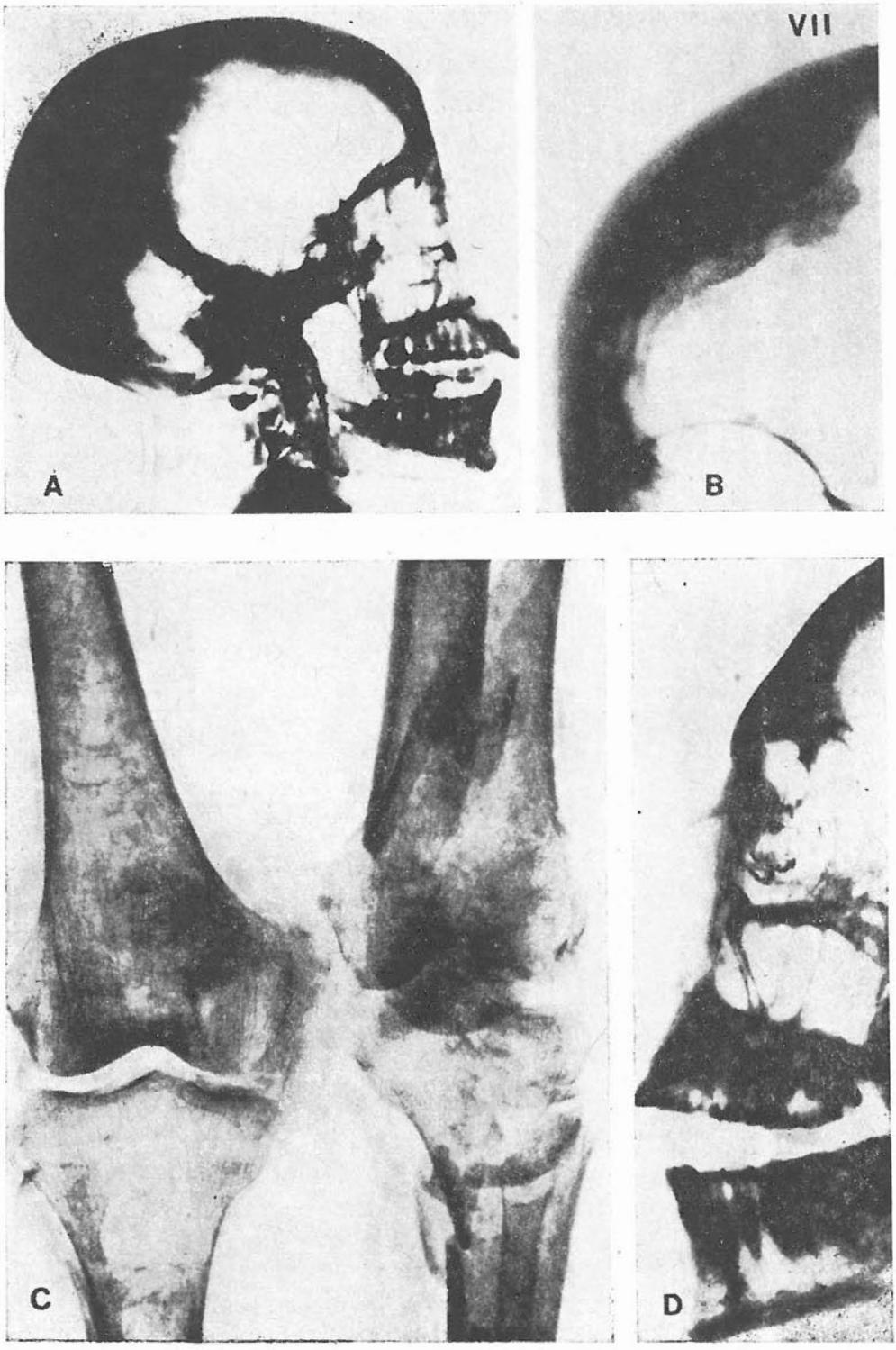
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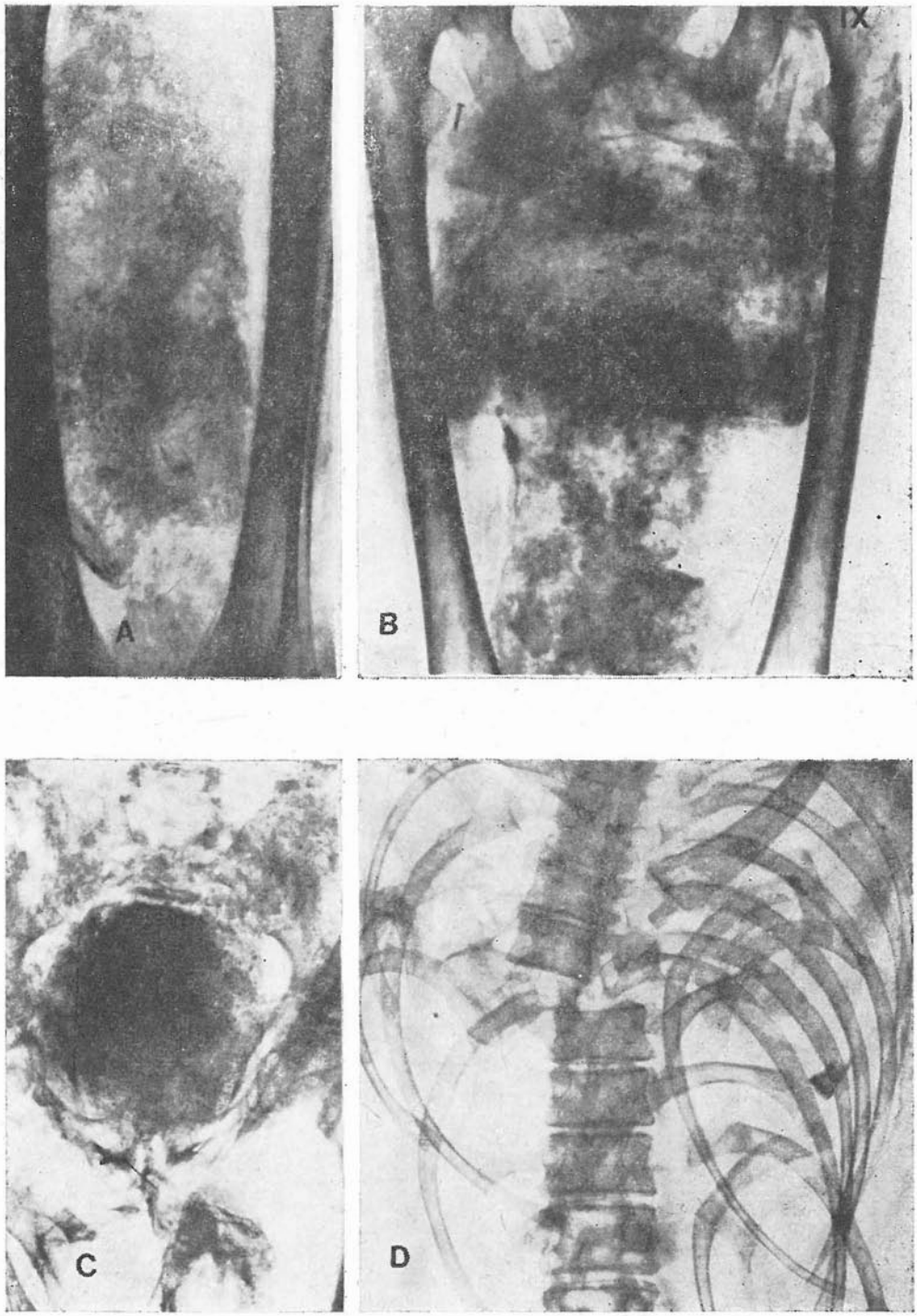
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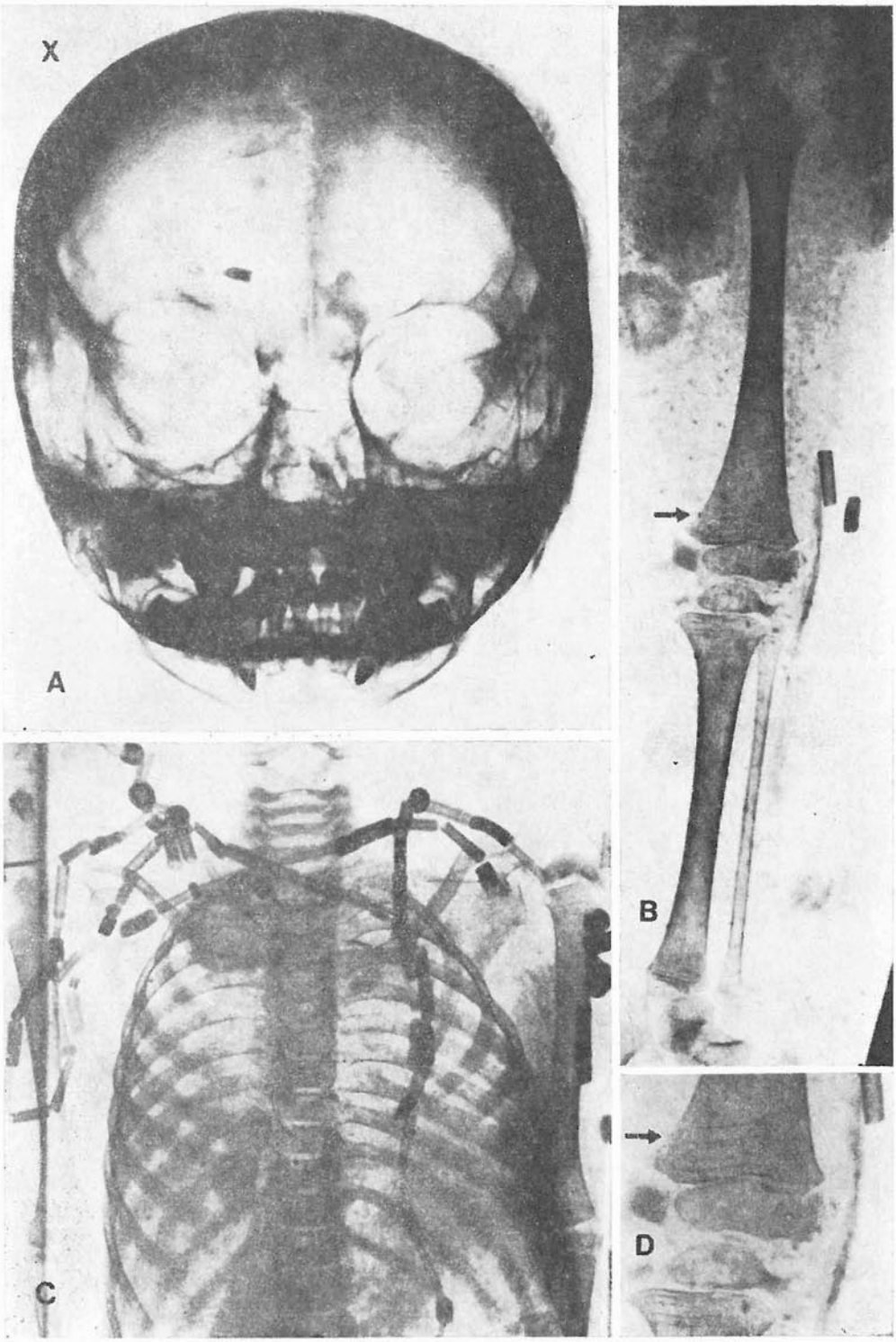
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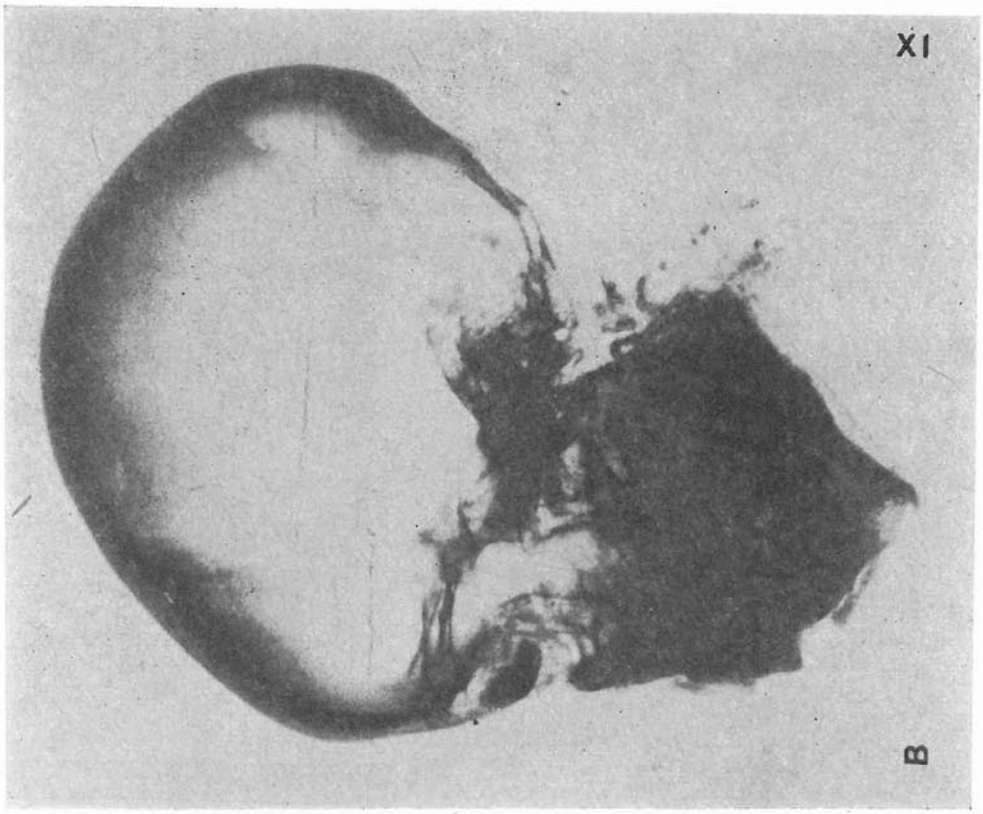
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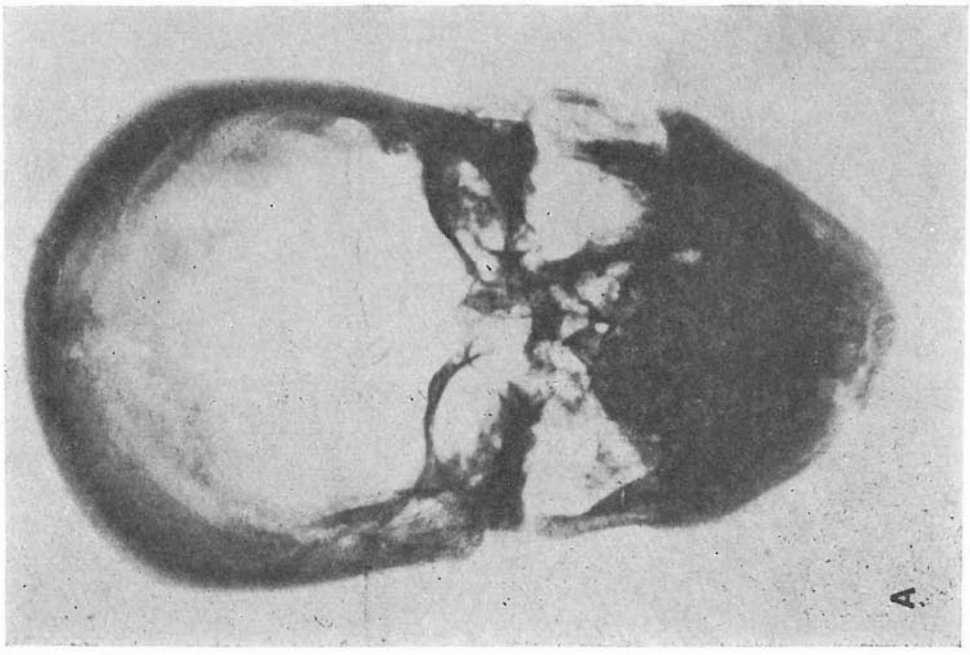
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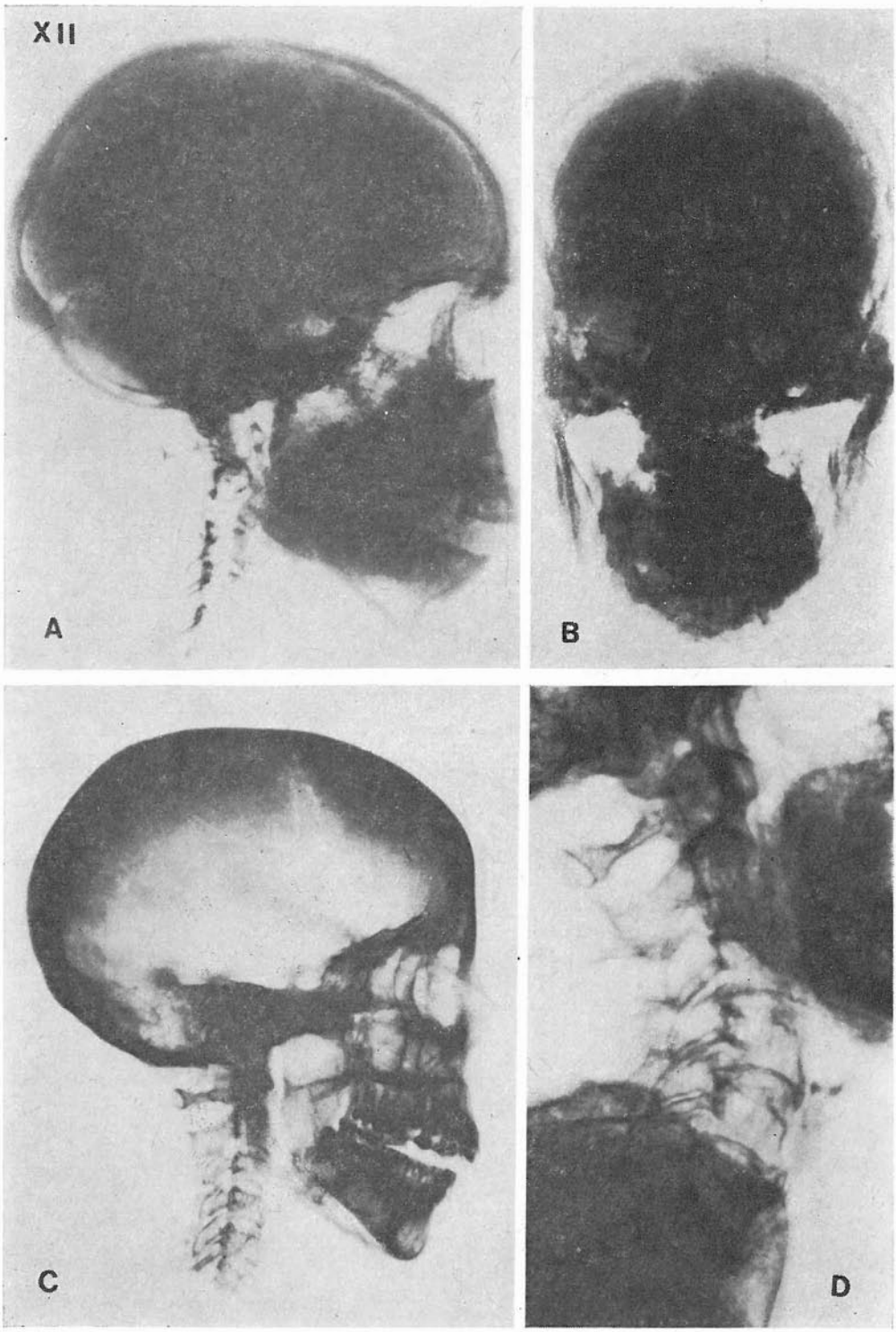
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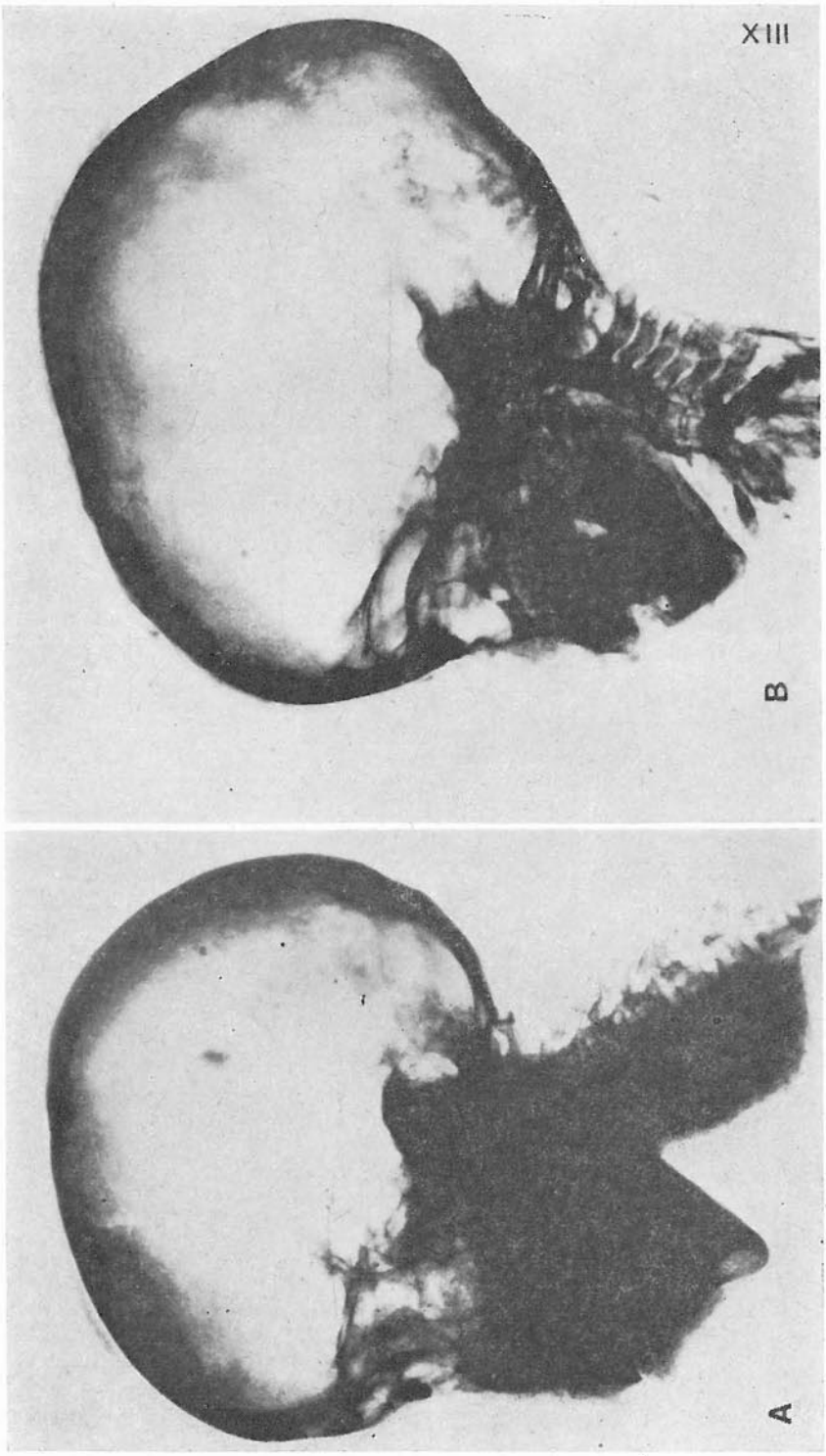
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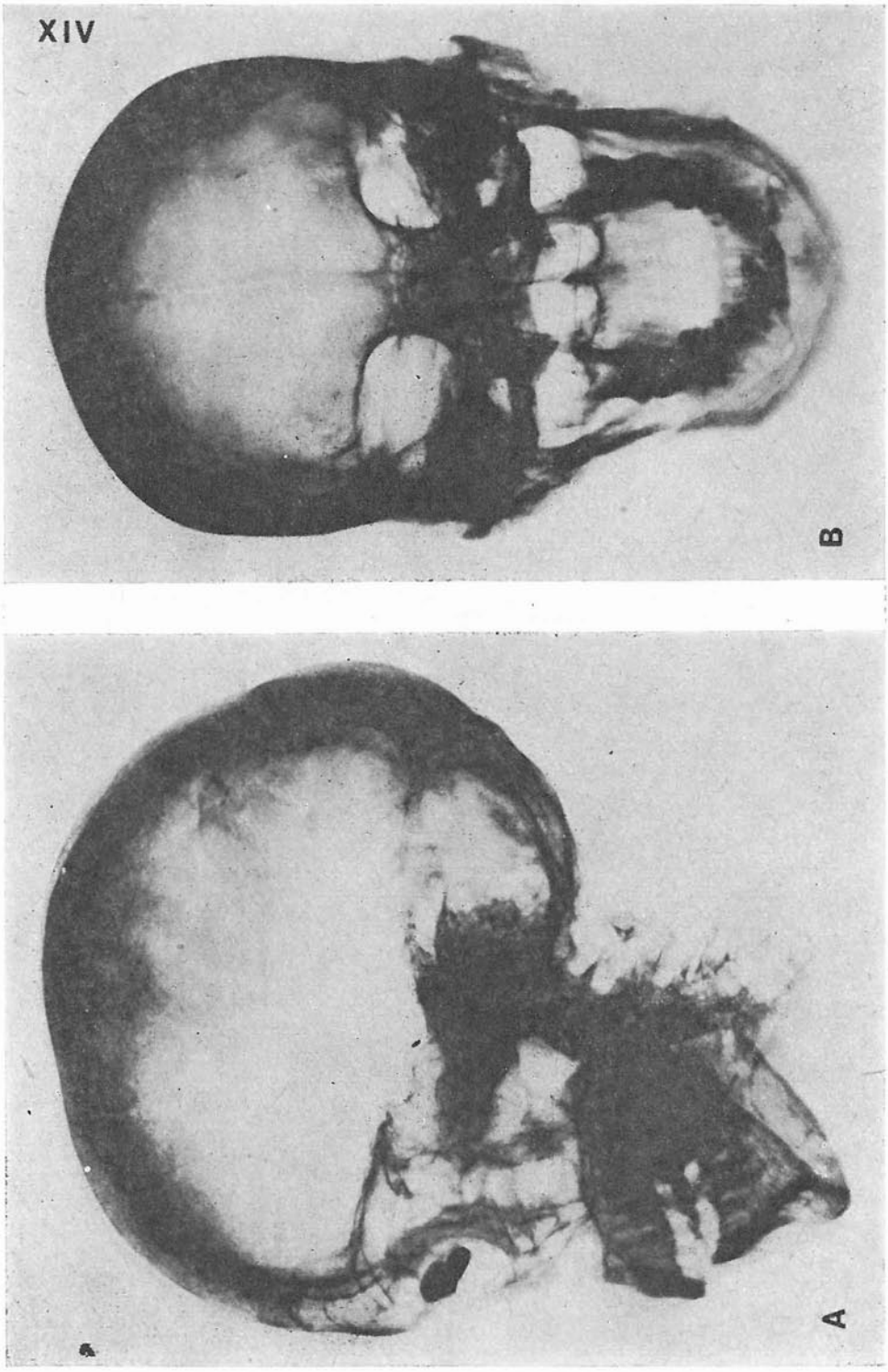
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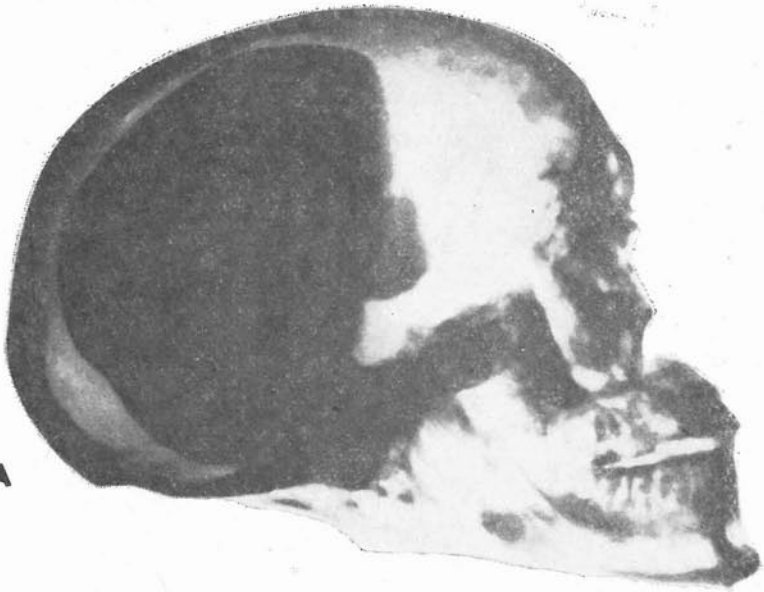

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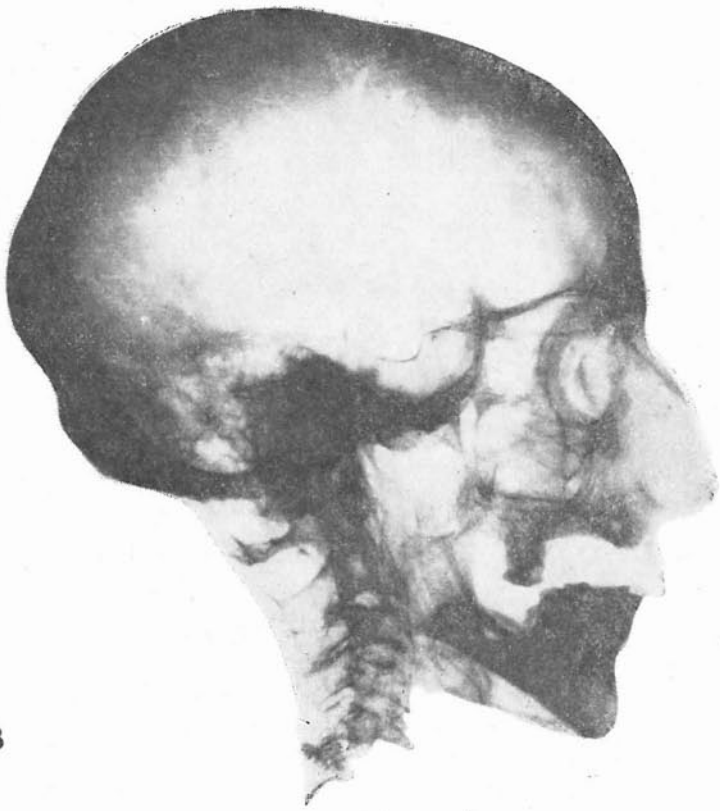

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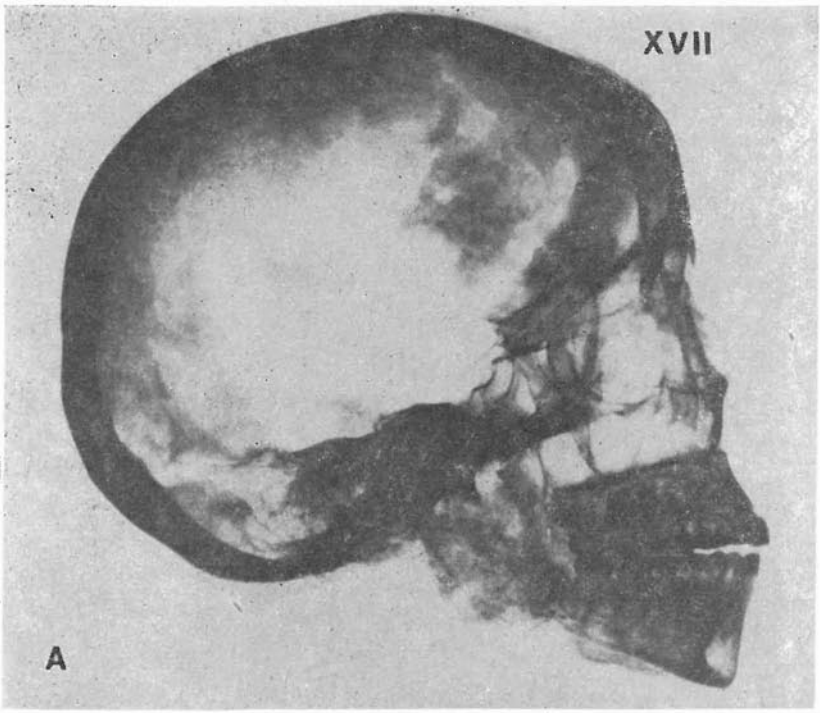
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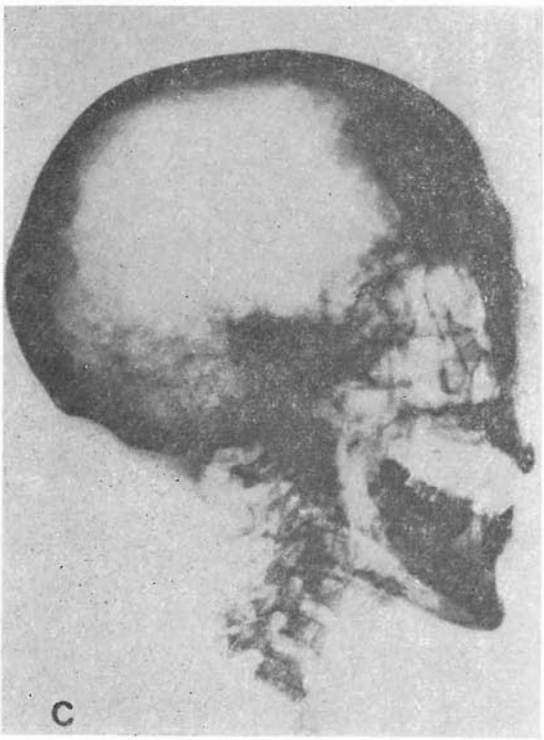
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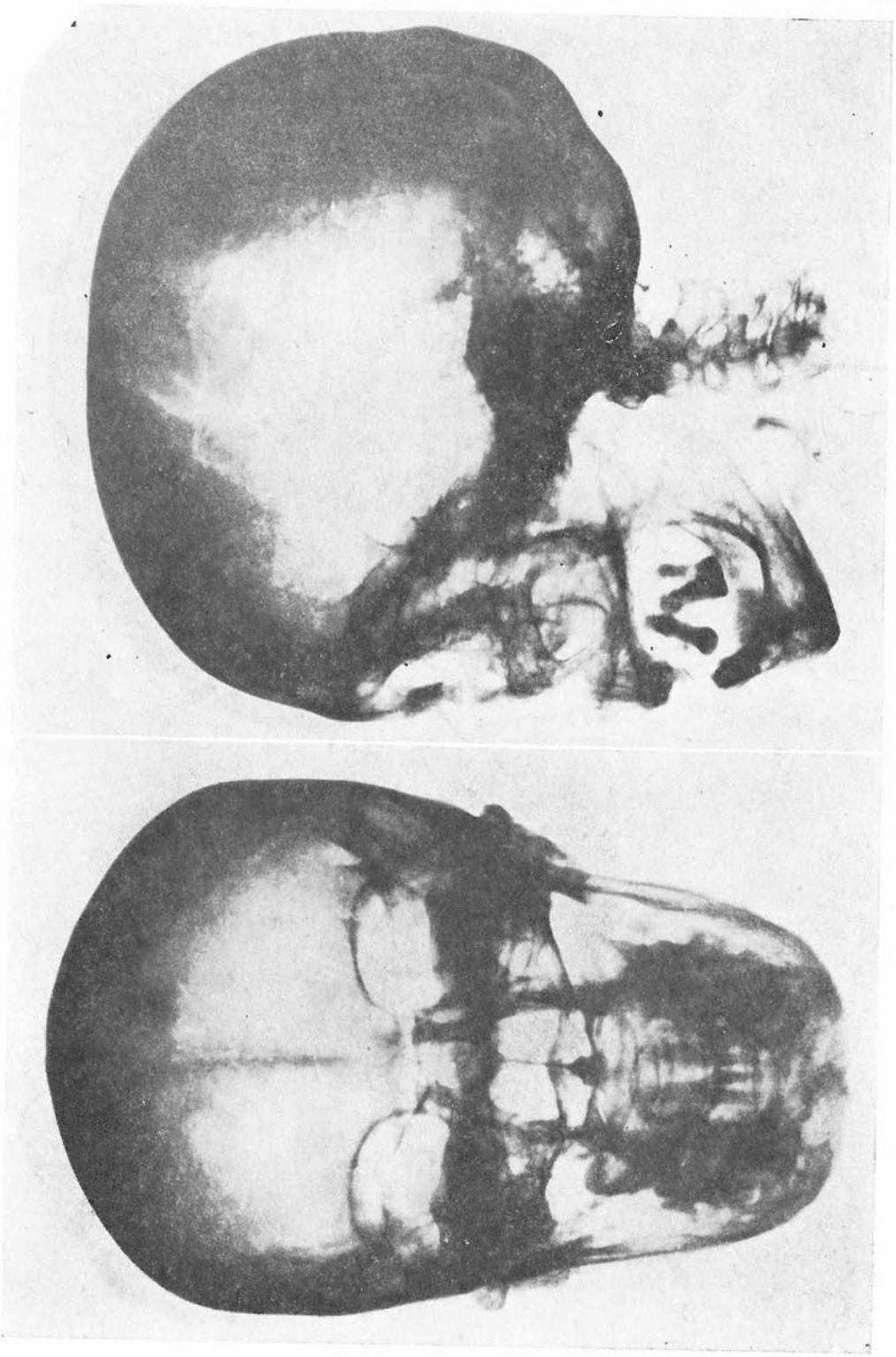

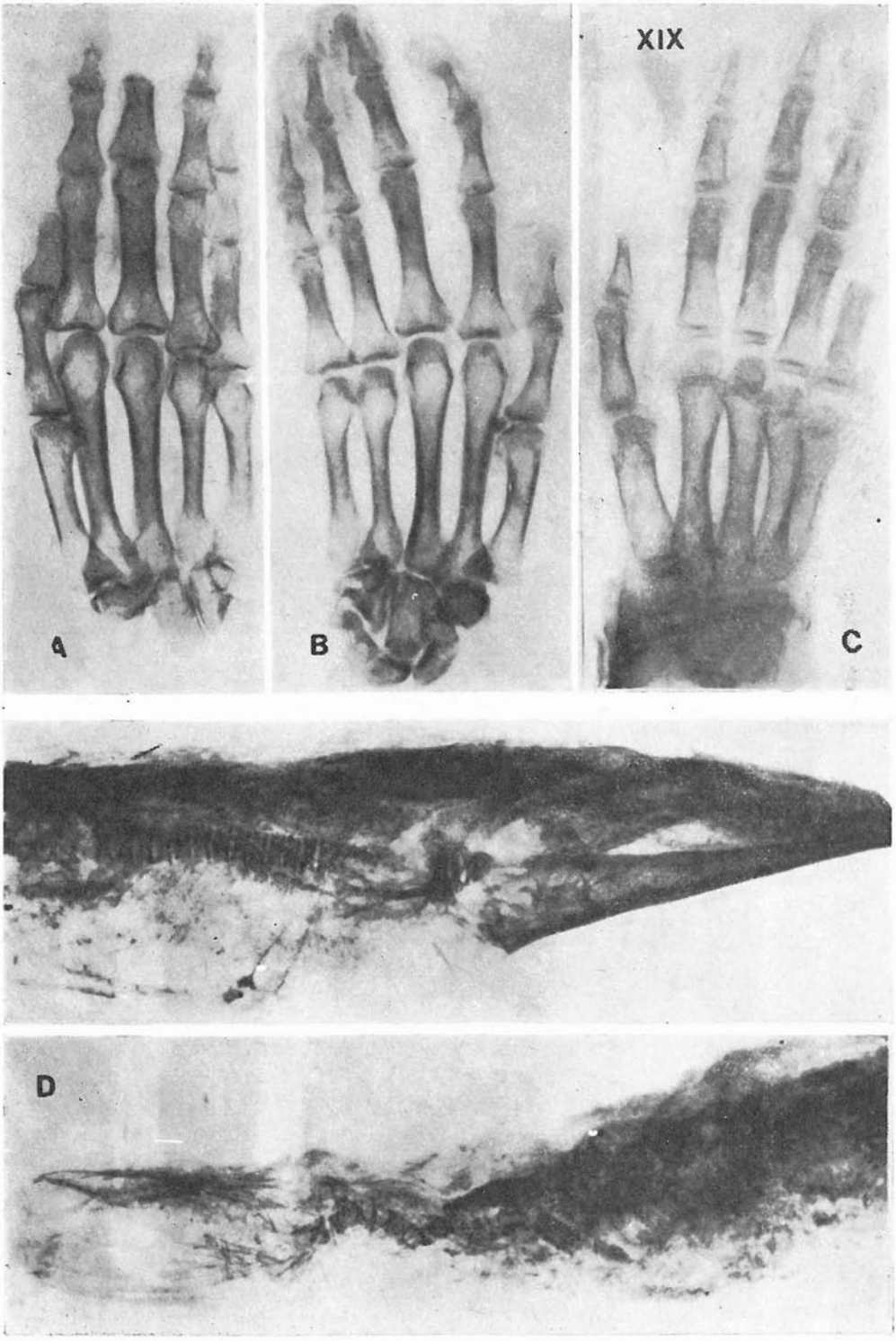
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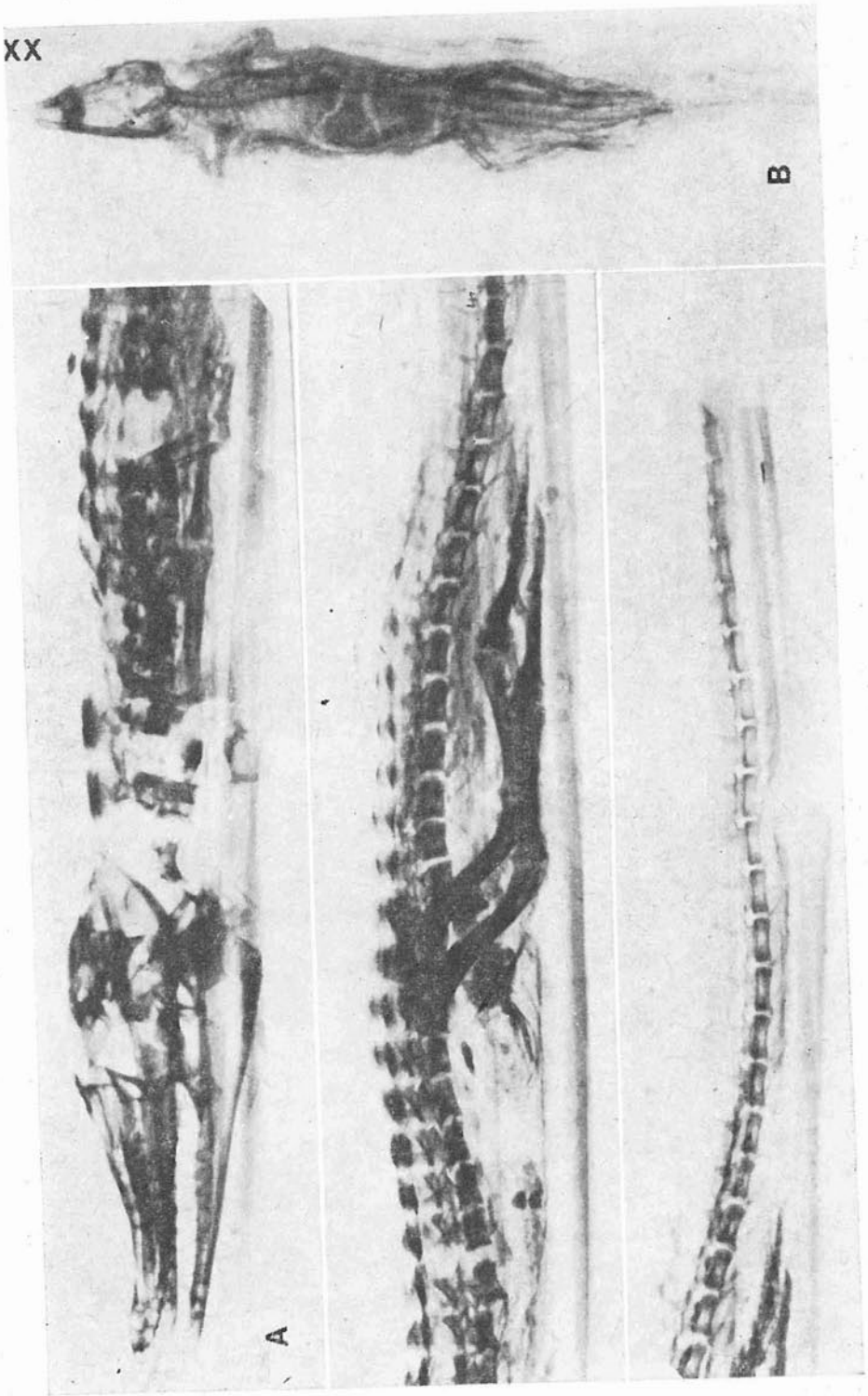
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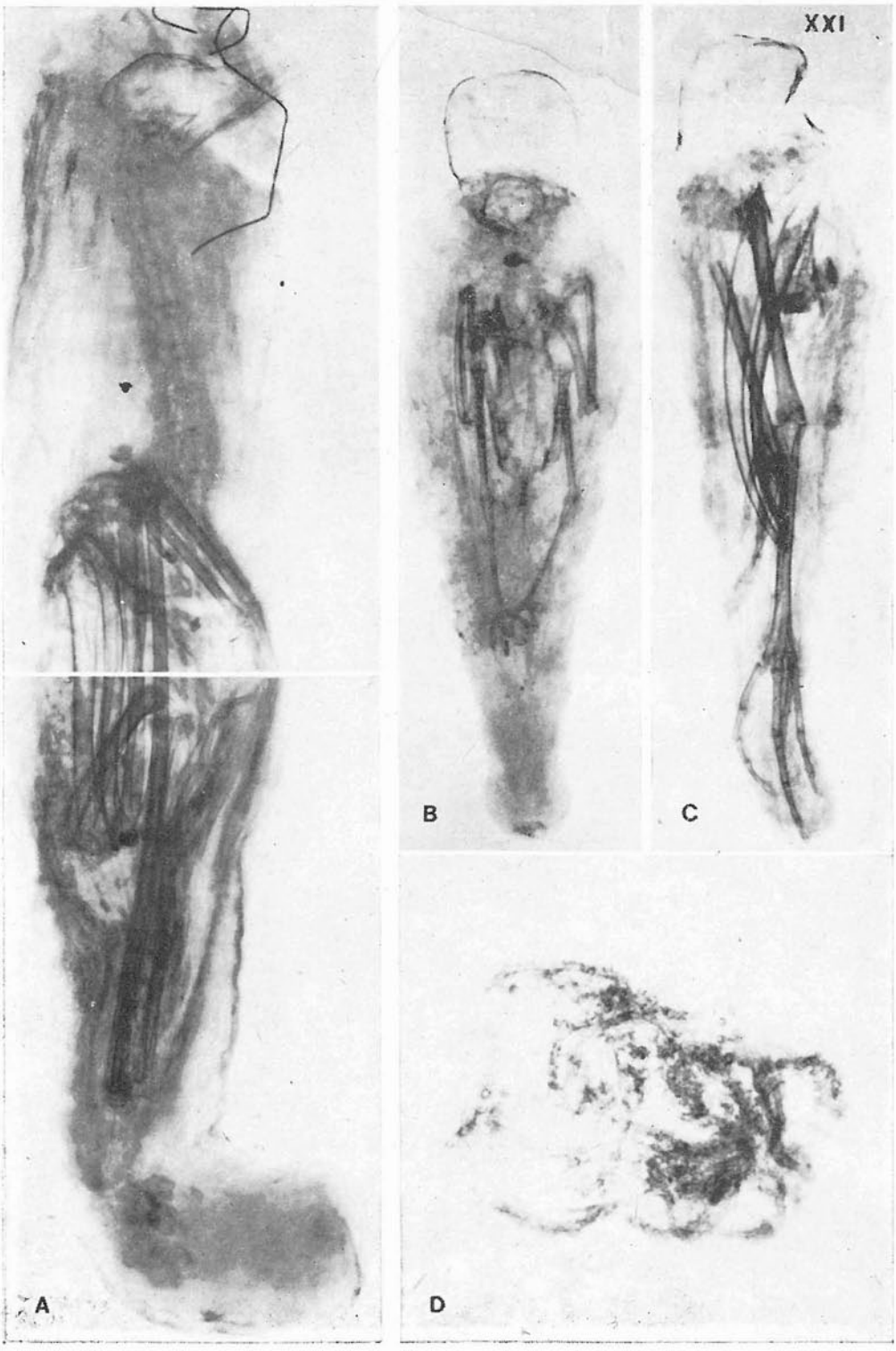
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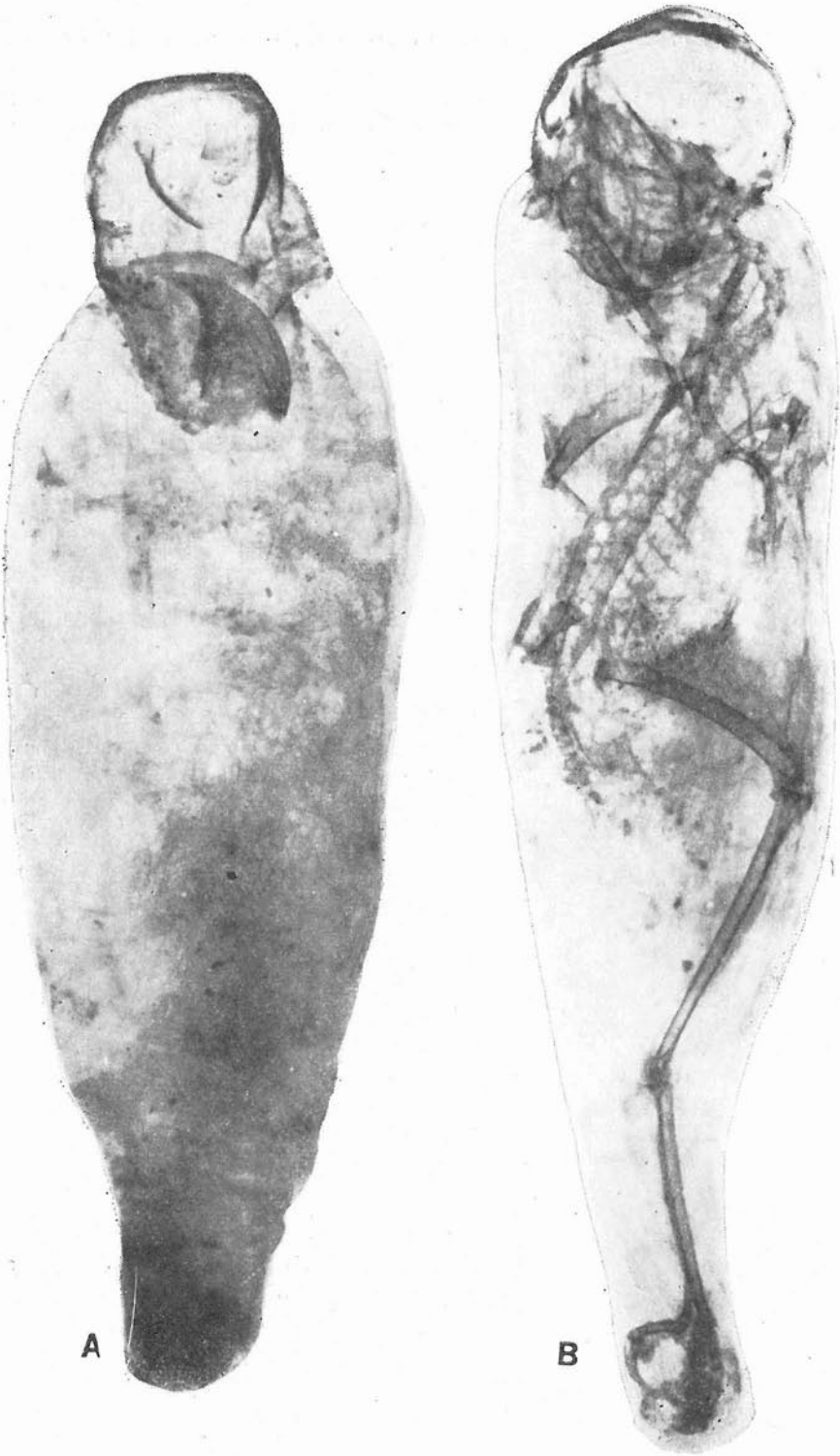
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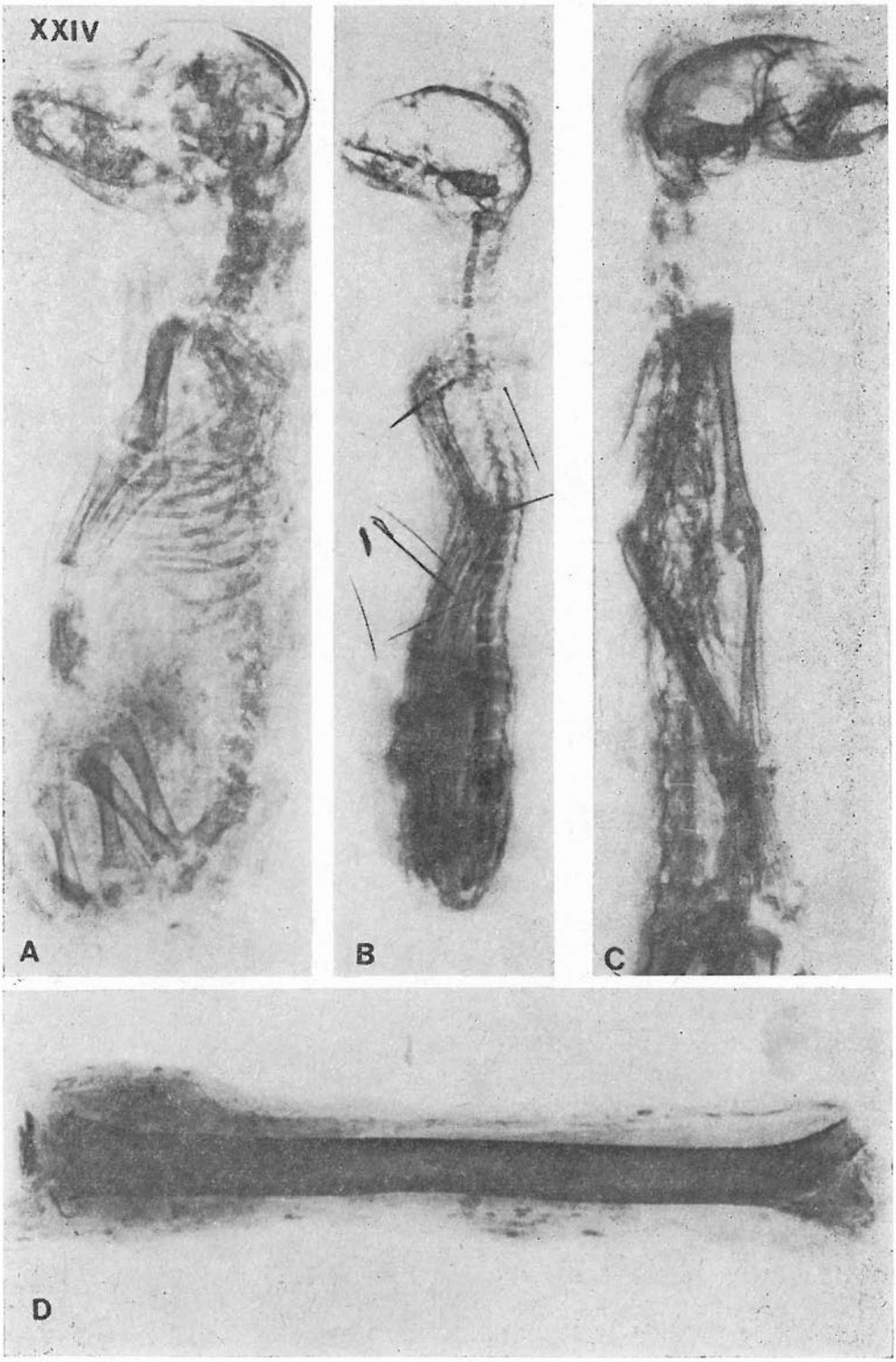
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